Full wwPDB EM Validation Report ⓘ

Nov 2, 2024 – 02:26 PM EDT

PDB ID	:	5TB3
EMDB ID	:	EMD-8394
Title	:	Structure of rabbit RyR1 (EGTA-only dataset, class 3)
Authors	:	Clarke, O.B.; des Georges, A.; Zalk, R.; Marks, A.R.; Hendrickson, W.A.; Frank, J.
Deposited on	:	2016-09-11
Resolution	:	4.70 Å(reported)

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

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

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

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

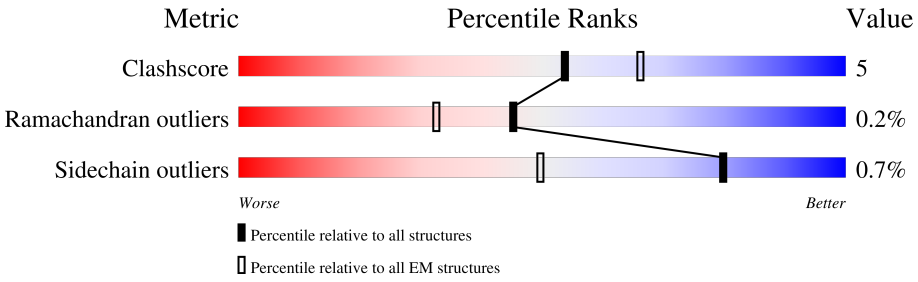
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance

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

The reported resolution of this entry is 4.70 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	108	80% 81% 18% ·
1	F	108	80% 81% 18% ·
1	H	108	80% 81% 18% ·
1	J	108	80% 81% 18% ·
2	B	4416	66% 84% 11% 5%
2	E	4416	67% 84% 11% 5%
2	G	4416	66% 84% 11% 5%
2	I	4416	67% 84% 11% 5%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 121312 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1B.

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

- Molecule 2 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	4196	Total	C	N	O	S	0	0
			29509	18692	5230	5430	157		
2	E	4196	Total	C	N	O	S	0	0
			29509	18692	5230	5430	157		
2	I	4196	Total	C	N	O	S	0	0
			29509	18692	5230	5430	157		
2	G	4196	Total	C	N	O	S	0	0
			29509	18692	5230	5430	157		

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

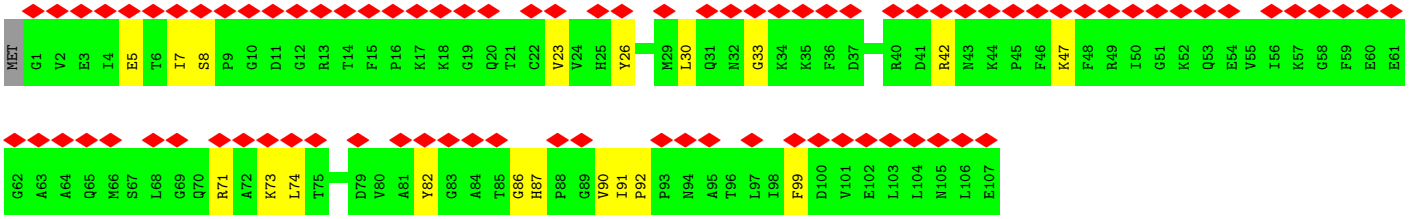
Mol	Chain	Residues	Atoms		AltConf
3	B	1	Total	Zn	0
			1	1	
3	E	1	Total	Zn	0
			1	1	
3	I	1	Total	Zn	0
			1	1	
3	G	1	Total	Zn	0
			1	1	

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.

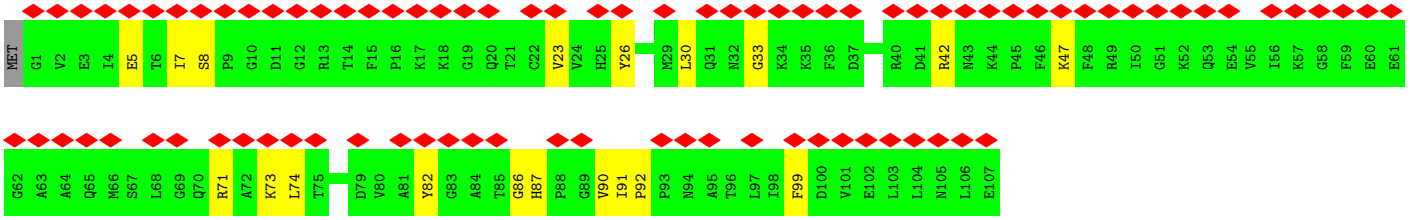
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain F:



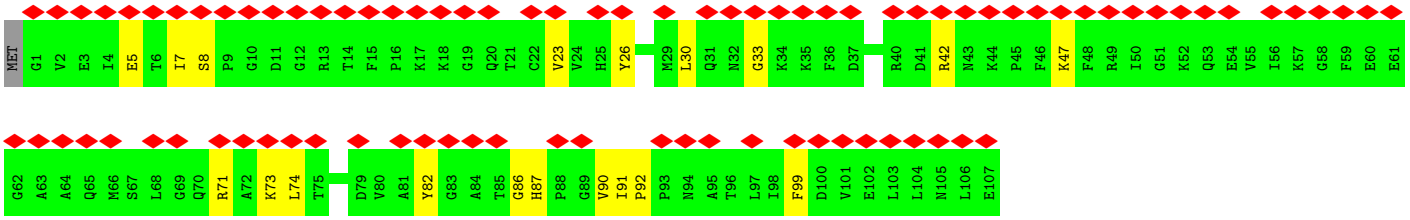
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain A:



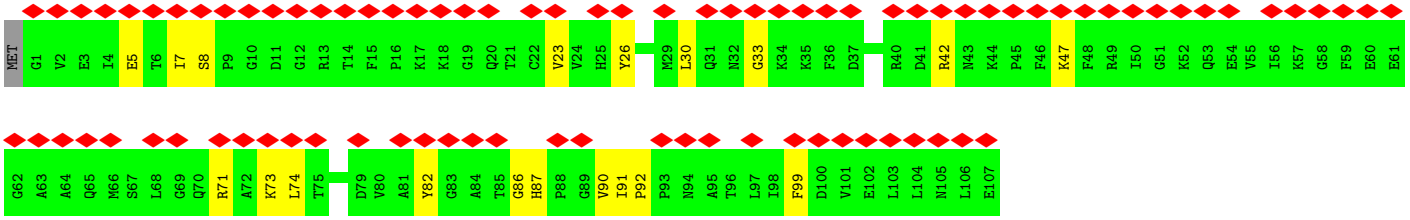
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain H:



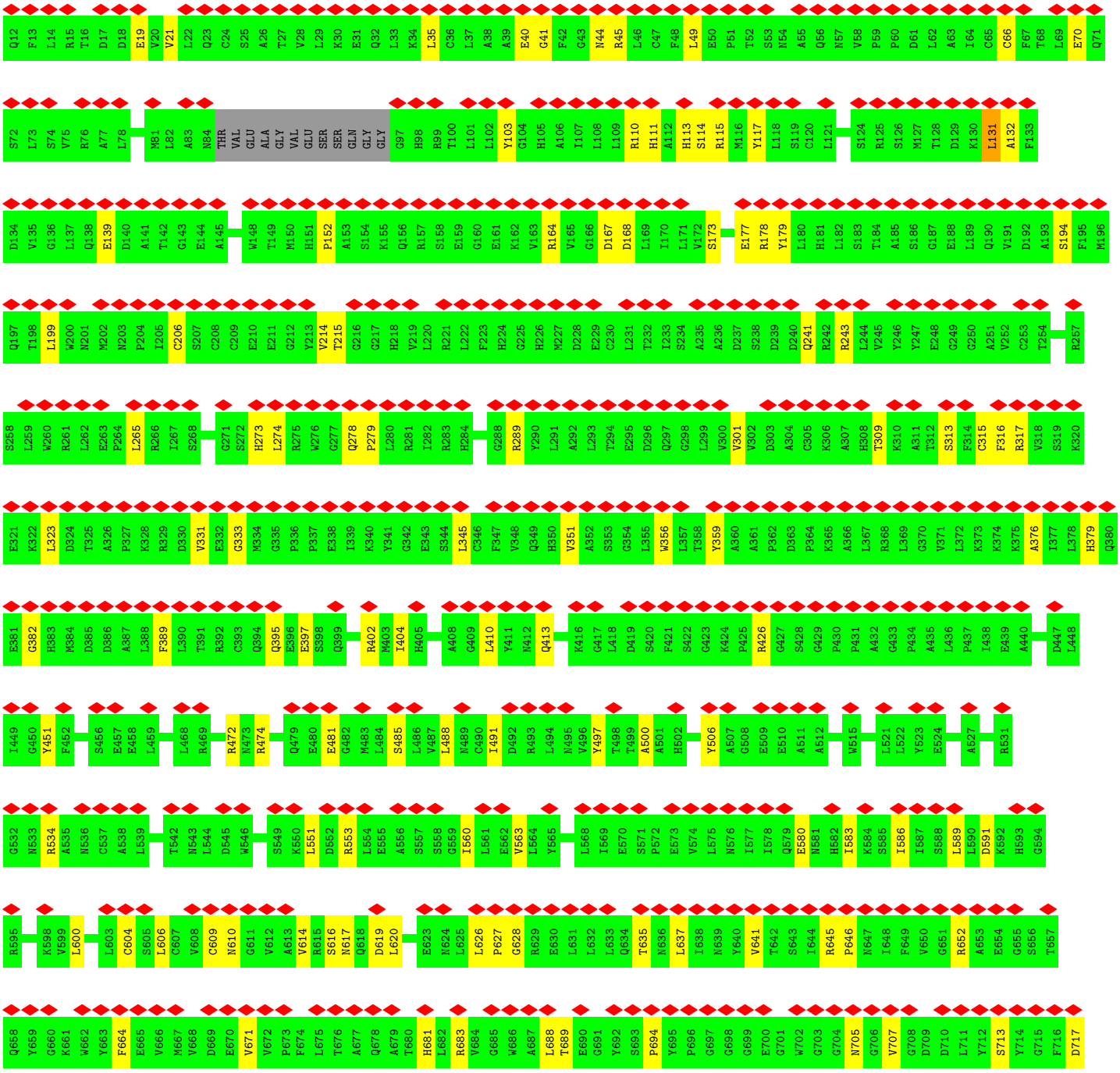
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

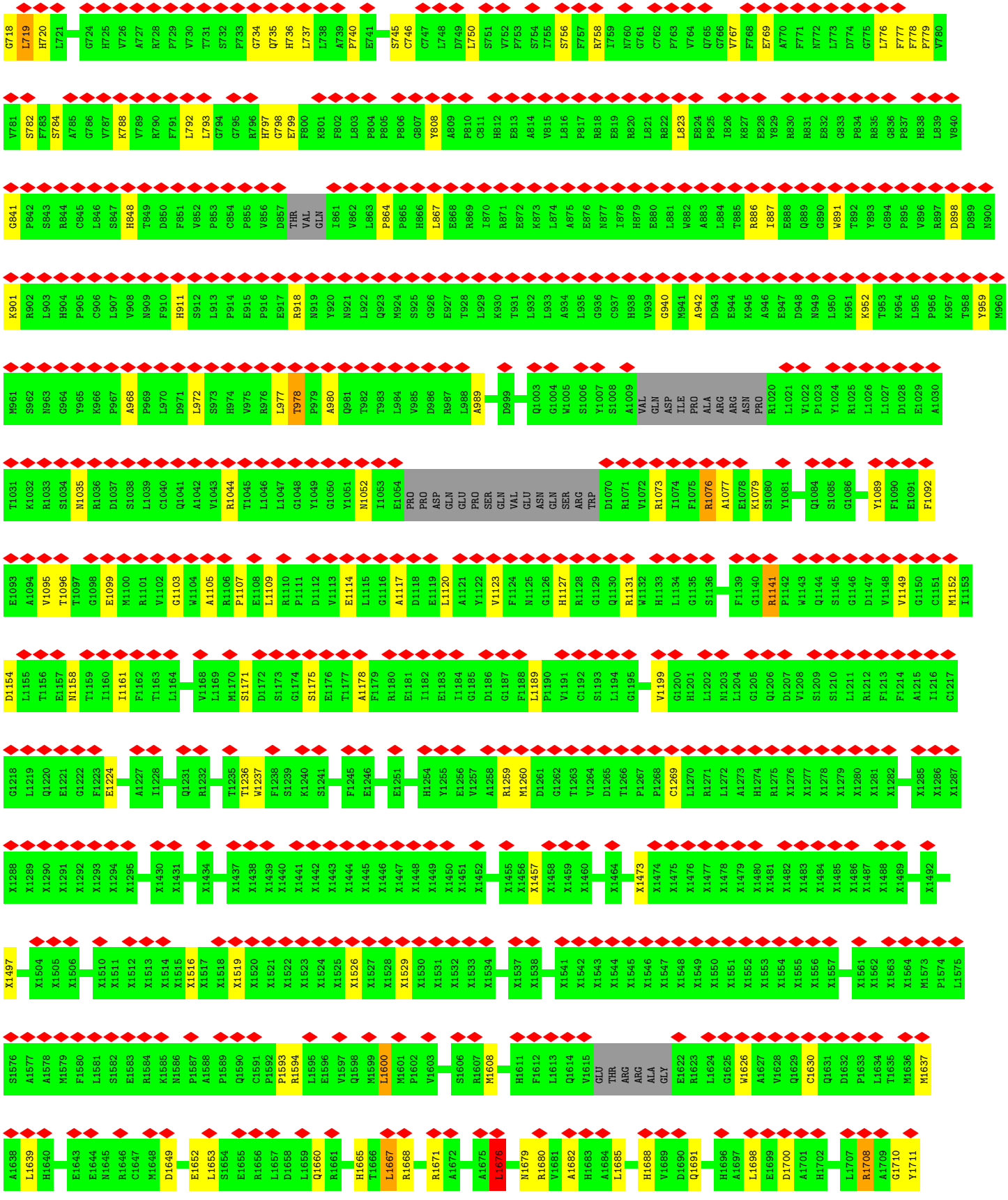
Chain J:



• Molecule 2: Ryanodine receptor 1

Chain B:

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V781 S782 F783 S784 A785 G786 V787 K788 V789 R790 F791 L792 L793 G794 G795 R796 H797 G798 E799 F800 K801 F802 L803 P804 P805 P806 G807 Y808 A809 P810 C811 H812 E813 A814 V815 L816 P817 R818 E819 R820 L821 R822 L823 E824 F825 I826 K827 E828 Y829 R830 R831 E832 G833 P834 R835 G836 P837 H838 L839 Y840
G841 P842 S843 R844 C845 L846 S847 H848 T849 D850 F851 V852 P853 C854 P855 V856 D857 THR VAL GLN I861 V862 L863 P864 P865 H866 L867 E868 R869 I870 R871 E872 K873 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 L907 V908 N909 F910 H911 S912 L913 P914 E915 P916 E917 R918 N919 Y920 N921 L922 L923 Q923 M924 S925 G926 E927 T928 L929 K930 T931 L932 L933 A934 L935 G936 C937 H938 V939 G940 M941 A942 D943 E944 K945 A946 E947 D948 N949 L950 K951 K952 T953 K954 L955 P956 K957 T958 Y959 M960
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T1031 K1032 R1033 S1034 N1035 R1036 D1037 S1038 L1039 C1040 Q1041 A1042 V1043 R1044 T1045 L1046 L1047 G1048 Y1049 G1050 Y1051 N1052 I1053 E1054 PRO PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 R1071 V1072 R1073 I1074 F1075 R1076 A1077 E1078 K1079 S1080 Y1081 Q1084 S1085 G1086 Y1089 F1090 E1091 F1092
E1093 A1094 V1095 T1096 T1097 G1098 E1099 M1100 R1101 V1102 G1103 W1104 A1105 R1106 P1107 E1108 L1109 R1110 P1111 D1112 V1113 E1114 L1115 G1116 A1117 D1118 E1119 L1120 A1121 Y1122 V1123 F1124 N1125 G1126 H1127 R1128 G1129 Q1130 R1131 W1132 H1133 L1134 G1135 S1136 F1139 G1140 R1141 P1142 W1143 Q1144 S1145 G1146 D1147 V1148 V1149 G1150 C1151 M1152 I1153
D1154 L1155 T1156 E1157 N1158 T1159 I1160 I1161 F1162 T1163 L1164 V1168 L1169 M1170 S1171 D1172 S1173 G1174 S1175 E1176 T1177 A1178 F1179 R1180 E1181 I1182 E1183 I1184 G1185 D1186 G1187 F1188 L1189 P1190 V1191 C1192 S1193 L1194 G1195 V1199 G1200 H1201 L1202 N1203 L1204 G1205 Q1206 D1207 V1208 S1209 S1210 L1211 R1212 F1213 F1214 A1215 I1216 C1217
G1218 L1219 Q1220 E1221 G1222 F1223 E1224 A1227 I1228 Q1231 R1232 T1235 T1236 W1237 F1238 S1239 K1240 S1241 F1245 E1246 E1251 H1254 Y1255 E1256 V1257 A1258 R1259 M1260 D1261 G1262 T1263 V1264 D1265 T1266 P1267 P1268 C1269 L1270 R1271 L1272 A1273 H1274 R1275 X1276 X1277 X1278 X1279 X1280 X1281 X1282 X1285 X1286 X1287
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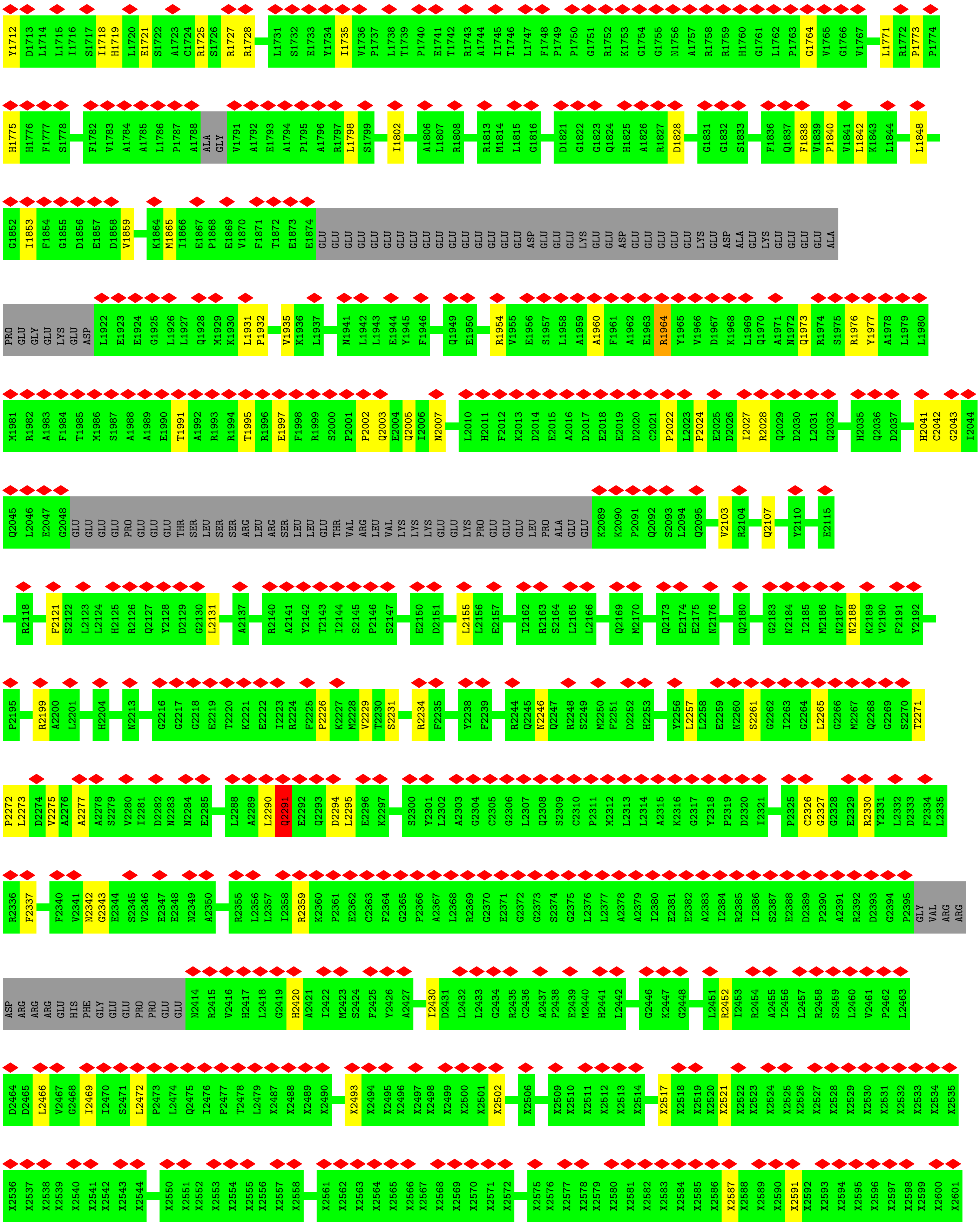
S1576 A1577 A1578 M1579 F1580 L1581 S1582 E1583 R1584 K1585 N1586 P1587 A1588 P1589 Q1590 C1591 P1592 P1593 R1594 L1595 E1596 V1597 Q1598 M1599 L1600 M1601 P1602 V1603 S1606 R1607 M1608 H1611 F1612 L1613 Q1614 V1615 GLU THR ARG ARG ALA GLY E1622 R1623 L1624 G1625 W1626 A1627 V1628 Q1629 C1630 Q1631 D1632 P1633 L1634 T1635 M1636 M1637
A1638 L1639 H1640 E1643 E1644 N1645 R1646 C1647 M1648 D1649 E1652 L1653 S1654 E1655 R1656 L1657 D1658 L1659 Q1660 R1661 H1665 T1666 L1667 R1668 R1671 A1672 A1675 L1676 N1679 R1680 V1681 A1682 H1683 A1684 L1685 H1688 V1689 D1690 Q1691 H1696 A1697 L1698 E1699 D1700 A1701 H1702 L1707 R1708 A1709 G1710 Y1711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H1775 H1776 F1777 S1778 F1782 V1783 A1784 A1785 L1786 P1787 A1788 ALA GLY V1791 A1792 E1793 A1794 P1795 A1796 R1797 L1798 S1799 I1802 A1806 L1807 R1808 R1813 M1814 L1815 G1816 D1821 G1822 G1823 Q1824 H1825 A1826 R1827 D1828 G1831 G1832 S1833 F1836 Q1837 F1838 V1839 P1840 V1841 L1842 K1843 L1844 L1848
G1852 I1853 F1854 G1855 D1856 E1857 D1858 V1859 K1864 M1865 I1866 E1867 P1868 E1869 V1870 F1871 T1872 E1873 E1874 GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU ASP GLU GLU GLU LYS GLU GLU ASP GLU GLU GLU GLU GLU LYS GLU ASP ALA GLU LYS GLU GLU GLU GLU ALA
PRO GLU GLY GLU LYS GLU ASP L1922 E1923 E1924 G1925 L1926 L1927 Q1928 M1929 K1930 L1931 P1932 V1935 K1936 L1937 N1941 L1942 L1943 E1944 Y1945 F1946 Q1949 E1950 R1954 V1955 E1956 S1957 L1958 A1959 A1960 F1961 A1962 E1963 R1964 Y1965 V1966 D1967 K1968 L1969 Q1970 A1971 N1972 Q1973 R1974 S1975 R1976 Y1977 A1978 L1979 L1980
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Q2045 L2046 E2047 G2048 GLU GLU GLU GLU PRO GLU GLU GLU THR SER LEU SER SER ARG LEU ARG SER LEU LEU GLU THR VAL ARG LEU VAL LYS LYS LYS GLU GLU LYS PRO GLU GLU GLU LEU PRO ALA GLU GLU K2089 K2090 P2091 Q2092 S2093 L2094 Q2095 V2103 R2104 Q2107 Y2110 E2115
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R2336 F2337 F2340 V2341 N2342 G2343 E2344 S2345 V2346 E2347 E2348 N2349 A2350 R2355 L2356 L2357 I2358 R2359 K2360 P2361 E2362 C2363 F2364 G2365 P2366 A2367 L2368 R2369 G2370 E2371 G2372 G2373 S2374 G2375 L2376 L2377 A2378 A2379 I2380 E2381 E2382 A2383 I2384 R2385 I2386 S2387 E2388 D2389 P2390 A2391 R2392 D2393 G2394 P2395 GLY VAL ARG ARG
ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU PRO PRO GLU GLU N2414 R2415 V2416 H2417 L2418 G2419 H2420 A2421 I2422 M2423 S2424 F2425 Y2426 A2427 I2430 D2431 L2432 L2433 G2434 R2435 C2436 A2437 P2438 E2439 M2440 H2441 L2442 G2446 K2447 G2448 L2451 R2452 I2453 R2454 A2455 I2456 L2457 R2458 S2459 L2460 V2461 P2462 L2463
D2464 D2465 L2466 V2467 G2468 I2469 I2470 S2471 L2472 P2473 L2474 Q2475 I2476 P2477 T2478 L2479 X2487 X2488 X2489 X2490 X2493 X2494 X2495 X2496 X2497 X2498 X2499 X2500 X2501 X2502 X2506 X2509 X2510 X2511 X2512 X2513 X2514 X2517 X2518 X2519 X2520 X2521 X2522 X2523 X2524 X2525 X2526 X2527 X2528 X2529 X2530 X2531 X2532 X2533 X2534 X2535
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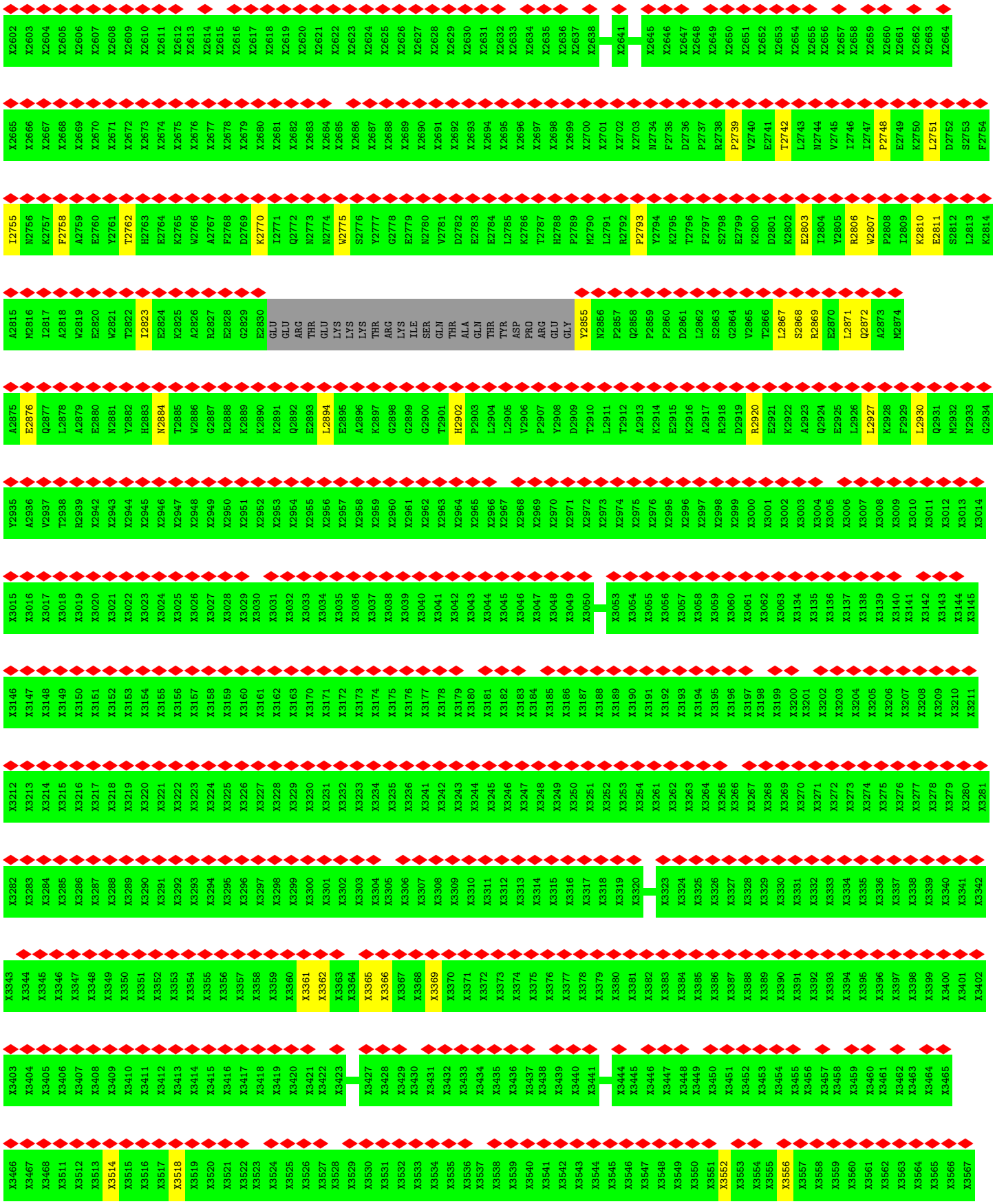
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A2815 M2816 I2817 A2818 W2819 E2820 W2821 T2822 I2823 E2824 K2825 A2826 R2827 E2828 G2829 E2830 GLU GLU ARG THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2855 N2856 P2857 Q2858 P2859 P2860 D2861 L2862 S2863 G2864 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
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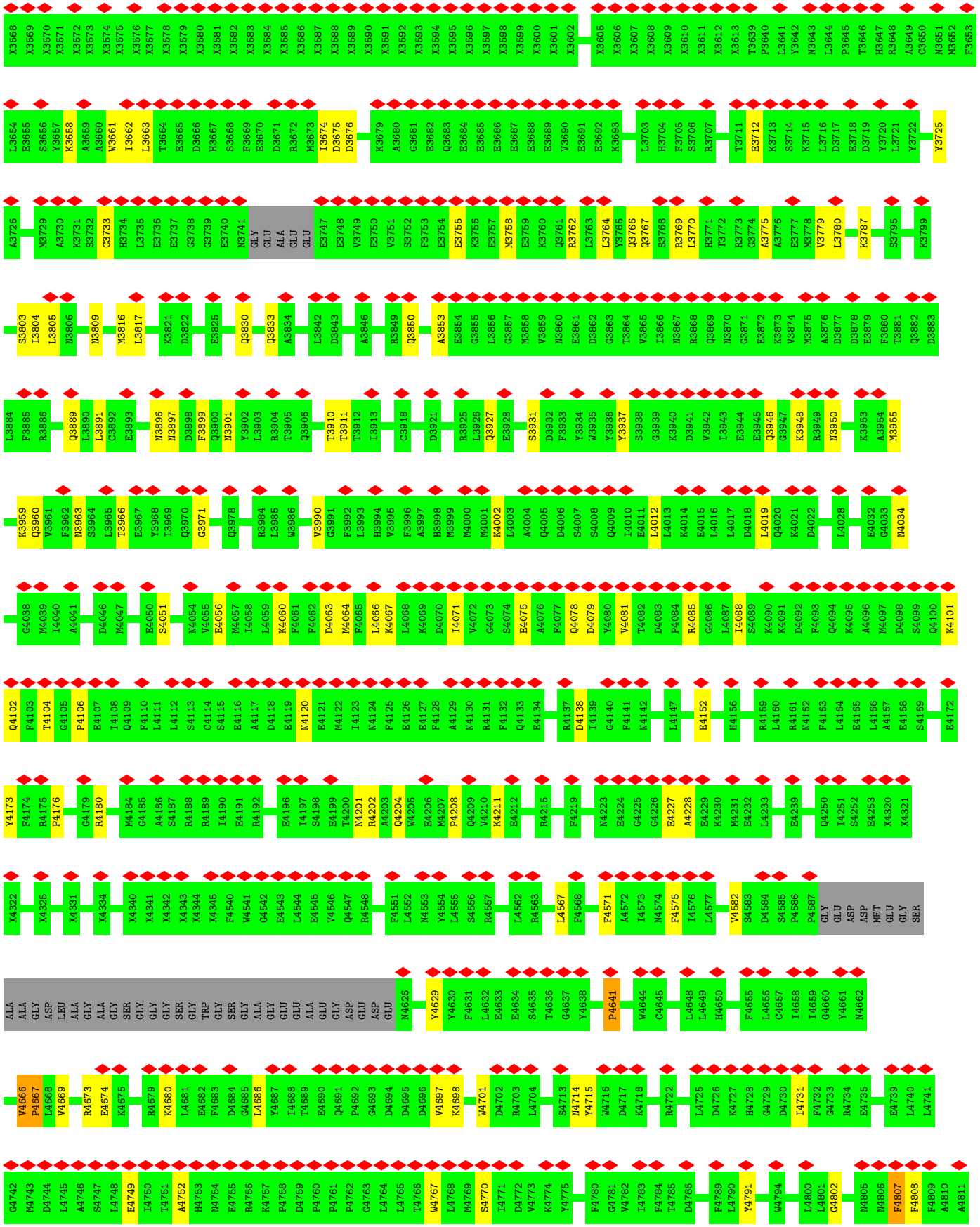
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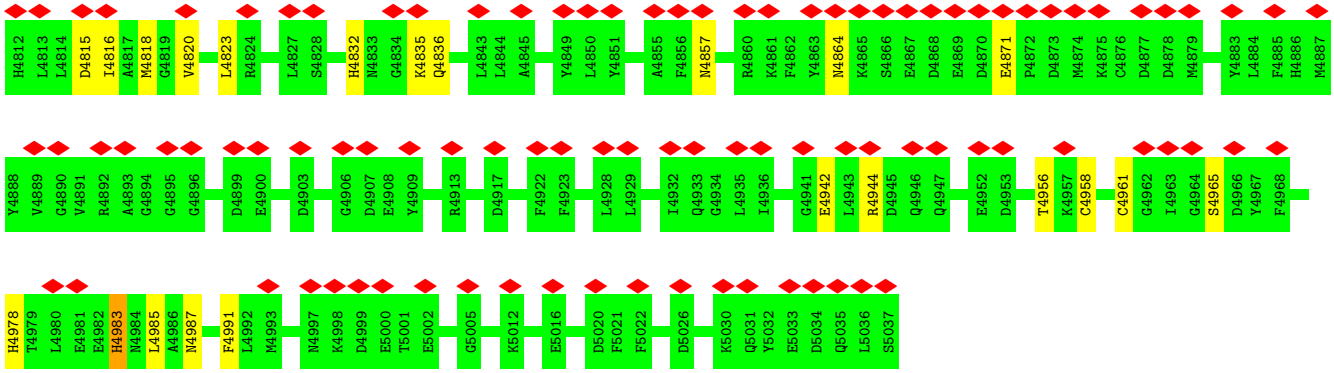
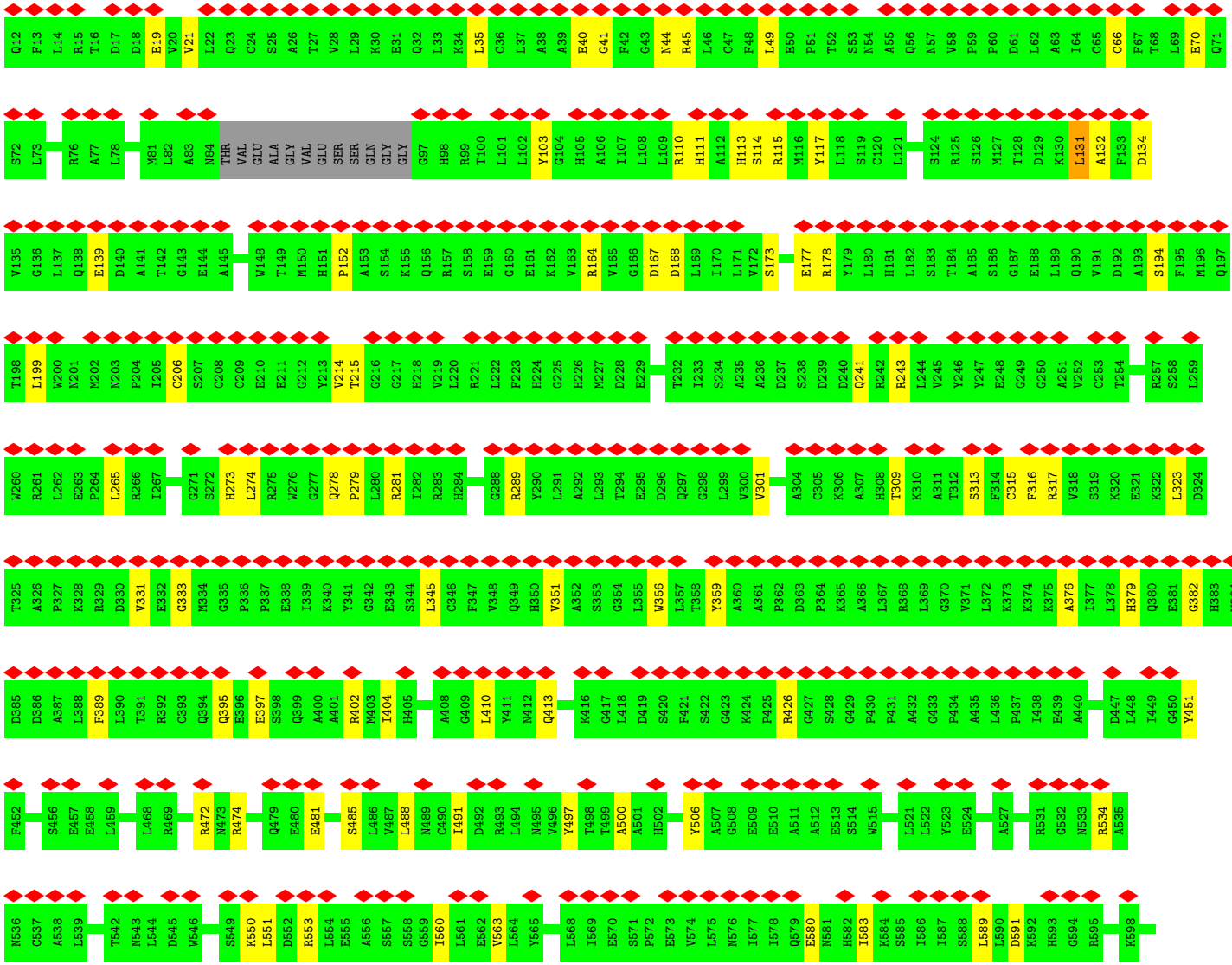
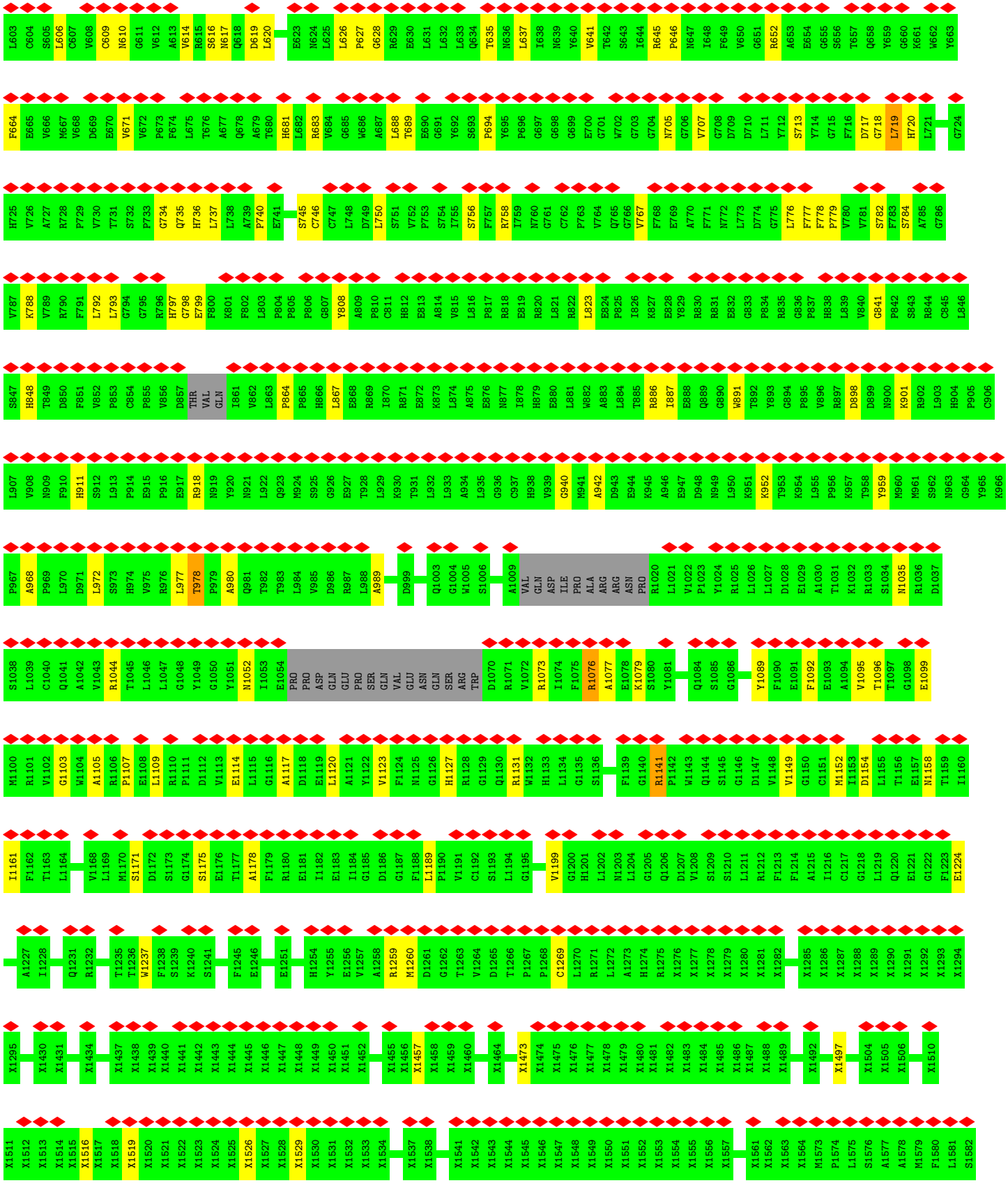


