Full wwPDB EM Validation Report ⓘ

Sep 29, 2025 – 12:26 PM EDT

PDB ID	:	9NMR / pdb_00009nmr
EMDB ID	:	EMD-49538
Title	:	Structure of mouse RyR1 (including auxiliary transmembrane helix TMx; EGTA-only dataset)
Authors	:	Weninger, G.; Marks, A.R.
Deposited on	:	2025-03-04
Resolution	:	2.91 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:

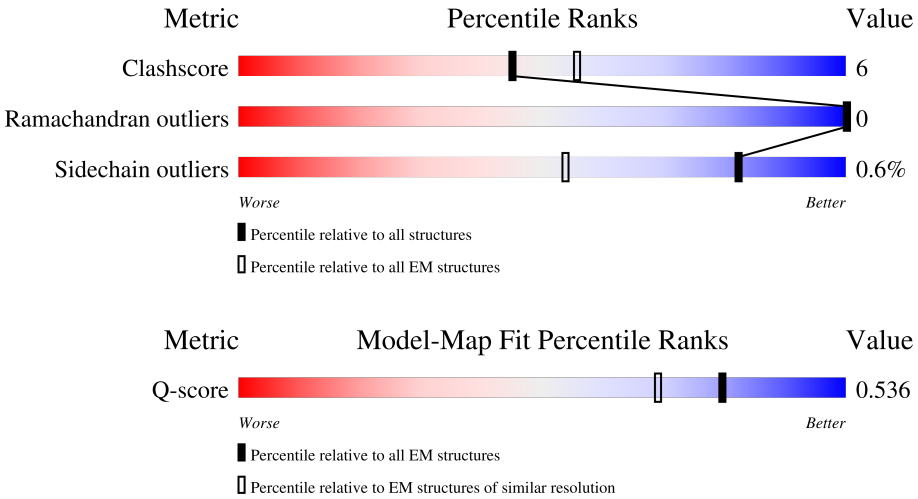
EMDB validation analysis	:	0.0.1.dev129
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

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 2.91 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	12972 (2.41 - 3.41)

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	5035	8% 74% 13% 13%
1	B	5035	8% 74% 13% 13%
1	C	5035	8% 74% 13% 13%
1	D	5035	8% 74% 13% 13%

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Mol	Chain	Length	Quality of chain
2	E	108	91% 8%
2	F	108	89% 10%
2	G	108	90% 9%
2	H	108	91% 8%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 143684 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4397	Total 34983	C 22250	N 6021	O 6475	S 237	1	0
1	B	4397	Total 34983	C 22250	N 6021	O 6475	S 237	1	0
1	C	4397	Total 34983	C 22250	N 6021	O 6475	S 237	1	0
1	D	4397	Total 34983	C 22250	N 6021	O 6475	S 237	1	0

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

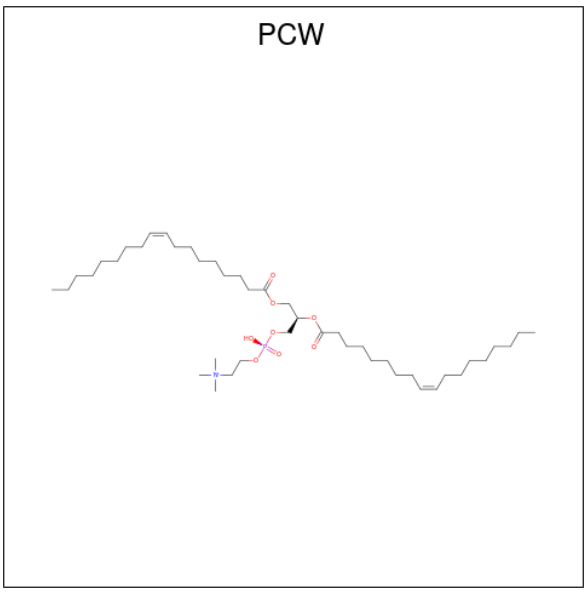
Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	107	Total 829	C 526	N 145	O 155	S 3	0	0
2	F	107	Total 829	C 526	N 145	O 155	S 3	0	0
2	G	107	Total 829	C 526	N 145	O 155	S 3	0	0
2	H	107	Total 829	C 526	N 145	O 155	S 3	0	0

- Molecule 3 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

- Molecule 4 is 1,2-DIOLEOYL-SN-GLYCERO-3-PHOSPHOCHOLINE (CCD ID: PCW)

(formula: $C_{44}H_{85}NO_8P$).



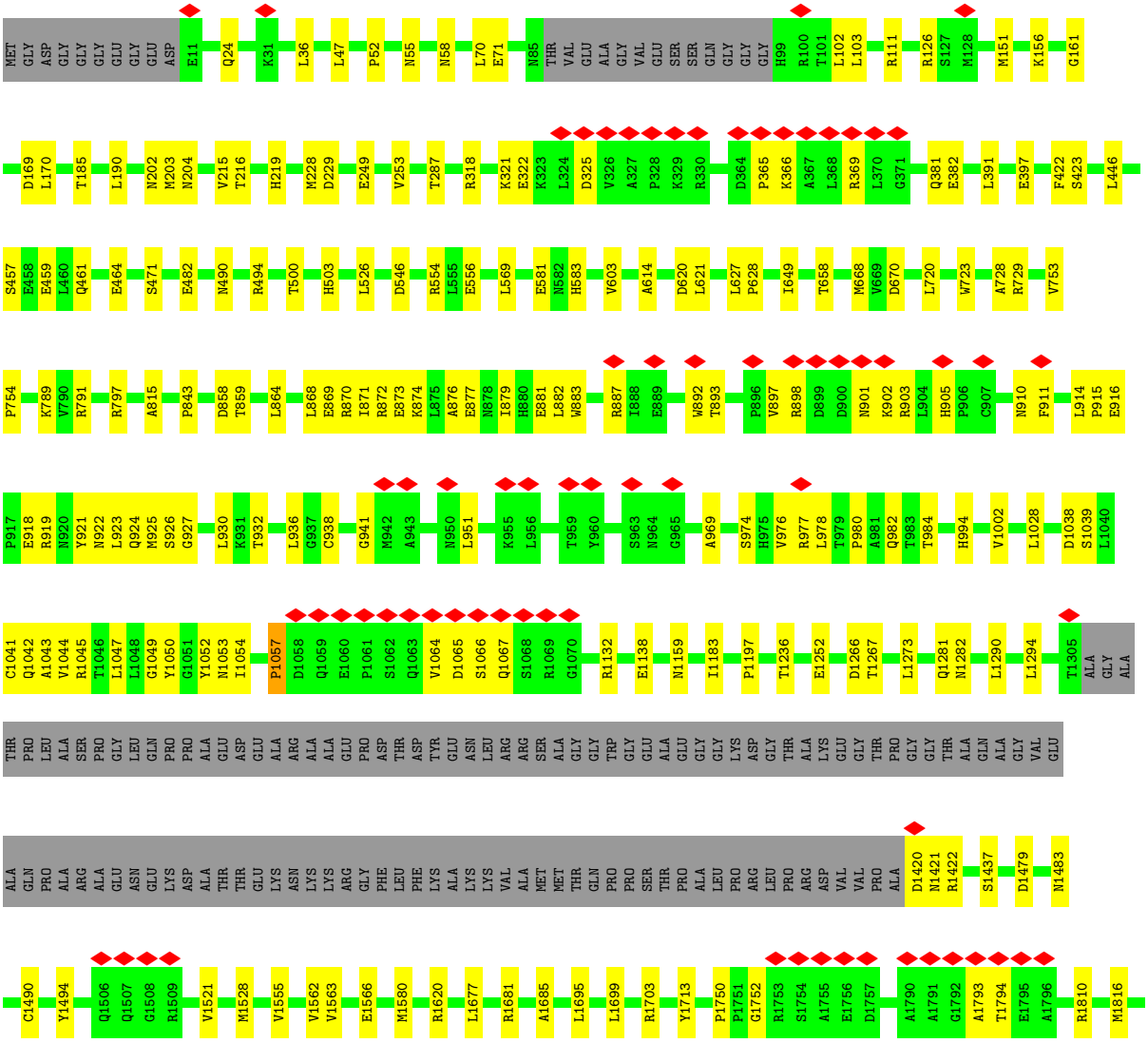
Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total	C	N	O	P	0
			54	44	1	8	1	
4	A	1	Total	C	N	O	P	0
			54	44	1	8	1	
4	B	1	Total	C	N	O	P	0
			54	44	1	8	1	
4	B	1	Total	C	N	O	P	0
			54	44	1	8	1	
4	C	1	Total	C	N	O	P	0
			54	44	1	8	1	
4	C	1	Total	C	N	O	P	0
			54	44	1	8	1	
4	D	1	Total	C	N	O	P	0
			54	44	1	8	1	
4	D	1	Total	C	N	O	P	0
			54	44	1	8	1	

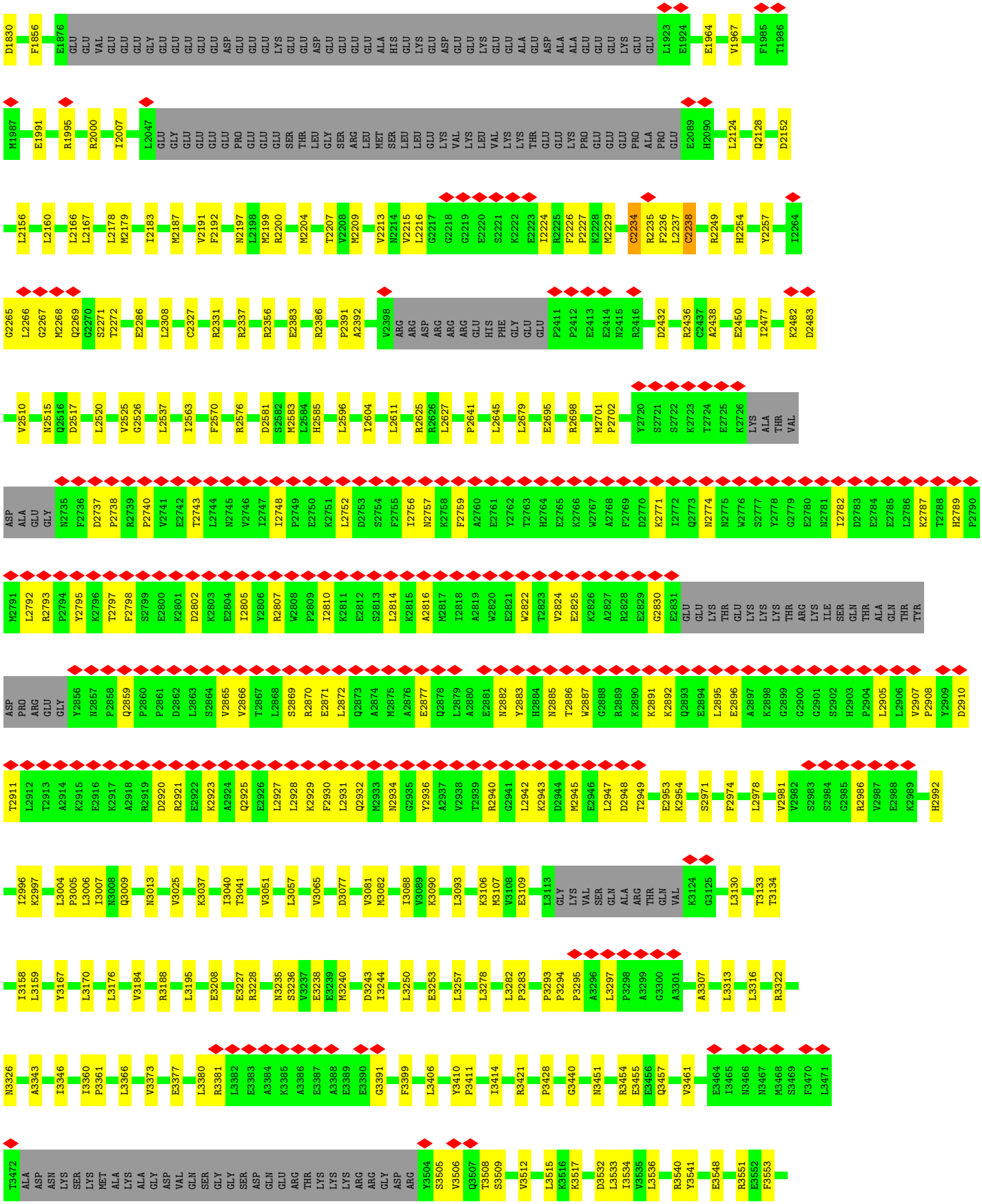
3 Residue-property plots (i)

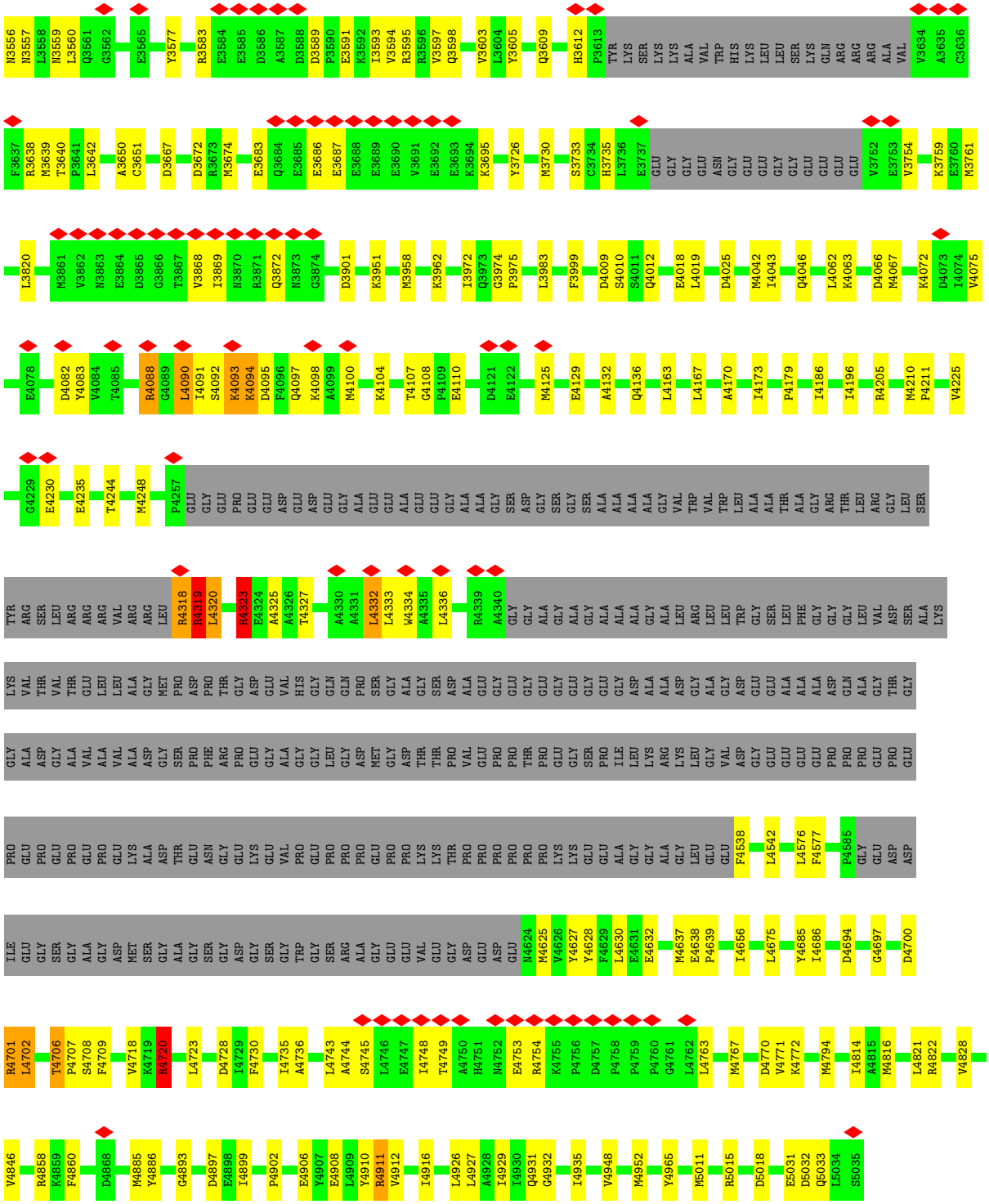
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Ryanodine receptor 1