• Molecule 2: Ryanodine receptor 1

Chain E:

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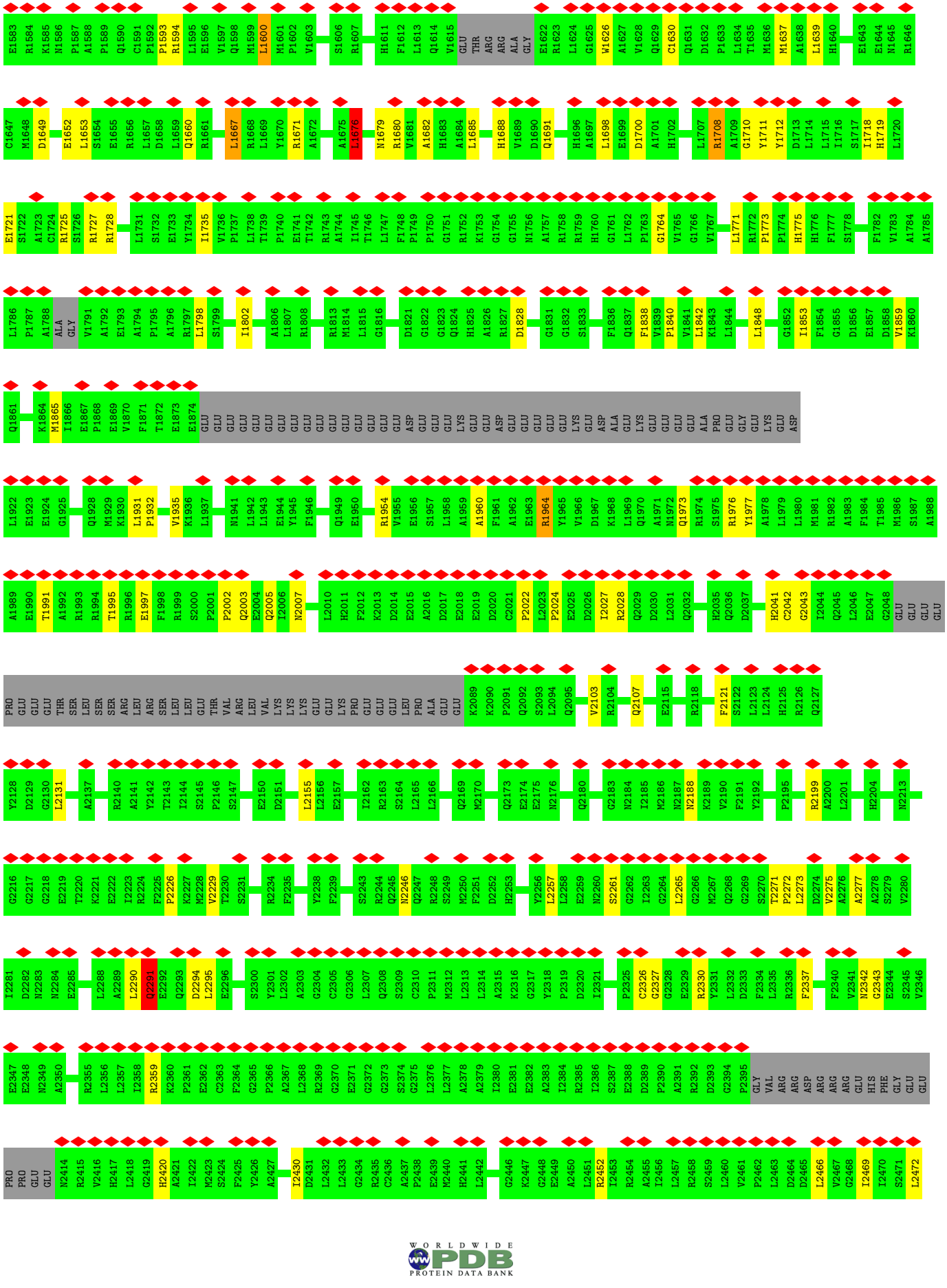
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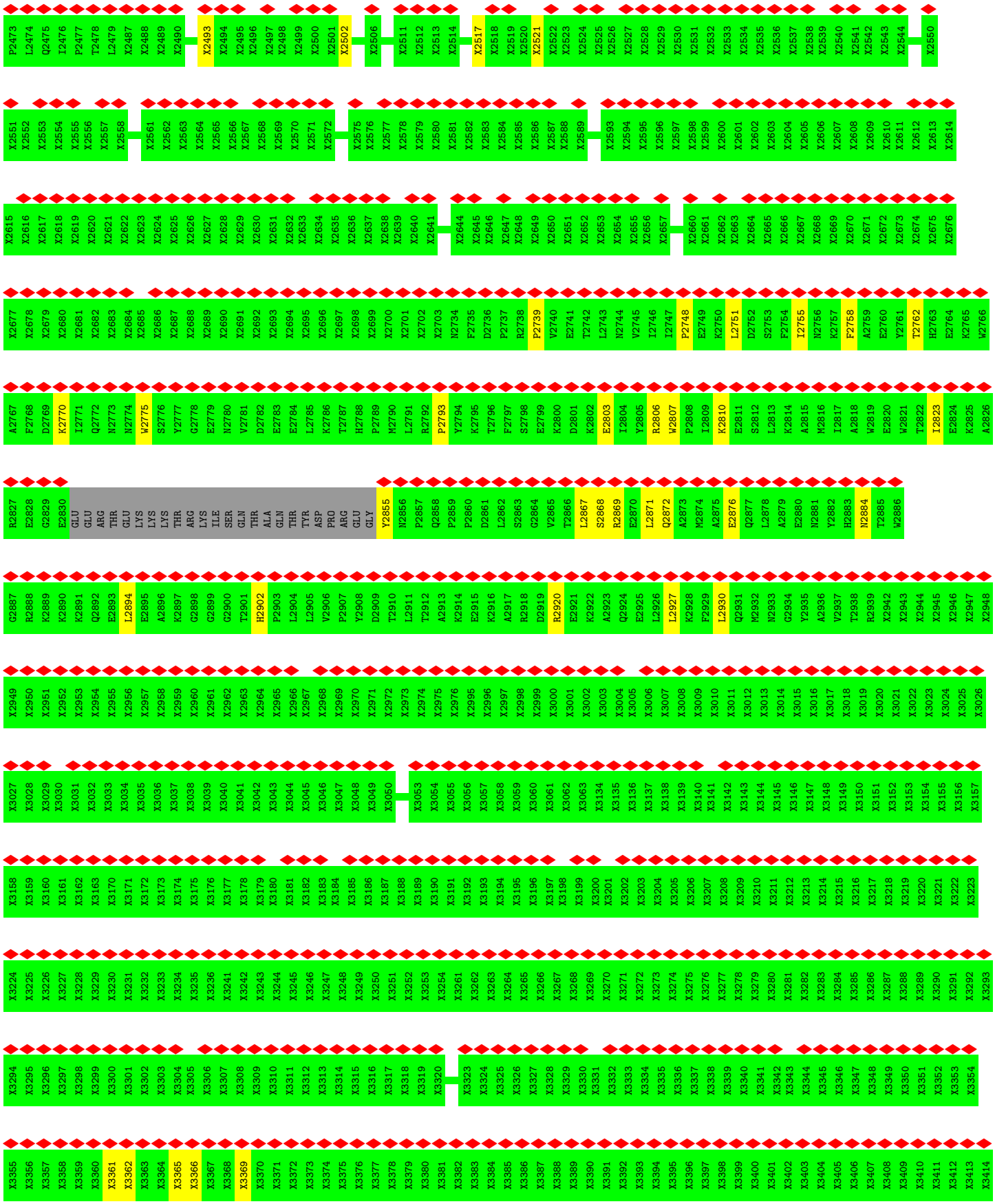
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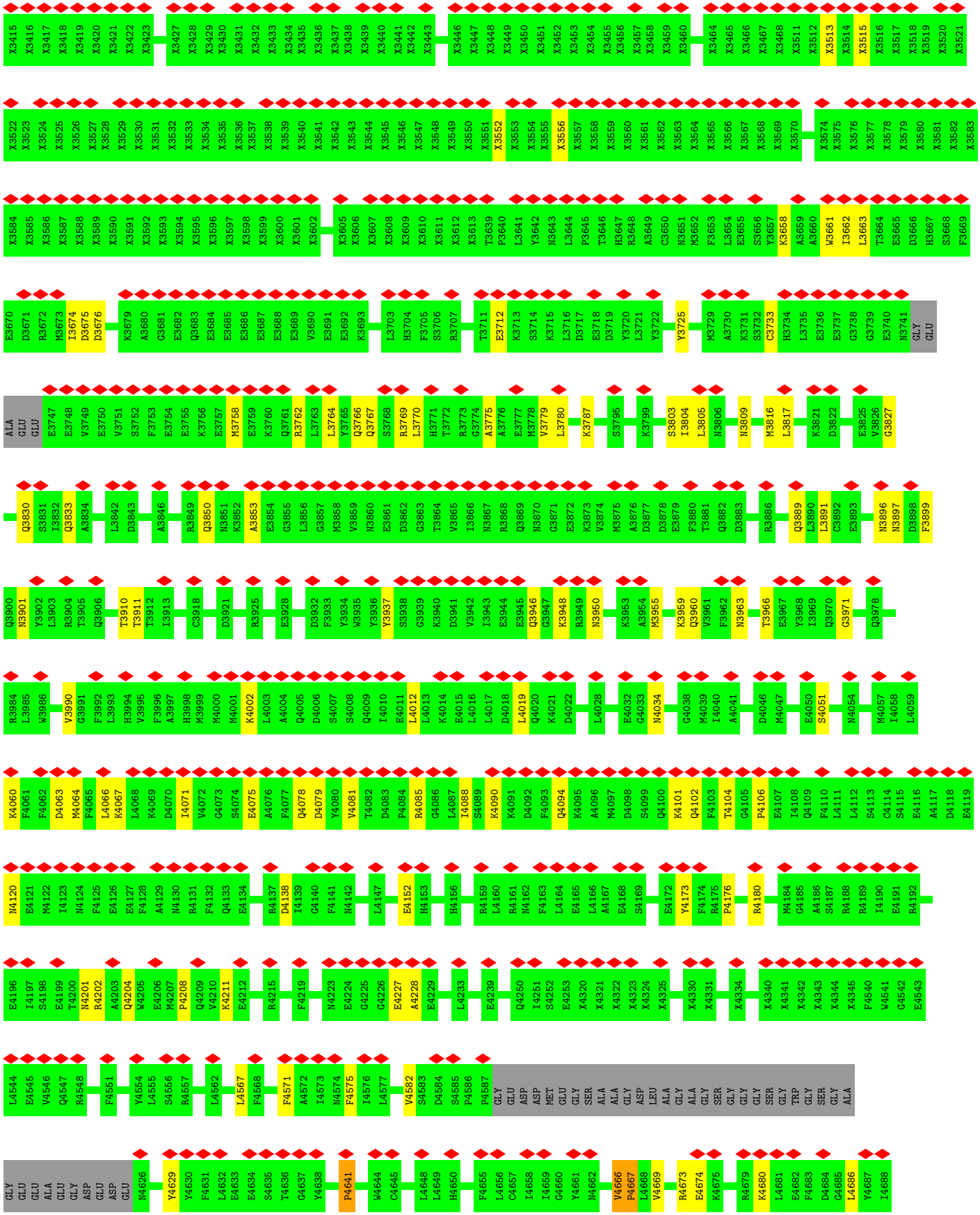

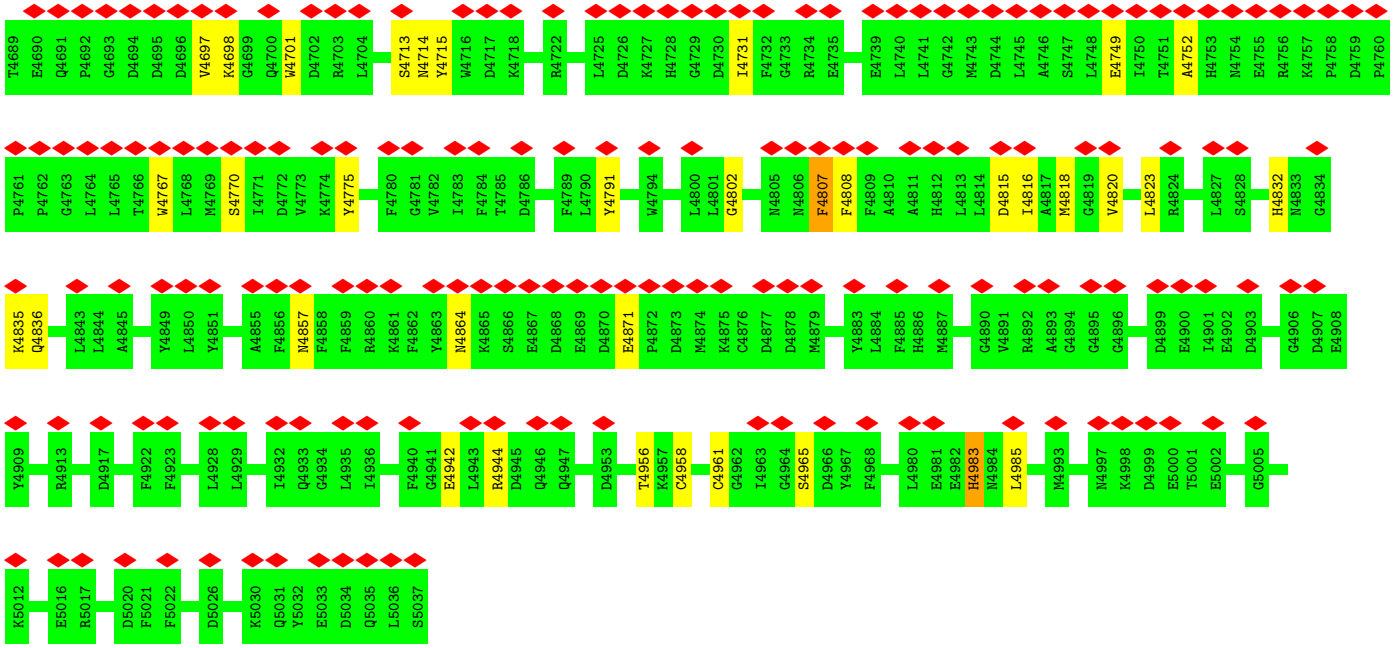

• Molecule 2: Ryanodine receptor 1

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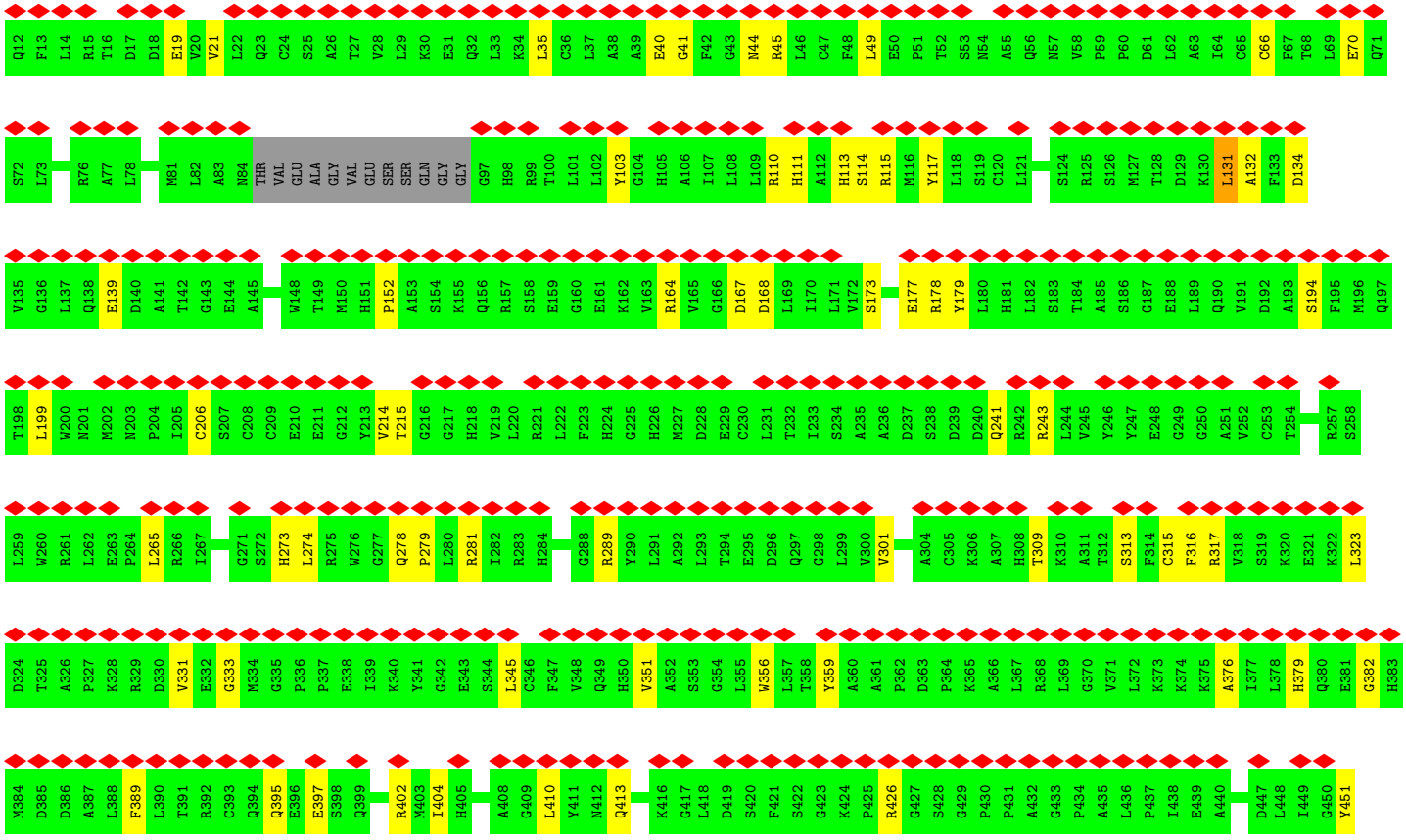