Chain A:

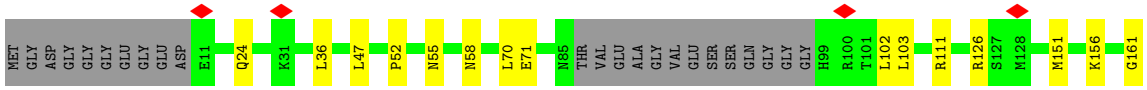


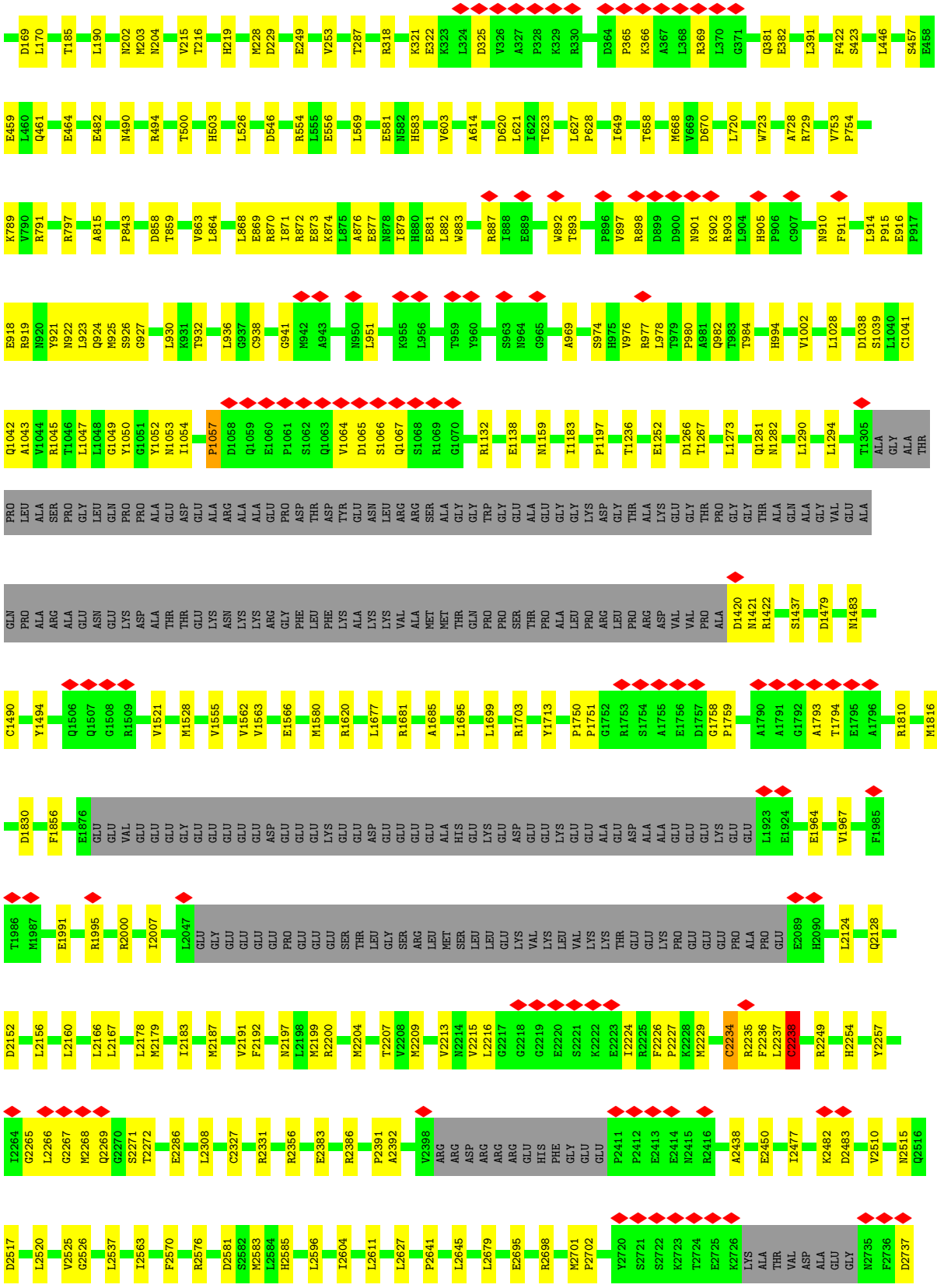

D1830 F1856 E1876 GLU GLU VAL GLU GLU GLU GLU GLY GLU GLU GLU GLU GLU ASP GLU GLU GLU LYS GLU GLU ASP GLU GLU LYS GLU GLU ALA GLU ASP ALA GLU GLU GLU LYS GLU L1923 E1924 E1964 V1967 F1985 T1986
M1987 E1991 R1995 R2000 I2007 L2047 GLU GLY GLU GLU GLU GLU PRO GLU GLU GLU SER THR LEU GLY SER ARG LEU MET SER LEU LEU GLU LYS VAL LYS LEU VAL LYS LYS THR GLU GLU LYS PRO GLU GLU GLU PRO ALA PRO GLU E2089 H2090 L2124 Q2128 D2152
L2156 L2160 L2166 L2167 L2178 M2179 I2183 M2187 V2191 F2192 N2197 L2198 M2199 R2200 M2204 T2207 V2208 M2209 V2213 N2214 V2215 L2216 G2217 G2218 G2219 E2220 S2221 K2222 E2223 I2224 R2225 F2226 P2227 K2228 M2229 C2234 R2235 F2236 L2237 C2238 R2249 H2254 Y2257 I2264
G2265 L2266 G2267 M2268 Q2269 G2270 S2271 T2272 E2286 L2308 C2327 R2331 R2337 R2356 E2383 R2386 P2391 A2392 V2398 ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU P2411 P2412 E2413 E2414 N2415 R2416 D2432 R2436 C2437 A2438 E2450 I2477 K2482 D2483
V2510 N2515 Q2516 D2517 L2520 V2525 G2526 L2537 I2563 F2570 R2576 D2581 S2582 M2583 L2584 H2585 L2596 I2604 L2611 R2625 R2626 L2627 P2641 L2645 L2679 E2695 R2698 M2701 P2702 Y2720 S2721 S2722 K2723 T2724 E2725 K2726 LYS ALA THR VAL
ASP ALA GLU GLY N2735 F2736 D2737 P2738 R2739 P2740 V2741 E2742 T2743 L2744 N2745 V2746 I2747 I2748 P2749 E2750 K2751 L2752 D2753 S2754 F2755 I2756 N2757 K2758 F2759 A2760 E2761 Y2762 T2763 H2764 E2765 K2766 W2767 A2768 F2769 D2770 K2771 I2772 Q2773 N2774 N2775 W2776 S2777 Y2778 G2779 E2780 N2781 I2782 D2783 E2784 E2785 L2786 K2787 T2788 H2789 P2790
M2791 L2792 R2793 P2794 Y2795 K2796 T2797 F2798 S2799 E2800 K2801 D2802 K2803 E2804 I2805 Y2806 R2807 W2808 P2809 I2810 K2811 E2812 S2813 L2814 K2815 A2816 M2817 I2818 A2819 W2820 E2821 W2822 T2823 V2824 E2825 K2826 A2827 R2828 E2829 G2830 E2831 GLU GLU LYS THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR
ASP PRO ARG GLU GLY Y2856 N2857 P2858 Q2859 P2860 P2861 D2862 L2863 S2864 V2865 V2866 T2867 L2868 S2869 R2870 E2871 L2872 Q2873 A2874 M2875 A2876 E2877 Q2878 L2879 A2880 E2881 N2882 Y2883 H2884 N2885 T2886 W2887 G2888 R2889 K2890 K2891 K2892 Q2893 E2894 L2895 E2896 A2897 K2898 G2899 G2900 G2901 H2902 P2903 P2904 L2905 L2906 V2907 P2908 Y2909 D2910
T2911 L2912 T2913 A2914 K2915 E2916 K2917 A2918 R2919 D2920 R2921 E2922 K2923 A2924 Q2925 E2926 L2927 L2928 K2929 F2930 L2931 Q2932 M2933 N2934 G2935 Y2936 A2937 V2938 T2939 R2940 G2941 L2942 K2943 D2944 M2945 E2946 L2947 D2948 T2949 E2953 K2954 S2971 F2974 L2978 V2981 S2982 S2983 S2984 G2985 R2986 V2987 E2988 K2989 H2992
I2996 K2997 L3004 P3005 L3006 I3007 N3008 Q3009 N3013 V3025 K3037 I3040 T3041 V3051 L3057 V3065 D3077 V3081 M3082 I3088 V3089 K3090 L3093 K3106 M3107 V3108 E3109 L3113 GLY LYS VAL SER GLN ALA ARG THR GLN VAL K3124 G3125 L3130 T3133 T3134
I3158 L3159 Y3167 L3170 L3176 V3184 R3188 L3195 E3208 E3227 R3228 N3235 S3236 V3237 E3238 E3239 M3240 D3243 I3244 L3250 E3253 L3257 L3278 L3282 P3283 P3293 P3294 P3295 A3296 L3297 P3298 A3299 G3300 A3301 A3307 L3313 L3316 R3322
N3326 A3343 I3346 I3360 P3361 L3366 V3373 E3377 L3380 R3381 L3382 E3383 A3384 K3385 A3386 E3387 A3388 E3389 E3390 G3391 F3399 L3406 Y3410 P3411 I3414 R3421 P3428 G3440 N3451 R3454 E3455 E3456 Q3457 V3461 E3464 I3465 N3466 N3467 M3468 S3469 F3470 L3471
T3472 ALA ASP ASN LYS SER LYS MET ALA LYS ALA GLY ASP VAL GLN SER GLY GLY SER ASP GLN GLU ARG THR LYS LYS ARG ARG GLY ASP ARG Y3504 S3505 V3506 Q3507 T3508 S3509 V3512 L3515 K3516 K3517 D3532 L3533 I3534 V3535 L3536 R3540 Y3541 E3548 R3551 E3552 F3553

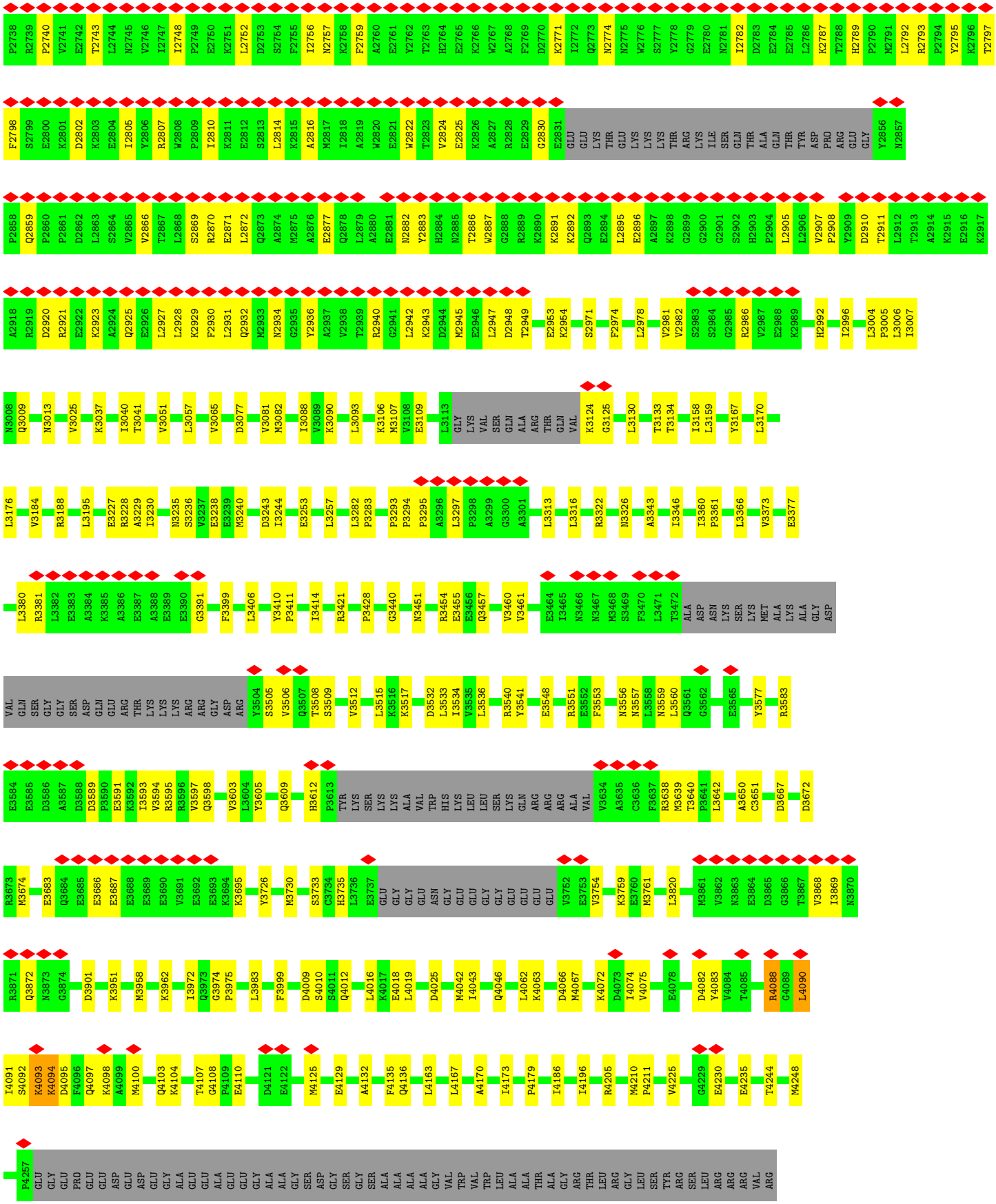


• Molecule 1: Ryanodine receptor 1

Chain B:



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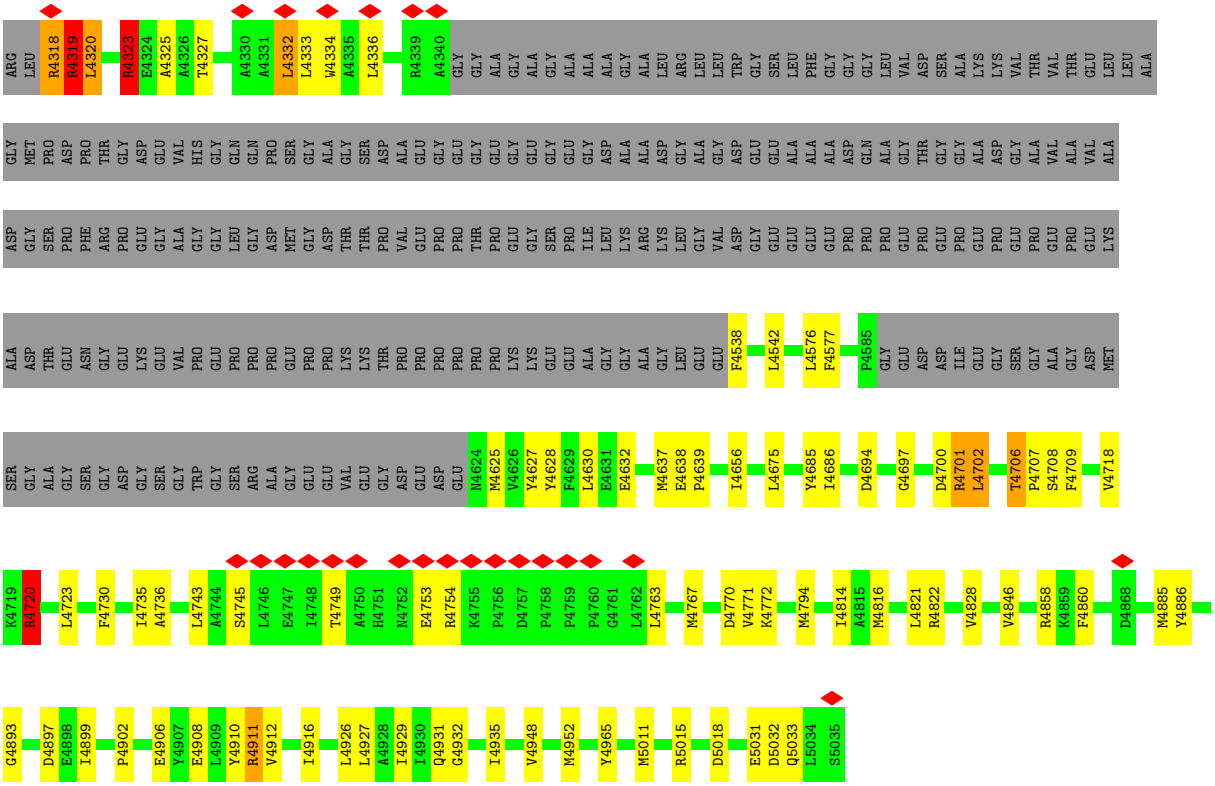
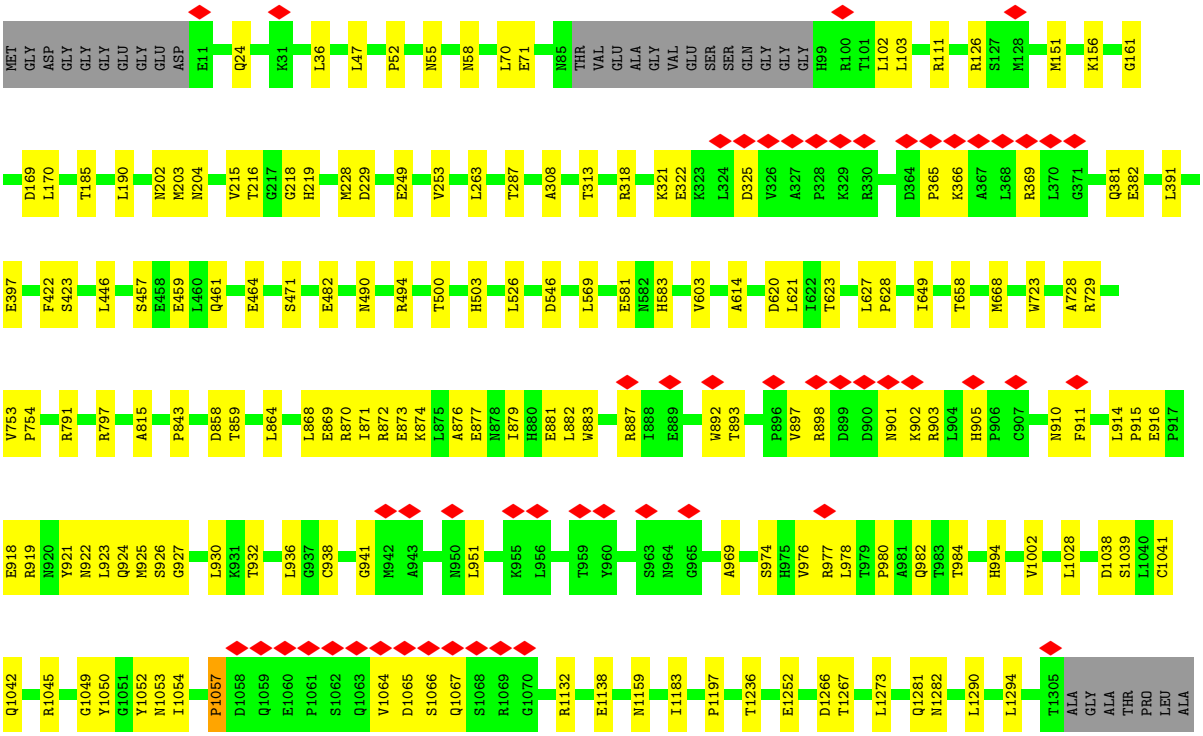
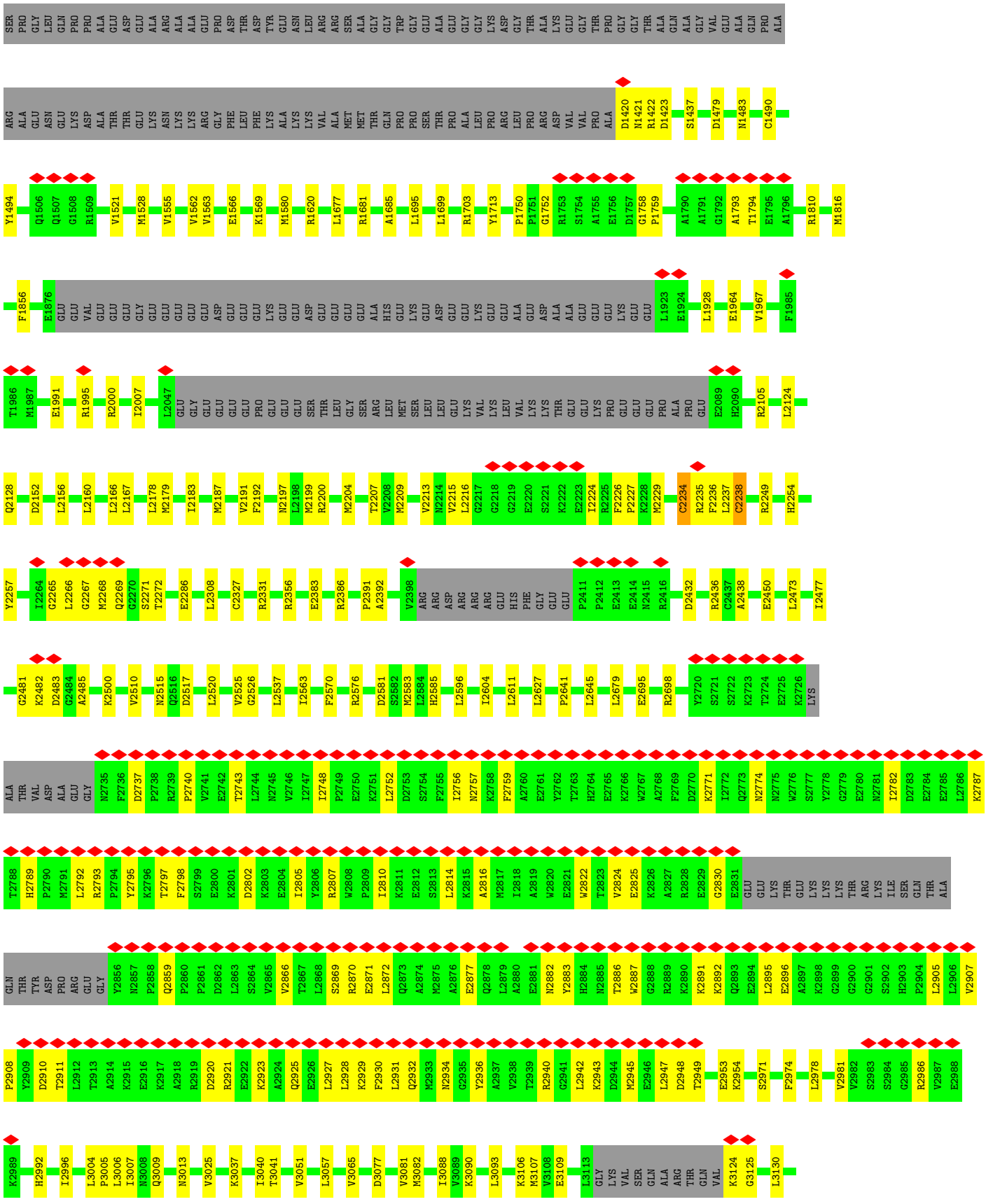
F2798 S2799 E2800 K2801 D2802 K2803 E2804 I2805 Y2806 R2807 W2808 P2809 I2810 K2811 E2812 S2813 L2814 K2815 A2816 M2817 I2818 A2819 W2820 E2821 W2822 T2823 V2824 E2825 K2826 A2827 R2828 E2829 G2830 E2831 GLU GLU LYS THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2856 N2857
P2858 Q2859 P2860 P2861 D2862 L2863 S2864 V2865 V2866 T2867 L2868 S2869 R2870 E2871 L2872 Q2873 A2874 M2875 A2876 E2877 Q2878 L2879 A2880 E2881 N2882 Y2883 H2884 N2885 T2886 W2887 G2888 R2889 K2890 K2891 K2892 Q2893 E2894 L2895 E2896 A2897 K2898 G2899 G2900 G2901 S2902 H2903 P2904 L2905 L2906 V2907 P2908 Y2909 D2910 T2911 L2912 T2913 A2914 K2915 E2916 K2917
A2918 R2919 D2920 R2921 E2922 K2923 A2924 Q2925 E2926 L2927 L2928 K2929 F2930 L2931 Q2932 M2933 N2934 G2935 Y2936 A2937 V2938 T2939 R2940 G2941 L2942 K2943 D2944 M2945 E2946 L2947 D2948 T2949 E2953 K2954 S2971 F2974 L2978 V2981 V2982 S2983 S2984 G2985 R2986 V2987 E2988 K2989 H2992 I2996 L3004 P3005 L3006 I3007
N3008 Q3009 N3013 V3025 K3037 I3040 T3041 V3051 L3057 V3065 D3077 V3081 M3082 I3088 V3089 K3090 L3093 K3106 M3107 V3108 E3109 L3113 GLY LYS VAL SER GLN ALA ARG THR GLN VAL K3124 G3125 L3130 T3133 T3134 I3158 L3159 Y3167 L3170
L3176 V3184 R3188 L3195 E3227 R3228 A3229 I3230 N3235 S3236 V3237 E3238 E3239 M3240 D3243 I3244 E3253 L3257 L3282 P3283 P3293 P3294 P3295 A3296 L3297 P3298 A3299 G3300 A3301 L3313 L3316 R3322 N3326 A3343 I3346 I3360 P3361 L3366 V3373 E3377
L3380 R3381 L3382 E3383 A3384 K3385 A3386 E3387 A3388 E3389 E3390 G3391 F3399 L3406 Y3410 P3411 I3414 R3421 P3428 G3440 N3451 R3454 E3455 E3456 Q3457 V3460 V3461 E3464 I3465 N3466 N3467 M3468 S3469 F3470 L3471 T3472 ALA ASP ASN LYS SER LYS MET ALA LYS ALA GLY ASP
VAL GLN SER GLY GLY SER ASP GLN GLU ARG THR LYS LYS LYS ARG ARG GLY ASP ARG Y3504 S3505 V3506 Q3507 T3508 S3509 V3512 L3515 K3516 K3517 D3532 L3533 I3534 V3535 L3536 R3540 Y3541 E3548 R3551 E3552 F3553 N3556 N3557 L3558 N3559 L3560 Q3561 G3562 E3565 Y3577 R3583
E3584 E3585 D3586 A3587 D3588 D3589 P3590 E3591 K3592 I3593 V3594 R3595 R3596 V3597 Q3598 V3603 L3604 Y3605 Q3609 H3612 P3613 TYR LYS SER LYS LYS ALA VAL TRP HIS LYS LEU LEU SER LYS GLN ARG ARG ARG ALA VAL V3634 A3635 C3636 F3637 R3638 M3639 T3640 P3641 L3642 A3650 C3651 D3667 D3672
R3673 M3674 E3683 Q3684 E3685 E3686 E3687 E3688 E3689 E3690 V3691 E3692 E3693 K3694 K3695 Y3726 M3730 S3733 C3734 H3735 L3736 E3737 GLU GLY GLY GLU ASN GLY GLU GLU GLY GLY GLU GLU GLU GLU V3752 E3753 V3754 K3759 E3760 M3761 L3820 M3861 V3862 N3863 E3864 D3865 G3866 T3867 V3868 I3869 N3870
R3871 Q3872 N3873 G3874 D3901 K3951 M3958 K3962 I3972 Q3973 G3974 P3975 L3983 F3999 D4009 S4010 S4011 Q4012 L4016 K4017 E4018 L4019 D4025 M4042 I4043 Q4046 L4062 K4063 D4066 M4067 K4072 D4073 I4074 V4075 E4078 D4082 Y4083 V4084 T4085 R4088 G4089 L4090
I4091 S4092 K4093 K4094 D4095 P4096 Q4097 K4098 A4099 M4100 Q4103 K4104 T4107 G4108 P4109 E4110 D4121 E4122 M4125 E4129 A4132 F4135 Q4136 L4163 L4167 A4170 I4173 P4179 I4186 I4196 R4205 M4210 P4211 V4225 G4229 E4230 E4235 T4244 M4248
P4257 GLU GLY GLU PRO GLU GLU ASP GLU ASP GLU GLY ALA GLU GLU ALA GLU GLU GLY ALA ALA GLY SER ASP GLY SER GLY SER ALA ALA ALA ALA ALA GLY VAL TRP VAL TRP LEU ALA ALA ALA THR ALA GLY ARG THR LEU ARG GLY LEU SER TYR ARG SER LEU ARG ARG ARG VAL ARG