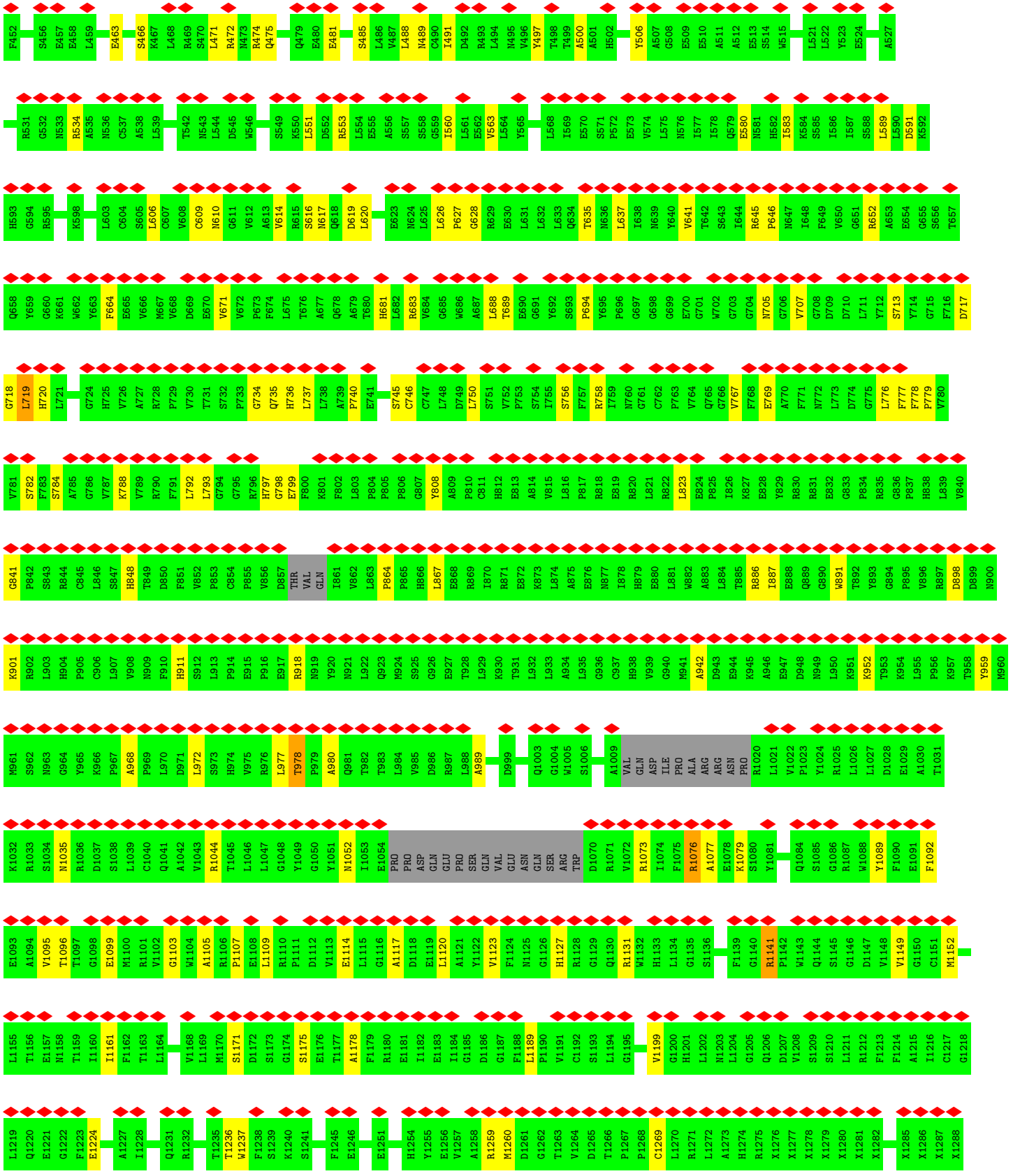
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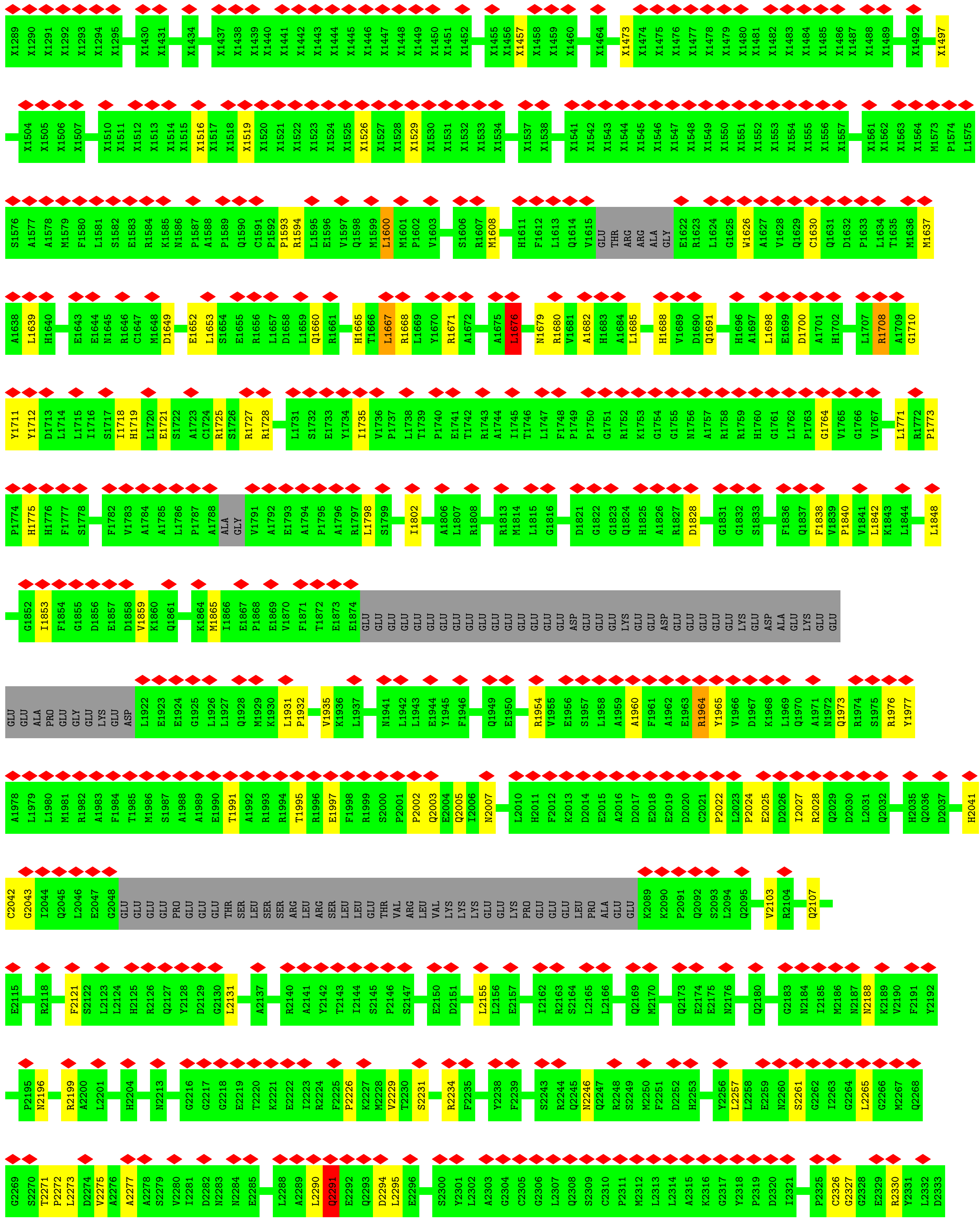
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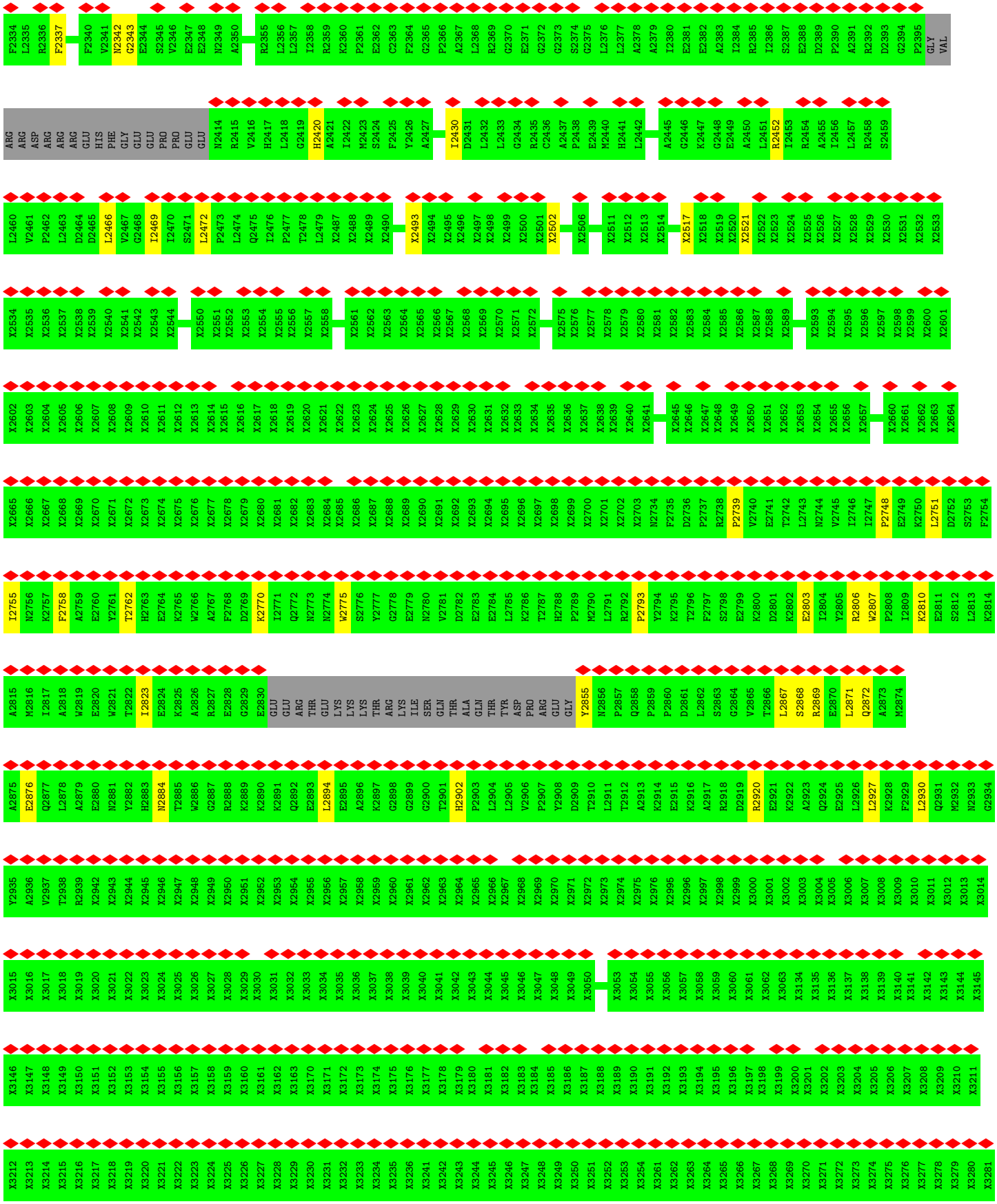
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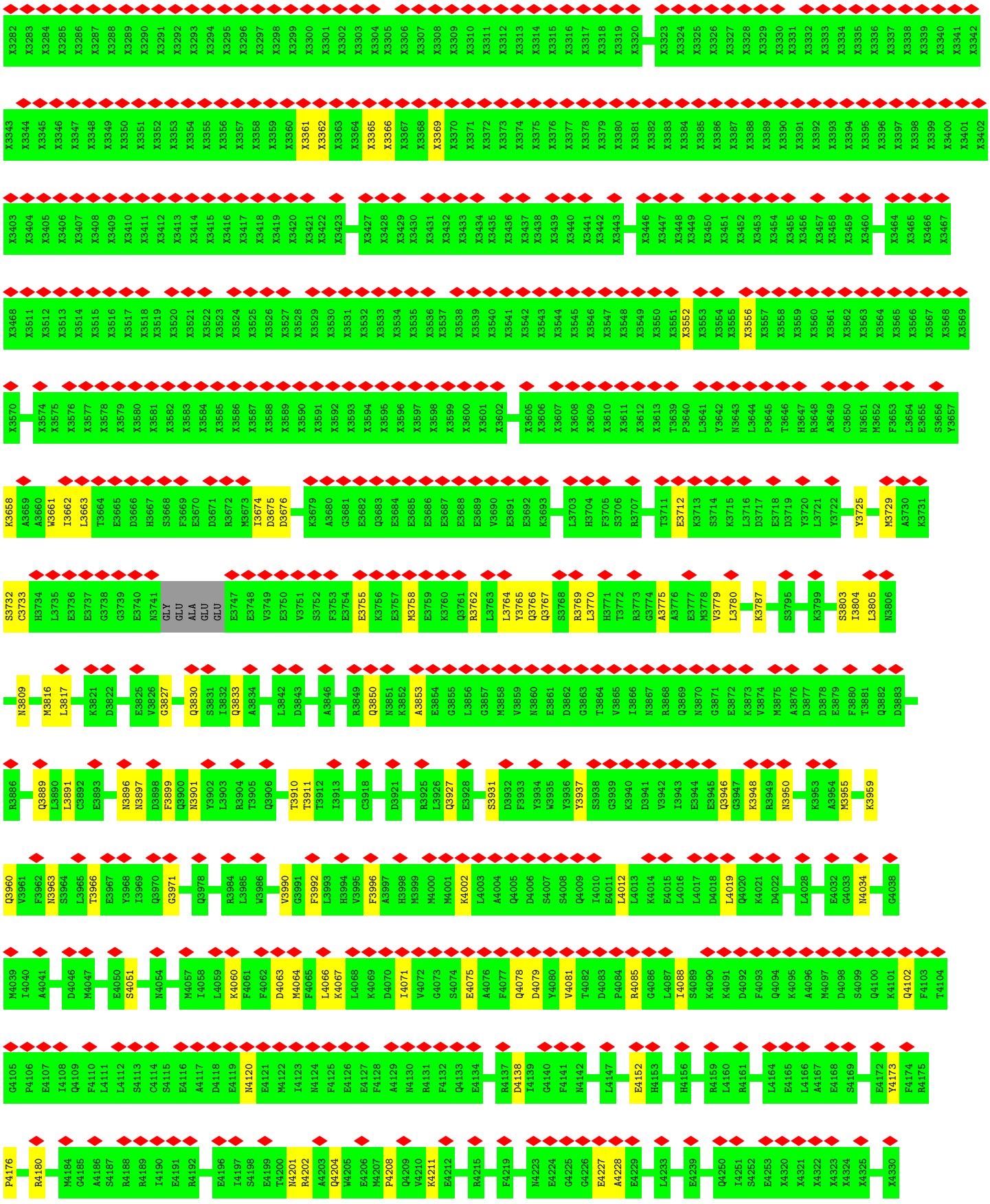
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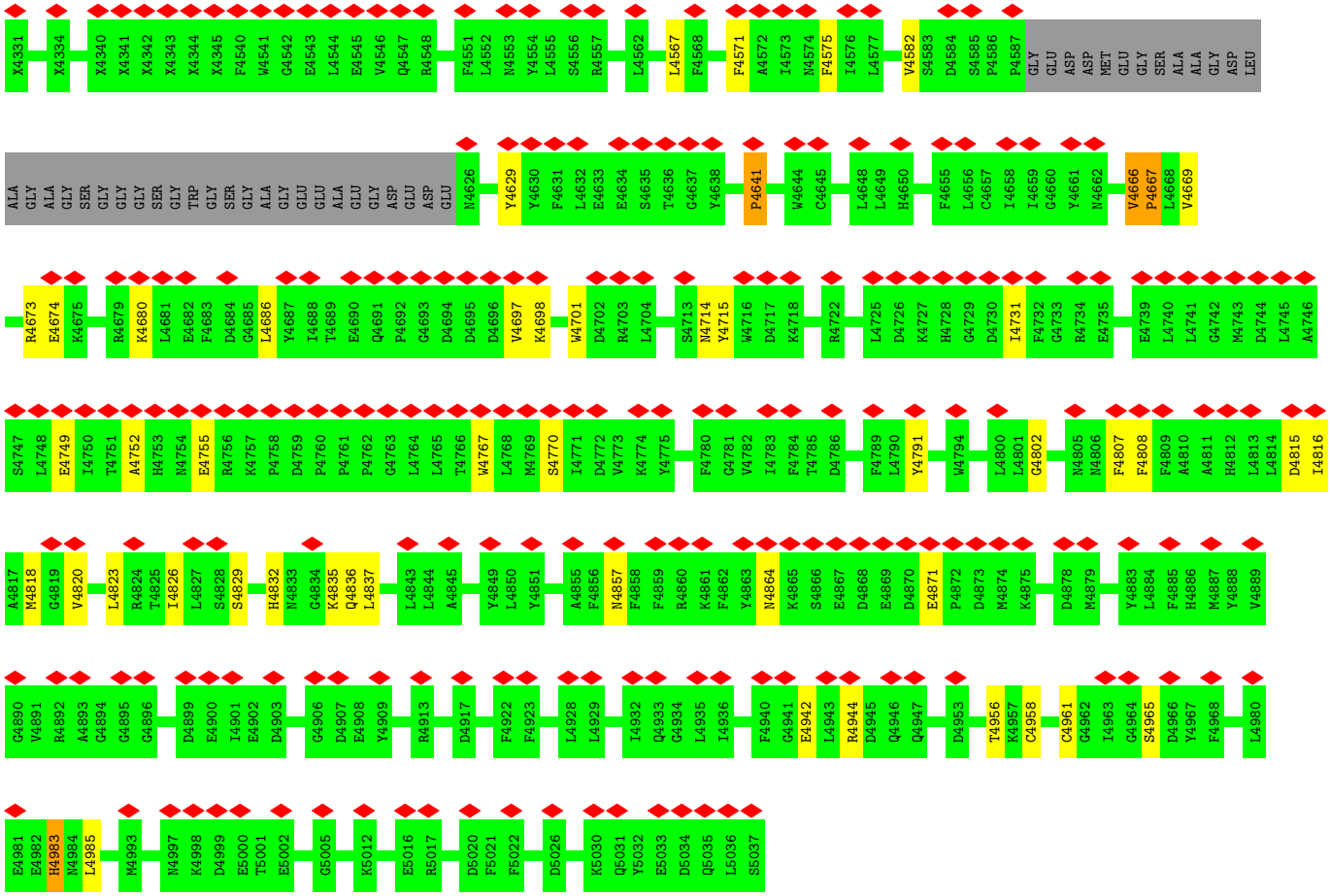
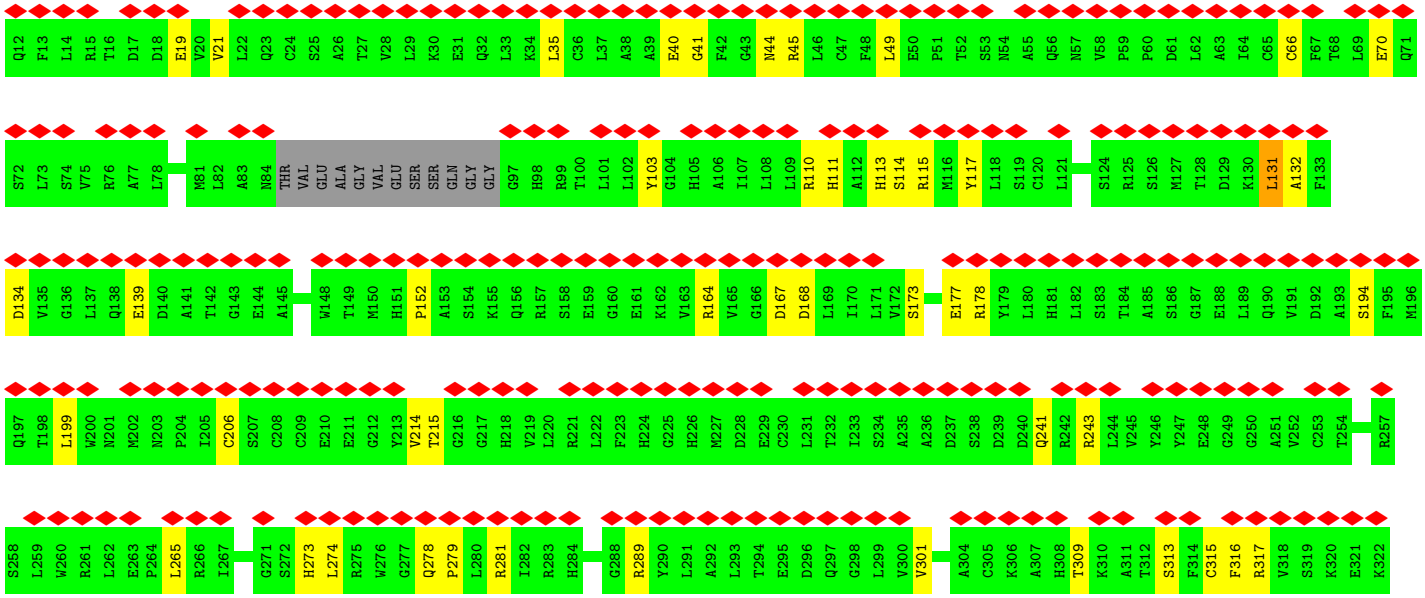
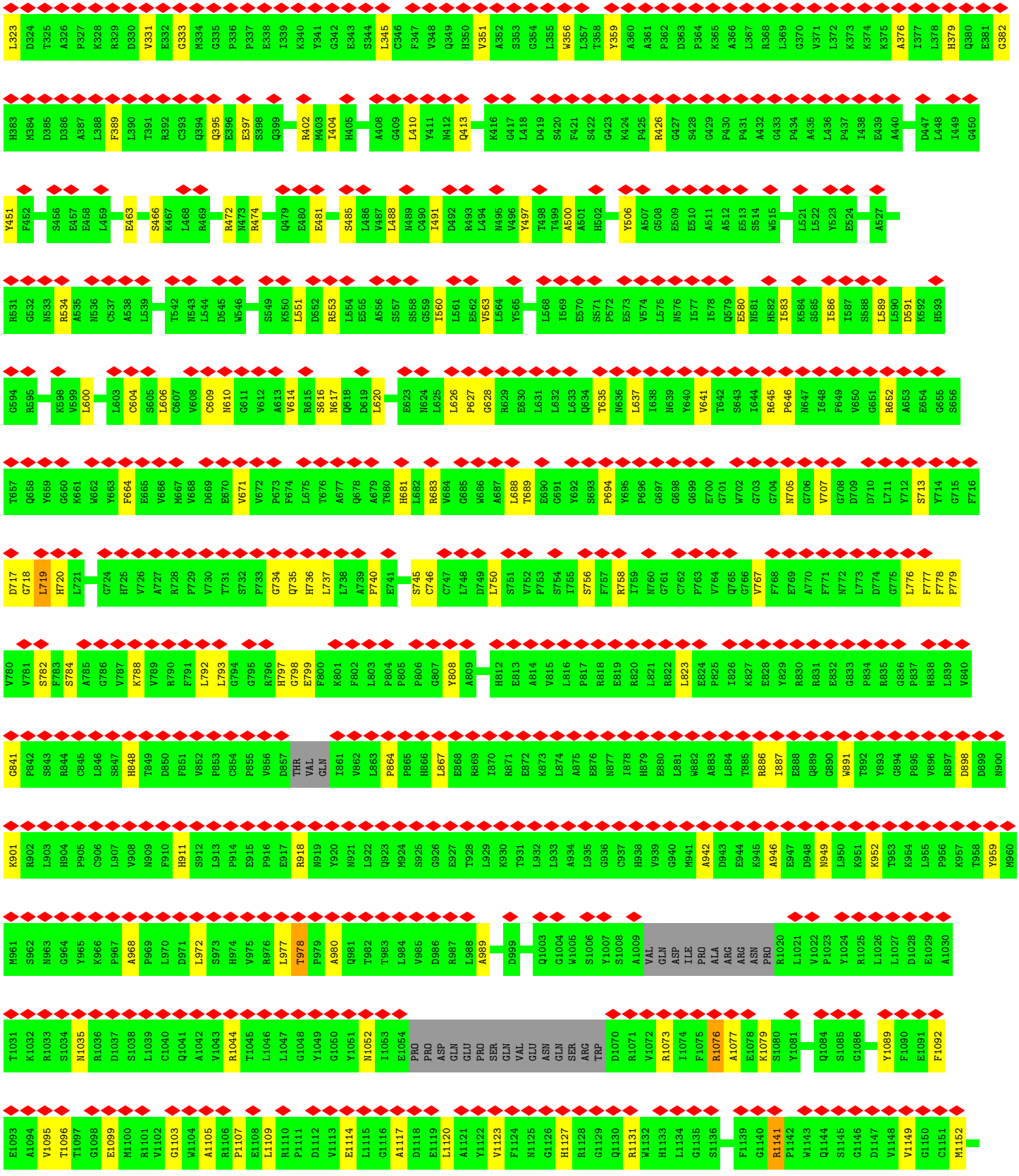


• Molecule 2: Ryanodine receptor 1

Chain G:

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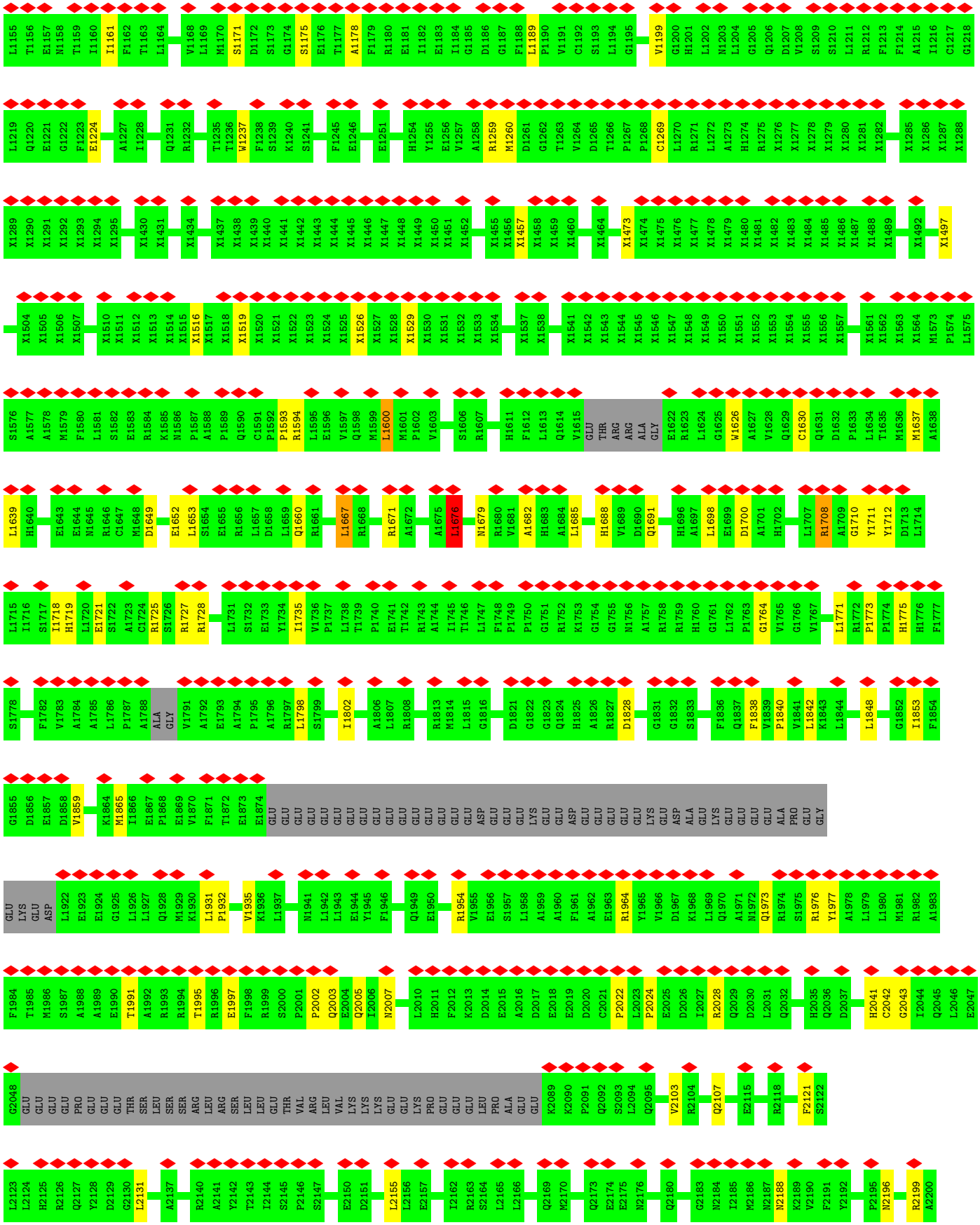
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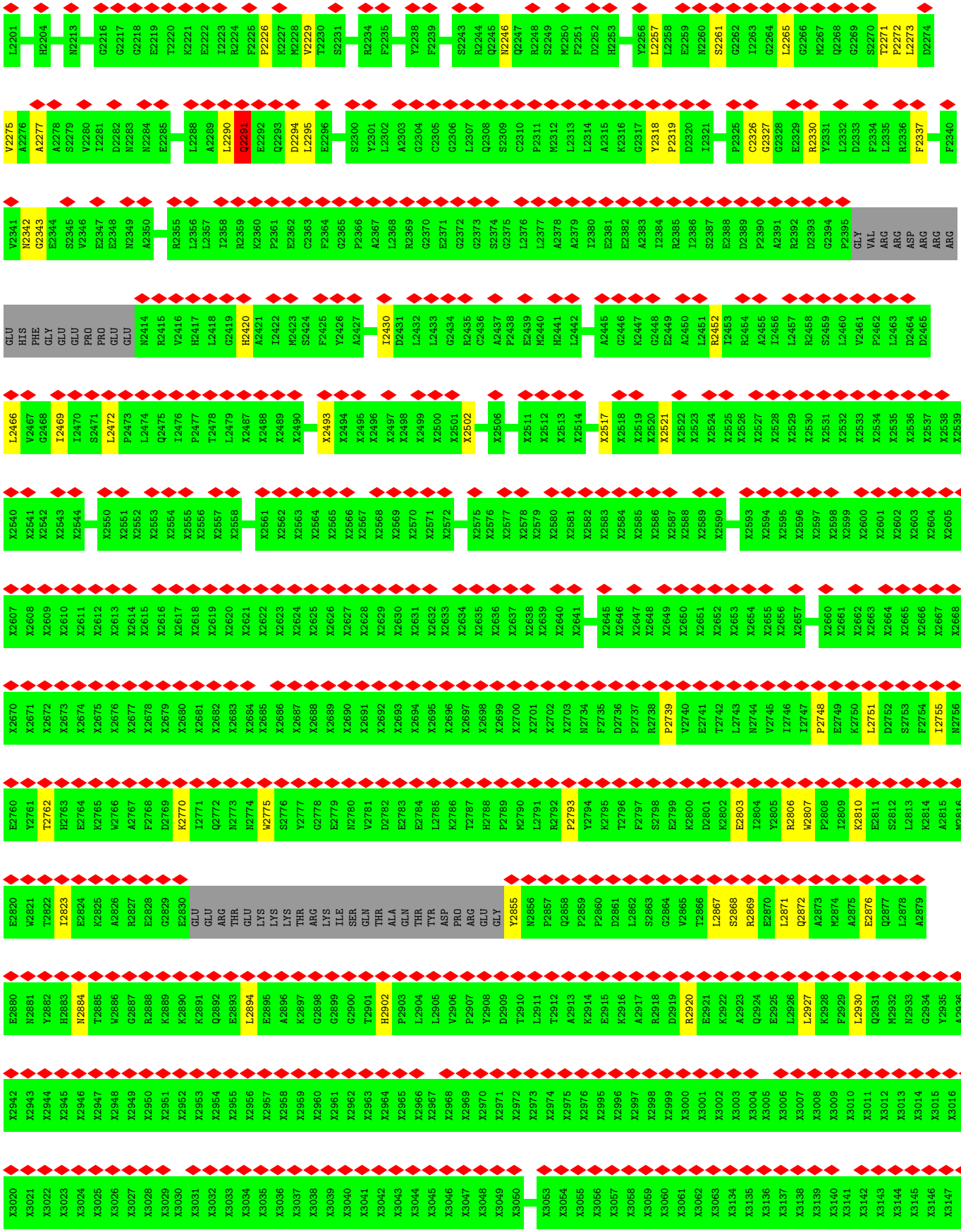
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E2820 W2821 T2822 I2823 E2824 K2825 A2826 R2827 E2828 G2829 E2830 GLU GLU ARG THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2855 N2856 P2857 Q2858 P2859 P2860 D2861 L2862 S2863 G2864 V2865 T2866 L2867 S2868 R2869 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
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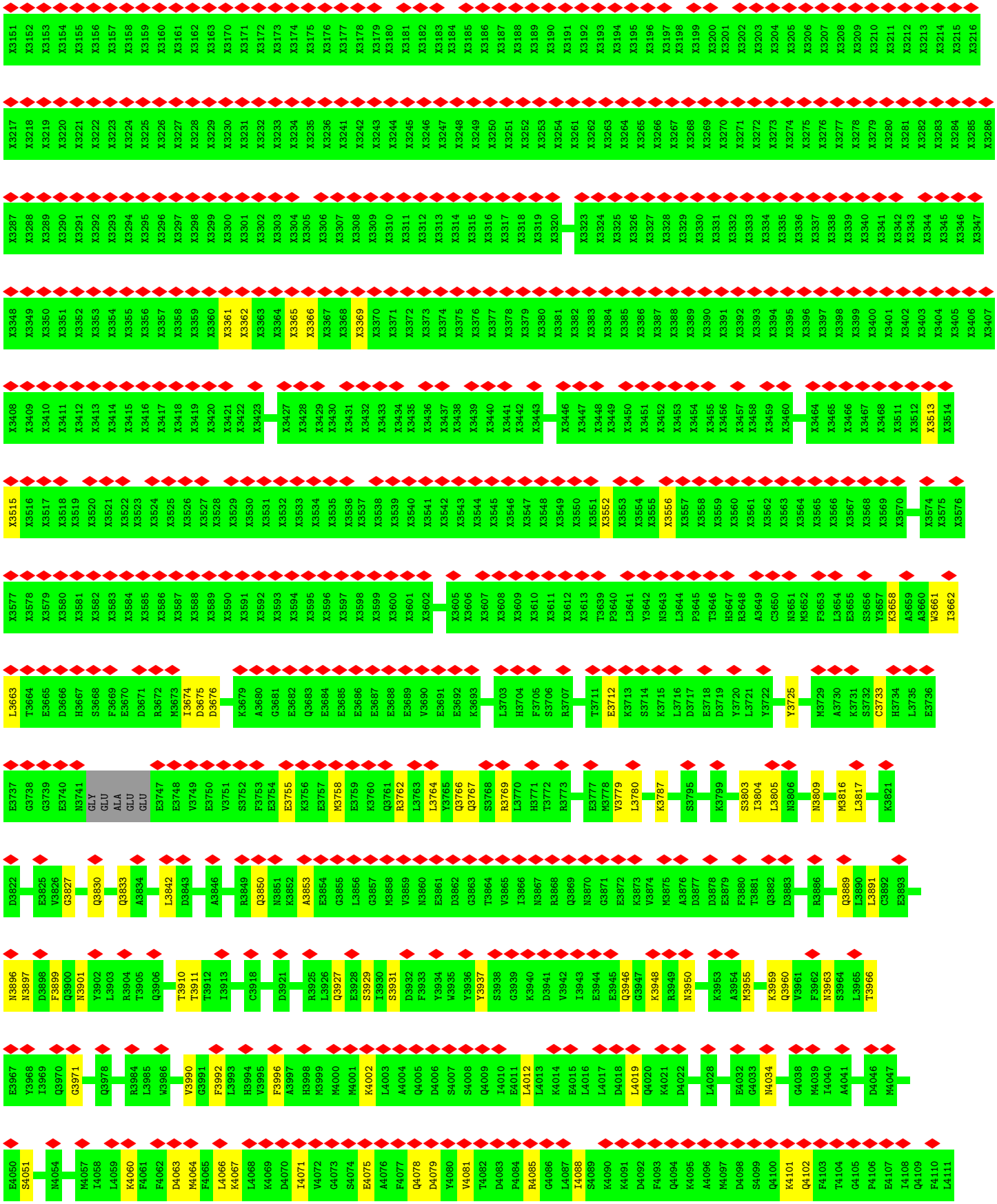
X3020 X3021 X3022 X3023 X3024 X3025 X3026 X3027 X3028 X3029 X3030 X3031 X3032 X3033 X3034 X3035 X3036 X3037 X3038 X3039 X3040 X3041 X3042 X3043 X3044 X3045 X3046 X3047 X3048 X3049 X3050 X3053 X3054 X3055 X3056 X3057 X3058 X3059 X3060 X3061 X3062 X3063 X3134 X3135 X3136 X3137 X3138 X3139 X3140 X3141 X3142 X3143 X3144 X3145 X3146 X3147 X3148 X3149 X3150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X3408 X3409 X3410 X3411 X3412 X3413 X3414 X3415 X3416 X3417 X3418 X3419 X3420 X3421 X3422 X3423 X3427 X3428 X3429 X3430 X3431 X3432 X3433 X3434 X3435 X3436 X3437 X3438 X3439 X3440 X3441 X3442 X3443 X3446 X3447 X3448 X3449 X3450 X3451 X3452 X3453 X3454 X3455 X3456 X3457 X3458 X3459 X3460 X3464 X3465 X3466 X3467 X3468 X3511 X3512 X3513 X3514
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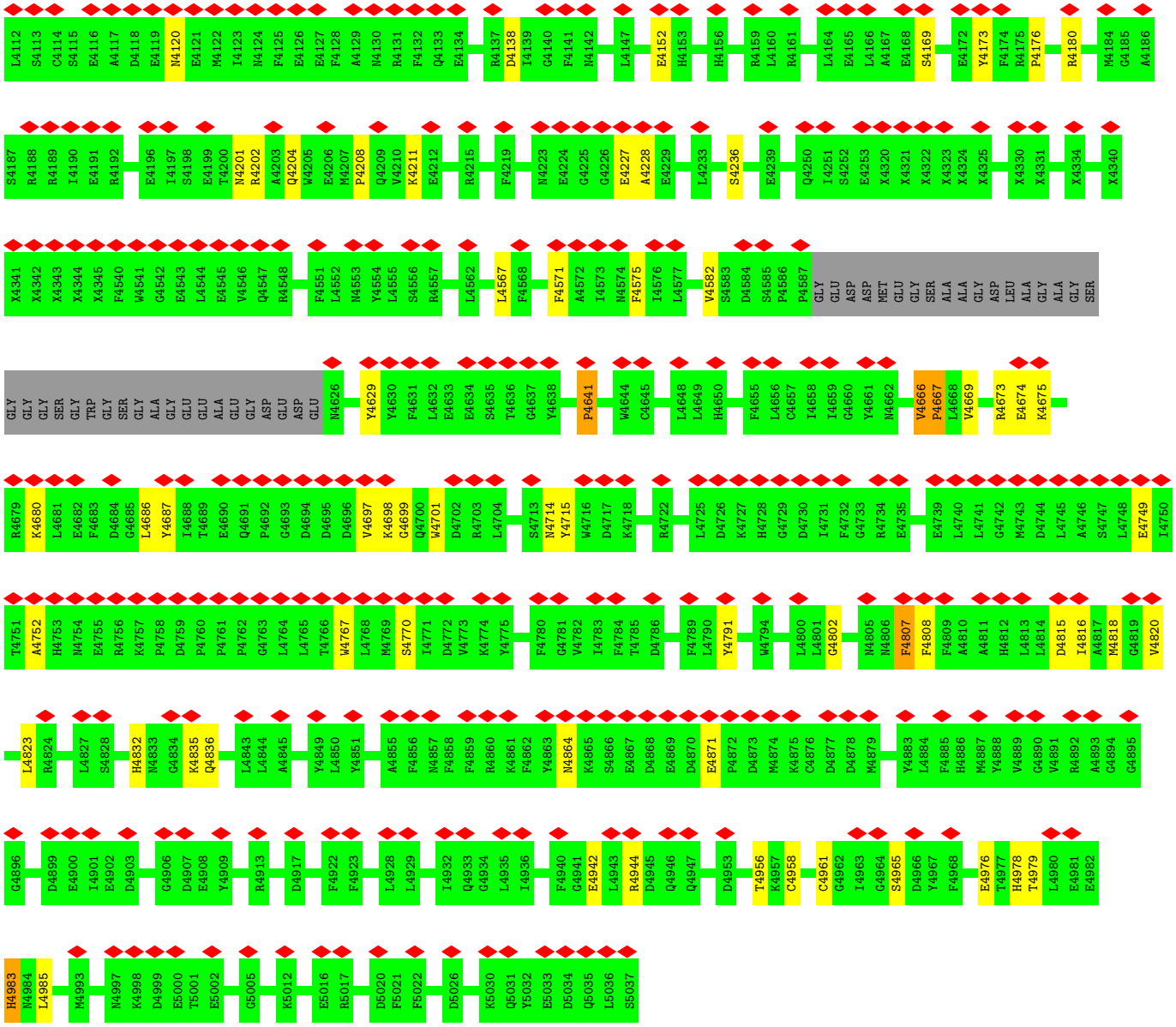
L3663 T3664 E3665 D3666 H3667 S3668 F3669 E3670 D3671 R3672 M3673 I3674 D3675 D3676 K3679 A3680 G3681 E3682 Q3683 E3684 E3685 E3686 E3687 E3688 E3689 V3690 E3691 E3692 K3693 L3703 H3704 F3705 S3706 R3707 T3711 E3712 K3713 S3714 K3715 L3716 D3717 E3718 D3719 Y3720 L3721 Y3722 Y3725 M3729 A3730 K3731 S3732 C3733 H3734 L3735 E3736
E3737 G3738 G3739 E3740 N3741 GLY GLU ALA GLU GLU E3747 E3748 V3749 E3750 V3751 S3752 F3753 E3754 E3755 K3756 E3757 M3758 E3759 K3760 Q3761 R3762 L3763 L3764 Y3765 Q3766 Q3767 S3768 R3769 L3770 H3771 T3772 R3773 E3777 M3778 V3779 L3780 K3787 S3795 K3799 S3803 I3804 L3805 N3806 N3809 M3816 L3817 K3821
D3822 E3825 V3826 G3827 Q3830 Q3833 A3834 L3842 D3843 A3846 R3849 Q3850 N3851 K3852 A3853 E3854 G3855 L3856 G3857 M3858 V3859 N3860 E3861 D3862 G3863 T3864 V3865 I3866 N3867 R3868 Q3869 N3870 G3871 E3872 K3873 V3874 M3875 A3876 D3877 D3878 E3879 F3880 T3881 Q3882 D3883 R3886 Q3889 L3890 L3891 C3892 E3893
N3896 N3897 D3898 F3899 Q3900 N3901 Y3902 L3903 R3904 T3905 Q3906 T3910 T3911 T3912 I3913 C3918 D3921 R3925 L3926 Q3927 E3928 S3929 I3930 S3931 D3932 F3933 Y3934 W3935 Y3936 Y3937 S3938 G3939 K3940 D3941 V3942 I3943 E3944 E3945 Q3946 G3947 K3948 R3949 N3950 K3953 A3954 M3955 K3959 Q3960 V3961 F3962 N3963 S3964 L3965 T3966
E3967 Y3968 I3969 Q3970 G3971 Q3978 R3984 L3985 W3986 V3990 G3991 F3992 L3993 H3994 V3995 F3996 A3997 H3998 M3999 M4000 M4001 K4002 L4003 A4004 Q4005 D4006 S4007 S4008 Q4009 I4010 E4011 L4012 L4013 K4014 E4015 L4016 L4017 D4018 L4019 Q4020 K4021 D4022 L4028 E4032 G4033 N4034 G4038 M4039 I4040 A4041 D4046 M4047
E4050 S4051 M4054 M4057 I4058 L4059 K4060 F4061 F4062 D4063 M4064 F4065 L4066 K4067 L4068 K4069 D4070 I4071 V4072 G4073 S4074 E4075 A4076 F4077 Q4078 D4079 Y4080 V4081 T4082 D4083 P4084 R4085 G4086 L4087 I4088 S4089 K4090 K4091 D4092 F4093 Q4094 K4095 A4096 M4097 D4098 S4099 Q4100 K4101 Q4102 F4103 T4104 G4105 P4106 E4107 I4108 Q4109 F4110 L4111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S4187 R4188 R4189 I4190 E4191 R4192 E4196 I4197 S4198 E4199 T4200 N4201 R4202 A4203 Q4204 W4205 E4206 M4207 P4208 Q4209 V4210 K4211 E4212 R4215 F4219 N4223 E4224 G4225 G4226 E4227 A4228 E4229 L4233 S4236 E4239 Q4250 I4251 S4252 E4253 X4320 X4321 X4322 X4323 X4324 X4325 X4330 X4331 X4334 X4340
X4341 X4342 X4343 X4344 X4345 F4540 W4541 G4542 E4543 L4544 E4545 V4546 Q4547 R4548 F4551 L4552 N4553 Y4554 L4555 S4556 R4557 L4562 L4567 F4568 F4571 A4572 I4573 N4574 F4575 I4576 L4577 V4582 S4583 D4584 S4585 P4586 P4587 GLY GLU ASP ASP MET GLU GLY SER ALA ALA GLY ASP LEU ALA GLY ALA GLY SER
GLY GLY GLY SER GLY TRP GLY SER GLY ALA GLY GLU GLU ALA GLU GLY ASP GLU GLU N4626 Y4629 Y4630 F4631 L4632 E4633 E4634 S4635 T4636 G4637 Y4638 P4641 W4644 C4645 L4648 L4649 H4650 F4655 L4656 C4657 I4658 I4659 G4660 Y4661 N4662 V4666 P4667 L4668 V4669 R4673 E4674 K4675
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T4751 A4752 H4753 N4754 E4755 R4756 K4757 P4758 D4759 P4760 P4761 P4762 G4763 L4764 L4765 T4766 W4767 L4768 M4769 S4770 I4771 D4772 V4773 K4774 Y4775 F4780 G4781 V4782 I4783 F4784 T4785 D4786 F4789 L4790 Y4791 W4794 L4800 L4801 G4802 N4805 N4806 P4807 F4808 F4809 A4810 A4811 H4812 L4813 L4814 D4815 I4816 A4817 M4818 G4819 V4820
L4823 R4824 L4827 S4828 H4832 N4833 G4834 K4835 Q4836 L4843 L4844 A4845 Y4849 L4850 Y4851 A4855 F4856 N4857 F4858 F4859 R4860 K4861 F4862 Y4863 N4864 K4865 S4866 E4867 D4868 E4869 D4870 E4871 P4872 D4873 M4874 K4875 C4876 D4877 D4878 M4879 Y4883 L4884 F4885 H4886 M4887 Y4888 V4889 G4890 V4891 R4892 A4893 G4894 G4895
G4896 D4899 E4900 I4901 E4902 D4903 G4906 D4907 E4908 Y4909 R4913 D4917 F4922 F4923 L4928 L4929 I4932 Q4933 G4934 L4935 I4936 F4940 G4941 E4942 L4943 R4944 D4945 Q4946 Q4947 D4953 T4956 K4957 C4958 C4961 G4962 I4963 G4964 S4965 D4966 Y4967 F4968 E4976 T4977 H4978 T4979 L4980 E4981 E4982
H4983 N4984 L4985 M4993 N4997 K4998 D4999 E5000 T5001 E5002 G5005 K5012 E5016 R5017 D5020 F5021 F5022 D5026 K5030 Q5031 Y5032 E5033 D5034 Q5035 L5036 S5037

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55564	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.060	Depositor
Minimum map value	-0.030	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.025	Depositor
Map size (Å)	502.0, 502.0, 502.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.255, 1.255, 1.255	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

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	0.32	0/834	0.53	0/1123
1	F	0.32	0/834	0.53	0/1123
1	H	0.32	0/834	0.53	0/1123
1	J	0.32	0/834	0.53	0/1123
2	B	0.30	0/25438	0.54	8/34548 (0.0%)
2	E	0.30	0/25438	0.54	8/34548 (0.0%)
2	G	0.30	0/25438	0.54	8/34548 (0.0%)
2	I	0.30	0/25438	0.54	8/34548 (0.0%)
All	All	0.30	0/105088	0.54	32/142684 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	F	0	1
1	H	0	1
1	J	0	1
2	B	0	13
2	E	0	13
2	G	0	13
2	I	0	13
All	All	0	56

There are no bond length outliers.

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	131	LEU	CA-CB-CG	7.74	133.11	115.30
2	B	131	LEU	CA-CB-CG	7.73	133.09	115.30
2	I	131	LEU	CA-CB-CG	7.73	133.08	115.30
2	G	131	LEU	CA-CB-CG	7.73	133.08	115.30
2	E	1600	LEU	CA-CB-CG	7.38	132.27	115.30
2	B	1600	LEU	CA-CB-CG	7.37	132.24	115.30
2	G	1600	LEU	CA-CB-CG	7.36	132.23	115.30
2	I	1600	LEU	CA-CB-CG	7.35	132.20	115.30
2	E	1676	LEU	CA-CB-CG	6.49	130.24	115.30
2	B	1676	LEU	CA-CB-CG	6.49	130.22	115.30
2	G	1676	LEU	CA-CB-CG	6.48	130.20	115.30
2	I	1676	LEU	CA-CB-CG	6.48	130.19	115.30
2	E	4985	LEU	CA-CB-CG	6.27	129.73	115.30
2	G	4985	LEU	CA-CB-CG	6.27	129.73	115.30
2	I	4985	LEU	CA-CB-CG	6.27	129.71	115.30
2	B	4985	LEU	CA-CB-CG	6.26	129.71	115.30
2	B	977	LEU	CA-CB-CG	5.85	128.76	115.30
2	G	977	LEU	CA-CB-CG	5.85	128.75	115.30
2	E	977	LEU	CA-CB-CG	5.84	128.72	115.30
2	I	977	LEU	CA-CB-CG	5.83	128.70	115.30
2	I	2290	LEU	CA-CB-CG	5.72	128.47	115.30
2	B	2290	LEU	CA-CB-CG	5.72	128.45	115.30
2	E	2290	LEU	CA-CB-CG	5.71	128.44	115.30
2	G	2290	LEU	CA-CB-CG	5.71	128.42	115.30
2	B	1667	LEU	CA-CB-CG	5.48	127.90	115.30
2	I	1667	LEU	CA-CB-CG	5.47	127.89	115.30
2	G	1667	LEU	CA-CB-CG	5.47	127.89	115.30
2	E	1667	LEU	CA-CB-CG	5.46	127.85	115.30
2	I	688	LEU	CA-CB-CG	5.18	127.21	115.30
2	B	688	LEU	CA-CB-CG	5.18	127.20	115.30
2	E	688	LEU	CA-CB-CG	5.17	127.20	115.30
2	G	688	LEU	CA-CB-CG	5.16	127.16	115.30

There are no chirality outliers.

All (56) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	8	SER	Peptide
2	B	139	GLU	Peptide
2	B	1676	LEU	Peptide
2	B	1828	ASP	Peptide
2	B	2291	GLN	Peptide
2	B	2343	GLY	Peptide

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Mol	Chain	Res	Type	Group
2	B	2472	LEU	Peptide
2	B	2807	TRP	Peptide
2	B	3971	GLY	Peptide
2	B	4641	PRO	Peptide
2	B	4666	VAL	Peptide
2	B	4807	PHE	Peptide
2	B	694	PRO	Peptide
2	B	808	TYR	Peptide
2	E	139	GLU	Peptide
2	E	1676	LEU	Peptide
2	E	1828	ASP	Peptide
2	E	2291	GLN	Peptide
2	E	2343	GLY	Peptide
2	E	2472	LEU	Peptide
2	E	2807	TRP	Peptide
2	E	3971	GLY	Peptide
2	E	4641	PRO	Peptide
2	E	4666	VAL	Peptide
2	E	4807	PHE	Peptide
2	E	694	PRO	Peptide
2	E	808	TYR	Peptide
1	F	8	SER	Peptide
2	G	139	GLU	Peptide
2	G	1676	LEU	Peptide
2	G	1828	ASP	Peptide
2	G	2291	GLN	Peptide
2	G	2343	GLY	Peptide
2	G	2472	LEU	Peptide
2	G	2807	TRP	Peptide
2	G	3971	GLY	Peptide
2	G	4641	PRO	Peptide
2	G	4666	VAL	Peptide
2	G	4807	PHE	Peptide
2	G	694	PRO	Peptide
2	G	808	TYR	Peptide
1	H	8	SER	Peptide
2	I	139	GLU	Peptide
2	I	1676	LEU	Peptide
2	I	1828	ASP	Peptide
2	I	2291	GLN	Peptide
2	I	2343	GLY	Peptide
2	I	2472	LEU	Peptide

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Mol	Chain	Res	Type	Group
2	I	2807	TRP	Peptide
2	I	3971	GLY	Peptide
2	I	4641	PRO	Peptide
2	I	4666	VAL	Peptide
2	I	4807	PHE	Peptide
2	I	694	PRO	Peptide
2	I	808	TYR	Peptide
1	J	8	SER	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	818	0	824	11	0
1	F	818	0	824	11	0
1	H	818	0	824	11	0
1	J	818	0	824	11	0
2	B	29509	0	24752	277	0
2	E	29509	0	24753	269	0
2	G	29509	0	24753	269	0
2	I	29509	0	24753	276	0
3	B	1	0	0	0	0
3	E	1	0	0	0	0
3	G	1	0	0	0	0
3	I	1	0	0	0	0
All	All	121312	0	102307	1111	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 5.