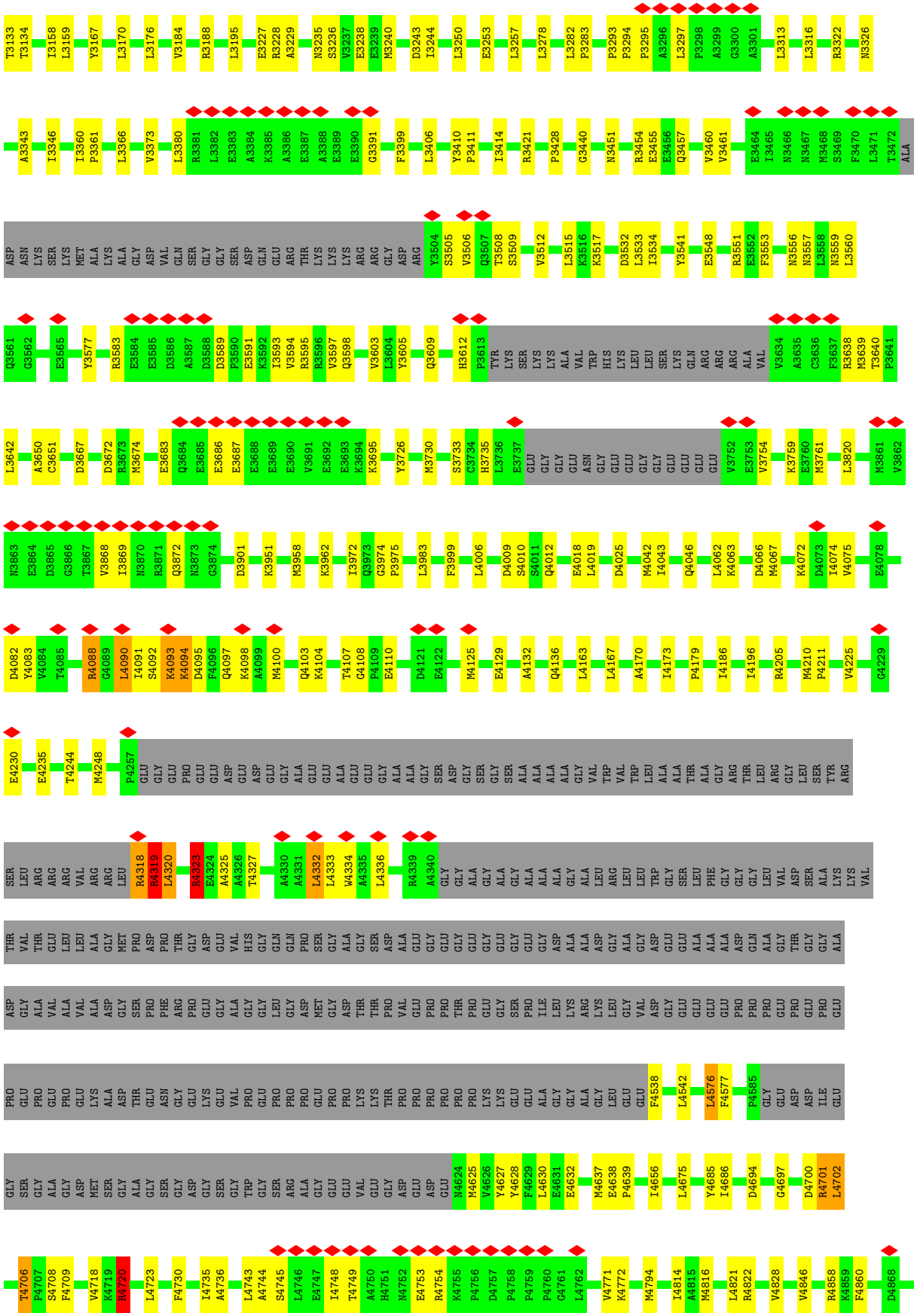


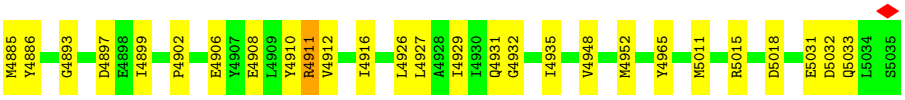
• Molecule 1: Ryanodine receptor 1

Chain C:



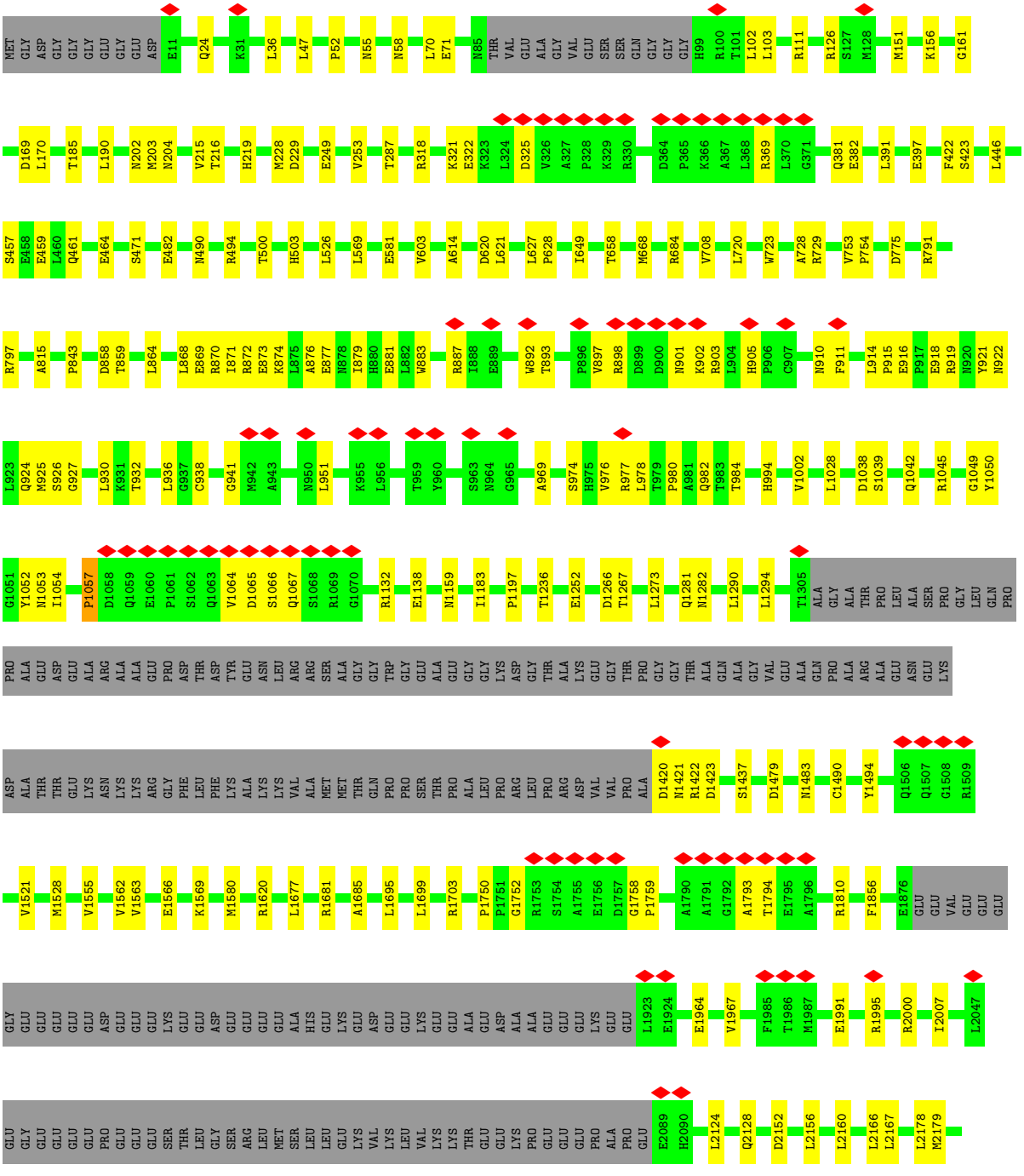

SER PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU GLU ALA ARG ALA ALA ALA GLU PRO ASP THR ASP TYR GLU ASN LEU ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS ASP GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR ALA GLN ALA GLY VAL GLU ALA GLN PRO ALA
ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS VAL ALA MET MET THR GLN PRO PRO SER THR PRO ALA PRO ALA LEU PRO ARG LEU PRO ARG ASP VAL VAL PRO ALA D1420 N1421 R1422 D1423 S1437 D1479 N1483 C1490
Y1494 Q1506 Q1507 G1508 R1509 V1521 M1528 V1555 V1562 V1563 E1566 K1569 M1580 R1620 L1677 R1681 A1685 L1695 L1699 R1703 Y1713 P1750 P1751 G1752 R1753 S1764 A1755 E1756 D1757 G1758 P1759 A1790 A1791 G1792 A1793 T1794 E1795 A1796 R1810 M1816
F1856 E1876 GLU GLU VAL GLU GLU GLU GLY GLU GLU GLU GLU GLU GLU ASP GLU GLU GLU GLU GLU LYS GLU GLU GLU ASP GLU GLU GLU GLU GLU ALA GLU GLU ASP ALA ALA GLU GLU GLU LYS GLU GLU L1923 E1924 L1928 E1964 V1967 F1985
T1986 M1987 E1991 R1995 R2000 I2007 L2047 GLU GLY GLU GLU GLU PRO GLU GLU GLU SER THR LEU GLY SER ARG LEU MET SER LEU LEU GLU LYS VAL LYS LEU VAL LYS LYS THR GLU GLU LYS PRO GLU GLU GLU PRO ALA PRO GLU E2089 H2090 R2105 L2124
Q2128 D2152 L2156 L2160 L2166 L2167 L2178 M2179 I2183 M2187 V2191 F2192 N2197 L2198 M2199 R2200 M2204 T2207 V2208 M2209 V2213 N2214 V2215 L2216 G2217 G2218 G2219 E2220 S2221 K2222 E2223 I2224 R2225 F2226 P2227 K2228 M2229 C2234 R2235 F2236 L2237 C2238 R2249 H2254
Y2257 I2264 G2265 L2266 G2267 M2268 Q2269 G2270 S2271 T2272 E2286 L2308 C2327 R2331 R2356 E2383 R2386 P2391 A2392 V2398 ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU P2411 P2412 E2413 E2414 N2415 R2416 D2432 R2436 C2437 A2438 E2450 L2473 I2477
G2481 K2482 D2483 G2484 A2485 K2500 V2510 M2515 Q2516 D2517 L2520 V2525 G2526 L2537 I2563 F2570 R2576 D2581 S2582 M2583 L2584 H2585 L2596 I2604 L2611 L2627 P2641 L2645 L2679 E2695 R2698 Y2720 S2721 S2722 K2723 T2724 E2725 K2726 LYS
ALA THR VAL ASP ALA GLU GLY M2735 F2736 D2737 P2738 R2739 P2740 V2741 E2742 T2743 L2744 N2745 V2746 I2747 I2748 P2749 E2750 K2751 L2752 D2753 S2754 F2755 I2756 N2757 K2758 F2759 A2760 E2761 Y2762 T2763 H2764 E2765 K2766 W2767 A2768 F2769 D2770 K2771 I2772 Q2773 N2774 N2775 W2776 S2777 Y2778 G2779 E2780 N2781 I2782 D2783 E2784 E2785 L2786 K2787
T2788 H2789 P2790 M2791 L2792 R2793 P2794 Y2795 K2796 T2797 F2798 S2799 E2800 K2801 D2802 K2803 E2804 I2805 Y2806 R2807 W2808 P2809 I2810 K2811 E2812 S2813 L2814 K2815 A2816 M2817 I2818 A2819 A2820 E2821 W2822 T2823 V2824 E2825 K2826 A2827 R2828 E2829 G2830 E2831 GLU GLU LYS THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA
GLN THR TYR ASP PRO ARG GLU GLY Y2856 N2857 P2858 Q2859 P2860 P2861 D2862 L2863 S2864 V2865 V2866 T2867 L2868 S2869 R2870 E2871 L2872 Q2873 A2874 M2875 A2876 E2877 Q2878 L2879 A2880 E2881 N2882 Y2883 H2884 N2885 T2886 W2887 G2888 R2889 K2890 K2891 K2892 Q2893 E2894 L2895 E2896 A2897 K2898 G2899 G2900 G2901 S2902 H2903 P2904 L2905 L2906 V2907
P2908 Y2909 D2910 T2911 L2912 T2913 A2914 K2915 E2916 K2917 A2918 R2919 D2920 R2921 E2922 K2923 A2924 Q2925 E2926 L2927 L2928 K2929 F2930 L2931 Q2932 M2933 N2934 G2935 Y2936 A2937 V2938 T2939 R2940 G2941 L2942 K2943 D2944 M2945 E2946 L2947 D2948 T2949 E2953 K2954 S2971 F2974 L2978 V2981 V2982 S2983 S2984 G2985 R2986 V2987 E2988
K2989 H2992 I2996 L3004 P3005 L3006 I3007 N3008 Q3009 N3013 V3025 K3037 I3040 T3041 V3051 L3057 V3065 D3077 V3081 M3082 I3088 V3089 K3090 L3093 K3106 M3107 V3108 E3109 L3113 GLY LYS VAL SER GLN ALA ARG THR GLN VAL K3124 G3125 L3130

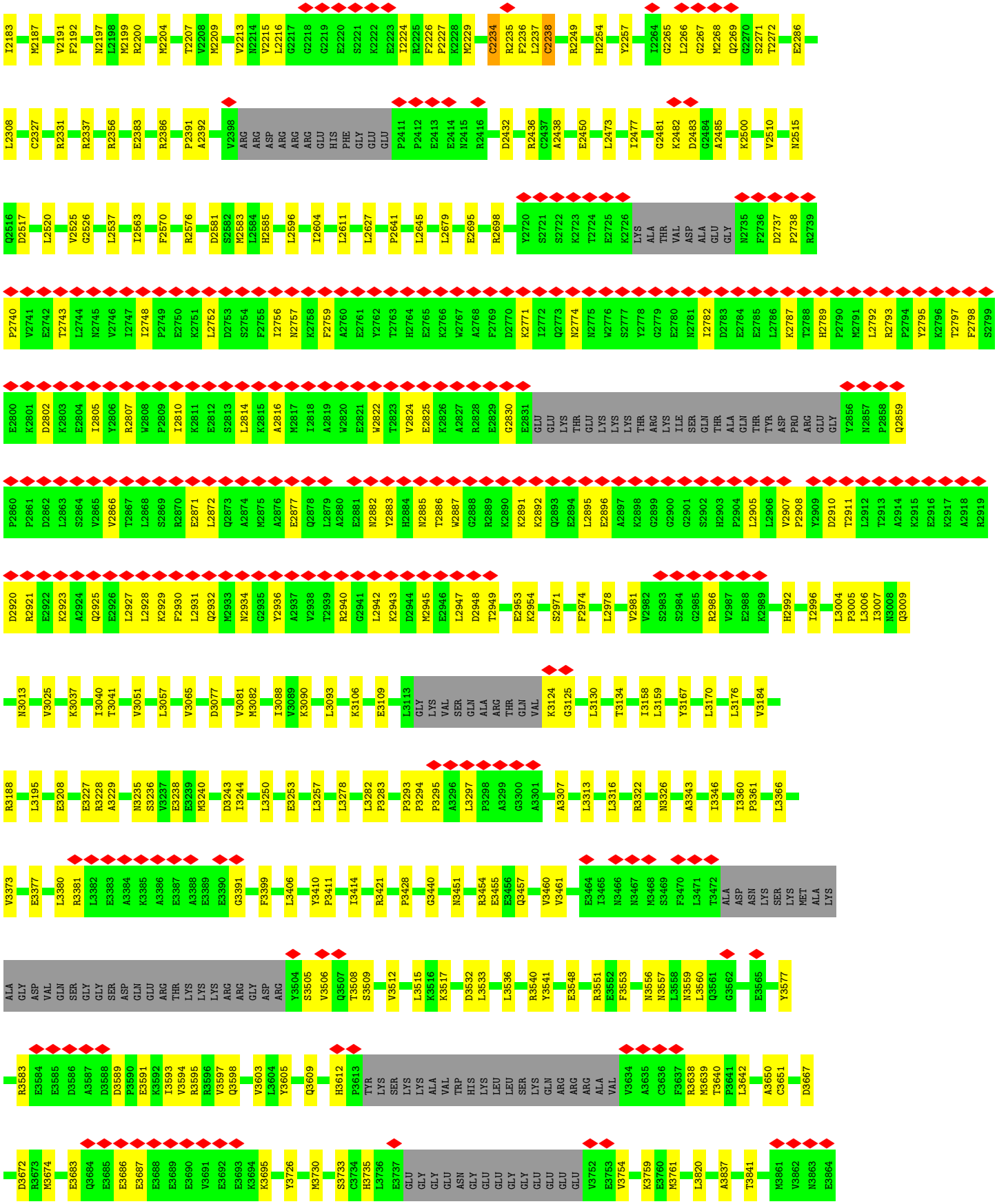




• Molecule 1: Ryanodine receptor 1

Chain D:

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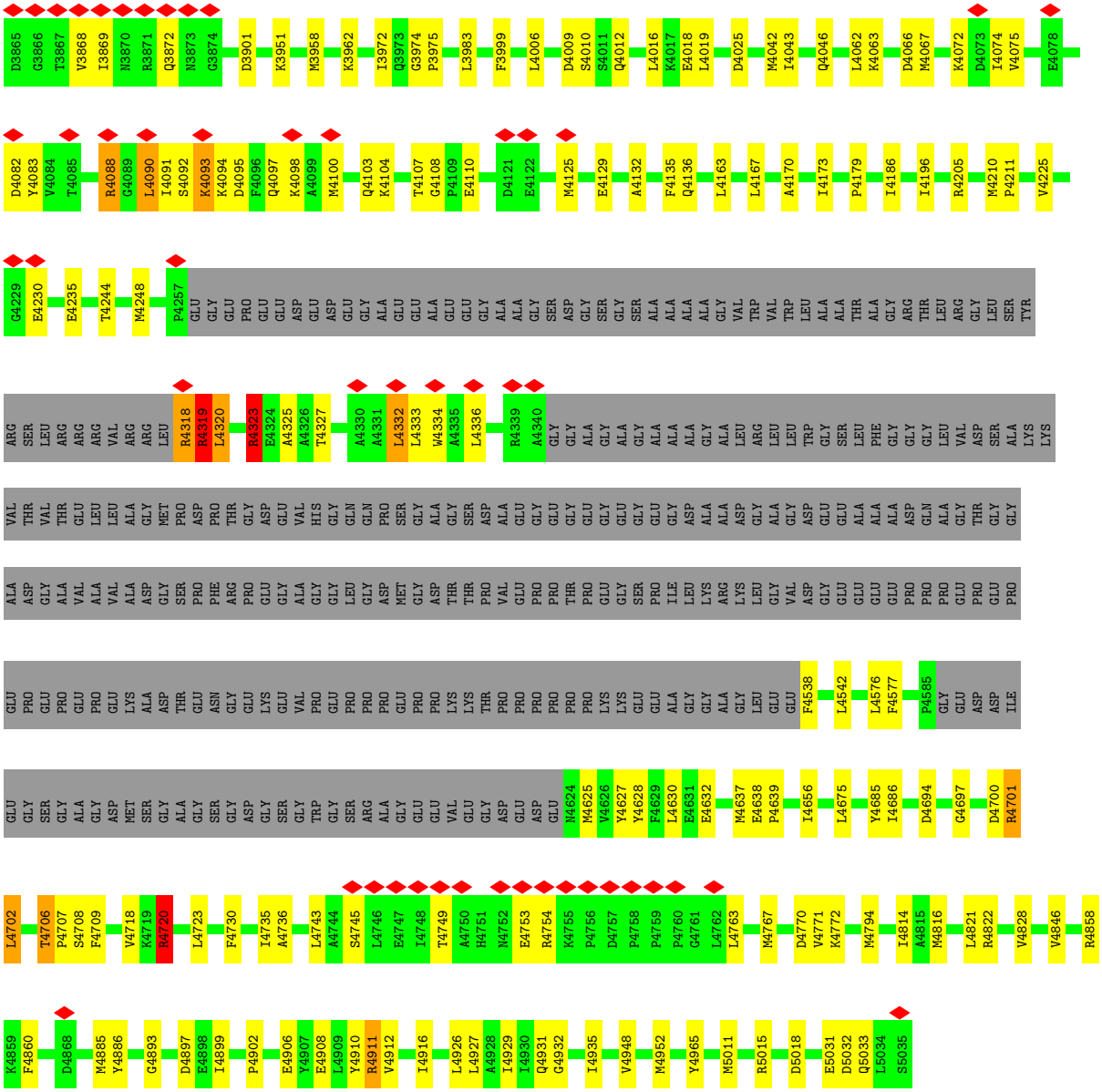
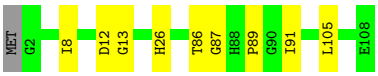
L2308 C2327 R2331 R2337 R2356 E2383 R2386 P2391 A2392 V2398 ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU P2411 P2412 E2413 E2414 N2415 R2416 D2432 R2436 G2437 A2438 E2450 L2473 I2477 G2481 K2482 D2483 G2484 A2485 K2500 V2510 N2515
Q2516 D2517 L2520 V2525 G2526 L2537 I2563 F2570 R2576 D2581 S2582 M2583 L2584 H2585 L2596 I2604 L2611 L2627 P2641 L2645 L2679 E2695 R2698 Y2720 S2721 S2722 K2723 T2724 E2725 K2726 LYS ALA THR VAL ASP ALA GLU GLY N2735 F2736 D2737 P2738 R2739
P2740 V2741 E2742 T2743 L2744 N2745 V2746 I2747 I2748 P2749 E2750 K2751 L2752 D2753 S2754 F2755 I2756 N2757 K2758 F2759 A2760 E2761 Y2762 T2763 H2764 E2765 K2766 W2767 A2768 F2769 D2770 K2771 I2772 Q2773 N2774 N2775 W2776 S2777 Y2778 G2779 E2780 N2781 I2782 D2783 E2784 E2785 L2786 K2787 T2788 H2789 P2790 M2791 L2792 R2793 P2794 Y2795 K2796 T2797 F2798 S2799
E2800 K2801 D2802 K2803 E2804 I2805 Y2806 R2807 W2808 P2809 I2810 K2811 E2812 S2813 L2814 K2815 A2816 M2817 I2818 A2819 W2820 E2821 W2822 T2823 V2824 E2825 K2826 A2827 R2828 E2829 G2830 E2831 GLU GLU LYS THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2856 N2857 P2858 Q2859
P2860 P2861 D2862 L2863 S2864 V2865 V2866 T2867 L2868 S2869 R2870 E2871 L2872 Q2873 A2874 M2875 A2876 E2877 Q2878 L2879 A2880 E2881 N2882 Y2883 H2884 N2885 T2886 W2887 G2888 R2889 K2890 K2891 K2892 Q2893 E2894 L2895 E2896 A2897 K2898 G2899 G2900 G2901 S2902 H2903 P2904 L2905 L2906 V2907 P2908 Y2909 D2910 T2911 L2912 T2913 A2914 K2915 E2916 K2917 A2918 R2919
D2920 R2921 E2922 K2923 A2924 Q2925 E2926 L2927 L2928 K2929 F2930 L2931 Q2932 M2933 N2934 G2935 Y2936 A2937 V2938 T2939 R2940 G2941 L2942 K2943 D2944 M2945 E2946 L2947 D2948 T2949 E2953 K2954 S2971 F2974 L2978 V2981 V2982 S2983 S2984 G2985 R2986 V2987 E2988 K2989 H2992 I2996 L3004 P3005 L3006 I3007 N3008 Q3009
N3013 V3025 K3037 I3040 T3041 V3051 L3057 V3065 D3077 V3081 M3082 I3088 V3089 K3090 L3093 K3106 E3109 L3113 GLY LYS VAL SER GLN ALA ARG THR GLN VAL K3124 G3125 L3130 T3134 I3158 L3159 Y3167 L3170 L3176 V3184
R3188 L3195 E3208 E3227 R3228 A3229 N3235 S3236 V3237 E3238 E3239 M3240 D3243 I3244 L3250 E3253 L3257 L3278 L3282 P3283 P3293 P3294 P3295 A3296 L3297 P3298 A3299 G3300 A3301 A3307 L3313 L3316 R3322 N3326 A3343 I3346 I3360 P3361 L3366
V3373 E3377 L3380 R3381 L3382 E3383 A3384 K3385 A3386 E3387 A3388 E3389 E3390 G3391 F3399 L3406 Y3410 P3411 I3414 R3421 P3428 G3440 N3451 R3454 E3455 E3456 Q3457 V3460 V3461 E3464 I3465 N3466 N3467 M3468 S3469 F3470 L3471 T3472 ALA ASP ASN LYS SER LYS MET ALA LYS
ALA GLY ASP VAL GLN SER GLY GLY SER ASP GLN GLU ARG THR LYS LYS LYS ARG ARG GLY ASP ARG Y3504 S3505 V3506 Q3507 T3508 S3509 V3512 L3515 K3516 K3517 D3532 L3533 L3536 R3540 Y3541 E3548 R3551 E3552 F3553 N3556 N3557 L3558 N3559 L3560 Q3561 G3562 E3565 Y3577
R3583 E3584 E3585 D3586 A3587 D3588 D3589 P3590 E3591 K3592 I3593 V3594 R3595 R3596 V3597 Q3598 V3603 L3604 Y3605 Q3609 H3612 P3613 TYR LYS SER LYS LYS ALA VAL TRP HIS LYS LEU LEU SER LYS GLN ARG ARG ARG ALA VAL V3634 A3635 C3636 F3637 R3638 M3639 T3640 P3641 L3642 A3650 C3651 D3667
D3672 R3673 M3674 E3683 Q3684 E3685 E3686 E3687 E3688 E3689 E3690 V3691 E3692 E3693 K3694 K3695 Y3726 M3730 S3733 C3734 H3735 L3736 E3737 GLU GLY GLY GLU ASN GLY GLU GLU GLY GLY GLU GLU GLU V3752 E3753 V3754 K3759 E3760 M3761 L3820 A3837 T3841 M3861 V3862 N3863 E3864



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

Chain E:

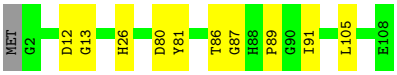


• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A

Chain F:

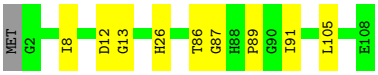
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A

Chain G:



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

Chain H:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	129073	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	58	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.613	Depositor
Minimum map value	0.000	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.024	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	427.008, 427.008, 427.008	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.834, 0.834, 0.834	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PCW, 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	0.23	0/35776	0.41	5/48462 (0.0%)
1	B	0.23	0/35776	0.41	5/48462 (0.0%)
1	C	0.23	0/35776	0.41	5/48462 (0.0%)
1	D	0.23	0/35776	0.41	5/48462 (0.0%)
2	E	0.18	0/847	0.32	0/1142
2	F	0.18	0/847	0.32	0/1142
2	G	0.18	0/847	0.31	0/1142
2	H	0.18	0/847	0.31	0/1142
All	All	0.23	0/146492	0.40	20/198416 (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	8
1	B	0	8
1	C	0	8
1	D	0	8
All	All	0	32

There are no bond length outliers.

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	2238	CYS	CA-CB-SG	9.06	135.23	114.40
1	A	2238	CYS	CA-CB-SG	9.05	135.21	114.40
1	D	2238	CYS	CA-CB-SG	9.05	135.21	114.40
1	C	2238	CYS	CA-CB-SG	9.04	135.19	114.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	2238	CYS	CB-CA-C	6.19	120.63	110.17
1	A	2238	CYS	CB-CA-C	6.17	120.59	110.17
1	C	2238	CYS	CB-CA-C	6.17	120.59	110.17
1	D	2238	CYS	CB-CA-C	6.17	120.59	110.17
1	D	2238	CYS	N-CA-CB	-5.83	101.81	110.61
1	A	2238	CYS	N-CA-CB	-5.82	101.83	110.61
1	C	2238	CYS	N-CA-CB	-5.82	101.83	110.61
1	B	2238	CYS	N-CA-CB	-5.79	101.86	110.61
1	B	1057	PRO	CA-N-CD	-5.75	103.96	112.00
1	A	1057	PRO	CA-N-CD	-5.72	103.99	112.00
1	C	1057	PRO	CA-N-CD	-5.72	103.99	112.00
1	D	1057	PRO	CA-N-CD	-5.72	103.99	112.00
1	C	2234	CYS	N-CA-CB	5.39	119.59	110.49
1	A	2234	CYS	N-CA-CB	5.37	119.57	110.49
1	B	2234	CYS	N-CA-CB	5.37	119.57	110.49
1	D	2234	CYS	N-CA-CB	5.37	119.57	110.49

There are no chirality outliers.

All (32) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	2238	CYS	Peptide
1	A	4088	ARG	Sidechain
1	A	4318	ARG	Sidechain
1	A	4319	ARG	Sidechain
1	A	4323	ARG	Sidechain
1	A	4701	ARG	Sidechain
1	A	4720	ARG	Sidechain
1	A	4911	ARG	Sidechain
1	B	2238	CYS	Peptide
1	B	4088	ARG	Sidechain
1	B	4318	ARG	Sidechain
1	B	4319	ARG	Sidechain
1	B	4323	ARG	Sidechain
1	B	4701	ARG	Sidechain
1	B	4720	ARG	Sidechain
1	B	4911	ARG	Sidechain
1	C	2238	CYS	Peptide
1	C	4088	ARG	Sidechain
1	C	4318	ARG	Sidechain
1	C	4319	ARG	Sidechain
1	C	4323	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	C	4701	ARG	Sidechain
1	C	4720	ARG	Sidechain
1	C	4911	ARG	Sidechain
1	D	2238	CYS	Peptide
1	D	4088	ARG	Sidechain
1	D	4318	ARG	Sidechain
1	D	4319	ARG	Sidechain
1	D	4323	ARG	Sidechain
1	D	4701	ARG	Sidechain
1	D	4720	ARG	Sidechain
1	D	4911	ARG	Sidechain

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	34983	0	34589	445	0
1	B	34983	0	34589	438	0
1	C	34983	0	34589	437	0
1	D	34983	0	34589	432	0
2	E	829	0	826	8	0
2	F	829	0	826	10	0
2	G	829	0	826	9	0
2	H	829	0	826	9	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	108	0	168	0	0
4	B	108	0	168	0	0
4	C	108	0	168	0	0
4	D	108	0	168	0	0
All	All	143684	0	142332	1748	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 6.