All (1111) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:4983:HIS:CD2	2:B:4983:HIS:H	2.10	0.70
2:E:4983:HIS:CD2	2:E:4983:HIS:H	2.10	0.70
2:G:4983:HIS:CD2	2:G:4983:HIS:H	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:4983:HIS:H	2:I:4983:HIS:CD2	2.10	0.67
2:I:788:LYS:HG2	2:I:1630:CYS:H	1.61	0.65
2:G:788:LYS:HG2	2:G:1630:CYS:H	1.61	0.65
2:E:111:HIS:HD2	2:E:114:SER:H	1.45	0.64
2:B:788:LYS:HG2	2:B:1630:CYS:H	1.61	0.64
2:B:111:HIS:HD2	2:B:114:SER:H	1.45	0.64
2:E:788:LYS:HG2	2:E:1630:CYS:H	1.61	0.64
2:E:4958:CYS:SG	2:E:4961:CYS:HB2	2.38	0.64
2:E:646:PRO:HD2	2:E:779:PRO:HB2	1.80	0.63
2:I:646:PRO:HD2	2:I:779:PRO:HB2	1.79	0.63
2:I:4958:CYS:SG	2:I:4961:CYS:HB2	2.38	0.63
2:G:110:ARG:HH21	2:G:115:ARG:HB3	1.63	0.63
2:E:110:ARG:HH21	2:E:115:ARG:HB3	1.63	0.63
2:G:641:VAL:HG21	2:G:705:ASN:HA	1.81	0.63
2:G:4958:CYS:SG	2:G:4961:CYS:HB2	2.38	0.63
2:B:4958:CYS:SG	2:B:4961:CYS:HB2	2.38	0.63
2:E:641:VAL:HG21	2:E:705:ASN:HA	1.81	0.62
2:I:379:HIS:HD2	2:I:382:GLY:H	1.47	0.62
2:G:111:HIS:HD2	2:G:114:SER:H	1.45	0.62
2:G:2748:PRO:HD2	2:G:2751:LEU:HD12	1.81	0.62
2:B:110:ARG:HH21	2:B:115:ARG:HB3	1.63	0.62
2:G:1259:ARG:HH12	2:G:1593:PRO:HA	1.64	0.62
2:B:646:PRO:HD2	2:B:779:PRO:HB2	1.80	0.62
2:I:110:ARG:HH21	2:I:115:ARG:HB3	1.63	0.62
2:I:4958:CYS:SG	2:I:4961:CYS:CB	2.88	0.62
2:I:111:HIS:HD2	2:I:114:SER:H	1.45	0.62
2:E:2755:ILE:HD13	2:E:2810:LYS:HG2	1.82	0.62
2:I:1259:ARG:HH12	2:I:1593:PRO:HA	1.64	0.62
2:B:641:VAL:HG21	2:B:705:ASN:HA	1.81	0.61
2:I:2748:PRO:HD2	2:I:2751:LEU:HD12	1.81	0.61
2:E:2748:PRO:HD2	2:E:2751:LEU:HD12	1.81	0.61
2:I:2755:ILE:HD13	2:I:2810:LYS:HG2	1.82	0.61
2:B:4958:CYS:SG	2:B:4961:CYS:CB	2.88	0.61
2:G:2755:ILE:HD13	2:G:2810:LYS:HG2	1.82	0.61
2:B:2755:ILE:HD13	2:B:2810:LYS:HG2	1.82	0.61
2:B:379:HIS:HD2	2:B:382:GLY:H	1.47	0.61
2:E:1259:ARG:HH12	2:E:1593:PRO:HA	1.64	0.61
2:E:4958:CYS:SG	2:E:4961:CYS:CB	2.88	0.61
2:I:641:VAL:HG21	2:I:705:ASN:HA	1.81	0.61
2:G:646:PRO:HD2	2:G:779:PRO:HB2	1.80	0.61
2:B:1259:ARG:HH12	2:B:1593:PRO:HA	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2748:PRO:HD2	2:B:2751:LEU:HD12	1.81	0.61
2:E:379:HIS:HD2	2:E:382:GLY:H	1.47	0.61
2:G:379:HIS:HD2	2:G:382:GLY:H	1.47	0.61
2:G:4958:CYS:SG	2:G:4961:CYS:CB	2.88	0.60
2:E:717:ASP:OD1	2:E:720:HIS:ND1	2.35	0.60
2:B:717:ASP:OD1	2:B:720:HIS:ND1	2.35	0.60
2:I:717:ASP:OD1	2:I:720:HIS:ND1	2.35	0.60
2:B:173:SER:HB3	2:B:178:ARG:H	1.67	0.60
2:E:1152:MET:HB2	2:E:1161:ILE:HB	1.84	0.60
2:I:173:SER:HB3	2:I:178:ARG:H	1.67	0.60
2:I:1700:ASP:OD2	2:I:1708:ARG:NH2	2.35	0.60
2:G:4674:GLU:HB3	2:G:4715:TYR:HB2	1.84	0.60
2:B:1152:MET:HB2	2:B:1161:ILE:HB	1.84	0.59
2:G:173:SER:HB3	2:G:178:ARG:H	1.67	0.59
2:G:1700:ASP:OD2	2:G:1708:ARG:NH2	2.35	0.59
2:G:717:ASP:OD1	2:G:720:HIS:ND1	2.35	0.59
2:G:1152:MET:HB2	2:G:1161:ILE:HB	1.84	0.59
2:E:1079:LYS:NZ	2:E:1107:PRO:O	2.36	0.59
2:E:1721:GLU:OE2	2:E:1725:ARG:NH2	2.36	0.59
2:I:1721:GLU:OE2	2:I:1725:ARG:NH2	2.36	0.59
2:B:1721:GLU:OE2	2:B:1725:ARG:NH2	2.36	0.59
2:B:4674:GLU:HB3	2:B:4715:TYR:HB2	1.85	0.59
2:I:1519:UNK:HA	2:I:1526:UNK:HA	1.85	0.59
2:I:4674:GLU:HB3	2:I:4715:TYR:HB2	1.85	0.59
2:G:4176:PRO:O	2:G:4202:ARG:NH1	2.35	0.59
2:B:609:CYS:SG	2:B:610:ASN:N	2.75	0.59
2:B:2022:PRO:O	2:B:2028:ARG:NH2	2.36	0.59
2:E:609:CYS:SG	2:E:610:ASN:N	2.75	0.59
2:E:1700:ASP:OD2	2:E:1708:ARG:NH2	2.35	0.59
2:E:2291:GLN:HB2	2:E:2295:LEU:HG	1.84	0.59
2:E:4674:GLU:HB3	2:E:4715:TYR:HB2	1.85	0.59
2:I:4176:PRO:O	2:I:4202:ARG:NH1	2.35	0.59
2:I:241:GLN:O	2:I:289:ARG:NH1	2.34	0.59
2:I:1079:LYS:NZ	2:I:1107:PRO:O	2.36	0.59
2:I:2022:PRO:O	2:I:2028:ARG:NH2	2.36	0.59
2:G:1721:GLU:OE2	2:G:1725:ARG:NH2	2.36	0.59
2:G:2291:GLN:HB2	2:G:2295:LEU:HG	1.84	0.59
2:B:1671:ARG:NH2	2:B:1710:GLY:O	2.36	0.59
2:B:3937:TYR:O	2:B:4002:LYS:NZ	2.36	0.59
2:E:4176:PRO:O	2:E:4202:ARG:NH1	2.35	0.59
2:G:1671:ARG:NH2	2:G:1710:GLY:O	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1700:ASP:OD2	2:B:1708:ARG:NH2	2.35	0.59
2:B:4176:PRO:O	2:B:4202:ARG:NH1	2.35	0.59
2:G:1519:UNK:HA	2:G:1526:UNK:HA	1.85	0.59
2:E:1671:ARG:NH2	2:E:1710:GLY:O	2.36	0.59
2:I:1671:ARG:NH2	2:I:1710:GLY:O	2.36	0.59
2:B:2291:GLN:HB2	2:B:2295:LEU:HG	1.84	0.59
2:G:609:CYS:SG	2:G:610:ASN:N	2.75	0.59
2:G:1079:LYS:NZ	2:G:1107:PRO:O	2.36	0.59
2:I:1152:MET:HB2	2:I:1161:ILE:HB	1.84	0.58
2:G:2022:PRO:O	2:G:2028:ARG:NH2	2.36	0.58
2:I:609:CYS:SG	2:I:610:ASN:N	2.75	0.58
2:G:3733:CYS:HA	2:G:3766:GLN:HG3	1.85	0.58
2:E:173:SER:HB3	2:E:178:ARG:H	1.67	0.58
2:I:3937:TYR:O	2:I:4002:LYS:NZ	2.36	0.58
2:E:1519:UNK:HA	2:E:1526:UNK:HA	1.85	0.58
2:I:2291:GLN:HB2	2:I:2295:LEU:HG	1.84	0.58
2:I:3733:CYS:HA	2:I:3766:GLN:HG3	1.85	0.58
2:E:426:ARG:HB2	2:E:506:TYR:HA	1.85	0.58
2:B:1079:LYS:NZ	2:B:1107:PRO:O	2.36	0.58
2:B:3733:CYS:HA	2:B:3766:GLN:HG3	1.85	0.58
2:E:2770:LYS:HB3	2:E:2775:TRP:HB2	1.86	0.58
2:G:241:GLN:O	2:G:289:ARG:NH1	2.34	0.58
2:G:472:ARG:NH2	2:G:3712:GLU:OE2	2.37	0.58
2:E:3733:CYS:HA	2:E:3766:GLN:HG3	1.84	0.58
2:E:4567:LEU:HA	2:E:4816:ILE:HD12	1.85	0.58
2:I:4567:LEU:HA	2:I:4816:ILE:HD12	1.85	0.58
2:G:2770:LYS:HB3	2:G:2775:TRP:HB2	1.86	0.58
2:B:2770:LYS:HB3	2:B:2775:TRP:HB2	1.85	0.58
2:B:4567:LEU:HA	2:B:4816:ILE:HD12	1.85	0.57
2:B:426:ARG:HB2	2:B:506:TYR:HA	1.85	0.57
2:B:614:VAL:HG22	2:B:616:SER:H	1.69	0.57
2:I:426:ARG:HB2	2:I:506:TYR:HA	1.85	0.57
2:B:3889:GLN:OE1	2:B:3960:GLN:NE2	2.38	0.57
2:G:614:VAL:HG22	2:G:616:SER:H	1.69	0.57
2:B:472:ARG:NH2	2:B:3712:GLU:OE2	2.37	0.57
2:I:472:ARG:NH2	2:I:3712:GLU:OE2	2.37	0.57
2:G:3937:TYR:O	2:G:4002:LYS:NZ	2.36	0.57
2:G:4567:LEU:HA	2:G:4816:ILE:HD12	1.85	0.57
2:G:4864:ASN:ND2	2:G:4871:GLU:OE1	2.37	0.57
2:B:4864:ASN:ND2	2:B:4871:GLU:OE1	2.37	0.57
2:E:3937:TYR:O	2:E:4002:LYS:NZ	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2770:LYS:HB3	2:I:2775:TRP:HB2	1.86	0.57
2:I:3889:GLN:OE1	2:I:3960:GLN:NE2	2.38	0.57
2:I:614:VAL:HG22	2:I:616:SER:H	1.69	0.57
2:G:3889:GLN:OE1	2:G:3960:GLN:NE2	2.38	0.57
2:E:2022:PRO:O	2:E:2028:ARG:NH2	2.36	0.57
2:E:3910:THR:HG23	2:E:3911:THR:HG23	1.87	0.57
2:E:4864:ASN:ND2	2:E:4871:GLU:OE1	2.37	0.57
2:I:1109:LEU:HA	2:I:1120:LEU:HD21	1.87	0.57
2:G:1637:MET:SD	2:G:1708:ARG:NH1	2.78	0.57
2:B:1519:UNK:HA	2:B:1526:UNK:HA	1.85	0.57
2:B:1637:MET:SD	2:B:1708:ARG:NH1	2.78	0.57
2:I:4983:HIS:CD2	2:I:4983:HIS:N	2.73	0.57
2:B:2042:CYS:SG	2:B:2043:GLY:N	2.78	0.57
2:B:2003:GLN:O	2:B:2007:ASN:ND2	2.38	0.56
2:E:472:ARG:NH2	2:E:3712:GLU:OE2	2.37	0.56
2:I:359:TYR:HA	2:I:376:ALA:HA	1.87	0.56
2:G:3910:THR:HG23	2:G:3911:THR:HG23	1.87	0.56
2:B:241:GLN:O	2:B:289:ARG:NH1	2.34	0.56
2:B:359:TYR:HA	2:B:376:ALA:HA	1.87	0.56
2:E:580:GLU:HG2	2:E:583:ILE:HD11	1.87	0.56
2:E:1637:MET:SD	2:E:1708:ARG:NH1	2.78	0.56
2:I:2003:GLN:O	2:I:2007:ASN:ND2	2.38	0.56
2:G:426:ARG:HB2	2:G:506:TYR:HA	1.85	0.56
2:G:580:GLU:HG2	2:G:583:ILE:HD11	1.87	0.56
2:G:1109:LEU:HA	2:G:1120:LEU:HD21	1.87	0.56
2:B:4983:HIS:CD2	2:B:4983:HIS:N	2.73	0.56
2:E:614:VAL:HG22	2:E:616:SER:H	1.69	0.56
2:G:2003:GLN:O	2:G:2007:ASN:ND2	2.38	0.56
2:G:2420:HIS:ND1	2:G:2493:UNK:O	2.37	0.56
2:B:3817:LEU:HD13	2:B:3899:PHE:HD1	1.70	0.56
2:B:580:GLU:HG2	2:B:583:ILE:HD11	1.87	0.56
2:I:1637:MET:SD	2:I:1708:ARG:NH1	2.78	0.56
2:E:2003:GLN:O	2:E:2007:ASN:ND2	2.38	0.56
2:E:3889:GLN:OE1	2:E:3960:GLN:NE2	2.38	0.56
2:I:3817:LEU:HD13	2:I:3899:PHE:HD1	1.70	0.56
2:I:3910:THR:HG23	2:I:3911:THR:HG23	1.87	0.56
2:B:1109:LEU:HA	2:B:1120:LEU:HD21	1.87	0.56
2:I:497:TYR:HB3	2:I:500:ALA:HB2	1.88	0.56
2:B:497:TYR:HB3	2:B:500:ALA:HB2	1.88	0.56
2:I:4864:ASN:ND2	2:I:4871:GLU:OE1	2.37	0.56
2:G:3767:GLN:NE2	2:G:3804:ILE:O	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1653:LEU:HB3	2:B:1660:GLN:HB2	1.89	0.55
2:B:3767:GLN:NE2	2:B:3804:ILE:O	2.39	0.55
2:E:3817:LEU:HD13	2:E:3899:PHE:HD1	1.70	0.55
2:G:359:TYR:HA	2:G:376:ALA:HA	1.87	0.55
2:E:1109:LEU:HA	2:E:1120:LEU:HD21	1.87	0.55
2:G:2042:CYS:SG	2:G:2043:GLY:N	2.78	0.55
2:B:3910:THR:HG23	2:B:3911:THR:HG23	1.87	0.55
2:E:3767:GLN:NE2	2:E:3804:ILE:O	2.39	0.55
2:I:580:GLU:HG2	2:I:583:ILE:HD11	1.87	0.55
2:G:4983:HIS:CD2	2:G:4983:HIS:N	2.73	0.55
2:I:3767:GLN:NE2	2:I:3804:ILE:O	2.39	0.55
2:E:359:TYR:HA	2:E:376:ALA:HA	1.88	0.55
2:E:497:TYR:HB3	2:E:500:ALA:HB2	1.88	0.55
2:G:3817:LEU:HD13	2:G:3899:PHE:HD1	1.70	0.55
2:B:1764:GLY:HA3	2:B:1859:VAL:HG11	1.89	0.55
2:G:952:LYS:HB3	2:G:968:ALA:HB1	1.89	0.55
2:B:952:LYS:HB3	2:B:968:ALA:HB1	1.89	0.55
2:E:1653:LEU:HB3	2:E:1660:GLN:HB2	1.89	0.55
2:E:241:GLN:O	2:E:289:ARG:NH1	2.34	0.55
2:E:978:THR:HB	2:E:980:ALA:H	1.72	0.55
2:I:952:LYS:HB3	2:I:968:ALA:HB1	1.89	0.55
2:I:1653:LEU:HB3	2:I:1660:GLN:HB2	1.89	0.55
2:E:952:LYS:HB3	2:E:968:ALA:HB1	1.89	0.55
2:I:1764:GLY:HA3	2:I:1859:VAL:HG11	1.89	0.55
2:G:497:TYR:HB3	2:G:500:ALA:HB2	1.88	0.55
2:B:978:THR:HB	2:B:980:ALA:H	1.72	0.54
2:E:1764:GLY:HA3	2:E:1859:VAL:HG11	1.89	0.54
2:I:2042:CYS:SG	2:I:2043:GLY:N	2.78	0.54
2:B:972:LEU:O	2:B:1044:ARG:NH2	2.41	0.54
2:I:972:LEU:O	2:I:1044:ARG:NH2	2.41	0.54
2:G:671:VAL:HG22	2:G:740:PRO:HG3	1.90	0.54
2:G:1653:LEU:HB3	2:G:1660:GLN:HB2	1.89	0.54
2:G:4673:ARG:HH22	2:G:4698:LYS:HB2	1.73	0.54
2:E:132:ALA:HA	2:E:194:SER:HB2	1.90	0.54
2:E:451:TYR:O	2:E:474:ARG:NH1	2.41	0.54
2:B:132:ALA:HA	2:B:194:SER:HB2	1.90	0.54
2:E:671:VAL:HG22	2:E:740:PRO:HG3	1.90	0.54
2:I:4673:ARG:HH22	2:I:4698:LYS:HB2	1.73	0.54
2:E:315:CYS:SG	2:E:316:PHE:N	2.81	0.54
2:E:2042:CYS:SG	2:E:2043:GLY:N	2.78	0.54
1:F:87:HIS:H	1:F:91:ILE:HB	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:3830:GLN:HA	2:E:3833:GLN:HG2	1.90	0.54
2:G:1764:GLY:HA3	2:G:1859:VAL:HG11	1.89	0.54
2:B:315:CYS:SG	2:B:316:PHE:N	2.81	0.54
2:B:2342:ASN:OD1	2:B:2342:ASN:N	2.41	0.54
2:B:4673:ARG:HH22	2:B:4698:LYS:HB2	1.73	0.54
2:E:972:LEU:O	2:E:1044:ARG:NH2	2.41	0.54
2:B:3675:ASP:OD1	2:B:3769:ARG:NH2	2.39	0.54
2:I:132:ALA:HA	2:I:194:SER:HB2	1.90	0.54
2:G:132:ALA:HA	2:G:194:SER:HB2	1.90	0.54
2:E:4673:ARG:HH22	2:E:4698:LYS:HB2	1.73	0.53
2:I:978:THR:HB	2:I:980:ALA:H	1.72	0.53
2:G:315:CYS:SG	2:G:316:PHE:N	2.81	0.53
2:G:3675:ASP:OD1	2:G:3769:ARG:NH2	2.39	0.53
2:B:313:SER:HB3	2:B:351:VAL:HB	1.90	0.53
2:I:2342:ASN:OD1	2:I:2342:ASN:N	2.41	0.53
2:G:978:THR:HB	2:G:980:ALA:H	1.72	0.53
1:H:87:HIS:H	1:H:91:ILE:HB	1.73	0.53
2:E:1103:GLY:HA3	2:E:1123:VAL:HA	1.90	0.53
2:G:3830:GLN:HA	2:G:3833:GLN:HG2	1.90	0.53
1:A:23:VAL:HG22	1:A:47:LYS:HG2	1.91	0.53
2:I:671:VAL:HG22	2:I:740:PRO:HG3	1.89	0.53
2:I:1103:GLY:HA3	2:I:1123:VAL:HA	1.90	0.53
1:J:87:HIS:H	1:J:91:ILE:HB	1.73	0.53
2:B:2420:HIS:ND1	2:B:2493:UNK:O	2.37	0.53
1:J:23:VAL:HG22	1:J:47:LYS:HG2	1.91	0.53
2:B:3830:GLN:HA	2:B:3833:GLN:HG2	1.90	0.53
2:G:4666:VAL:HG23	2:G:4669:VAL:HB	1.91	0.53
2:I:645:ARG:HH11	2:I:778:PHE:HE1	1.57	0.53
2:G:972:LEU:O	2:G:1044:ARG:NH2	2.41	0.53
1:A:87:HIS:H	1:A:91:ILE:HB	1.73	0.53
2:I:313:SER:HB3	2:I:351:VAL:HB	1.90	0.53
2:G:451:TYR:O	2:G:474:ARG:NH1	2.41	0.53
2:G:645:ARG:HH11	2:G:778:PHE:HE1	1.57	0.53
2:B:4666:VAL:HG23	2:B:4669:VAL:HB	1.91	0.53
2:G:1685:LEU:HA	2:G:1688:HIS:HD2	1.74	0.53
2:B:671:VAL:HG22	2:B:740:PRO:HG3	1.89	0.52
2:I:4075:GLU:HA	2:I:4078:GLN:HB2	1.91	0.52
2:I:4666:VAL:HG23	2:I:4669:VAL:HB	1.91	0.52
1:F:23:VAL:HG22	1:F:47:LYS:HG2	1.91	0.52
2:B:2452:ARG:HH12	2:I:177:GLU:HG3	1.74	0.52
2:I:315:CYS:SG	2:I:316:PHE:N	2.81	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1685:LEU:HA	2:I:1688:HIS:HD2	1.74	0.52
2:I:2420:HIS:ND1	2:I:2493:UNK:O	2.37	0.52
2:I:3830:GLN:HA	2:I:3833:GLN:HG2	1.90	0.52
2:E:2803:GLU:OE2	2:E:2806:ARG:NH1	2.43	0.52
2:G:19:GLU:HB2	2:G:206:CYS:HB3	1.92	0.52
2:B:683:ARG:NH1	2:B:707:VAL:O	2.40	0.52
2:B:1103:GLY:HA3	2:B:1123:VAL:HA	1.90	0.52
2:B:2291:GLN:HB3	2:B:2294:ASP:H	1.74	0.52
2:E:1685:LEU:HA	2:E:1688:HIS:HD2	1.74	0.52
2:G:776:LEU:HG	2:G:848:HIS:HA	1.91	0.52
2:G:4075:GLU:HA	2:G:4078:GLN:HB2	1.91	0.52
2:B:645:ARG:HH11	2:B:778:PHE:HE1	1.57	0.52
2:B:776:LEU:HG	2:B:848:HIS:HA	1.91	0.52
2:E:19:GLU:HB2	2:E:206:CYS:HB3	1.92	0.52
2:E:776:LEU:HG	2:E:848:HIS:HA	1.91	0.52
2:I:4063:ASP:O	2:I:4067:LYS:NZ	2.37	0.52
2:I:4791:TYR:OH	2:I:4815:ASP:O	2.28	0.52
2:B:4063:ASP:O	2:B:4067:LYS:NZ	2.37	0.52
2:E:4666:VAL:HG23	2:E:4669:VAL:HB	1.91	0.52
2:E:4791:TYR:OH	2:E:4815:ASP:O	2.28	0.52
2:I:776:LEU:HG	2:I:848:HIS:HA	1.91	0.52
2:I:2291:GLN:HB3	2:I:2294:ASP:H	1.74	0.52
2:E:313:SER:HB3	2:E:351:VAL:HB	1.90	0.52
2:I:488:LEU:HD23	2:I:491:ILE:HD12	1.92	0.52
2:G:313:SER:HB3	2:G:351:VAL:HB	1.91	0.52
2:G:2803:GLU:OE2	2:G:2806:ARG:NH1	2.43	0.52
1:H:23:VAL:HG22	1:H:47:LYS:HG2	1.91	0.52
2:B:4791:TYR:OH	2:B:4815:ASP:O	2.28	0.52
2:G:2342:ASN:OD1	2:G:2342:ASN:N	2.41	0.52
2:E:645:ARG:HH11	2:E:778:PHE:HE1	1.57	0.51
2:E:2420:HIS:ND1	2:E:2493:UNK:O	2.37	0.51
2:G:1103:GLY:HA3	2:G:1123:VAL:HA	1.90	0.51
2:I:2803:GLU:OE2	2:I:2806:ARG:NH1	2.43	0.51
2:B:1685:LEU:HD22	2:B:1718:ILE:HG21	1.92	0.51
2:I:1865:MET:SD	2:I:1865:MET:N	2.84	0.51
2:G:683:ARG:NH1	2:G:707:VAL:O	2.40	0.51
2:G:1698:LEU:N	2:G:1712:TYR:OH	2.44	0.51
2:G:4791:TYR:OH	2:G:4815:ASP:O	2.28	0.51
2:B:488:LEU:HD23	2:B:491:ILE:HD12	1.92	0.51
2:B:2803:GLU:OE2	2:B:2806:ARG:NH1	2.43	0.51
2:B:887:ILE:HG21	2:B:959:TYR:HA	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1685:LEU:HA	2:B:1688:HIS:HD2	1.74	0.51
2:G:2291:GLN:HB3	2:G:2294:ASP:H	1.74	0.51
2:B:451:TYR:O	2:B:474:ARG:NH1	2.41	0.51
2:B:19:GLU:HB2	2:B:206:CYS:HB3	1.92	0.51
2:B:689:THR:H	2:B:778:PHE:HE2	1.59	0.51
2:B:898:ASP:HB3	2:B:901:LYS:HB2	1.93	0.51
2:E:1698:LEU:N	2:E:1712:TYR:OH	2.43	0.51
2:E:4075:GLU:HA	2:E:4078:GLN:HB2	1.91	0.51
2:G:1092:PHE:HB3	2:G:1149:VAL:HB	1.92	0.51
2:B:745:SER:HB2	2:B:758:ARG:HB3	1.93	0.51
2:E:1865:MET:SD	2:E:1865:MET:N	2.84	0.51
2:E:2291:GLN:HB3	2:E:2294:ASP:H	1.74	0.51
2:I:1698:LEU:N	2:I:1712:TYR:OH	2.43	0.51
2:G:488:LEU:HD23	2:G:491:ILE:HD12	1.92	0.51
1:F:42:ARG:HG2	2:E:1691:GLN:HG2	1.93	0.51
2:E:4983:HIS:CD2	2:E:4983:HIS:N	2.73	0.51
2:I:111:HIS:CD2	2:I:114:SER:H	2.28	0.51
2:I:745:SER:HB2	2:I:758:ARG:HB3	1.93	0.51
2:I:1685:LEU:HD22	2:I:1718:ILE:HG21	1.92	0.51
2:G:1727:ARG:NH2	2:G:1773:PRO:O	2.41	0.51
2:B:4820:VAL:HB	2:B:4823:LEU:HD23	1.93	0.51
2:E:2342:ASN:N	2:E:2342:ASN:OD1	2.41	0.51
2:I:19:GLU:HB2	2:I:206:CYS:HB3	1.92	0.51
2:I:451:TYR:O	2:I:474:ARG:NH1	2.41	0.51
2:I:887:ILE:HG21	2:I:959:TYR:HA	1.93	0.51
2:G:745:SER:HB2	2:G:758:ARG:HB3	1.93	0.51
2:G:4820:VAL:HB	2:G:4823:LEU:HD23	1.93	0.51
2:B:111:HIS:CD2	2:B:114:SER:H	2.28	0.50
2:B:1865:MET:SD	2:B:1865:MET:N	2.84	0.50
2:B:4075:GLU:HA	2:B:4078:GLN:HB2	1.91	0.50
2:E:1516:UNK:N	2:E:1529:UNK:O	2.45	0.50
2:E:1991:THR:O	2:E:1995:THR:OG1	2.29	0.50
2:G:111:HIS:CD2	2:G:114:SER:H	2.28	0.50
2:G:1516:UNK:N	2:G:1529:UNK:O	2.44	0.50
2:B:1516:UNK:N	2:B:1529:UNK:O	2.45	0.50
2:B:1698:LEU:N	2:B:1712:TYR:OH	2.43	0.50
2:B:2868:SER:O	2:B:2872:GLN:N	2.44	0.50
2:E:689:THR:H	2:E:778:PHE:HE2	1.59	0.50
2:E:745:SER:HB2	2:E:758:ARG:HB3	1.93	0.50
2:E:4820:VAL:HB	2:E:4823:LEU:HD23	1.93	0.50
2:I:4820:VAL:HB	2:I:4823:LEU:HD23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:898:ASP:HB3	2:G:901:LYS:HB2	1.93	0.50
2:E:488:LEU:HD23	2:E:491:ILE:HD12	1.92	0.50
2:E:1457:UNK:N	2:E:1497:UNK:O	2.44	0.50
2:I:580:GLU:HG3	2:I:620:LEU:HD22	1.94	0.50
2:I:689:THR:H	2:I:778:PHE:HE2	1.59	0.50
2:I:898:ASP:HB3	2:I:901:LYS:HB2	1.93	0.50
2:I:1092:PHE:HB3	2:I:1149:VAL:HB	1.92	0.50
2:B:1679:ASN:ND2	2:B:1798:LEU:O	2.45	0.50
2:E:1092:PHE:HB3	2:E:1149:VAL:HB	1.92	0.50
2:G:265:LEU:HD12	2:G:279:PRO:HB2	1.94	0.50
2:G:580:GLU:HG3	2:G:620:LEU:HD22	1.94	0.50
2:G:1457:UNK:N	2:G:1497:UNK:O	2.44	0.50
2:G:1865:MET:SD	2:G:1865:MET:N	2.84	0.50
2:B:1092:PHE:HB3	2:B:1149:VAL:HB	1.92	0.50
2:B:3733:CYS:HB2	2:B:3803:SER:HB3	1.94	0.50
2:E:41:GLY:O	2:E:45:ARG:NH1	2.45	0.50
2:E:887:ILE:HG21	2:E:959:TYR:HA	1.93	0.50
2:E:911:HIS:O	2:E:918:ARG:NH2	2.45	0.50
2:I:243:ARG:NH1	2:I:301:VAL:O	2.38	0.50
2:G:1991:THR:O	2:G:1995:THR:OG1	2.29	0.50
1:F:92:PRO:HD3	2:E:627:PRO:HB2	1.92	0.50
2:E:214:VAL:HG12	2:E:274:LEU:HD12	1.93	0.50
2:E:265:LEU:HD12	2:E:279:PRO:HB2	1.94	0.50
2:I:41:GLY:O	2:I:45:ARG:NH1	2.45	0.50
2:I:214:VAL:HG12	2:I:274:LEU:HD12	1.93	0.50
2:I:3675:ASP:OD1	2:I:3769:ARG:NH2	2.39	0.50
2:G:41:GLY:O	2:G:45:ARG:NH1	2.45	0.50
2:G:214:VAL:HG12	2:G:274:LEU:HD12	1.93	0.50
2:G:887:ILE:HG21	2:G:959:TYR:HA	1.93	0.50
2:B:1727:ARG:NH2	2:B:1773:PRO:O	2.41	0.50
2:E:4571:PHE:O	2:E:4575:PHE:N	2.45	0.50
2:I:683:ARG:NH1	2:I:707:VAL:O	2.40	0.50
2:I:1260:MET:HB2	2:I:1269:CYS:H	1.77	0.50
2:I:1457:UNK:N	2:I:1497:UNK:O	2.44	0.50
2:I:1516:UNK:N	2:I:1529:UNK:O	2.45	0.50
2:I:1991:THR:O	2:I:1995:THR:OG1	2.29	0.50
2:G:1685:LEU:HD22	2:G:1718:ILE:HG21	1.92	0.50
2:B:214:VAL:HG12	2:B:274:LEU:HD12	1.93	0.50
2:B:265:LEU:HD12	2:B:279:PRO:HB2	1.94	0.50
2:B:637:LEU:HD23	2:B:1637:MET:HB3	1.94	0.50
2:E:2868:SER:O	2:E:2872:GLN:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:4832:HIS:NE2	2:E:4942:GLU:OE2	2.45	0.50
2:I:265:LEU:HD12	2:I:279:PRO:HB2	1.94	0.50
2:G:911:HIS:O	2:G:918:ARG:NH2	2.45	0.50
2:G:1260:MET:HB2	2:G:1269:CYS:H	1.77	0.50
2:E:1649:ASP:HB3	2:E:1652:GLU:HG2	1.94	0.49
1:J:42:ARG:HG2	2:I:1691:GLN:HG2	1.93	0.49
2:B:41:GLY:O	2:B:45:ARG:NH1	2.45	0.49
2:B:1457:UNK:N	2:B:1497:UNK:O	2.44	0.49
2:B:1649:ASP:HB3	2:B:1652:GLU:HG2	1.94	0.49
2:E:3733:CYS:HB2	2:E:3803:SER:HB3	1.94	0.49
2:G:689:THR:H	2:G:778:PHE:HE2	1.59	0.49
2:B:1991:THR:O	2:B:1995:THR:OG1	2.29	0.49
2:B:4571:PHE:O	2:B:4575:PHE:N	2.45	0.49
2:E:1679:ASN:ND2	2:E:1798:LEU:O	2.45	0.49
2:I:4832:HIS:NE2	2:I:4942:GLU:OE2	2.45	0.49
2:G:1679:ASN:ND2	2:G:1798:LEU:O	2.45	0.49
2:B:1973:GLN:O	2:B:1977:TYR:N	2.40	0.49
2:E:637:LEU:HD23	2:E:1637:MET:HB3	1.94	0.49
2:E:2199:ARG:NH2	2:E:2246:ASN:OD1	2.46	0.49
2:G:4063:ASP:O	2:G:4067:LYS:NZ	2.37	0.49
2:B:4832:HIS:NE2	2:B:4942:GLU:OE2	2.45	0.49
2:G:4571:PHE:O	2:G:4575:PHE:N	2.45	0.49
2:B:911:HIS:O	2:B:918:ARG:NH2	2.45	0.49
2:B:1171:SER:OG	2:B:1175:SER:N	2.43	0.49
2:B:2876:GLU:OE1	2:B:2920:ARG:NH2	2.46	0.49
2:E:1260:MET:HB2	2:E:1269:CYS:H	1.77	0.49
2:E:1685:LEU:HD22	2:E:1718:ILE:HG21	1.93	0.49
2:E:2876:GLU:OE1	2:E:2920:ARG:NH2	2.46	0.49
2:I:3733:CYS:HB2	2:I:3803:SER:HB3	1.94	0.49
2:G:2868:SER:O	2:G:2872:GLN:N	2.44	0.49
2:B:243:ARG:NH1	2:B:301:VAL:O	2.38	0.49
2:I:1649:ASP:HB3	2:I:1652:GLU:HG2	1.94	0.49
2:I:1679:ASN:ND2	2:I:1798:LEU:O	2.45	0.49
2:B:1260:MET:HB2	2:B:1269:CYS:H	1.77	0.49
2:I:664:PHE:HB2	2:I:746:CYS:HB2	1.95	0.49
2:G:664:PHE:HB2	2:G:746:CYS:HB2	1.95	0.49
2:G:4832:HIS:NE2	2:G:4942:GLU:OE2	2.45	0.49
2:B:2199:ARG:NH2	2:B:2246:ASN:OD1	2.46	0.49
2:E:898:ASP:HB3	2:E:901:LYS:HB2	1.93	0.49
2:G:637:LEU:HD23	2:G:1637:MET:HB3	1.94	0.49
2:G:3946:GLN:OE1	2:G:3950:ASN:ND2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:580:GLU:HG3	2:B:620:LEU:HD22	1.94	0.49
2:E:2927:LEU:HD23	2:E:2930:LEU:HD12	1.95	0.49
2:I:2927:LEU:HD23	2:I:2930:LEU:HD12	1.95	0.49
2:I:4571:PHE:O	2:I:4575:PHE:N	2.45	0.49
2:E:111:HIS:CD2	2:E:114:SER:H	2.28	0.48
2:E:3946:GLN:OE1	2:E:3950:ASN:ND2	2.46	0.48
2:E:4063:ASP:O	2:E:4067:LYS:NZ	2.37	0.48
2:I:911:HIS:O	2:I:918:ARG:NH2	2.45	0.48
2:I:2758:PHE:O	2:I:2762:THR:N	2.43	0.48
1:J:5:GLU:HB2	1:J:73:LYS:HB3	1.95	0.48
2:G:2876:GLU:OE1	2:G:2920:ARG:NH2	2.46	0.48
1:H:92:PRO:HD3	2:G:627:PRO:HB2	1.94	0.48
2:E:580:GLU:HG3	2:E:620:LEU:HD22	1.94	0.48
2:I:3755:GLU:O	2:I:3762:ARG:NH2	2.44	0.48
2:G:2199:ARG:NH2	2:G:2246:ASN:OD1	2.46	0.48
2:G:3733:CYS:HB2	2:G:3803:SER:HB3	1.94	0.48
1:A:5:GLU:HB2	1:A:73:LYS:HB3	1.95	0.48
1:A:42:ARG:HG2	2:B:1691:GLN:HG2	1.95	0.48
2:B:886:ARG:HB3	2:B:891:TRP:HB2	1.96	0.48
2:B:3946:GLN:OE1	2:B:3950:ASN:ND2	2.46	0.48
2:E:886:ARG:HB3	2:E:891:TRP:HB2	1.96	0.48
2:I:1848:LEU:HD22	2:I:1853:ILE:HG13	1.96	0.48
2:G:1649:ASP:HB3	2:G:1652:GLU:HG2	1.94	0.48
2:G:1848:LEU:HD22	2:G:1853:ILE:HG13	1.96	0.48
2:B:1848:LEU:HD22	2:B:1853:ILE:HG13	1.96	0.48
2:B:2927:LEU:HD23	2:B:2930:LEU:HD12	1.95	0.48
2:E:1848:LEU:HD22	2:E:1853:ILE:HG13	1.96	0.48
2:I:886:ARG:HB3	2:I:891:TRP:HB2	1.96	0.48
1:F:5:GLU:HB2	1:F:73:LYS:HB3	1.95	0.48
1:J:92:PRO:HD3	2:I:627:PRO:HB2	1.96	0.48
2:B:792:LEU:HB3	2:B:798:GLY:HA2	1.95	0.48
2:B:3850:GLN:HA	2:B:3853:ALA:HB3	1.96	0.48
2:E:1727:ARG:NH2	2:E:1773:PRO:O	2.41	0.48
2:E:3850:GLN:HA	2:E:3853:ALA:HB3	1.96	0.48
1:H:5:GLU:HB2	1:H:73:LYS:HB3	1.95	0.48
2:I:1727:ARG:NH2	2:I:1773:PRO:O	2.42	0.48
2:I:2199:ARG:NH2	2:I:2246:ASN:OD1	2.46	0.48
2:G:886:ARG:HB3	2:G:891:TRP:HB2	1.96	0.48
2:I:637:LEU:HD23	2:I:1637:MET:HB3	1.94	0.48
2:I:3946:GLN:OE1	2:I:3950:ASN:ND2	2.46	0.48
2:G:1667:LEU:HD23	2:G:1671:ARG:HH12	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1691:GLN:HE22	2:G:1802:ILE:HG12	1.79	0.48
2:G:2927:LEU:HD23	2:G:2930:LEU:HD12	1.95	0.48
2:B:664:PHE:HB2	2:B:746:CYS:HB2	1.95	0.48
2:E:177:GLU:HG3	2:G:2452:ARG:HH12	1.79	0.48
2:E:243:ARG:NH1	2:E:301:VAL:O	2.38	0.48
2:E:1667:LEU:HD23	2:E:1671:ARG:HH12	1.79	0.48
2:G:243:ARG:NH1	2:G:301:VAL:O	2.38	0.48
2:G:2103:VAL:O	2:G:2107:GLN:N	2.43	0.48
1:H:42:ARG:HG2	2:G:1691:GLN:HG2	1.95	0.48
2:B:1691:GLN:HE22	2:B:1802:ILE:HG12	1.79	0.48
2:E:4582:VAL:HG23	2:E:4629:TYR:HA	1.96	0.48
2:I:989:ALA:O	2:I:1035:ASN:ND2	2.47	0.48
2:G:989:ALA:O	2:G:1035:ASN:ND2	2.47	0.48
2:B:345:LEU:HD23	2:B:389:PHE:HB3	1.96	0.47
2:B:4942:GLU:HA	2:E:4944:ARG:HH22	1.78	0.47
2:E:664:PHE:HB2	2:E:746:CYS:HB2	1.95	0.47
2:B:756:SER:HB3	2:B:767:VAL:HG22	1.96	0.47
2:B:3780:LEU:HD11	2:B:3816:MET:HG3	1.96	0.47
2:I:1171:SER:OG	2:I:1175:SER:N	2.43	0.47
2:I:2868:SER:O	2:I:2872:GLN:N	2.44	0.47
2:I:2876:GLU:OE1	2:I:2920:ARG:NH2	2.46	0.47
2:B:177:GLU:HG3	2:E:2452:ARG:HH12	1.79	0.47
2:E:606:LEU:O	2:E:617:ASN:ND2	2.47	0.47
2:G:756:SER:HB3	2:G:767:VAL:HG22	1.96	0.47
2:B:551:LEU:HD21	2:B:589:LEU:HD13	1.97	0.47
2:E:3675:ASP:OD1	2:E:3769:ARG:NH2	2.39	0.47
2:E:3780:LEU:HD11	2:E:3816:MET:HG3	1.96	0.47
2:I:1691:GLN:HE22	2:I:1802:ILE:HG12	1.79	0.47
2:G:345:LEU:HD23	2:G:389:PHE:HB3	1.96	0.47
2:B:1667:LEU:HD23	2:B:1671:ARG:HH12	1.79	0.47
2:B:4582:VAL:HG23	2:B:4629:TYR:HA	1.96	0.47
2:I:551:LEU:HD21	2:I:589:LEU:HD13	1.97	0.47
2:G:792:LEU:HB3	2:G:798:GLY:HA2	1.95	0.47
2:B:4673:ARG:HH22	2:B:4698:LYS:HE3	1.80	0.47
2:E:331:VAL:HG12	2:E:333:GLY:H	1.79	0.47
2:I:756:SER:HB3	2:I:767:VAL:HG22	1.96	0.47
2:G:551:LEU:HD21	2:G:589:LEU:HD13	1.97	0.47
2:G:606:LEU:O	2:G:617:ASN:ND2	2.48	0.47
2:G:2277:ALA:HB1	2:G:2337:PHE:HD2	1.80	0.47
2:B:331:VAL:HG12	2:B:333:GLY:H	1.79	0.47
2:B:606:LEU:O	2:B:617:ASN:ND2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2758:PHE:O	2:B:2762:THR:N	2.43	0.47
2:E:345:LEU:HD23	2:E:389:PHE:HB3	1.96	0.47
2:E:551:LEU:HD21	2:E:589:LEU:HD13	1.97	0.47
2:E:792:LEU:HB3	2:E:798:GLY:HA2	1.95	0.47
2:E:4673:ARG:HH22	2:E:4698:LYS:HE3	1.80	0.47
2:I:331:VAL:HG12	2:I:333:GLY:H	1.79	0.47
2:I:345:LEU:HD23	2:I:389:PHE:HB3	1.96	0.47
2:I:606:LEU:O	2:I:617:ASN:ND2	2.47	0.47
2:G:331:VAL:HG12	2:G:333:GLY:H	1.79	0.47
2:B:1718:ILE:HG13	2:B:1719:HIS:CD2	2.50	0.47
2:E:1691:GLN:HE22	2:E:1802:ILE:HG12	1.79	0.47
2:E:1718:ILE:HG13	2:E:1719:HIS:CD2	2.50	0.47
2:E:2277:ALA:HB1	2:E:2337:PHE:HD2	1.80	0.47
2:I:792:LEU:HB3	2:I:798:GLY:HA2	1.95	0.47
2:I:1718:ILE:HG13	2:I:1719:HIS:CD2	2.50	0.47
2:I:4673:ARG:HH22	2:I:4698:LYS:HE3	1.80	0.47
2:G:1718:ILE:HG13	2:G:1719:HIS:CD2	2.50	0.47
2:G:3850:GLN:HA	2:G:3853:ALA:HB3	1.96	0.47
2:G:4152:GLU:OE2	2:G:4180:ARG:NH1	2.48	0.47
2:E:756:SER:HB3	2:E:767:VAL:HG22	1.96	0.47
2:I:3850:GLN:HA	2:I:3853:ALA:HB3	1.96	0.47
2:B:2131:LEU:HD23	2:B:3662:ILE:HB	1.97	0.46
2:E:989:ALA:O	2:E:1035:ASN:ND2	2.47	0.46
2:E:2226:PRO:HA	2:E:2229:VAL:HG12	1.98	0.46
2:B:4749:GLU:HA	2:B:4752:ALA:HB3	1.98	0.46
2:E:942:ALA:HB2	2:E:1052:ASN:HB2	1.98	0.46
2:E:2758:PHE:O	2:E:2762:THR:N	2.43	0.46
2:E:4152:GLU:OE2	2:E:4180:ARG:NH1	2.48	0.46
2:E:4767:TRP:HE3	2:E:4770:SER:HB2	1.80	0.46
2:I:1105:ALA:HB1	2:I:1109:LEU:HD21	1.98	0.46
2:I:1667:LEU:HD23	2:I:1671:ARG:HH12	1.79	0.46
2:I:1976:ARG:NH1	2:I:1997:GLU:OE2	2.49	0.46
2:I:2103:VAL:O	2:I:2107:GLN:N	2.43	0.46
2:G:1171:SER:OG	2:G:1175:SER:N	2.43	0.46
2:B:989:ALA:O	2:B:1035:ASN:ND2	2.47	0.46
2:B:1976:ARG:NH1	2:B:1997:GLU:OE2	2.49	0.46
2:B:4101:LYS:HE3	2:I:4731:ILE:HA	1.97	0.46
2:E:683:ARG:NH1	2:E:707:VAL:O	2.40	0.46
2:E:1976:ARG:NH1	2:E:1997:GLU:OE2	2.49	0.46
1:F:82:TYR:O	1:F:86:GLY:N	2.46	0.46
2:B:792:LEU:HD22	2:B:799:GLU:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:410:LEU:HD12	2:E:413:GLN:HE21	1.80	0.46
2:E:792:LEU:HD22	2:E:799:GLU:H	1.81	0.46
2:I:1965:TYR:OH	2:I:2027:ILE:O	2.29	0.46
2:I:4582:VAL:HG23	2:I:4629:TYR:HA	1.96	0.46
2:G:942:ALA:HB2	2:G:1052:ASN:HB2	1.98	0.46
2:G:4582:VAL:HG23	2:G:4629:TYR:HA	1.96	0.46
2:B:1099:GLU:OE2	2:B:1127:HIS:ND1	2.35	0.46
2:B:2002:PRO:HA	2:B:2005:GLN:HB3	1.98	0.46
2:I:103:TYR:HB3	2:I:152:PRO:HD3	1.97	0.46
2:I:164:ARG:N	2:I:167:ASP:OD2	2.49	0.46
2:I:410:LEU:HD12	2:I:413:GLN:HE21	1.80	0.46
2:I:3780:LEU:HD11	2:I:3816:MET:HG3	1.96	0.46
2:I:4227:GLU:HG3	2:I:4228:ALA:H	1.81	0.46
2:G:1976:ARG:NH1	2:G:1997:GLU:OE2	2.49	0.46
2:B:1105:ALA:HB1	2:B:1109:LEU:HD21	1.98	0.46
2:B:2226:PRO:HA	2:B:2229:VAL:HG12	1.98	0.46
2:E:70:GLU:HG3	2:E:117:TYR:HE1	1.80	0.46
2:I:792:LEU:HD22	2:I:799:GLU:H	1.81	0.46
2:I:1076:ARG:HD3	2:I:1237:TRP:HB2	1.98	0.46
2:G:1973:GLN:O	2:G:1977:TYR:N	2.40	0.46
2:G:3780:LEU:HD11	2:G:3816:MET:HG3	1.96	0.46
2:B:70:GLU:HG3	2:B:117:TYR:HE1	1.80	0.46
2:B:4227:GLU:HG3	2:B:4228:ALA:H	1.81	0.46
2:E:4749:GLU:HA	2:E:4752:ALA:HB3	1.98	0.46
2:E:1105:ALA:HB1	2:E:1109:LEU:HD21	1.98	0.46
2:G:1725:ARG:HA	2:G:1728:ARG:HG2	1.98	0.46
2:G:2226:PRO:HA	2:G:2229:VAL:HG12	1.98	0.46
2:G:4673:ARG:HH22	2:G:4698:LYS:HE3	1.80	0.46
2:G:4749:GLU:HA	2:G:4752:ALA:HB3	1.98	0.46
1:F:74:LEU:HB2	1:F:99:PHE:HB2	1.98	0.46
2:B:164:ARG:N	2:B:167:ASP:OD2	2.49	0.46
2:B:410:LEU:HD12	2:B:413:GLN:HE21	1.80	0.46
2:B:2894:LEU:HD11	2:B:2902:HIS:HB2	1.98	0.46
2:B:4152:GLU:OE2	2:B:4180:ARG:NH1	2.48	0.46
2:I:2277:ALA:HB1	2:I:2337:PHE:HD2	1.80	0.46
2:I:4749:GLU:HA	2:I:4752:ALA:HB3	1.98	0.46
2:G:3897:ASN:O	2:G:3901:ASN:ND2	2.49	0.46
2:B:103:TYR:HB3	2:B:152:PRO:HD3	1.97	0.46
2:B:619:ASP:OD1	2:B:1680:ARG:NH1	2.37	0.46
2:E:718:GLY:HA3	2:E:737:LEU:HA	1.99	0.46
2:I:1077:ALA:HB3	2:I:1189:LEU:HD11	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:2131:LEU:HD23	2:I:3662:ILE:HB	1.97	0.46
2:I:4767:TRP:HE3	2:I:4770:SER:HB2	1.80	0.46
2:G:164:ARG:N	2:G:167:ASP:OD2	2.49	0.46
2:G:1076:ARG:HD3	2:G:1237:TRP:HB2	1.98	0.46
2:B:4767:TRP:HE3	2:B:4770:SER:HB2	1.80	0.45
2:E:2131:LEU:HD23	2:E:3662:ILE:HB	1.97	0.45
2:E:3362:UNK:O	2:E:3366:UNK:N	2.49	0.45
2:E:4227:GLU:HG3	2:E:4228:ALA:H	1.81	0.45
2:I:70:GLU:HG3	2:I:117:TYR:HE1	1.80	0.45
2:I:3362:UNK:O	2:I:3366:UNK:N	2.49	0.45
2:G:410:LEU:HD12	2:G:413:GLN:HE21	1.81	0.45
2:G:2002:PRO:HA	2:G:2005:GLN:HB3	1.98	0.45
2:G:2131:LEU:HD23	2:G:3662:ILE:HB	1.97	0.45
1:H:74:LEU:HB2	1:H:99:PHE:HB2	1.98	0.45
2:B:215:THR:HG22	2:B:273:HIS:HA	1.99	0.45
2:B:942:ALA:HB2	2:B:1052:ASN:HB2	1.98	0.45
2:B:3897:ASN:O	2:B:3901:ASN:ND2	2.49	0.45
2:E:164:ARG:N	2:E:167:ASP:OD2	2.49	0.45
2:E:635:THR:HB	2:E:1639:LEU:HD23	1.98	0.45
2:I:3897:ASN:O	2:I:3901:ASN:ND2	2.49	0.45
2:I:4081:VAL:HB	2:I:4088:ILE:HD12	1.98	0.45
2:I:4152:GLU:OE2	2:I:4180:ARG:NH1	2.48	0.45
2:G:4227:GLU:HG3	2:G:4228:ALA:H	1.81	0.45
1:H:30:LEU:HD23	1:H:33:GLY:HA3	1.99	0.45
2:B:626:LEU:HG	2:B:628:GLY:H	1.82	0.45
2:E:1725:ARG:HA	2:E:1728:ARG:HG2	1.98	0.45
2:E:1735:ILE:HG23	2:E:1771:LEU:HD23	1.98	0.45
2:I:278:GLN:N	2:I:315:CYS:SG	2.90	0.45
2:I:635:THR:HB	2:I:1639:LEU:HD23	1.98	0.45
2:I:1099:GLU:OE2	2:I:1127:HIS:ND1	2.35	0.45
2:I:2226:PRO:HA	2:I:2229:VAL:HG12	1.98	0.45
2:G:1105:ALA:HB1	2:G:1109:LEU:HD21	1.98	0.45
2:G:3362:UNK:O	2:G:3366:UNK:N	2.49	0.45
2:B:1735:ILE:HG23	2:B:1771:LEU:HD23	1.98	0.45
2:B:3362:UNK:O	2:B:3366:UNK:N	2.49	0.45
2:B:4697:VAL:O	2:B:4701:TRP:N	2.49	0.45
2:E:103:TYR:HB3	2:E:152:PRO:HD3	1.97	0.45
2:E:626:LEU:HG	2:E:628:GLY:H	1.82	0.45
2:E:2103:VAL:O	2:E:2107:GLN:N	2.43	0.45
2:E:4835:LYS:HG3	2:E:4836:GLN:HG3	1.98	0.45
2:G:718:GLY:HA3	2:G:737:LEU:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:7:ILE:HB	1:H:71:ARG:HB3	1.98	0.45
2:E:1105:ALA:N	2:E:1189:LEU:O	2.50	0.45
2:E:1973:GLN:O	2:E:1977:TYR:N	2.40	0.45
2:E:3897:ASN:O	2:E:3901:ASN:ND2	2.49	0.45
2:I:463:GLU:O	2:I:466:SER:OG	2.30	0.45
2:I:2894:LEU:HD11	2:I:2902:HIS:HB2	1.98	0.45
2:G:103:TYR:HB3	2:G:152:PRO:HD3	1.97	0.45
2:G:1077:ALA:HB3	2:G:1189:LEU:HD11	1.98	0.45
2:G:1105:ALA:N	2:G:1189:LEU:O	2.50	0.45
2:G:1838:PHE:HB3	2:G:1842:LEU:HD11	1.99	0.45
1:J:74:LEU:HB2	1:J:99:PHE:HB2	1.98	0.45
2:B:718:GLY:HA3	2:B:737:LEU:HA	1.99	0.45
2:B:1076:ARG:HD3	2:B:1237:TRP:HB2	1.98	0.45
2:B:4081:VAL:HB	2:B:4088:ILE:HD12	1.98	0.45
2:E:278:GLN:N	2:E:315:CYS:SG	2.90	0.45
2:E:2869:ARG:HA	2:E:2872:GLN:HB3	1.98	0.45
2:E:4081:VAL:HB	2:E:4088:ILE:HD12	1.98	0.45
2:G:395:GLN:HG3	2:G:397:GLU:H	1.82	0.45
2:G:792:LEU:HD22	2:G:799:GLU:H	1.81	0.45
2:G:2758:PHE:O	2:G:2762:THR:N	2.43	0.45
2:G:4767:TRP:HE3	2:G:4770:SER:HB2	1.80	0.45
1:A:74:LEU:HB2	1:A:99:PHE:HB2	1.98	0.45
2:B:823:LEU:HD23	2:B:1626:TRP:HB3	1.99	0.45
2:B:1838:PHE:HB3	2:B:1842:LEU:HD11	1.99	0.45
2:E:21:VAL:HG12	2:E:66:CYS:HA	1.99	0.45
2:E:1838:PHE:HB3	2:E:1842:LEU:HD11	1.99	0.45
2:E:2002:PRO:HA	2:E:2005:GLN:HB3	1.98	0.45
2:I:942:ALA:HB2	2:I:1052:ASN:HB2	1.98	0.45
2:G:168:ASP:HB3	2:G:199:LEU:HD22	1.99	0.45
2:G:4081:VAL:HB	2:G:4088:ILE:HD12	1.98	0.45
2:B:21:VAL:HG12	2:B:66:CYS:HA	1.99	0.45
2:B:2277:ALA:HB1	2:B:2337:PHE:HD2	1.80	0.45
2:B:4956:THR:O	2:B:4965:SER:N	2.48	0.45
2:E:215:THR:HG22	2:E:273:HIS:HA	1.99	0.45
2:E:823:LEU:HD23	2:E:1626:TRP:HB3	1.99	0.45
2:E:1076:ARG:HD3	2:E:1237:TRP:HB2	1.98	0.45
2:I:215:THR:HG22	2:I:273:HIS:HA	1.99	0.45
2:I:718:GLY:HA3	2:I:737:LEU:HA	1.99	0.45
2:I:1114:GLU:HG3	2:I:1117:ALA:HB2	1.99	0.45
2:G:70:GLU:HG3	2:G:117:TYR:HE1	1.80	0.45
2:G:635:THR:HB	2:G:1639:LEU:HD23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:4835:LYS:HG3	2:G:4836:GLN:HG3	1.98	0.45
2:B:395:GLN:NE2	2:B:397:GLU:OE1	2.50	0.45
2:B:1105:ALA:N	2:B:1189:LEU:O	2.50	0.45
2:B:1931:LEU:HB3	2:B:1935:VAL:HB	1.99	0.45
2:E:168:ASP:HB3	2:E:199:LEU:HD22	1.99	0.45
2:E:4201:ASN:ND2	2:E:4204:GLN:OE1	2.49	0.45
2:I:3658:LYS:HA	2:I:3661:TRP:CD2	2.52	0.45
2:G:395:GLN:NE2	2:G:397:GLU:OE1	2.50	0.45
2:G:1269:CYS:HA	2:G:1473:UNK:HA	1.99	0.45
2:G:4201:ASN:ND2	2:G:4204:GLN:OE1	2.49	0.45
1:F:30:LEU:HD23	1:F:33:GLY:HA3	1.99	0.45
2:B:1077:ALA:HB3	2:B:1189:LEU:HD11	1.98	0.45
2:B:1114:GLU:HG3	2:B:1117:ALA:HB2	1.99	0.45
2:B:1269:CYS:HA	2:B:1473:UNK:HA	1.99	0.45
2:B:3779:VAL:HG23	2:B:3780:LEU:HD12	1.99	0.45
2:B:4201:ASN:ND2	2:B:4204:GLN:OE1	2.49	0.45
2:B:4835:LYS:HG3	2:B:4836:GLN:HG3	1.98	0.45
2:I:1931:LEU:HB3	2:I:1935:VAL:HB	1.99	0.45
2:I:2002:PRO:HA	2:I:2005:GLN:HB3	1.98	0.45
2:G:683:ARG:HB2	2:G:782:SER:HB3	1.99	0.45
2:G:2121:PHE:O	2:G:3725:TYR:OH	2.35	0.45
2:G:3990:VAL:HG13	2:G:4051:SER:HB2	1.99	0.45
2:B:2257:LEU:O	2:B:2261:SER:N	2.50	0.44
2:B:2271:THR:HG22	2:B:2273:LEU:H	1.83	0.44
2:B:3755:GLU:O	2:B:3762:ARG:NH2	2.44	0.44
2:E:1077:ALA:HB3	2:E:1189:LEU:HD11	1.98	0.44
2:E:3779:VAL:HG23	2:E:3780:LEU:HD12	1.99	0.44
2:I:707:VAL:HG23	2:I:713:SER:HB2	1.99	0.44
2:I:1735:ILE:HG23	2:I:1771:LEU:HD23	1.98	0.44
2:I:2869:ARG:HA	2:I:2872:GLN:HB3	1.98	0.44
2:I:3992:PHE:O	2:I:3996:PHE:N	2.40	0.44
2:G:278:GLN:N	2:G:315:CYS:SG	2.90	0.44
1:J:7:ILE:HB	1:J:71:ARG:HB3	1.98	0.44
1:J:82:TYR:O	1:J:86:GLY:N	2.46	0.44
2:B:635:THR:HB	2:B:1639:LEU:HD23	1.98	0.44
2:E:3758:MET:HE2	2:E:3762:ARG:HH21	1.82	0.44
2:I:1269:CYS:HA	2:I:1473:UNK:HA	1.99	0.44
2:I:1838:PHE:HB3	2:I:1842:LEU:HD11	1.99	0.44
2:I:4835:LYS:HG3	2:I:4836:GLN:HG3	1.98	0.44
2:I:4956:THR:O	2:I:4965:SER:N	2.48	0.44
2:G:21:VAL:HG12	2:G:66:CYS:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:3365:UNK:O	2:G:3369:UNK:N	2.50	0.44
1:F:7:ILE:HB	1:F:71:ARG:HB3	1.98	0.44
2:B:168:ASP:HB3	2:B:199:LEU:HD22	1.99	0.44
2:B:3990:VAL:HG13	2:B:4051:SER:HB2	1.99	0.44
2:E:395:GLN:HG3	2:E:397:GLU:H	1.82	0.44
2:E:395:GLN:NE2	2:E:397:GLU:OE1	2.50	0.44
2:E:683:ARG:HB2	2:E:782:SER:HB3	1.99	0.44
2:E:1114:GLU:HG3	2:E:1117:ALA:HB2	1.99	0.44
2:E:3658:LYS:HA	2:E:3661:TRP:CD2	2.52	0.44
2:E:4697:VAL:O	2:E:4701:TRP:N	2.49	0.44
2:E:4802:GLY:HA2	2:E:4808:PHE:HB2	1.99	0.44
2:I:309:THR:O	2:I:313:SER:OG	2.35	0.44
2:I:395:GLN:NE2	2:I:397:GLU:OE1	2.50	0.44
2:I:683:ARG:HB2	2:I:782:SER:HB3	1.99	0.44
2:I:1973:GLN:O	2:I:1977:TYR:N	2.40	0.44
2:G:4697:VAL:O	2:G:4701:TRP:N	2.49	0.44
2:B:683:ARG:HB2	2:B:782:SER:HB3	1.99	0.44
2:B:2326:CYS:SG	2:B:2327:GLY:N	2.91	0.44
2:B:3758:MET:HE2	2:B:3762:ARG:HH21	1.83	0.44
2:E:2271:THR:HG22	2:E:2273:LEU:H	1.82	0.44
2:E:2894:LEU:HD11	2:E:2902:HIS:HB2	1.98	0.44
2:I:21:VAL:HG12	2:I:66:CYS:HA	1.99	0.44
2:I:652:ARG:HD2	2:I:750:LEU:HB3	1.99	0.44
2:I:4201:ASN:ND2	2:I:4204:GLN:OE1	2.50	0.44
2:G:707:VAL:HG23	2:G:713:SER:HB2	1.99	0.44
2:G:823:LEU:HD23	2:G:1626:TRP:HB3	1.99	0.44
2:G:2894:LEU:HD11	2:G:2902:HIS:HB2	1.98	0.44
2:B:2869:ARG:HA	2:B:2872:GLN:HB3	1.98	0.44
2:B:3764:LEU:HD21	2:B:3809:ASN:HD21	1.82	0.44
2:E:2257:LEU:O	2:E:2261:SER:N	2.50	0.44
2:E:3365:UNK:O	2:E:3369:UNK:N	2.50	0.44
2:I:168:ASP:HB3	2:I:199:LEU:HD22	1.99	0.44
2:I:1708:ARG:HG2	2:I:1711:TYR:CE2	2.53	0.44
2:I:3990:VAL:HG13	2:I:4051:SER:HB2	1.99	0.44
2:G:626:LEU:HG	2:G:628:GLY:H	1.82	0.44
2:G:1114:GLU:HG3	2:G:1117:ALA:HB2	1.99	0.44
2:G:1735:ILE:HG23	2:G:1771:LEU:HD23	1.98	0.44
2:G:2751:LEU:HD11	2:G:2823:ILE:HG21	2.00	0.44
2:G:2869:ARG:HA	2:G:2872:GLN:HB3	1.98	0.44
2:G:4667:PRO:O	2:G:4714:ASN:ND2	2.48	0.44
2:B:179:TYR:OH	2:E:2359:ARG:NH1	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:309:THR:O	2:B:313:SER:OG	2.35	0.44
2:B:395:GLN:HG3	2:B:397:GLU:H	1.82	0.44
2:B:652:ARG:HD2	2:B:750:LEU:HB3	1.99	0.44
2:B:1708:ARG:HG2	2:B:1711:TYR:CE2	2.53	0.44
2:B:1725:ARG:HA	2:B:1728:ARG:HG2	1.98	0.44
2:E:864:PRO:HD2	2:E:867:LEU:HD12	1.99	0.44
2:E:1269:CYS:HA	2:E:1473:UNK:HA	1.99	0.44
2:I:626:LEU:HG	2:I:628:GLY:H	1.82	0.44
2:I:2121:PHE:O	2:I:3725:TYR:OH	2.35	0.44
2:I:2517:UNK:O	2:I:2521:UNK:N	2.51	0.44
2:I:3764:LEU:HD21	2:I:3809:ASN:HD21	1.82	0.44
2:I:4075:GLU:O	2:I:4079:ASP:N	2.51	0.44
2:I:4208:PRO:HA	2:I:4211:LYS:HB3	2.00	0.44
2:G:864:PRO:HD2	2:G:867:LEU:HD12	1.99	0.44
2:G:2257:LEU:O	2:G:2261:SER:N	2.50	0.44
1:A:7:ILE:HB	1:A:71:ARG:HB3	1.99	0.44
1:J:30:LEU:HD23	1:J:33:GLY:HA3	1.99	0.44
2:B:719:LEU:HD22	2:B:735:GLN:HG2	2.00	0.44
2:E:3990:VAL:HG13	2:E:4051:SER:HB2	1.99	0.44
2:I:864:PRO:HD2	2:I:867:LEU:HD12	1.99	0.44
2:I:2326:CYS:SG	2:I:2327:GLY:N	2.91	0.44
2:I:4826:ILE:O	2:I:4829:SER:OG	2.29	0.44
2:G:719:LEU:HD22	2:G:735:GLN:HG2	2.00	0.44
2:G:2271:THR:HG22	2:G:2273:LEU:H	1.83	0.44
2:G:3758:MET:HE2	2:G:3762:ARG:HH21	1.83	0.44
2:B:404:ILE:HG21	2:B:481:GLU:HG3	2.00	0.44
2:B:3658:LYS:HA	2:B:3661:TRP:CD2	2.52	0.44
2:E:1931:LEU:HB3	2:E:1935:VAL:HB	1.99	0.44
2:I:823:LEU:HD23	2:I:1626:TRP:HB3	1.99	0.44
2:I:1105:ALA:N	2:I:1189:LEU:O	2.50	0.44
2:I:2257:LEU:O	2:I:2261:SER:N	2.50	0.44
2:I:3365:UNK:O	2:I:3369:UNK:N	2.50	0.44
2:I:3729:MET:O	2:I:3732:SER:OG	2.32	0.44
2:G:1931:LEU:HB3	2:G:1935:VAL:HB	1.99	0.44
2:G:2326:CYS:SG	2:G:2327:GLY:N	2.91	0.44
2:G:4208:PRO:HA	2:G:4211:LYS:HB3	2.00	0.44
1:A:92:PRO:HD3	2:B:627:PRO:HB2	1.99	0.44
2:B:356:TRP:O	2:B:379:HIS:N	2.51	0.44
2:B:3365:UNK:O	2:B:3369:UNK:N	2.50	0.44
2:B:4667:PRO:O	2:B:4714:ASN:ND2	2.48	0.44
2:B:4802:GLY:HA2	2:B:4808:PHE:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2517:UNK:O	2:E:2521:UNK:N	2.51	0.44
2:E:3959:LYS:O	2:E:3963:ASN:ND2	2.51	0.44
2:E:4075:GLU:O	2:E:4079:ASP:N	2.50	0.44
2:E:4942:GLU:HA	2:G:4944:ARG:HH22	1.83	0.44
2:I:404:ILE:HG21	2:I:481:GLU:HG3	2.00	0.44
2:I:4802:GLY:HA2	2:I:4808:PHE:HB2	1.99	0.44
2:G:215:THR:HG22	2:G:273:HIS:HA	1.99	0.44
2:G:2517:UNK:O	2:G:2521:UNK:N	2.51	0.44
2:G:3755:GLU:O	2:G:3762:ARG:NH2	2.44	0.44
2:G:3764:LEU:HD21	2:G:3809:ASN:HD21	1.83	0.44
2:G:3959:LYS:O	2:G:3963:ASN:ND2	2.51	0.44
2:G:4075:GLU:O	2:G:4079:ASP:N	2.51	0.44
1:A:30:LEU:HD23	1:A:33:GLY:HA3	1.99	0.43
2:B:560:ILE:HA	2:B:563:VAL:HG12	2.00	0.43
2:B:864:PRO:HD2	2:B:867:LEU:HD12	1.99	0.43
2:B:3552:UNK:O	2:B:3556:UNK:N	2.51	0.43
2:E:1171:SER:OG	2:E:1175:SER:N	2.43	0.43
2:E:1708:ARG:HG2	2:E:1711:TYR:CE2	2.53	0.43
2:E:4956:THR:O	2:E:4965:SER:N	2.48	0.43
2:I:1725:ARG:HA	2:I:1728:ARG:HG2	1.98	0.43
2:I:2155:LEU:HD13	2:I:2188:ASN:HD21	1.83	0.43
2:I:2271:THR:HG22	2:I:2273:LEU:H	1.83	0.43
2:I:3779:VAL:HG23	2:I:3780:LEU:HD12	1.99	0.43
2:I:4697:VAL:O	2:I:4701:TRP:N	2.49	0.43
2:G:2196:ASN:OD1	2:G:2199:ARG:NH1	2.41	0.43
2:G:3658:LYS:HA	2:G:3661:TRP:CD2	2.52	0.43
2:E:2326:CYS:SG	2:E:2327:GLY:N	2.91	0.43
2:I:560:ILE:HA	2:I:563:VAL:HG12	2.00	0.43
2:I:719:LEU:HD22	2:I:735:GLN:HG2	2.00	0.43
2:I:3552:UNK:O	2:I:3556:UNK:N	2.51	0.43
2:I:4667:PRO:O	2:I:4714:ASN:ND2	2.48	0.43
2:G:2155:LEU:HD13	2:G:2188:ASN:HD21	1.83	0.43
2:G:3963:ASN:O	2:G:3966:THR:OG1	2.33	0.43
1:A:26:TYR:OH	1:A:42:ARG:NH2	2.52	0.43
1:H:82:TYR:O	1:H:86:GLY:N	2.46	0.43
2:B:4208:PRO:HA	2:B:4211:LYS:HB3	2.00	0.43
2:E:652:ARG:HD2	2:E:750:LEU:HB3	1.99	0.43
2:E:1095:VAL:HB	2:E:1199:VAL:HG23	2.00	0.43
2:E:3948:LYS:HG2	2:E:4012:LEU:HD22	2.01	0.43
2:I:1095:VAL:HB	2:I:1199:VAL:HG23	2.00	0.43
2:I:1131:ARG:NH1	2:I:1178:ALA:O	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:3927:GLN:O	2:I:3931:SER:N	2.51	0.43
2:I:4066:LEU:HD11	2:I:4173:TYR:CG	2.53	0.43
2:G:1708:ARG:HG2	2:G:1711:TYR:CE2	2.53	0.43
1:H:87:HIS:HD2	1:H:90:VAL:HB	1.84	0.43
2:B:278:GLN:N	2:B:315:CYS:SG	2.90	0.43
2:B:1131:ARG:NH1	2:B:1178:ALA:O	2.52	0.43
2:B:2517:UNK:O	2:B:2521:UNK:N	2.51	0.43
2:B:4075:GLU:O	2:B:4079:ASP:N	2.51	0.43
2:E:3552:UNK:O	2:E:3556:UNK:N	2.51	0.43
2:E:3676:ASP:N	2:E:3676:ASP:OD1	2.52	0.43
2:I:3758:MET:HE2	2:I:3762:ARG:HH21	1.83	0.43
2:G:404:ILE:HG21	2:G:481:GLU:HG3	2.00	0.43
2:G:4956:THR:O	2:G:4965:SER:N	2.48	0.43
2:B:2466:LEU:HA	2:B:2469:ILE:HD12	2.00	0.43
2:B:2751:LEU:HD11	2:B:2823:ILE:HG21	2.00	0.43
2:E:404:ILE:HG21	2:E:481:GLU:HG3	2.00	0.43
2:E:2121:PHE:O	2:E:3725:TYR:OH	2.35	0.43
2:I:3676:ASP:OD1	2:I:3676:ASP:N	2.52	0.43
2:G:309:THR:O	2:G:313:SER:OG	2.35	0.43
2:G:1095:VAL:HB	2:G:1199:VAL:HG23	2.00	0.43
2:G:2022:PRO:HB2	2:G:2024:PRO:HD2	2.01	0.43
1:F:26:TYR:OH	1:F:42:ARG:NH2	2.52	0.43
2:B:3674:ILE:HB	2:B:3769:ARG:HH21	1.84	0.43
2:B:3948:LYS:HG2	2:B:4012:LEU:HD22	2.01	0.43
2:E:707:VAL:HG23	2:E:713:SER:HB2	1.99	0.43
2:E:793:LEU:HB2	2:E:797:HIS:H	1.84	0.43
2:I:2751:LEU:HD11	2:I:2823:ILE:HG21	2.00	0.43
2:I:3963:ASN:O	2:I:3966:THR:OG1	2.33	0.43
2:G:4802:GLY:HA2	2:G:4808:PHE:HB2	1.99	0.43
2:G:4976:GLU:O	2:G:4979:THR:OG1	2.35	0.43
1:A:87:HIS:HD2	1:A:90:VAL:HB	1.84	0.43
2:B:707:VAL:HG23	2:B:713:SER:HB2	1.99	0.43
2:B:4944:ARG:HH22	2:I:4942:GLU:HA	1.83	0.43
2:I:395:GLN:HG3	2:I:397:GLU:H	1.82	0.43
2:I:734:GLY:O	2:I:736:HIS:ND1	2.52	0.43
2:G:3779:VAL:HG23	2:G:3780:LEU:HD12	1.99	0.43
2:E:356:TRP:O	2:E:379:HIS:N	2.51	0.43
2:I:681:HIS:HB3	2:I:784:SER:HB3	2.01	0.43
2:I:3765:TYR:OH	2:I:4755:GLU:O	2.34	0.43
1:F:87:HIS:HD2	1:F:90:VAL:HB	1.84	0.43
2:B:591:ASP:O	2:B:1594:ARG:NH2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:750:LEU:HD21	2:B:777:PHE:HE2	1.84	0.43
2:B:2155:LEU:HD13	2:B:2188:ASN:HD21	1.83	0.43
2:B:4066:LEU:HD11	2:B:4173:TYR:CG	2.53	0.43
2:E:2751:LEU:HD11	2:E:2823:ILE:HG21	2.00	0.43
2:I:3959:LYS:O	2:I:3963:ASN:ND2	2.51	0.43
2:G:652:ARG:HD2	2:G:750:LEU:HB3	1.99	0.43
2:G:750:LEU:HD21	2:G:777:PHE:HE2	1.84	0.43
2:G:1131:ARG:NH1	2:G:1178:ALA:O	2.52	0.43
2:G:3674:ILE:HB	2:G:3769:ARG:HH21	1.84	0.43
2:G:4066:LEU:HD11	2:G:4173:TYR:CG	2.53	0.43
2:B:1095:VAL:HB	2:B:1199:VAL:HG23	2.00	0.43
2:B:4857:ASN:HB2	2:E:4807:PHE:HZ	1.84	0.43
2:E:719:LEU:HD22	2:E:735:GLN:HG2	2.00	0.43
2:E:750:LEU:HD21	2:E:777:PHE:HE2	1.84	0.43
2:E:2466:LEU:HA	2:E:2469:ILE:HD12	2.00	0.43
2:I:1960:ALA:O	2:I:1964:ARG:NE	2.52	0.43
2:I:2452:ARG:HH12	2:G:177:GLU:HG3	1.84	0.43
2:I:4944:ARG:HH22	2:G:4942:GLU:HA	1.83	0.43
2:G:356:TRP:O	2:G:379:HIS:N	2.51	0.43
2:G:3676:ASP:OD1	2:G:3676:ASP:N	2.52	0.43
2:G:3948:LYS:HG2	2:G:4012:LEU:HD22	2.01	0.43
1:J:87:HIS:HD2	1:J:90:VAL:HB	1.84	0.42
2:B:734:GLY:O	2:B:736:HIS:ND1	2.52	0.42
2:B:3959:LYS:O	2:B:3963:ASN:ND2	2.51	0.42
2:E:309:THR:O	2:E:313:SER:OG	2.35	0.42
2:E:591:ASP:O	2:E:1594:ARG:NH2	2.52	0.42
2:E:1131:ARG:NH1	2:E:1178:ALA:O	2.52	0.42
2:E:3361:UNK:O	2:E:3365:UNK:N	2.52	0.42
2:E:4208:PRO:HA	2:E:4211:LYS:HB3	2.00	0.42
2:E:4713:SER:HG	2:E:4775:TYR:HH	1.67	0.42
2:I:2022:PRO:HB2	2:I:2024:PRO:HD2	2.01	0.42
2:G:591:ASP:O	2:G:1594:ARG:NH2	2.52	0.42
2:G:1954:ARG:HE	2:G:2041:HIS:HD2	1.67	0.42
2:E:1954:ARG:HE	2:E:2041:HIS:HD2	1.67	0.42
2:I:356:TRP:O	2:I:379:HIS:N	2.51	0.42
2:I:793:LEU:HB2	2:I:797:HIS:H	1.84	0.42
2:I:1954:ARG:HE	2:I:2041:HIS:HD2	1.68	0.42
2:I:2466:LEU:HA	2:I:2469:ILE:HD12	2.00	0.42
2:I:3948:LYS:HG2	2:I:4012:LEU:HD22	2.01	0.42
2:G:793:LEU:HB2	2:G:797:HIS:H	1.84	0.42
2:G:3552:UNK:O	2:G:3556:UNK:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:600:LEU:O	2:B:604:CYS:N	2.50	0.42
2:B:793:LEU:HB2	2:B:797:HIS:H	1.84	0.42
2:E:1089:TYR:N	2:E:1224:GLU:O	2.52	0.42
2:E:2155:LEU:HD13	2:E:2188:ASN:HD21	1.83	0.42
2:E:3764:LEU:HD21	2:E:3809:ASN:HD21	1.83	0.42
2:I:591:ASP:O	2:I:1594:ARG:NH2	2.52	0.42
2:I:750:LEU:HD21	2:I:777:PHE:HE2	1.84	0.42
2:I:3674:ILE:HB	2:I:3769:ARG:HH21	1.84	0.42
2:G:600:LEU:O	2:G:604:CYS:N	2.50	0.42
2:G:3992:PHE:O	2:G:3996:PHE:N	2.40	0.42
1:H:26:TYR:OH	1:H:42:ARG:NH2	2.52	0.42
2:B:681:HIS:HB3	2:B:784:SER:HB3	2.01	0.42
2:E:560:ILE:HA	2:E:563:VAL:HG12	2.00	0.42
2:E:4066:LEU:HD11	2:E:4173:TYR:CG	2.53	0.42
2:I:3361:UNK:O	2:I:3365:UNK:N	2.52	0.42
2:B:1089:TYR:N	2:B:1224:GLU:O	2.52	0.42
2:B:4978:HIS:CE1	2:B:4983:HIS:NE2	2.87	0.42
2:E:734:GLY:O	2:E:736:HIS:ND1	2.52	0.42
2:E:2022:PRO:HB2	2:E:2024:PRO:HD2	2.01	0.42
2:I:1089:TYR:N	2:I:1224:GLU:O	2.52	0.42
2:I:2430:ILE:HG21	2:I:2502:UNK:HA	2.02	0.42
2:G:681:HIS:HB3	2:G:784:SER:HB3	2.01	0.42
2:G:2466:LEU:HA	2:G:2469:ILE:HD12	2.00	0.42
2:G:3361:UNK:O	2:G:3365:UNK:N	2.52	0.42
2:B:2265:LEU:HD22	2:B:2330:ARG:HB3	2.02	0.42
2:B:3361:UNK:O	2:B:3365:UNK:N	2.52	0.42
2:B:4060:LYS:NZ	2:B:4064:MET:SD	2.93	0.42
2:E:1099:GLU:OE2	2:E:1127:HIS:ND1	2.35	0.42
2:E:2272:PRO:HA	2:E:2275:VAL:HG12	2.02	0.42
2:E:3805:LEU:H	2:E:3805:LEU:HG	1.77	0.42
2:G:560:ILE:HA	2:G:563:VAL:HG12	2.00	0.42
2:G:3927:GLN:O	2:G:3931:SER:N	2.51	0.42
1:A:82:TYR:O	1:A:86:GLY:N	2.46	0.42
2:B:1954:ARG:HE	2:B:2041:HIS:HD2	1.67	0.42
2:B:3676:ASP:OD1	2:B:3676:ASP:N	2.52	0.42
2:B:3927:GLN:O	2:B:3931:SER:N	2.51	0.42
2:I:2265:LEU:HD22	2:I:2330:ARG:HB3	2.02	0.42
2:I:3805:LEU:HA	2:I:3809:ASN:HD22	1.85	0.42
2:G:35:LEU:HD13	2:G:49:LEU:HD13	2.01	0.42
1:J:26:TYR:OH	1:J:42:ARG:NH2	2.52	0.42
2:E:619:ASP:OD1	2:E:1680:ARG:NH1	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:681:HIS:HB3	2:E:784:SER:HB3	2.01	0.42
2:E:3674:ILE:HB	2:E:3769:ARG:HH21	1.84	0.42
2:G:1089:TYR:N	2:G:1224:GLU:O	2.52	0.42
2:G:1099:GLU:OE2	2:G:1127:HIS:ND1	2.35	0.42
2:G:2430:ILE:HG21	2:G:2502:UNK:HA	2.02	0.42
2:G:3805:LEU:HA	2:G:3809:ASN:HD22	1.85	0.42
2:B:35:LEU:HD13	2:B:49:LEU:HD13	2.01	0.42
2:B:1679:ASN:HA	2:B:1682:ALA:HB3	2.02	0.42
2:B:4056:GLU:O	2:B:4060:LYS:N	2.51	0.42
2:E:841:GLY:HA2	2:E:1073:ARG:HD2	2.02	0.42
2:E:4060:LYS:NZ	2:E:4064:MET:SD	2.93	0.42
2:I:841:GLY:HA2	2:I:1073:ARG:HD2	2.02	0.42
2:I:3955:MET:HG3	2:I:4019:LEU:HD22	2.02	0.42
2:B:2022:PRO:HB2	2:B:2024:PRO:HD2	2.01	0.42
2:I:1679:ASN:HA	2:I:1682:ALA:HB3	2.02	0.42
2:G:2272:PRO:HA	2:G:2275:VAL:HG12	2.02	0.42
2:B:2430:ILE:HG21	2:B:2502:UNK:HA	2.02	0.41
2:G:40:GLU:HB3	2:G:44:ASN:HB3	2.02	0.41
2:B:4071:ILE:HD11	2:B:4102:GLN:HE21	1.85	0.41
2:E:40:GLU:HB3	2:E:44:ASN:HB3	2.02	0.41
2:E:3963:ASN:O	2:E:3966:THR:OG1	2.33	0.41
2:I:35:LEU:HD13	2:I:49:LEU:HD13	2.01	0.41
2:I:317:ARG:HE	2:I:323:LEU:HD22	1.86	0.41
2:I:4060:LYS:NZ	2:I:4064:MET:SD	2.93	0.41
2:I:4071:ILE:HD11	2:I:4102:GLN:HE21	1.85	0.41
2:G:2867:LEU:HB3	2:G:2871:LEU:HB2	2.02	0.41
2:B:841:GLY:HA2	2:B:1073:ARG:HD2	2.02	0.41
2:B:1141:ARG:H	2:B:1141:ARG:HD2	1.86	0.41
2:I:2196:ASN:OD1	2:I:2199:ARG:NH1	2.41	0.41
2:G:3955:MET:HG3	2:G:4019:LEU:HD22	2.02	0.41
2:B:2272:PRO:HA	2:B:2275:VAL:HG12	2.02	0.41
2:B:2359:ARG:NH1	2:I:179:TYR:OH	2.41	0.41
2:B:2466:LEU:HD23	2:B:2469:ILE:HD12	2.02	0.41
2:B:2739:PRO:HB3	2:B:2884:ASN:HB3	2.02	0.41
2:B:2867:LEU:HB3	2:B:2871:LEU:HB2	2.03	0.41
2:B:4138:ASP:OD1	2:B:4138:ASP:N	2.53	0.41
2:E:940:GLY:O	2:E:1052:ASN:N	2.53	0.41
2:E:2265:LEU:HD22	2:E:2330:ARG:HB3	2.02	0.41
2:E:4071:ILE:HD11	2:E:4102:GLN:HE21	1.85	0.41
2:G:281:ARG:NH2	2:G:309:THR:OG1	2.49	0.41
2:G:1141:ARG:H	2:G:1141:ARG:HD2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2466:LEU:HD23	2:G:2469:ILE:HD12	2.02	0.41
2:E:1679:ASN:HA	2:E:1682:ALA:HB3	2.02	0.41
2:E:2867:LEU:HB3	2:E:2871:LEU:HB2	2.02	0.41
2:I:1141:ARG:H	2:I:1141:ARG:HD2	1.86	0.41
2:I:2867:LEU:HB3	2:I:2871:LEU:HB2	2.02	0.41
2:G:317:ARG:HE	2:G:323:LEU:HD22	1.86	0.41
2:G:4060:LYS:NZ	2:G:4064:MET:SD	2.93	0.41
2:B:2121:PHE:O	2:B:3725:TYR:OH	2.35	0.41
2:B:3770:LEU:HD21	2:B:3775:ALA:HB3	2.03	0.41
2:E:1141:ARG:HD2	2:E:1141:ARG:H	1.86	0.41
2:E:2871:LEU:HD22	2:E:2927:LEU:HD22	2.02	0.41
2:I:1727:ARG:HH21	2:I:1775:HIS:CE1	2.39	0.41
2:G:841:GLY:HA2	2:G:1073:ARG:HD2	2.02	0.41
2:B:1727:ARG:HH21	2:B:1775:HIS:CE1	2.39	0.41
2:E:2466:LEU:HD23	2:E:2469:ILE:HD12	2.02	0.41
2:E:4731:ILE:HA	2:G:4101:LYS:HE3	2.02	0.41
2:I:1665:HIS:HA	2:I:1668:ARG:HG2	2.03	0.41
2:I:3827:GLY:HA2	2:I:3830:GLN:HE21	1.86	0.41
2:G:1679:ASN:HA	2:G:1682:ALA:HB3	2.02	0.41
2:G:2265:LEU:HD22	2:G:2330:ARG:HB3	2.02	0.41
2:G:4071:ILE:HD11	2:G:4102:GLN:HE21	1.85	0.41
2:B:317:ARG:HE	2:B:323:LEU:HD22	1.86	0.41
2:E:2430:ILE:HG21	2:E:2502:UNK:HA	2.02	0.41
2:E:3770:LEU:HD21	2:E:3775:ALA:HB3	2.03	0.41
2:E:3805:LEU:HA	2:E:3809:ASN:HD22	1.85	0.41
2:I:619:ASP:OD1	2:I:1680:ARG:NH1	2.37	0.41
2:I:3891:LEU:HB3	2:I:3899:PHE:HE2	1.86	0.41
2:G:583:ILE:HA	2:G:586:ILE:HD12	2.03	0.41
2:G:4687:TYR:OH	2:G:4699:GLY:O	2.36	0.41
2:B:113:HIS:CE1	2:B:402:ARG:HB3	2.56	0.41
2:B:583:ILE:HA	2:B:586:ILE:HD12	2.03	0.41
2:B:1236:THR:OG1	2:B:1608:MET:SD	2.78	0.41
2:B:1665:HIS:HA	2:B:1668:ARG:HG2	2.03	0.41
2:B:1960:ALA:O	2:B:1964:ARG:NE	2.52	0.41
2:B:2103:VAL:O	2:B:2107:GLN:N	2.43	0.41
2:B:2793:PRO:HG3	2:B:2855:TYR:CZ	2.56	0.41
2:B:3805:LEU:HA	2:B:3809:ASN:HD22	1.85	0.41
2:B:3955:MET:HG3	2:B:4019:LEU:HD22	2.02	0.41
2:B:3963:ASN:O	2:B:3966:THR:OG1	2.33	0.41
2:B:4680:LYS:HD3	2:B:4686:LEU:HD22	2.03	0.41
2:B:4807:PHE:HZ	2:I:4857:ASN:HB2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:35:LEU:HD13	2:E:49:LEU:HD13	2.01	0.41
2:E:1096:THR:HG23	2:E:1199:VAL:HG22	2.03	0.41
2:E:1154:ASP:O	2:E:1158:ASN:N	2.54	0.41
2:E:1727:ARG:HH21	2:E:1775:HIS:CE1	2.39	0.41
2:E:1960:ALA:O	2:E:1964:ARG:NE	2.52	0.41
2:E:3955:MET:HG3	2:E:4019:LEU:HD22	2.02	0.41
2:I:2739:PRO:HB3	2:I:2884:ASN:HB3	2.02	0.41
2:I:2871:LEU:HD22	2:I:2927:LEU:HD22	2.03	0.41
2:I:3770:LEU:HD21	2:I:3775:ALA:HB3	2.03	0.41
2:I:4837:LEU:HD13	2:I:4837:LEU:HA	1.96	0.41
2:G:134:ASP:OD1	2:G:134:ASP:N	2.54	0.41
2:G:485:SER:HA	2:G:488:LEU:HB2	2.03	0.41
2:G:1096:THR:HG23	2:G:1199:VAL:HG22	2.03	0.41
2:G:2793:PRO:HG3	2:G:2855:TYR:CZ	2.56	0.41
2:G:3891:LEU:HB3	2:G:3899:PHE:HE2	1.86	0.41
2:G:4063:ASP:OD1	2:G:4169:SER:OG	2.37	0.41
2:G:4138:ASP:OD1	2:G:4138:ASP:N	2.53	0.41
2:G:4236:SER:OG	2:G:4675:LYS:NZ	2.53	0.41
2:B:1154:ASP:O	2:B:1158:ASN:N	2.54	0.41
2:E:134:ASP:OD1	2:E:134:ASP:N	2.54	0.41
2:E:2793:PRO:HG3	2:E:2855:TYR:CZ	2.56	0.41
2:E:4090:LYS:O	2:E:4094:GLN:N	2.49	0.41
2:I:40:GLU:HB3	2:I:44:ASN:HB3	2.03	0.41
2:I:485:SER:O	2:I:489:ASN:N	2.43	0.41
2:I:485:SER:HA	2:I:488:LEU:HB2	2.03	0.41
2:I:2272:PRO:HA	2:I:2275:VAL:HG12	2.02	0.41
2:I:4680:LYS:HD3	2:I:4686:LEU:HD22	2.03	0.41
2:G:4978:HIS:CE1	2:G:4983:HIS:NE2	2.87	0.41
2:B:40:GLU:HB3	2:B:44:ASN:HB3	2.02	0.40
2:B:767:VAL:HG12	2:B:769:GLU:HG3	2.03	0.40
2:E:485:SER:HA	2:E:488:LEU:HB2	2.03	0.40
2:E:3827:GLY:HA2	2:E:3830:GLN:HE21	1.86	0.40
2:I:471:LEU:O	2:I:475:GLN:N	2.53	0.40
2:I:1973:GLN:HA	2:I:1976:ARG:HB3	2.03	0.40
2:I:2024:PRO:HB2	2:I:2027:ILE:HG12	2.03	0.40
2:G:113:HIS:CE1	2:G:402:ARG:HB3	2.56	0.40
2:G:2318:TYR:HA	2:G:2319:PRO:HD3	1.95	0.40
2:G:3827:GLY:HA2	2:G:3830:GLN:HE21	1.86	0.40
2:B:940:GLY:O	2:B:1052:ASN:N	2.53	0.40
2:B:3891:LEU:HB3	2:B:3899:PHE:HE2	1.86	0.40
2:B:4104:THR:HG22	2:B:4106:PRO:HD2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:4731:ILE:HA	2:E:4101:LYS:HE3	2.03	0.40
2:E:317:ARG:HE	2:E:323:LEU:HD22	1.85	0.40
2:E:3513:UNK:O	2:E:3515:UNK:N	2.55	0.40
2:E:4667:PRO:O	2:E:4714:ASN:ND2	2.48	0.40
2:G:734:GLY:O	2:G:736:HIS:ND1	2.52	0.40
2:G:2739:PRO:HB3	2:G:2884:ASN:HB3	2.02	0.40
2:G:4680:LYS:HD3	2:G:4686:LEU:HD22	2.03	0.40
2:B:1096:THR:HG23	2:B:1199:VAL:HG22	2.03	0.40
2:E:2739:PRO:HB3	2:E:2884:ASN:HB3	2.02	0.40
2:E:3891:LEU:HB3	2:E:3899:PHE:HE2	1.86	0.40
2:E:4104:THR:HG22	2:E:4106:PRO:HD2	2.03	0.40
2:E:4680:LYS:HD3	2:E:4686:LEU:HD22	2.03	0.40
2:I:2231:SER:HA	2:I:2234:ARG:HG2	2.04	0.40
2:I:2793:PRO:HG3	2:I:2855:TYR:CZ	2.56	0.40
2:G:1727:ARG:HH21	2:G:1775:HIS:CE1	2.39	0.40
2:G:3513:UNK:O	2:G:3515:UNK:N	2.55	0.40
2:B:2231:SER:HA	2:B:2234:ARG:HG2	2.04	0.40
2:B:2587:UNK:O	2:B:2591:UNK:N	2.54	0.40
2:B:2871:LEU:HD22	2:B:2927:LEU:HD22	2.02	0.40
2:B:3514:UNK:O	2:B:3518:UNK:N	2.55	0.40
2:B:4987:ASN:O	2:B:4991:PHE:N	2.55	0.40
2:E:113:HIS:CE1	2:E:402:ARG:HB3	2.56	0.40
2:E:550:LYS:HD3	2:E:550:LYS:HA	1.93	0.40
2:E:2024:PRO:HB2	2:E:2027:ILE:HG12	2.04	0.40
2:I:134:ASP:N	2:I:134:ASP:OD1	2.54	0.40
2:I:1236:THR:OG1	2:I:1608:MET:SD	2.78	0.40
2:G:463:GLU:O	2:G:466:SER:OG	2.30	0.40
2:G:946:ALA:HA	2:G:949:ASN:HB2	2.03	0.40
2:G:3842:LEU:O	2:G:3929:SER:OG	2.40	0.40
2:B:485:SER:HA	2:B:488:LEU:HB2	2.03	0.40
2:B:1973:GLN:HA	2:B:1976:ARG:HB3	2.03	0.40
2:B:2024:PRO:HB2	2:B:2027:ILE:HG12	2.04	0.40
2:B:2742:THR:OG1	2:B:2811:GLU:OE1	2.34	0.40
2:E:281:ARG:NH2	2:E:309:THR:OG1	2.49	0.40
2:E:4138:ASP:OD1	2:E:4138:ASP:N	2.53	0.40
2:E:4857:ASN:HB2	2:G:4807:PHE:HZ	1.86	0.40
2:I:113:HIS:CE1	2:I:402:ARG:HB3	2.56	0.40
2:I:281:ARG:NH2	2:I:309:THR:OG1	2.49	0.40
2:I:767:VAL:HG12	2:I:769:GLU:HG3	2.03	0.40
2:I:1096:THR:HG23	2:I:1199:VAL:HG22	2.03	0.40
2:I:2025:GLU:HA	2:I:2028:ARG:NE	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:4138:ASP:OD1	2:I:4138:ASP:N	2.53	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
1	F	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
1	H	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
1	J	105/108 (97%)	95 (90%)	10 (10%)	0	100	100
2	B	3237/4416 (73%)	2887 (89%)	344 (11%)	6 (0%)	44	78
2	E	3237/4416 (73%)	2887 (89%)	344 (11%)	6 (0%)	44	78
2	G	3237/4416 (73%)	2887 (89%)	344 (11%)	6 (0%)	44	78
2	I	3237/4416 (73%)	2890 (89%)	341 (10%)	6 (0%)	44	78
All	All	13368/18096 (74%)	11931 (89%)	1413 (11%)	24 (0%)	45	78