All (1748) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2752:LEU:HD13	1:C:2814:LEU:HD21	1.43	1.00
1:B:2752:LEU:HD13	1:B:2814:LEU:HD21	1.43	0.98
1:C:1991:GLU:OE2	1:C:1995:ARG:NH1	1.97	0.97
1:D:2752:LEU:HD13	1:D:2814:LEU:HD21	1.43	0.97
1:A:1991:GLU:OE2	1:A:1995:ARG:NH1	1.97	0.96
1:B:1991:GLU:OE2	1:B:1995:ARG:NH1	1.97	0.96
1:A:2752:LEU:HD13	1:A:2814:LEU:HD21	1.43	0.96
1:D:1991:GLU:OE2	1:D:1995:ARG:NH1	1.97	0.95
1:B:3009:GLN:NE2	1:B:3013:ASN:OD1	2.02	0.92
1:D:3009:GLN:NE2	1:D:3013:ASN:OD1	2.02	0.92
1:C:3009:GLN:NE2	1:C:3013:ASN:OD1	2.02	0.92
1:A:3009:GLN:NE2	1:A:3013:ASN:OD1	2.02	0.91
1:D:3322:ARG:NH1	1:D:3326:ASN:OD1	2.06	0.88
1:B:3322:ARG:NH1	1:B:3326:ASN:OD1	2.06	0.87
1:C:3322:ARG:NH1	1:C:3326:ASN:OD1	2.06	0.87
1:A:3322:ARG:NH1	1:A:3326:ASN:OD1	2.06	0.87
1:C:4816:MET:O	1:C:4822:ARG:NH2	2.09	0.85
1:C:926:SER:O	1:C:930:LEU:HD12	1.77	0.85
1:B:914:LEU:O	1:B:919:ARG:NH2	2.10	0.84
1:A:2249:ARG:NH2	1:A:2286:GLU:OE2	2.10	0.84
1:A:4816:MET:O	1:A:4822:ARG:NH2	2.09	0.84
1:D:914:LEU:O	1:D:919:ARG:NH2	2.10	0.84
1:D:926:SER:O	1:D:930:LEU:HD12	1.77	0.84
1:A:914:LEU:O	1:A:919:ARG:NH2	2.10	0.84
1:B:2249:ARG:NH2	1:B:2286:GLU:OE2	2.10	0.84
1:C:2249:ARG:NH2	1:C:2286:GLU:OE2	2.10	0.84
1:D:2249:ARG:NH2	1:D:2286:GLU:OE2	2.10	0.84
1:B:4816:MET:O	1:B:4822:ARG:NH2	2.09	0.84
1:D:2825:GLU:O	1:D:2936:TYR:HA	1.78	0.84
1:B:3170:LEU:HD12	1:B:3195:LEU:HD11	1.60	0.84
1:D:4816:MET:O	1:D:4822:ARG:NH2	2.09	0.84
1:B:926:SER:O	1:B:930:LEU:HD12	1.77	0.84
1:C:914:LEU:O	1:C:919:ARG:NH2	2.10	0.84
1:D:3170:LEU:HD12	1:D:3195:LEU:HD11	1.60	0.84
1:C:2825:GLU:O	1:C:2936:TYR:HA	1.78	0.83
1:A:926:SER:O	1:A:930:LEU:HD12	1.77	0.83
1:C:3170:LEU:HD12	1:C:3195:LEU:HD11	1.60	0.83
1:A:3170:LEU:HD12	1:A:3195:LEU:HD11	1.60	0.82
1:B:2825:GLU:O	1:B:2936:TYR:HA	1.78	0.82
1:A:2825:GLU:O	1:A:2936:TYR:HA	1.78	0.82
1:B:4042:MET:SD	1:B:4046:GLN:NE2	2.54	0.81
1:A:4042:MET:SD	1:A:4046:GLN:NE2	2.54	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4042:MET:SD	1:C:4046:GLN:NE2	2.54	0.80
1:D:4042:MET:SD	1:D:4046:GLN:NE2	2.54	0.79
1:A:2234:CYS:O	1:A:2235:ARG:C	2.26	0.78
1:D:1793:ALA:O	1:D:1794:THR:OG1	2.02	0.78
1:B:2234:CYS:O	1:B:2235:ARG:C	2.26	0.77
1:A:1793:ALA:O	1:A:1794:THR:OG1	2.02	0.77
1:B:4091:ILE:HG12	1:B:4095:ASP:HB3	1.67	0.77
1:B:4632:GLU:HG2	1:B:4637:MET:HG3	1.67	0.76
1:B:1793:ALA:O	1:B:1794:THR:OG1	2.02	0.76
1:C:2234:CYS:O	1:C:2235:ARG:C	2.26	0.76
1:C:1793:ALA:O	1:C:1794:THR:OG1	2.02	0.76
1:B:4952:MET:HE2	1:B:4952:MET:HA	1.67	0.76
1:D:2234:CYS:O	1:D:2235:ARG:C	2.26	0.76
1:D:4091:ILE:HG12	1:D:4095:ASP:HB3	1.67	0.75
1:C:4091:ILE:HG12	1:C:4095:ASP:HB3	1.67	0.75
1:A:2948:ASP:OD2	1:A:2949:THR:N	2.20	0.75
1:B:2948:ASP:OD2	1:B:2949:THR:N	2.20	0.75
1:C:2948:ASP:OD2	1:C:2949:THR:N	2.20	0.75
1:C:4952:MET:HA	1:C:4952:MET:HE2	1.67	0.75
1:D:2948:ASP:OD2	1:D:2949:THR:N	2.20	0.75
1:D:4952:MET:HE2	1:D:4952:MET:HA	1.67	0.75
1:A:4632:GLU:HG2	1:A:4637:MET:HG3	1.67	0.75
1:B:4066:ASP:OD1	1:B:4067:MET:N	2.20	0.75
1:D:4066:ASP:OD1	1:D:4067:MET:N	2.20	0.74
1:A:4952:MET:HE2	1:A:4952:MET:HA	1.67	0.74
1:A:4066:ASP:OD1	1:A:4067:MET:N	2.20	0.74
1:A:4091:ILE:HG12	1:A:4095:ASP:HB3	1.67	0.74
1:C:4632:GLU:HG2	1:C:4637:MET:HG3	1.67	0.74
1:D:4632:GLU:HG2	1:D:4637:MET:HG3	1.67	0.74
1:B:2215:VAL:HG21	1:B:2229:MET:HE2	1.70	0.74
1:C:2215:VAL:HG21	1:C:2229:MET:HE2	1.70	0.74
1:D:2215:VAL:HG21	1:D:2229:MET:HE2	1.70	0.74
1:C:4066:ASP:OD1	1:C:4067:MET:N	2.20	0.73
1:A:2215:VAL:HG21	1:A:2229:MET:HE2	1.70	0.73
1:B:2213:VAL:HG21	1:B:2257:TYR:CE2	2.24	0.73
1:C:2213:VAL:HG21	1:C:2257:TYR:CE2	2.24	0.73
1:B:911:PHE:O	1:B:919:ARG:NH1	2.22	0.73
1:D:911:PHE:O	1:D:919:ARG:NH1	2.22	0.72
1:A:3366:LEU:HD21	1:A:3406:LEU:HD23	1.72	0.72
1:B:3366:LEU:HD21	1:B:3406:LEU:HD23	1.72	0.72
1:A:2213:VAL:HG21	1:A:2257:TYR:CE2	2.24	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:911:PHE:O	1:C:919:ARG:NH1	2.22	0.72
1:D:2213:VAL:HG21	1:D:2257:TYR:CE2	2.24	0.72
1:D:3868:VAL:HG12	1:D:3869:ILE:H	1.56	0.71
1:B:2234:CYS:O	1:B:2236:PHE:N	2.23	0.71
1:A:3082:MET:HE3	1:A:3093:LEU:HD23	1.72	0.71
1:A:3868:VAL:HG12	1:A:3869:ILE:H	1.56	0.71
1:A:3962:LYS:NZ	1:A:4025:ASP:OD2	2.21	0.71
1:B:3868:VAL:HG12	1:B:3869:ILE:H	1.56	0.71
1:A:911:PHE:O	1:A:919:ARG:NH1	2.22	0.71
1:A:2887:TRP:CD1	1:A:2891:LYS:HZ1	2.09	0.71
1:C:1236:THR:OG1	1:C:1703:ARG:NH1	2.24	0.71
1:D:3366:LEU:HD21	1:D:3406:LEU:HD23	1.72	0.71
1:B:1236:THR:OG1	1:B:1703:ARG:NH1	2.24	0.71
1:C:3868:VAL:HG12	1:C:3869:ILE:H	1.56	0.71
1:A:1236:THR:OG1	1:A:1703:ARG:NH1	2.24	0.70
1:B:2748:ILE:CD1	1:B:2814:LEU:HD22	2.21	0.70
1:C:2748:ILE:CD1	1:C:2814:LEU:HD22	2.21	0.70
1:B:2992:HIS:O	1:B:2996:ILE:HD12	1.91	0.70
1:C:2887:TRP:CD1	1:C:2891:LYS:HZ1	2.08	0.70
1:D:3082:MET:HE3	1:D:3093:LEU:HD23	1.72	0.70
1:A:2234:CYS:O	1:A:2236:PHE:N	2.23	0.70
1:C:2234:CYS:O	1:C:2236:PHE:N	2.23	0.70
1:D:1236:THR:OG1	1:D:1703:ARG:NH1	2.24	0.70
1:B:3082:MET:HE3	1:B:3093:LEU:HD23	1.72	0.70
1:C:3366:LEU:HD21	1:C:3406:LEU:HD23	1.72	0.70
1:A:2992:HIS:O	1:A:2996:ILE:HD12	1.91	0.70
1:D:2234:CYS:O	1:D:2236:PHE:N	2.23	0.70
1:B:3451:ASN:OD1	1:B:3454:ARG:NH2	2.25	0.70
1:D:2748:ILE:CD1	1:D:2814:LEU:HD22	2.21	0.70
1:D:4210:MET:HE3	1:D:4211:PRO:HD2	1.74	0.70
1:D:2992:HIS:O	1:D:2996:ILE:HD12	1.91	0.69
1:B:2887:TRP:CD1	1:B:2891:LYS:HZ1	2.10	0.69
1:B:4210:MET:HE3	1:B:4211:PRO:HD2	1.74	0.69
1:B:3612:HIS:ND1	1:B:3612:HIS:O	2.26	0.69
1:C:3451:ASN:OD1	1:C:3454:ARG:NH2	2.25	0.69
1:B:3589:ASP:O	1:B:3593:ILE:HD12	1.93	0.69
1:C:1420:ASP:O	1:C:1422:ARG:NH1	2.26	0.69
1:A:2748:ILE:CD1	1:A:2814:LEU:HD22	2.21	0.69
1:D:3589:ASP:O	1:D:3593:ILE:HD12	1.93	0.69
1:A:1420:ASP:O	1:A:1422:ARG:NH1	2.26	0.69
1:C:2992:HIS:O	1:C:2996:ILE:HD12	1.91	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4210:MET:HE3	1:C:4211:PRO:HD2	1.74	0.69
1:B:1420:ASP:O	1:B:1422:ARG:NH1	2.26	0.69
1:C:3612:HIS:ND1	1:C:3612:HIS:O	2.26	0.69
1:D:3451:ASN:OD1	1:D:3454:ARG:NH2	2.25	0.69
1:C:3082:MET:HE3	1:C:3093:LEU:HD23	1.72	0.69
1:D:24:GLN:OE1	1:D:204:ASN:ND2	2.26	0.69
1:A:3612:HIS:ND1	1:A:3612:HIS:O	2.26	0.68
1:C:287:THR:HG21	1:C:482:GLU:OE2	1.93	0.68
1:A:4210:MET:HE3	1:A:4211:PRO:HD2	1.74	0.68
1:D:287:THR:HG21	1:D:482:GLU:OE2	1.94	0.68
1:D:1420:ASP:O	1:D:1422:ARG:NH1	2.26	0.68
1:B:24:GLN:OE1	1:B:204:ASN:ND2	2.26	0.68
1:C:24:GLN:OE1	1:C:204:ASN:ND2	2.26	0.68
1:A:24:GLN:OE1	1:A:204:ASN:ND2	2.26	0.68
1:C:3589:ASP:O	1:C:3593:ILE:HD12	1.93	0.68
1:D:3612:HIS:ND1	1:D:3612:HIS:O	2.26	0.68
1:A:3451:ASN:OD1	1:A:3454:ARG:NH2	2.25	0.68
2:G:26:HIS:CE1	2:G:105:LEU:HD11	2.29	0.68
2:F:26:HIS:CE1	2:F:105:LEU:HD11	2.29	0.68
2:H:26:HIS:CE1	2:H:105:LEU:HD11	2.29	0.68
1:C:169:ASP:OD1	1:C:202:ASN:ND2	2.27	0.68
1:A:2774:ASN:O	1:A:2787:LYS:NZ	2.21	0.67
1:A:2971:SER:HA	1:A:2974:PHE:CE1	2.29	0.67
1:A:3589:ASP:O	1:A:3593:ILE:HD12	1.93	0.67
1:D:169:ASP:OD1	1:D:202:ASN:ND2	2.27	0.67
1:D:2908:PRO:O	1:D:2911:THR:OG1	2.12	0.67
2:E:26:HIS:CE1	2:E:105:LEU:HD11	2.30	0.67
1:A:287:THR:HG21	1:A:482:GLU:OE2	1.93	0.67
1:C:2908:PRO:O	1:C:2911:THR:OG1	2.12	0.67
1:D:2971:SER:HA	1:D:2974:PHE:CE1	2.29	0.67
1:B:2971:SER:HA	1:B:2974:PHE:CE1	2.29	0.67
1:B:1038:ASP:OD1	1:B:1039:SER:N	2.28	0.67
1:A:1038:ASP:OD1	1:A:1039:SER:N	2.28	0.67
1:A:974:SER:O	1:A:977:ARG:NH1	2.28	0.67
1:B:974:SER:O	1:B:977:ARG:NH1	2.28	0.67
1:C:3593:ILE:O	1:C:3597:VAL:HG23	1.95	0.67
1:C:2971:SER:HA	1:C:2974:PHE:CE1	2.29	0.67
1:C:1038:ASP:OD1	1:C:1039:SER:N	2.28	0.66
1:D:2920:ASP:OD1	1:D:2923:LYS:NZ	2.28	0.66
1:B:287:THR:HG21	1:B:482:GLU:OE2	1.93	0.66
1:B:2197:ASN:OD1	1:B:2200:ARG:NH2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2197:ASN:OD1	1:A:2200:ARG:NH2	2.28	0.66
1:B:2520:LEU:HD13	1:B:2576:ARG:HD3	1.77	0.66
1:B:318:ARG:NH2	1:B:322:GLU:O	2.28	0.66
1:B:3577:TYR:OH	1:B:3583:ARG:NH2	2.29	0.66
1:B:3962:LYS:NZ	1:B:4025:ASP:OD2	2.21	0.66
1:D:318:ARG:NH2	1:D:322:GLU:O	2.28	0.66
1:D:2520:LEU:HD13	1:D:2576:ARG:HD3	1.77	0.66
1:A:2920:ASP:OD1	1:A:2923:LYS:NZ	2.28	0.66
1:D:2197:ASN:OD1	1:D:2200:ARG:NH2	2.28	0.66
1:D:3167:TYR:CD2	1:D:3240:MET:HE2	2.31	0.66
1:A:3577:TYR:OH	1:A:3583:ARG:NH2	2.29	0.66
1:B:2908:PRO:O	1:B:2911:THR:OG1	2.12	0.66
1:C:974:SER:O	1:C:977:ARG:NH1	2.28	0.66
1:D:1038:ASP:OD1	1:D:1039:SER:N	2.28	0.66