All (24) Ramachandran outliers are listed below:

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

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Mol	Chain	Res	Type
2	I	4641	PRO
2	G	1932	PRO
2	G	4641	PRO
2	B	1840	PRO
2	B	2291	GLN
2	E	2291	GLN
2	I	1840	PRO
2	I	2291	GLN
2	G	1840	PRO
2	G	2291	GLN
2	E	1840	PRO
2	B	4667	PRO
2	E	4667	PRO
2	I	4667	PRO
2	G	4667	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	88/89 (99%)	88 (100%)	0	100 100
1	F	88/89 (99%)	88 (100%)	0	100 100
1	H	88/89 (99%)	88 (100%)	0	100 100
1	J	88/89 (99%)	88 (100%)	0	100 100
2	B	2493/3022 (82%)	2475 (99%)	18 (1%)	81 87
2	E	2493/3022 (82%)	2475 (99%)	18 (1%)	81 87
2	G	2493/3022 (82%)	2475 (99%)	18 (1%)	81 87
2	I	2493/3022 (82%)	2475 (99%)	18 (1%)	81 87
All	All	10324/12444 (83%)	10252 (99%)	72 (1%)	80 87

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

Mol	Chain	Res	Type
2	B	131	LEU
2	B	534	ARG
2	B	553	ARG
2	B	719	LEU
2	B	978	THR
2	B	1076	ARG
2	B	1141	ARG
2	B	1600	LEU
2	B	1676	LEU
2	B	1964	ARG
2	B	3663	LEU
2	B	3787	LYS
2	B	3896	ASN
2	B	4034	ASN
2	B	4085	ARG
2	B	4120	ASN
2	B	4818	MET
2	B	4983	HIS
2	E	131	LEU
2	E	534	ARG
2	E	553	ARG
2	E	719	LEU
2	E	978	THR
2	E	1076	ARG
2	E	1141	ARG
2	E	1600	LEU
2	E	1676	LEU
2	E	1964	ARG
2	E	3663	LEU
2	E	3787	LYS
2	E	3896	ASN
2	E	4034	ASN
2	E	4085	ARG
2	E	4120	ASN
2	E	4818	MET
2	E	4983	HIS
2	I	131	LEU
2	I	534	ARG
2	I	553	ARG
2	I	719	LEU
2	I	978	THR
2	I	1076	ARG
2	I	1141	ARG

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Mol	Chain	Res	Type
2	I	1600	LEU
2	I	1676	LEU
2	I	1964	ARG
2	I	3663	LEU
2	I	3787	LYS
2	I	3896	ASN
2	I	4034	ASN
2	I	4085	ARG
2	I	4120	ASN
2	I	4818	MET
2	I	4983	HIS
2	G	131	LEU
2	G	534	ARG
2	G	553	ARG
2	G	719	LEU
2	G	978	THR
2	G	1076	ARG
2	G	1141	ARG
2	G	1600	LEU
2	G	1676	LEU
2	G	1964	ARG
2	G	3663	LEU
2	G	3787	LYS
2	G	3896	ASN
2	G	4034	ASN
2	G	4085	ARG
2	G	4120	ASN
2	G	4818	MET
2	G	4983	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (126) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	87	HIS
1	A	87	HIS
1	H	87	HIS
1	J	87	HIS
2	B	57	ASN
2	B	71	GLN
2	B	111	HIS
2	B	113	HIS
2	B	273	HIS

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Mol	Chain	Res	Type
2	B	379	HIS
2	B	413	GLN
2	B	479	GLN
2	B	520	ASN
2	B	1598	GLN
2	B	1679	ASN
2	B	1688	HIS
2	B	1691	GLN
2	B	1719	HIS
2	B	1775	HIS
2	B	2127	GLN
2	B	3766	GLN
2	B	3809	ASN
2	B	3889	GLN
2	B	3896	ASN
2	B	3946	GLN
2	B	3950	ASN
2	B	3960	GLN
2	B	4034	ASN
2	B	4054	ASN
2	B	4102	GLN
2	B	4120	ASN
2	B	4553	ASN
2	B	4946	GLN
2	E	57	ASN
2	E	71	GLN
2	E	111	HIS
2	E	113	HIS
2	E	273	HIS
2	E	379	HIS
2	E	413	GLN
2	E	479	GLN
2	E	520	ASN
2	E	797	HIS
2	E	1598	GLN
2	E	1679	ASN
2	E	1688	HIS
2	E	1691	GLN
2	E	1719	HIS
2	E	1775	HIS
2	E	2127	GLN
2	E	3766	GLN

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Mol	Chain	Res	Type
2	E	3809	ASN
2	E	3830	GLN
2	E	3889	GLN
2	E	3896	ASN
2	E	3946	GLN
2	E	3950	ASN
2	E	3960	GLN
2	E	4034	ASN
2	E	4054	ASN
2	E	4102	GLN
2	E	4120	ASN
2	E	4553	ASN
2	E	4946	GLN
2	I	57	ASN
2	I	71	GLN
2	I	111	HIS
2	I	113	HIS
2	I	273	HIS
2	I	379	HIS
2	I	413	GLN
2	I	479	GLN
2	I	520	ASN
2	I	797	HIS
2	I	1598	GLN
2	I	1679	ASN
2	I	1688	HIS
2	I	1691	GLN
2	I	1719	HIS
2	I	1775	HIS
2	I	2127	GLN
2	I	3766	GLN
2	I	3809	ASN
2	I	3830	GLN
2	I	3889	GLN
2	I	3896	ASN
2	I	3946	GLN
2	I	3950	ASN
2	I	3960	GLN
2	I	4034	ASN
2	I	4054	ASN
2	I	4102	GLN
2	I	4120	ASN

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Mol	Chain	Res	Type
2	I	4553	ASN
2	I	4946	GLN
2	G	57	ASN
2	G	71	GLN
2	G	111	HIS
2	G	113	HIS
2	G	273	HIS
2	G	379	HIS
2	G	413	GLN
2	G	479	GLN
2	G	520	ASN
2	G	797	HIS
2	G	1598	GLN
2	G	1679	ASN
2	G	1688	HIS
2	G	1691	GLN
2	G	1719	HIS
2	G	1775	HIS
2	G	2127	GLN
2	G	3766	GLN
2	G	3809	ASN
2	G	3830	GLN
2	G	3889	GLN
2	G	3896	ASN
2	G	3946	GLN
2	G	3950	ASN
2	G	3960	GLN
2	G	4034	ASN
2	G	4054	ASN
2	G	4102	GLN
2	G	4120	ASN
2	G	4553	ASN
2	G	4946	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	B	14
2	E	14
2	I	14
2	G	14

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	4345:UNK	C	4540:PHE	N	73.38
1	E	4345:UNK	C	4540:PHE	N	73.38
1	I	4345:UNK	C	4540:PHE	N	73.38
1	G	4345:UNK	C	4540:PHE	N	73.38
1	B	3613:UNK	C	3639:THR	N	48.21
1	E	3613:UNK	C	3639:THR	N	48.21
1	I	3613:UNK	C	3639:THR	N	48.21
1	G	3613:UNK	C	3639:THR	N	48.21
1	B	4253:GLU	C	4320:UNK	N	27.50

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	4253:GLU	C	4320:UNK	N	27.50
1	I	4253:GLU	C	4320:UNK	N	27.50
1	G	4253:GLU	C	4320:UNK	N	27.50
1	B	3163:UNK	C	3170:UNK	N	16.06
1	E	3163:UNK	C	3170:UNK	N	16.06
1	I	3163:UNK	C	3170:UNK	N	16.06
1	G	3163:UNK	C	3170:UNK	N	16.06
1	B	3063:UNK	C	3134:UNK	N	14.88
1	E	3063:UNK	C	3134:UNK	N	14.88
1	I	3063:UNK	C	3134:UNK	N	14.88
1	G	3063:UNK	C	3134:UNK	N	14.88
1	B	3468:UNK	C	3511:UNK	N	14.29
1	E	3468:UNK	C	3511:UNK	N	14.29
1	I	3468:UNK	C	3511:UNK	N	14.29
1	G	3468:UNK	C	3511:UNK	N	14.29
1	B	2703:UNK	C	2734:ASN	N	13.58
1	E	2703:UNK	C	2734:ASN	N	13.58
1	I	2703:UNK	C	2734:ASN	N	13.58
1	G	2703:UNK	C	2734:ASN	N	13.58
1	B	3236:UNK	C	3241:UNK	N	13.52
1	E	3236:UNK	C	3241:UNK	N	13.52
1	I	3236:UNK	C	3241:UNK	N	13.52
1	G	3236:UNK	C	3241:UNK	N	13.52
1	B	1564:UNK	C	1573:MET	N	12.58
1	E	1564:UNK	C	1573:MET	N	12.58
1	I	1564:UNK	C	1573:MET	N	12.58
1	G	1564:UNK	C	1573:MET	N	12.58
1	B	2976:UNK	C	2995:UNK	N	12.37
1	E	2976:UNK	C	2995:UNK	N	12.37
1	I	2976:UNK	C	2995:UNK	N	12.37
1	G	2976:UNK	C	2995:UNK	N	12.37
1	B	3254:UNK	C	3261:UNK	N	8.09
1	E	3254:UNK	C	3261:UNK	N	8.09
1	I	3254:UNK	C	3261:UNK	N	8.09
1	G	3254:UNK	C	3261:UNK	N	8.09
1	B	1297:UNK	C	1430:UNK	N	5.89
1	I	1297:UNK	C	1430:UNK	N	5.89
1	E	1297:UNK	C	1430:UNK	N	5.88
1	G	1297:UNK	C	1430:UNK	N	5.88
1	B	2479:LEU	C	2487:UNK	N	3.66
1	E	2479:LEU	C	2487:UNK	N	3.66
1	I	2479:LEU	C	2487:UNK	N	3.66

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	2479:LEU	C	2487:UNK	N	3.66
1	B	2939:ARG	C	2942:UNK	N	3.38
1	E	2939:ARG	C	2942:UNK	N	3.38
1	I	2939:ARG	C	2942:UNK	N	3.38
1	G	2939:ARG	C	2942:UNK	N	3.38

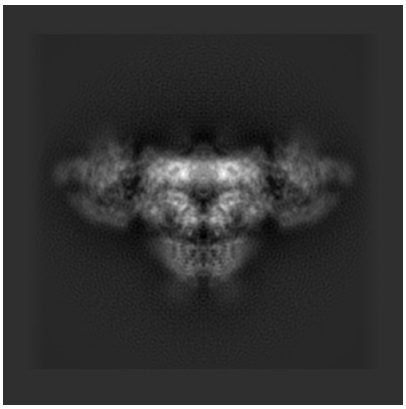
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-8394. These allow visual inspection of the internal detail of the map and identification of artifacts.

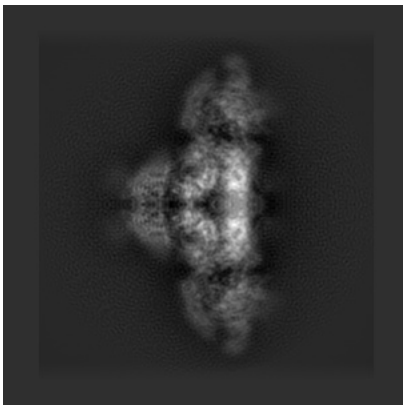
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

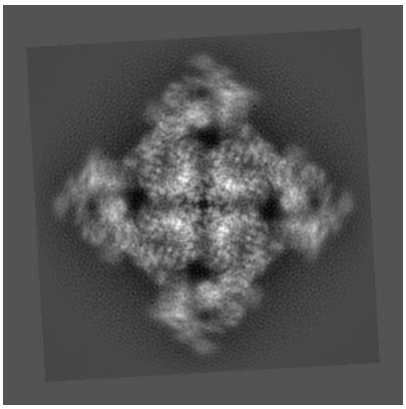
6.1.1 Primary map



X

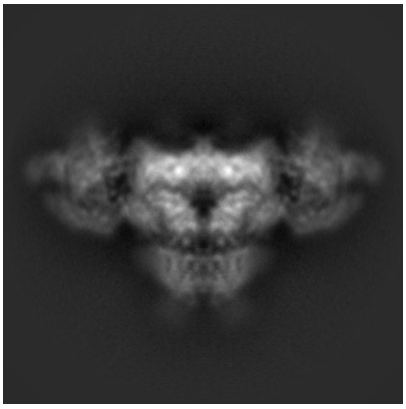


Y

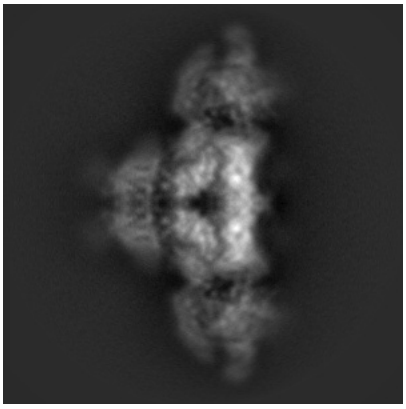


Z

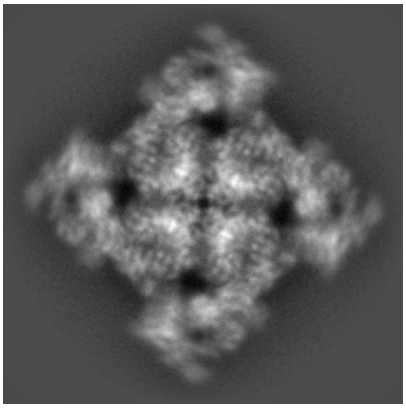
6.1.2 Raw map



X



Y

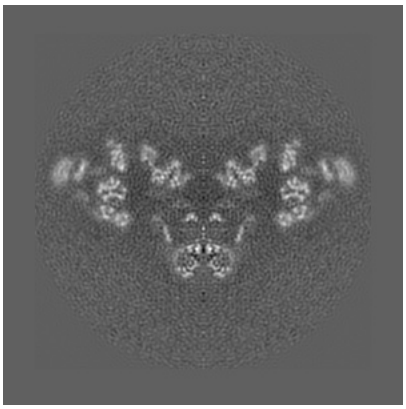


Z

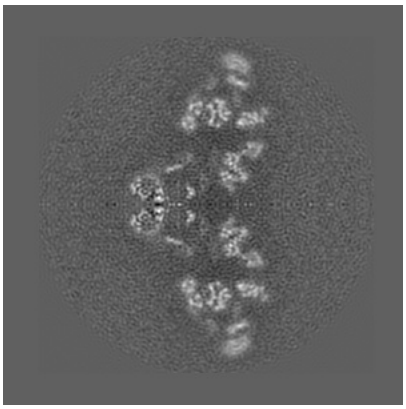
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

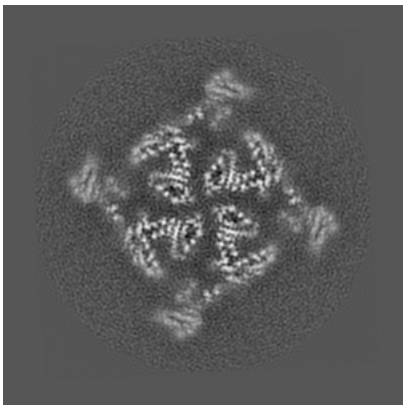
6.2.1 Primary map



X Index: 200

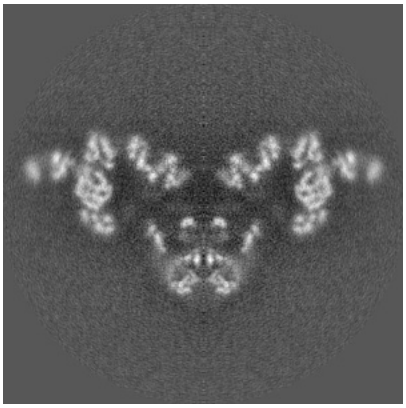


Y Index: 200

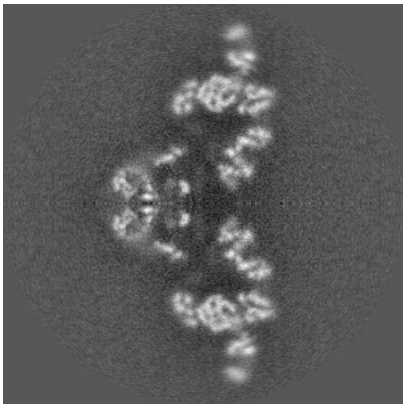


Z Index: 200

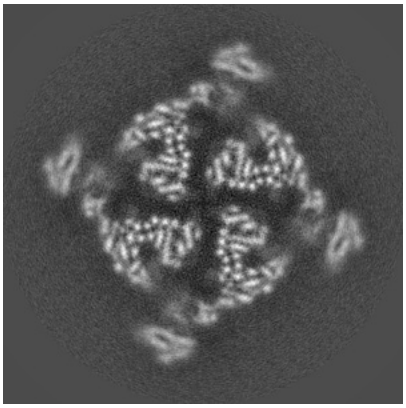
6.2.2 Raw map



X Index: 168



Y Index: 168

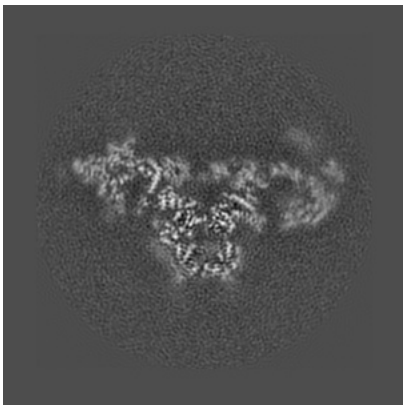


Z Index: 168

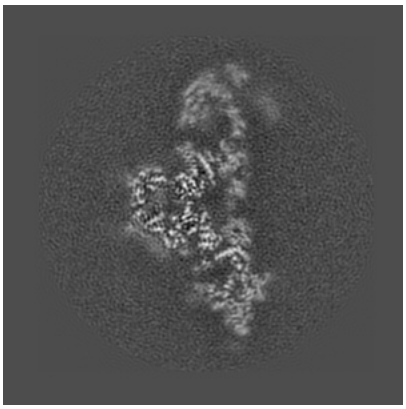
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

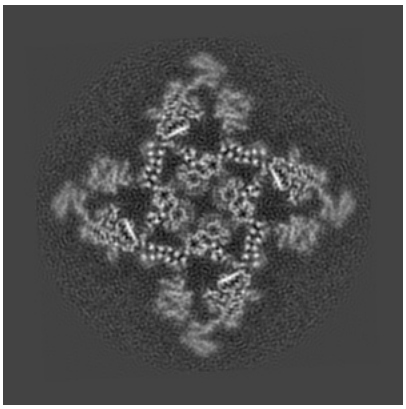
6.3.1 Primary map



X Index: 217

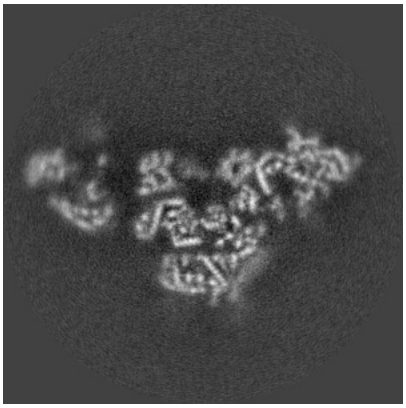


Y Index: 183

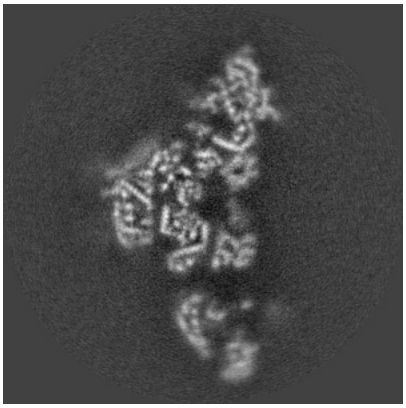


Z Index: 227

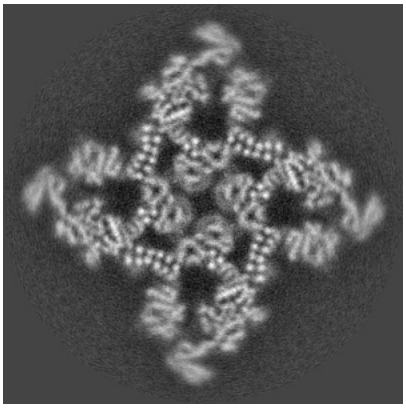
6.3.2 Raw map



X Index: 154



Y Index: 182

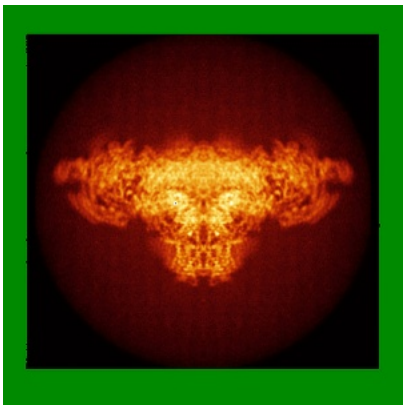


Z Index: 193

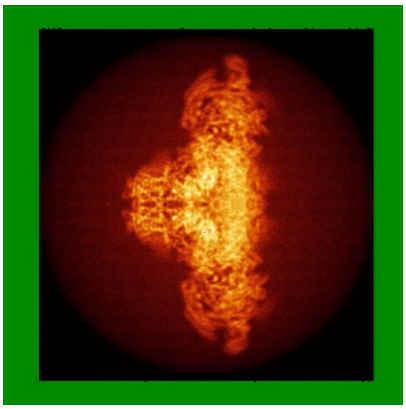
The images above show the largest variance slices of the map in three orthogonal directions.

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

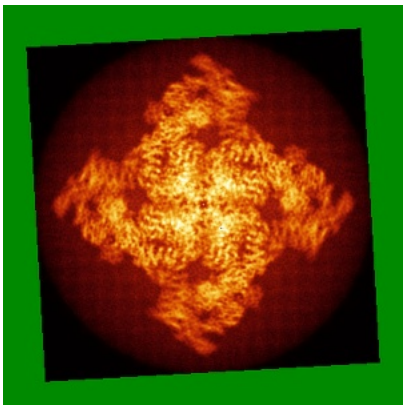
6.4.1 Primary map



X



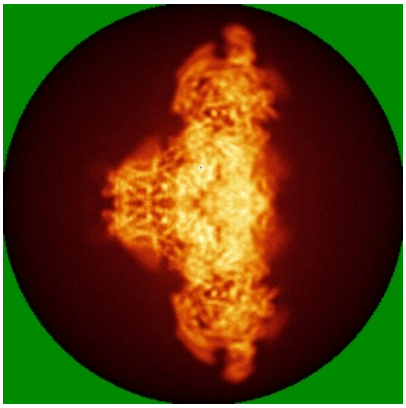
Y



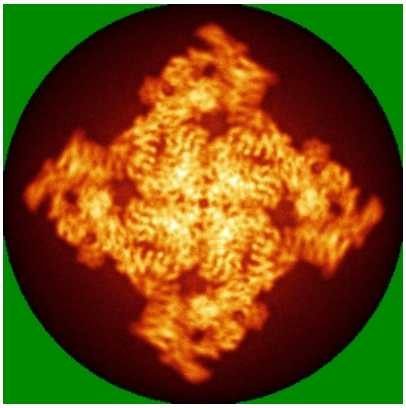
Z

6.4.2 Raw map

X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

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

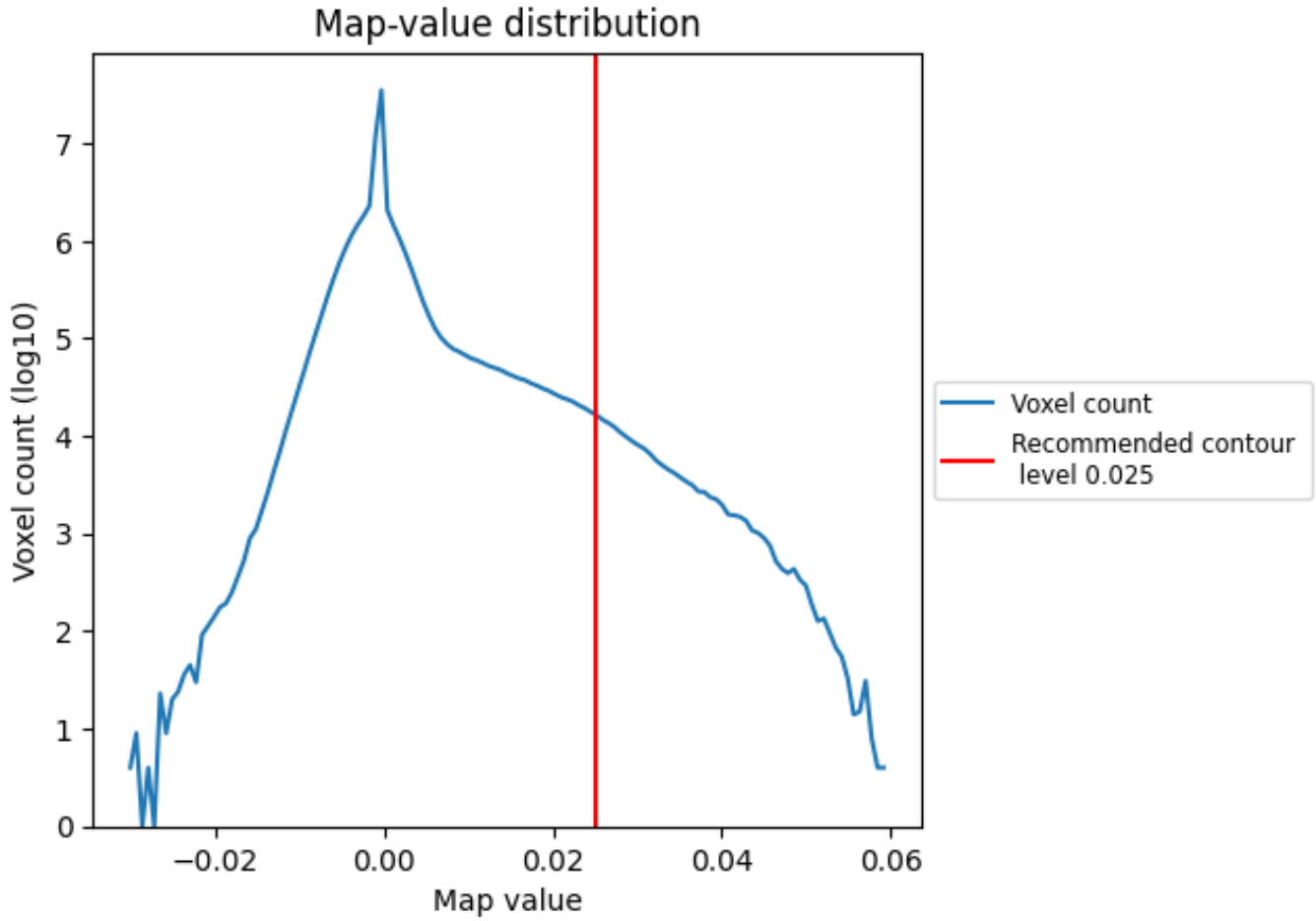
6.6 Mask visualisation (i)

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

7 Map analysis

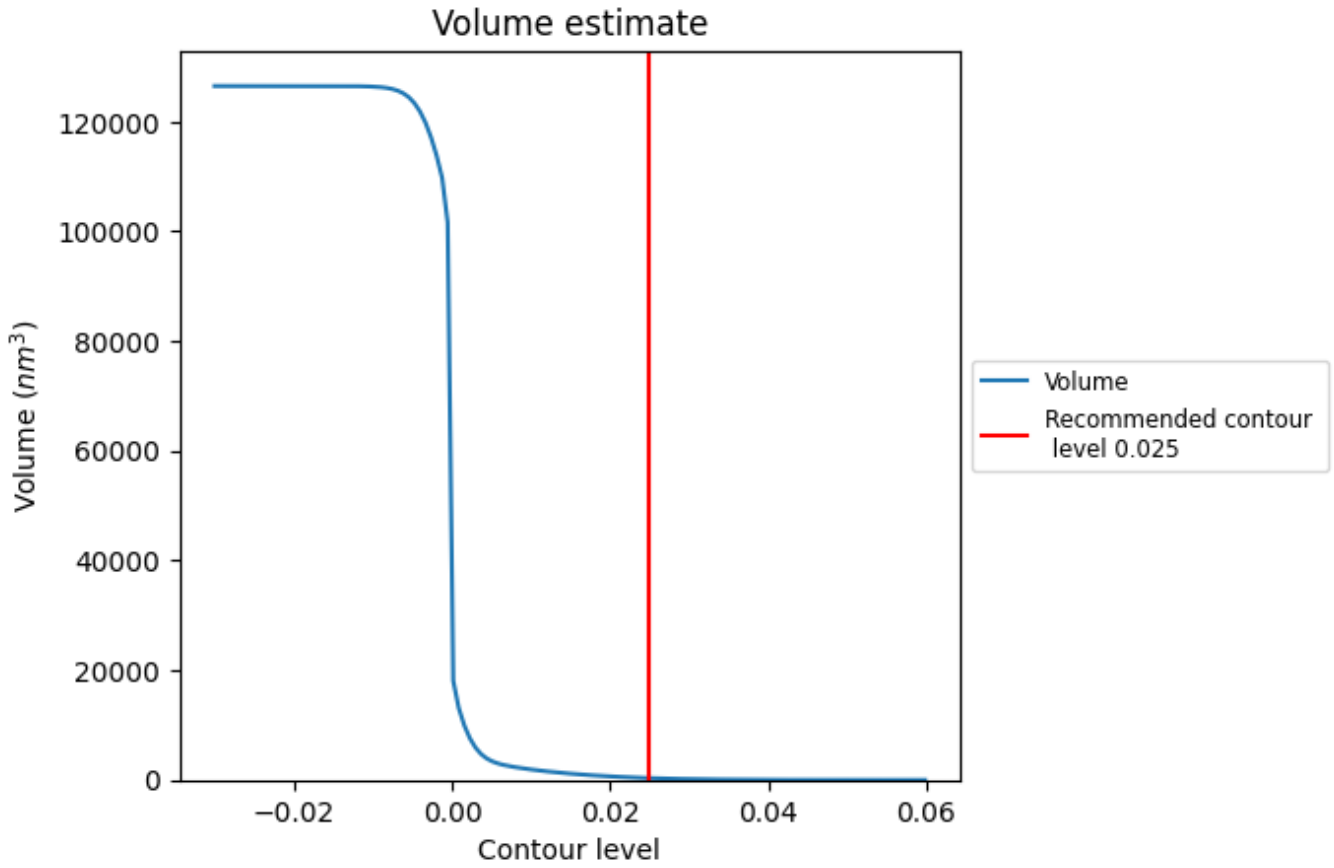
This section contains the results of statistical analysis of the map.

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.

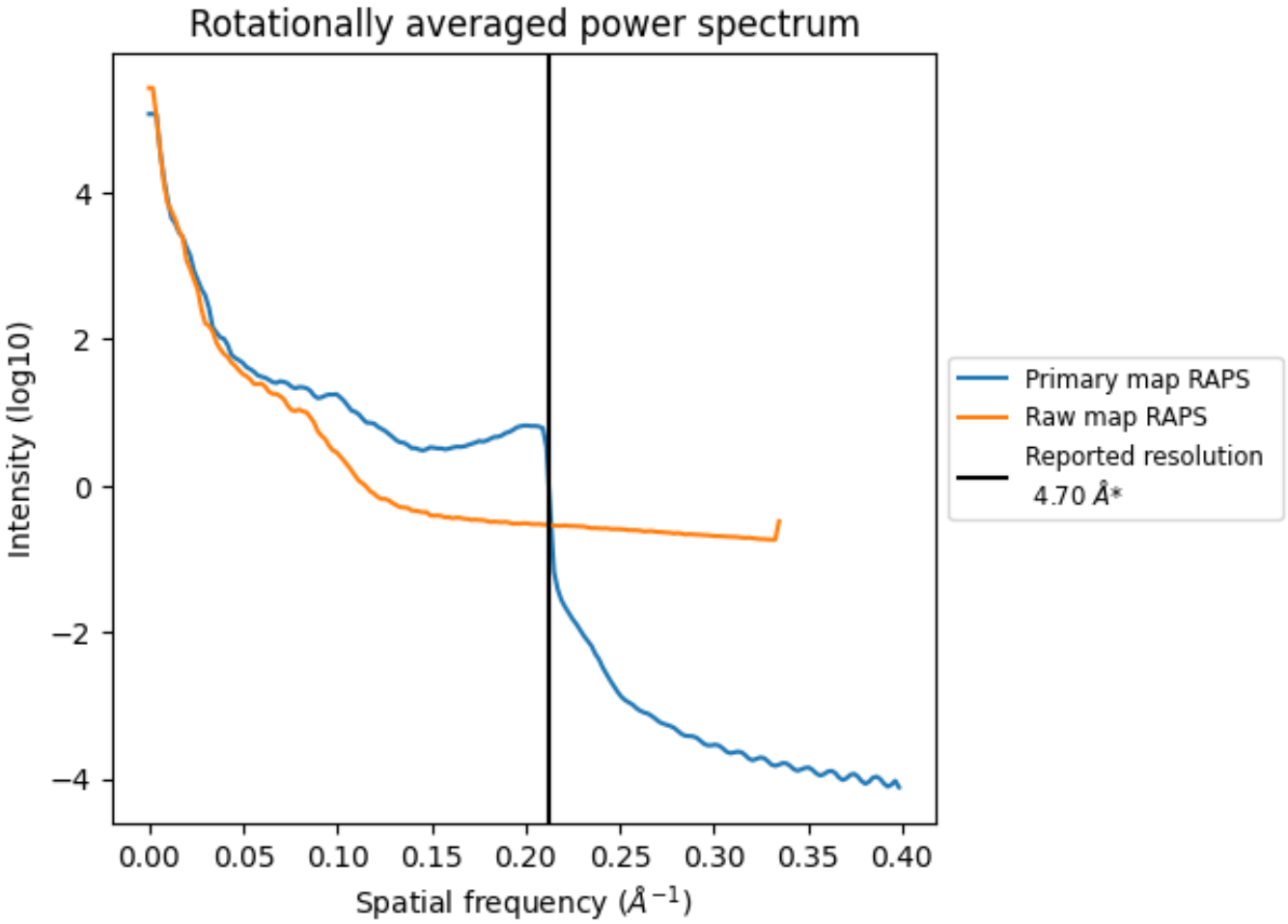
7.2 Volume estimate



The volume at the recommended contour level is 330 nm^3; this corresponds to an approximate mass of 299 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)

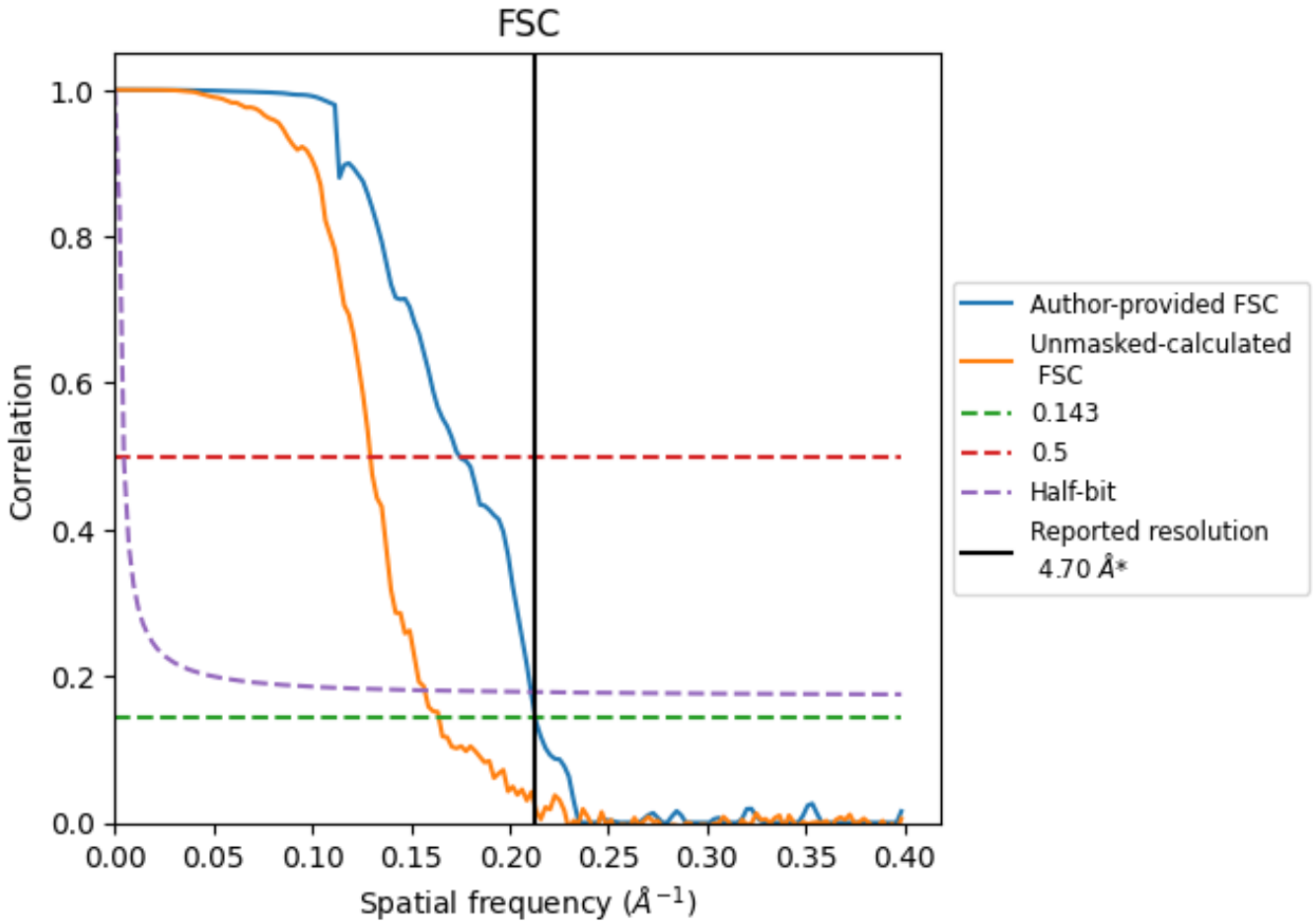


*Reported resolution corresponds to spatial frequency of 0.213 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.213 Å^{-1}

8.2 Resolution estimates (i)

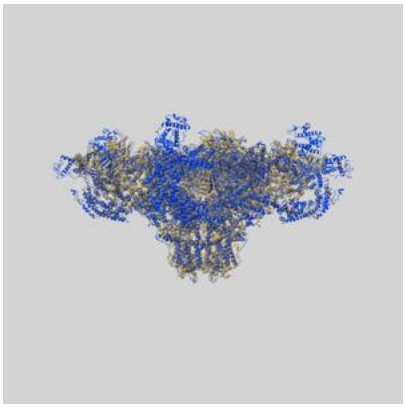
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.70	-	-
Author-provided FSC curve	4.69	5.73	4.74
Unmasked-calculated*	6.09	7.73	6.37

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.09 differs from the reported value 4.7 by more than 10 %

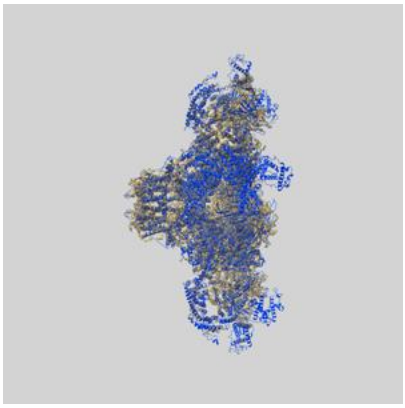
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-8394 and PDB model 5TB3. Per-residue inclusion information can be found in section 3 on page 4.

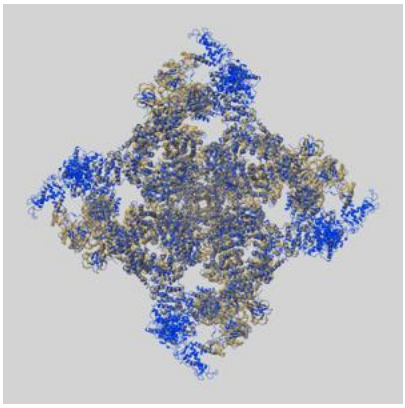
9.1 Map-model overlay



X



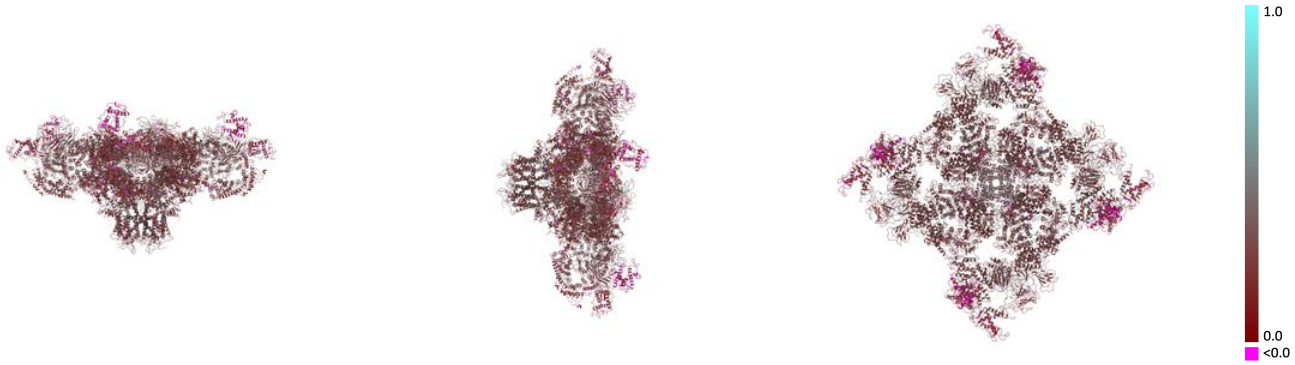
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.025 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.

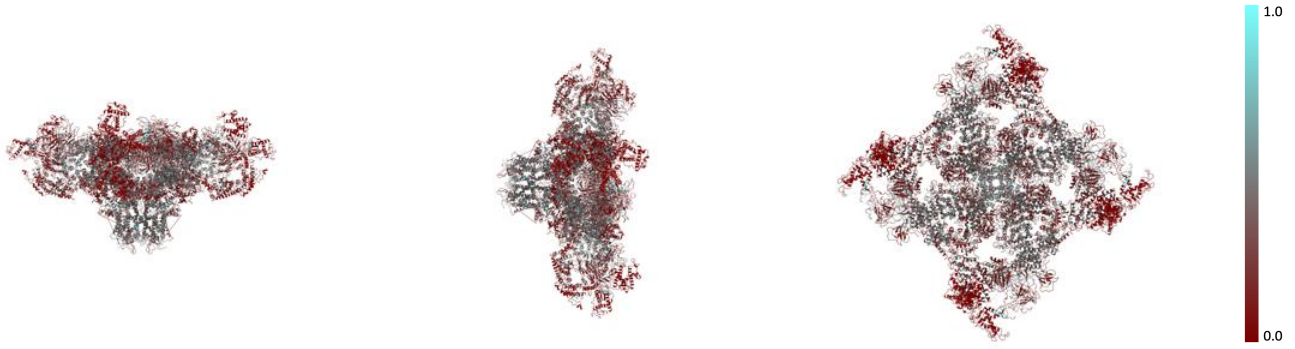
9.2 Q-score mapped to coordinate model



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.

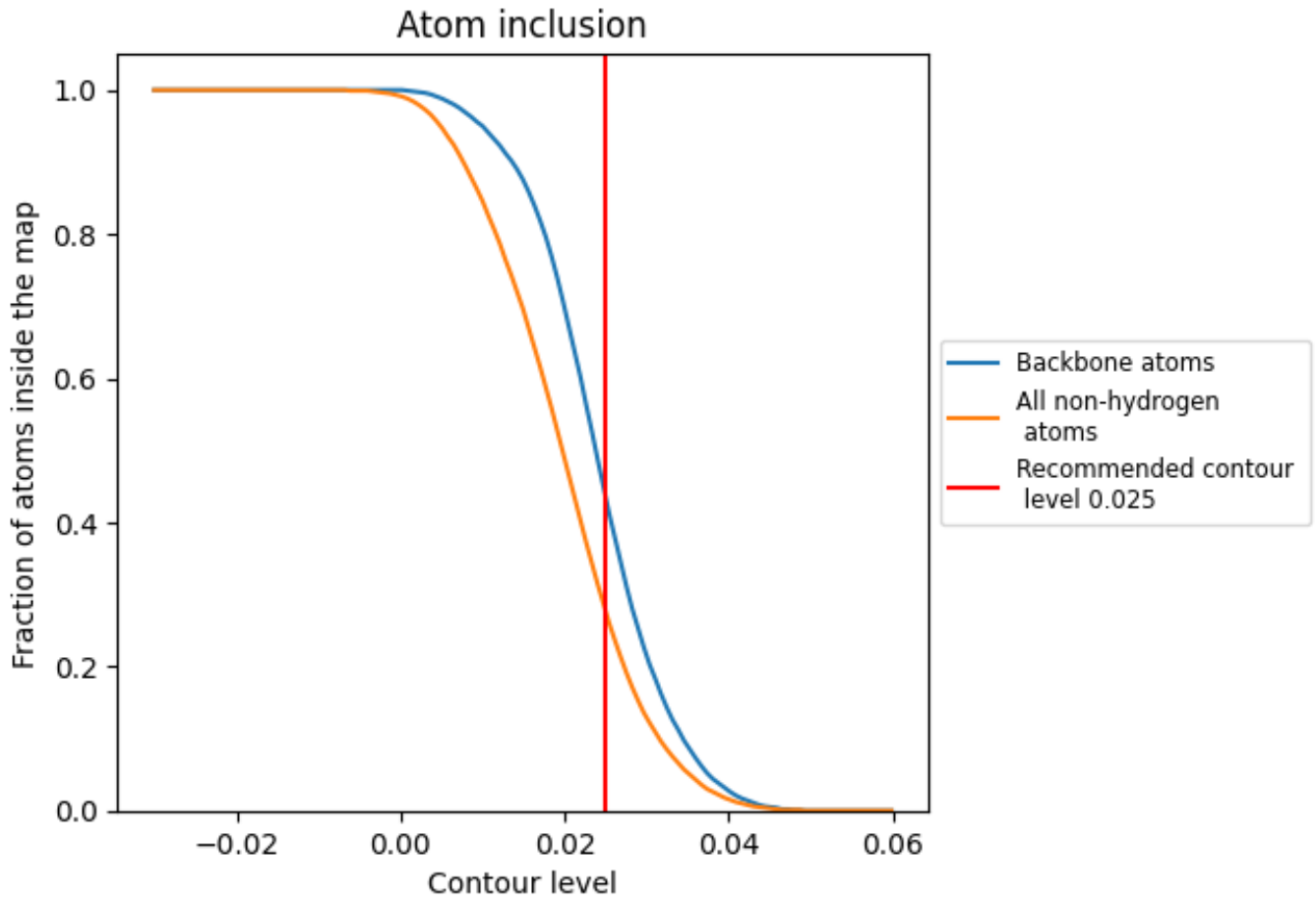
9.3 Atom inclusion mapped to coordinate model



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 (0.025).

9.4 Atom inclusion (i)



At the recommended contour level, 44% of all backbone atoms, 28% 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 (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.2760	0.2630
A	0.2390	0.2880
B	0.2780	0.2620
E	0.2770	0.2620
F	0.2380	0.2900
G	0.2770	0.2620
H	0.2390	0.2920
I	0.2770	0.2620
J	0.2390	0.2900