1:D:3962:LYS:NZ	1:D:4025:ASP:OD2	2.21	0.66
1:C:2197:ASN:OD1	1:C:2200:ARG:NH2	2.28	0.66
1:C:3167:TYR:CD2	1:C:3240:MET:HE2	2.31	0.66
1:D:974:SER:O	1:D:977:ARG:NH1	2.28	0.66
1:D:3593:ILE:O	1:D:3597:VAL:HG23	1.95	0.66
1:A:169:ASP:OD1	1:A:202:ASN:ND2	2.27	0.66
1:A:3167:TYR:CD2	1:A:3240:MET:HE2	2.31	0.66
1:B:3593:ILE:O	1:B:3597:VAL:HG23	1.95	0.66
1:A:3593:ILE:O	1:A:3597:VAL:HG23	1.95	0.65
1:B:2920:ASP:OD1	1:B:2923:LYS:NZ	2.28	0.65
1:C:2920:ASP:OD1	1:C:2923:LYS:NZ	2.28	0.65
1:D:3577:TYR:OH	1:D:3583:ARG:NH2	2.29	0.65
1:C:318:ARG:NH2	1:C:322:GLU:O	2.28	0.65
1:C:3577:TYR:OH	1:C:3583:ARG:NH2	2.29	0.65
1:A:318:ARG:NH2	1:A:322:GLU:O	2.28	0.65
1:A:2520:LEU:HD13	1:A:2576:ARG:HD3	1.77	0.65
1:C:2520:LEU:HD13	1:C:2576:ARG:HD3	1.77	0.65
1:B:901:ASN:OD1	1:B:902:LYS:N	2.30	0.64
1:C:2583:MET:HE3	1:C:2611:LEU:HD13	1.80	0.64
1:A:901:ASN:OD1	1:A:902:LYS:N	2.30	0.64
1:B:3167:TYR:CD2	1:B:3240:MET:HE2	2.31	0.64
1:C:2871:GLU:OE2	1:C:2940:ARG:NH1	2.31	0.64
1:C:2752:LEU:HD11	1:C:2824:VAL:HG23	1.80	0.64
1:C:3235:ASN:OD1	1:C:3236:SER:N	2.30	0.64
1:A:2583:MET:HE3	1:A:2611:LEU:HD13	1.80	0.64
1:A:2871:GLU:OE2	1:A:2940:ARG:NH1	2.31	0.64
1:B:169:ASP:OD1	1:B:202:ASN:ND2	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2752:LEU:HD11	1:B:2824:VAL:HG23	1.80	0.64
1:D:2583:MET:HE3	1:D:2611:LEU:HD13	1.80	0.64
1:D:2887:TRP:CD1	1:D:2891:LYS:HZ1	2.16	0.64
1:B:2871:GLU:OE2	1:B:2940:ARG:NH1	2.31	0.64
1:C:3556:ASN:OD1	1:C:3557:ASN:N	2.31	0.64
1:D:901:ASN:OD1	1:D:902:LYS:N	2.30	0.64
1:D:2871:GLU:OE2	1:D:2940:ARG:NH1	2.31	0.64
1:A:4908:GLU:O	1:A:4912:VAL:HG13	1.98	0.64
1:D:2752:LEU:HD11	1:D:2824:VAL:HG23	1.80	0.64
1:D:3235:ASN:OD1	1:D:3236:SER:N	2.30	0.64
1:B:2583:MET:HE3	1:B:2611:LEU:HD13	1.80	0.64
1:A:2908:PRO:O	1:A:2911:THR:OG1	2.12	0.63
1:B:3235:ASN:OD1	1:B:3236:SER:N	2.31	0.63
1:B:3556:ASN:OD1	1:B:3557:ASN:N	2.31	0.63
1:B:4908:GLU:O	1:B:4912:VAL:HG13	1.98	0.63
1:D:870:ARG:O	1:D:874:LYS:NZ	2.24	0.63
1:C:901:ASN:OD1	1:C:902:LYS:N	2.30	0.63
1:D:4908:GLU:O	1:D:4912:VAL:HG13	1.98	0.63
1:A:3235:ASN:OD1	1:A:3236:SER:N	2.30	0.63
1:C:3962:LYS:NZ	1:C:4025:ASP:OD2	2.21	0.63
1:C:4908:GLU:O	1:C:4912:VAL:HG13	1.98	0.63
1:A:2752:LEU:HD11	1:A:2824:VAL:HG23	1.80	0.63
1:A:3556:ASN:OD1	1:A:3557:ASN:N	2.31	0.63
1:B:2872:LEU:HD22	1:B:2932:GLN:NE2	2.14	0.62
1:B:2596:LEU:HD21	1:B:2604:ILE:HD12	1.82	0.62
1:D:2872:LEU:HD22	1:D:2932:GLN:NE2	2.15	0.62
1:D:3556:ASN:OD1	1:D:3557:ASN:N	2.31	0.62
1:B:3505:SER:OG	1:B:3508:THR:HG23	2.00	0.62
1:D:3505:SER:OG	1:D:3508:THR:HG23	2.00	0.62
1:A:922:ASN:HA	1:A:925:MET:HE2	1.82	0.62
1:A:2215:VAL:HG21	1:A:2229:MET:CE	2.30	0.62
1:A:2872:LEU:HD22	1:A:2932:GLN:NE2	2.14	0.62
1:B:922:ASN:HA	1:B:925:MET:HE2	1.82	0.62
1:C:922:ASN:HA	1:C:925:MET:HE2	1.82	0.62
1:D:922:ASN:HA	1:D:925:MET:HE2	1.82	0.62
2:G:80:ASP:OD1	2:G:81:TYR:N	2.33	0.62
1:C:2596:LEU:HD21	1:C:2604:ILE:HD12	1.82	0.62
1:A:3505:SER:OG	1:A:3508:THR:HG23	2.00	0.61
1:A:918:GLU:N	1:A:918:GLU:OE1	2.33	0.61
1:A:2596:LEU:HD21	1:A:2604:ILE:HD12	1.82	0.61
1:B:918:GLU:OE1	1:B:918:GLU:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2215:VAL:HG21	1:B:2229:MET:CE	2.30	0.61
1:C:2872:LEU:HD22	1:C:2932:GLN:NE2	2.14	0.61
1:C:4656:ILE:HD11	1:C:4794:MET:HB2	1.83	0.61
1:C:3505:SER:OG	1:C:3508:THR:HG23	2.00	0.61
1:C:729:ARG:NH2	1:C:1490:CYS:SG	2.74	0.61
1:D:2596:LEU:HD21	1:D:2604:ILE:HD12	1.82	0.61
1:D:868:LEU:HD12	1:D:930:LEU:HD23	1.83	0.61
1:B:2752:LEU:HD22	1:B:2814:LEU:HD11	1.82	0.61
1:D:2215:VAL:HG21	1:D:2229:MET:CE	2.30	0.61
1:B:4319:ARG:NH2	1:D:4906:GLU:HA	2.16	0.60
1:C:868:LEU:HD12	1:C:930:LEU:HD23	1.83	0.60
1:C:3243:ASP:OD1	1:C:3244:ILE:N	2.34	0.60
1:A:729:ARG:NH2	1:A:1490:CYS:SG	2.74	0.60
1:D:4656:ILE:HD11	1:D:4794:MET:HB2	1.83	0.60
1:A:2752:LEU:HD22	1:A:2814:LEU:HD11	1.82	0.60
1:D:2752:LEU:HD22	1:D:2814:LEU:HD11	1.82	0.60
1:D:4745:SER:O	1:D:4749:THR:HG23	2.02	0.60
1:A:4745:SER:O	1:A:4749:THR:HG23	2.02	0.60
1:B:729:ARG:NH2	1:B:1490:CYS:SG	2.74	0.60
1:C:918:GLU:OE1	1:C:918:GLU:N	2.33	0.60
1:D:729:ARG:NH2	1:D:1490:CYS:SG	2.74	0.60
1:D:918:GLU:N	1:D:918:GLU:OE1	2.33	0.60
1:A:4656:ILE:HD11	1:A:4794:MET:HB2	1.83	0.60
1:B:4656:ILE:HD11	1:B:4794:MET:HB2	1.82	0.60
1:C:2215:VAL:HG21	1:C:2229:MET:CE	2.30	0.60
1:A:2383:GLU:OE1	1:A:2386:ARG:NH2	2.35	0.60
1:A:870:ARG:O	1:A:874:LYS:NZ	2.24	0.60
1:B:868:LEU:HD12	1:B:930:LEU:HD23	1.83	0.60
1:B:3243:ASP:OD1	1:B:3244:ILE:N	2.34	0.60
1:B:4906:GLU:HA	1:D:4319:ARG:NH2	2.16	0.60
1:D:3243:ASP:OD1	1:D:3244:ILE:N	2.34	0.60
1:A:868:LEU:HD12	1:A:930:LEU:HD23	1.83	0.60
1:B:870:ARG:O	1:B:874:LYS:NZ	2.24	0.60
1:C:2752:LEU:HD22	1:C:2814:LEU:HD11	1.82	0.60
1:A:381:GLN:OE1	1:A:381:GLN:N	2.35	0.59
1:B:4745:SER:O	1:B:4749:THR:HG23	2.02	0.59
1:C:2759:PHE:CD2	1:C:2810:ILE:HG12	2.38	0.59
1:A:3243:ASP:OD1	1:A:3244:ILE:N	2.34	0.59
1:C:994:HIS:CE1	1:C:1028:LEU:HD11	2.37	0.59
1:A:1066:SER:OG	1:A:1067:GLN:OE1	2.14	0.59
2:H:26:HIS:ND1	2:H:105:LEU:HD11	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2383:GLU:OE1	1:C:2386:ARG:NH2	2.35	0.59
1:C:2774:ASN:O	1:C:2787:LYS:NZ	2.21	0.59
1:D:70:LEU:HD21	1:D:203:MET:HE1	1.84	0.59
1:D:994:HIS:CE1	1:D:1028:LEU:HD11	2.37	0.59
1:A:3373:VAL:HG12	1:A:3399:PHE:CZ	2.38	0.59
1:B:381:GLN:OE1	1:B:381:GLN:N	2.36	0.59
2:F:26:HIS:ND1	2:F:105:LEU:HD11	2.18	0.59
2:G:26:HIS:ND1	2:G:105:LEU:HD11	2.18	0.59
1:C:4745:SER:O	1:C:4749:THR:HG23	2.02	0.59
1:B:2759:PHE:CD2	1:B:2810:ILE:HG12	2.38	0.59
1:C:70:LEU:HD21	1:C:203:MET:HE1	1.84	0.59
1:C:3373:VAL:HG12	1:C:3399:PHE:CZ	2.38	0.59
1:C:4893:GLY:N	1:C:4897:ASP:OD2	2.35	0.59
1:A:3972:ILE:HG21	1:A:3983:LEU:HD12	1.84	0.59
1:B:994:HIS:CE1	1:B:1028:LEU:HD11	2.37	0.59
1:D:2383:GLU:OE1	1:D:2386:ARG:NH2	2.35	0.59
1:A:4319:ARG:NH2	1:C:4906:GLU:HA	2.18	0.59
1:C:870:ARG:O	1:C:874:LYS:NZ	2.24	0.59
1:D:2759:PHE:CD2	1:D:2810:ILE:HG12	2.38	0.59
1:B:3167:TYR:HD2	1:B:3240:MET:HE2	1.68	0.58
1:B:2383:GLU:OE1	1:B:2386:ARG:NH2	2.35	0.58
1:C:381:GLN:N	1:C:381:GLN:OE1	2.35	0.58
1:A:2759:PHE:CD2	1:A:2810:ILE:HG12	2.38	0.58
1:B:1521:VAL:HG12	1:B:1528:MET:HG2	1.86	0.58
1:A:3167:TYR:HD2	1:A:3240:MET:HE2	1.68	0.58
1:C:3506:VAL:O	1:C:3509:SER:OG	2.16	0.58
1:A:881:GLU:OE1	1:A:969:ALA:N	2.36	0.58
1:C:3167:TYR:HD2	1:C:3240:MET:HE2	1.68	0.58
1:B:457:SER:OG	1:B:459:GLU:OE1	2.21	0.58
1:B:3373:VAL:HG12	1:B:3399:PHE:CZ	2.38	0.58
1:C:3972:ILE:HG21	1:C:3983:LEU:HD12	1.84	0.58
1:D:457:SER:OG	1:D:459:GLU:OE1	2.21	0.58
1:A:994:HIS:CE1	1:A:1028:LEU:HD11	2.37	0.58
1:A:4893:GLY:N	1:A:4897:ASP:OD2	2.35	0.58
1:B:70:LEU:HD21	1:B:203:MET:HE1	1.84	0.58
1:B:3972:ILE:HG21	1:B:3983:LEU:HD12	1.84	0.58
1:A:951:LEU:HD11	1:A:1049:GLY:C	2.29	0.58
1:A:4730:PHE:HB2	1:A:4735:ILE:HD11	1.86	0.58
1:A:4906:GLU:HA	1:C:4319:ARG:NH2	2.18	0.58
2:E:26:HIS:ND1	2:E:105:LEU:HD11	2.18	0.58
1:D:381:GLN:OE1	1:D:381:GLN:N	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3373:VAL:HG12	1:D:3399:PHE:CZ	2.38	0.58
1:B:3107:MET:SD	1:B:3133:THR:OG1	2.58	0.58
1:D:881:GLU:OE1	1:D:969:ALA:N	2.36	0.58
1:B:4319:ARG:CZ	1:D:4906:GLU:HA	2.34	0.58
1:C:881:GLU:OE1	1:C:969:ALA:N	2.36	0.58
1:D:951:LEU:HD11	1:D:1049:GLY:C	2.29	0.58
1:D:2774:ASN:O	1:D:2787:LYS:NZ	2.21	0.57
1:D:3972:ILE:HG21	1:D:3983:LEU:HD12	1.84	0.57
1:A:1521:VAL:HG12	1:A:1528:MET:HG2	1.86	0.57
1:B:881:GLU:OE1	1:B:969:ALA:N	2.36	0.57
1:D:1066:SER:OG	1:D:1067:GLN:OE1	2.14	0.57
1:A:70:LEU:HD21	1:A:203:MET:HE1	1.84	0.57
1:A:457:SER:OG	1:A:459:GLU:OE1	2.21	0.57
1:A:3158:ILE:C	1:A:3159:LEU:HD12	2.30	0.57
1:B:4906:GLU:HA	1:D:4319:ARG:CZ	2.34	0.57
1:C:1521:VAL:HG12	1:C:1528:MET:HG2	1.86	0.57
1:D:3167:TYR:HD2	1:D:3240:MET:HE2	1.68	0.57
1:B:3158:ILE:C	1:B:3159:LEU:HD12	2.30	0.57
1:C:457:SER:OG	1:C:459:GLU:OE1	2.21	0.57
1:C:3158:ILE:C	1:C:3159:LEU:HD12	2.30	0.57
1:C:3294:PRO:CB	1:C:3297:LEU:HD13	2.34	0.57
1:B:2822:TRP:O	1:B:2824:VAL:HG13	2.05	0.57
1:B:3294:PRO:CB	1:B:3297:LEU:HD13	2.34	0.57
1:D:3158:ILE:C	1:D:3159:LEU:HD12	2.30	0.57
1:A:668:MET:SD	1:A:791:ARG:NH2	2.78	0.57
1:C:3366:LEU:HD21	1:C:3406:LEU:CD2	2.35	0.57
1:A:2822:TRP:O	1:A:2824:VAL:HG13	2.05	0.57
1:A:3294:PRO:CB	1:A:3297:LEU:HD13	2.34	0.57
1:B:951:LEU:HD11	1:B:1049:GLY:C	2.29	0.57
1:C:980:PRO:O	1:C:984:THR:HG23	2.05	0.57
1:C:2910:ASP:OD1	1:C:2911:THR:N	2.38	0.57
1:D:658:THR:HG22	1:D:1002:VAL:HG21	1.87	0.57
1:D:980:PRO:O	1:D:984:THR:HG23	2.05	0.57
1:D:3294:PRO:CB	1:D:3297:LEU:HD13	2.34	0.57
1:C:951:LEU:HD11	1:C:1049:GLY:C	2.29	0.57
1:D:668:MET:SD	1:D:791:ARG:NH2	2.78	0.57
1:D:1521:VAL:HG12	1:D:1528:MET:HG2	1.86	0.57
1:D:2268:MET:HE2	1:D:2272:THR:HG22	1.87	0.57
1:A:2789:HIS:HB3	1:A:2792:LEU:HD13	1.87	0.56
1:A:2910:ASP:OD1	1:A:2911:THR:N	2.38	0.56
1:C:4730:PHE:HB2	1:C:4735:ILE:HD11	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3366:LEU:HD21	1:D:3406:LEU:CD2	2.35	0.56
1:D:4730:PHE:HB2	1:D:4735:ILE:HD11	1.86	0.56
1:A:47:LEU:HD12	1:A:126:ARG:NH1	2.21	0.56
1:B:3366:LEU:HD21	1:B:3406:LEU:CD2	2.35	0.56
1:B:4104:LYS:HG3	1:B:4104:LYS:O	2.05	0.56
1:C:668:MET:SD	1:C:791:ARG:NH2	2.78	0.56
1:C:4104:LYS:O	1:C:4104:LYS:HG3	2.05	0.56
1:D:4893:GLY:N	1:D:4897:ASP:OD2	2.35	0.56
1:B:980:PRO:O	1:B:984:THR:HG23	2.05	0.56
1:B:4730:PHE:HB2	1:B:4735:ILE:HD11	1.86	0.56
1:B:4893:GLY:N	1:B:4897:ASP:OD2	2.35	0.56
1:C:2822:TRP:O	1:C:2824:VAL:HG13	2.05	0.56
1:C:2981:VAL:O	1:C:2986:ARG:NH2	2.38	0.56
1:D:2789:HIS:HB3	1:D:2792:LEU:HD13	1.87	0.56
1:A:2268:MET:HE2	1:A:2272:THR:HG22	1.87	0.56
1:B:2748:ILE:HD12	1:B:2814:LEU:HD22	1.87	0.56
1:B:2789:HIS:HB3	1:B:2792:LEU:HD13	1.87	0.56
1:A:2981:VAL:O	1:A:2986:ARG:NH2	2.38	0.56
1:A:4104:LYS:HG3	1:A:4104:LYS:O	2.05	0.56
1:B:658:THR:HG22	1:B:1002:VAL:HG21	1.87	0.56
1:B:668:MET:SD	1:B:791:ARG:NH2	2.78	0.56
1:B:2892:LYS:O	1:B:2896:GLU:OE1	2.24	0.56
1:C:2824:VAL:HB	1:C:2936:TYR:HB3	1.88	0.56
1:D:2822:TRP:O	1:D:2824:VAL:HG13	2.05	0.56
1:D:4104:LYS:HG3	1:D:4104:LYS:O	2.05	0.56
1:A:976:VAL:O	1:A:1045:ARG:NH1	2.38	0.56
1:A:2824:VAL:HB	1:A:2936:TYR:HB3	1.88	0.56
1:A:3754:VAL:O	1:A:3759:LYS:NZ	2.39	0.56
1:A:4319:ARG:CZ	1:C:4906:GLU:HA	2.36	0.56
1:A:4906:GLU:HA	1:C:4319:ARG:CZ	2.36	0.56
1:D:4067:MET:HE2	1:D:4110:GLU:HG2	1.87	0.56
1:A:658:THR:HG22	1:A:1002:VAL:HG21	1.87	0.56
1:B:4686:ILE:HD12	1:B:4735:ILE:HD12	1.88	0.56
1:C:1562:VAL:HG12	1:C:1563:VAL:HG13	1.88	0.56
1:C:2756:ILE:HG22	1:C:2807:ARG:HG3	1.88	0.56
1:C:3754:VAL:O	1:C:3759:LYS:NZ	2.39	0.56
1:D:2748:ILE:HD12	1:D:2814:LEU:HD22	1.87	0.56
1:D:3754:VAL:O	1:D:3759:LYS:NZ	2.39	0.56
1:B:2268:MET:HE2	1:B:2272:THR:HG22	1.87	0.56
1:C:47:LEU:HD12	1:C:126:ARG:NH1	2.21	0.56
1:A:4067:MET:HE2	1:A:4110:GLU:HG2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4686:ILE:HD12	1:A:4735:ILE:HD12	1.88	0.56
1:B:3754:VAL:O	1:B:3759:LYS:NZ	2.39	0.56
1:C:2007:ILE:HD11	1:C:3642:LEU:HD21	1.88	0.56
1:C:2268:MET:HE2	1:C:2272:THR:HG22	1.87	0.56
1:C:2789:HIS:HB3	1:C:2792:LEU:HD13	1.87	0.56
1:C:2892:LYS:O	1:C:2896:GLU:OE1	2.23	0.56
1:D:2910:ASP:OD1	1:D:2911:THR:N	2.38	0.56
1:A:980:PRO:O	1:A:984:THR:HG23	2.05	0.55
1:A:2892:LYS:O	1:A:2896:GLU:OE1	2.23	0.55
1:C:4067:MET:HE2	1:C:4110:GLU:HG2	1.87	0.55
1:D:2007:ILE:HD11	1:D:3642:LEU:HD21	1.88	0.55
1:C:658:THR:HG22	1:C:1002:VAL:HG21	1.87	0.55
1:D:47:LEU:HD12	1:D:126:ARG:NH1	2.21	0.55
1:D:976:VAL:O	1:D:1045:ARG:NH1	2.38	0.55
1:D:2892:LYS:O	1:D:2896:GLU:OE1	2.23	0.55
1:A:2748:ILE:HD12	1:A:2814:LEU:HD22	1.87	0.55
1:A:2756:ILE:HG22	1:A:2807:ARG:HG3	1.88	0.55
1:C:4686:ILE:HD12	1:C:4735:ILE:HD12	1.88	0.55
1:B:47:LEU:HD12	1:B:126:ARG:NH1	2.21	0.55
1:B:4067:MET:HE2	1:B:4110:GLU:HG2	1.87	0.55
1:C:2748:ILE:HD12	1:C:2814:LEU:HD22	1.87	0.55
1:C:3868:VAL:HG12	1:C:3869:ILE:N	2.22	0.55
1:A:1562:VAL:HG12	1:A:1563:VAL:HG13	1.88	0.55
2:H:12:ASP:OD2	2:H:13:GLY:N	2.40	0.55
1:B:2910:ASP:OD1	1:B:2911:THR:N	2.38	0.55
1:C:976:VAL:O	1:C:1045:ARG:NH1	2.38	0.55
1:D:2981:VAL:O	1:D:2986:ARG:NH2	2.38	0.55
1:D:2756:ILE:HG22	1:D:2807:ARG:HG3	1.88	0.55
1:D:3868:VAL:HG12	1:D:3869:ILE:N	2.22	0.55
1:A:3366:LEU:HD21	1:A:3406:LEU:CD2	2.35	0.55
1:B:2756:ILE:HG22	1:B:2807:ARG:HG3	1.88	0.55
1:D:1562:VAL:HG12	1:D:1563:VAL:HG13	1.88	0.55
1:B:2007:ILE:HD11	1:B:3642:LEU:HD21	1.88	0.55
1:D:4686:ILE:HD12	1:D:4735:ILE:HD12	1.88	0.55
2:G:12:ASP:OD1	2:G:13:GLY:N	2.41	0.54
1:B:3868:VAL:HG12	1:B:3869:ILE:N	2.22	0.54
1:D:941:GLY:N	1:D:1053:ASN:OD1	2.41	0.54
1:A:2007:ILE:HD11	1:A:3642:LEU:HD21	1.88	0.54
1:A:3343:ALA:O	1:A:3346:ILE:HG22	2.07	0.54
1:B:1562:VAL:HG12	1:B:1563:VAL:HG13	1.88	0.54
1:B:2824:VAL:HB	1:B:2936:TYR:HB3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:941:GLY:N	1:C:1053:ASN:OD1	2.41	0.54
1:D:2477:ILE:CG2	1:D:2537:LEU:HD21	2.38	0.54
1:D:2816:ALA:HB1	1:D:2882:ASN:HD21	1.73	0.54
1:D:2877:GLU:OE2	1:D:2921:ARG:NE	2.41	0.54
1:C:4886:TYR:HA	1:D:4916:ILE:HD11	1.90	0.54
1:D:2824:VAL:HB	1:D:2936:TYR:HB3	1.88	0.54
1:A:185:THR:HG22	1:A:190:LEU:CD2	2.38	0.54
1:B:185:THR:HG22	1:B:190:LEU:CD2	2.38	0.54
1:B:941:GLY:N	1:B:1053:ASN:OD1	2.41	0.54
1:C:185:THR:HG22	1:C:190:LEU:CD2	2.38	0.54
1:A:2477:ILE:CG2	1:A:2537:LEU:HD21	2.38	0.54
1:A:2816:ALA:HB1	1:A:2882:ASN:HD21	1.73	0.54
1:A:3868:VAL:HG12	1:A:3869:ILE:N	2.22	0.54
2:F:12:ASP:OD2	2:F:13:GLY:N	2.40	0.54
1:B:2816:ALA:HB1	1:B:2882:ASN:HD21	1.73	0.54
1:D:185:THR:HG22	1:D:190:LEU:CD2	2.38	0.54
1:A:797:ARG:O	1:A:1620:ARG:NH2	2.41	0.54
1:A:3605:TYR:O	1:A:3609:GLN:NE2	2.41	0.54
1:B:976:VAL:O	1:B:1045:ARG:NH1	2.38	0.54
1:C:2477:ILE:CG2	1:C:2537:LEU:HD21	2.38	0.54
1:A:2816:ALA:HB1	1:A:2882:ASN:ND2	2.23	0.54
1:B:71:GLU:OE1	1:B:111:ARG:NE	2.40	0.54
1:B:2816:ALA:HB1	1:B:2882:ASN:ND2	2.23	0.54
1:C:71:GLU:OE1	1:C:111:ARG:NE	2.41	0.54
1:C:3605:TYR:O	1:C:3609:GLN:NE2	2.41	0.54
1:A:2872:LEU:HD22	1:A:2932:GLN:HE21	1.73	0.54
1:C:2816:ALA:HB1	1:C:2882:ASN:HD21	1.73	0.54
1:C:3343:ALA:O	1:C:3346:ILE:HG22	2.07	0.54
1:C:3683:GLU:O	1:C:3686:GLU:HG3	2.08	0.54
1:A:3683:GLU:O	1:A:3686:GLU:HG3	2.08	0.53
1:B:3683:GLU:O	1:B:3686:GLU:HG3	2.08	0.53
1:C:2793:ARG:NE	1:C:2797:THR:O	2.41	0.53
1:C:3414:ILE:HG23	1:C:3517:LYS:HD2	1.91	0.53
2:E:12:ASP:OD2	2:E:13:GLY:N	2.41	0.53
1:B:2793:ARG:NE	1:B:2797:THR:O	2.41	0.53
1:B:3343:ALA:O	1:B:3346:ILE:HG22	2.07	0.53
1:B:3605:TYR:O	1:B:3609:GLN:NE2	2.41	0.53
1:C:2872:LEU:HD22	1:C:2932:GLN:HE21	1.73	0.53
1:D:2816:ALA:HB1	1:D:2882:ASN:ND2	2.23	0.53
1:D:3605:TYR:O	1:D:3609:GLN:NE2	2.41	0.53
1:A:614:ALA:HB2	1:A:1677:LEU:HD12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3343:ALA:O	1:D:3346:ILE:HG22	2.07	0.53
1:D:3414:ILE:HG23	1:D:3517:LYS:HD2	1.91	0.53
1:A:4706:THR:HG23	1:A:4708:SER:H	1.74	0.53
1:B:2477:ILE:CG2	1:B:2537:LEU:HD21	2.38	0.53
1:C:2877:GLU:OE2	1:C:2921:ARG:NE	2.41	0.53
1:D:2209:MET:HE1	1:D:2254:HIS:CG	2.44	0.53
1:A:941:GLY:N	1:A:1053:ASN:OD1	2.41	0.53
1:B:2167:LEU:HD11	1:B:2207:THR:HG23	1.91	0.53
1:D:2872:LEU:HD22	1:D:2932:GLN:HE21	1.73	0.53
1:D:3683:GLU:O	1:D:3686:GLU:HG3	2.08	0.53
1:A:71:GLU:OE1	1:A:111:ARG:NE	2.40	0.53
1:A:2166:LEU:HD21	1:A:2178:LEU:HD23	1.90	0.53
1:A:2209:MET:HE1	1:A:2254:HIS:CG	2.44	0.53
1:A:2793:ARG:NE	1:A:2797:THR:O	2.41	0.53
1:A:3414:ILE:HG23	1:A:3517:LYS:HD2	1.91	0.53
1:B:2981:VAL:O	1:B:2986:ARG:NH2	2.38	0.53
1:D:2167:LEU:HD11	1:D:2207:THR:HG23	1.91	0.53
1:D:2740:PRO:HG3	1:D:2886:THR:HG22	1.91	0.53
1:A:893:THR:O	1:A:905:HIS:N	2.42	0.53
1:C:4706:THR:HG23	1:C:4708:SER:H	1.74	0.53
1:C:4723:LEU:HA	1:C:4735:ILE:HG21	1.91	0.53
1:A:932:THR:O	1:A:936:LEU:HD23	2.09	0.53
1:A:4886:TYR:HA	1:B:4916:ILE:HD11	1.90	0.53
1:B:2166:LEU:HD21	1:B:2178:LEU:HD23	1.90	0.53
1:B:2209:MET:HE1	1:B:2254:HIS:CG	2.44	0.53
1:B:3414:ILE:HG23	1:B:3517:LYS:HD2	1.91	0.53
1:B:3672:ASP:OD2	1:B:3735:HIS:NE2	2.42	0.53
1:C:2166:LEU:HD21	1:C:2178:LEU:HD23	1.90	0.53
1:D:932:THR:O	1:D:936:LEU:HD23	2.09	0.53
1:D:2793:ARG:NE	1:D:2797:THR:O	2.41	0.53
1:A:2740:PRO:HG3	1:A:2886:THR:HG22	1.91	0.53
1:C:2209:MET:HE1	1:C:2254:HIS:CG	2.44	0.53
1:A:3672:ASP:OD2	1:A:3735:HIS:NE2	2.42	0.53
1:D:893:THR:O	1:D:905:HIS:N	2.42	0.53
1:D:2166:LEU:HD21	1:D:2178:LEU:HD23	1.90	0.53
1:D:3236:SER:OG	1:D:3238:GLU:OE1	2.27	0.53
1:A:2167:LEU:HD11	1:A:2207:THR:HG23	1.91	0.52
2:E:86:THR:HG23	2:E:87:GLY:N	2.24	0.52
1:B:4723:LEU:HA	1:B:4735:ILE:HG21	1.91	0.52
1:C:893:THR:O	1:C:905:HIS:N	2.42	0.52
1:C:2771:LYS:CE	1:C:2792:LEU:HD11	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:797:ARG:O	1:B:1620:ARG:NH2	2.41	0.52
1:C:2948:ASP:O	1:C:2954:LYS:NZ	2.41	0.52
1:C:3236:SER:OG	1:C:3238:GLU:OE1	2.27	0.52
1:D:3591:GLU:O	1:D:3595:ARG:HG2	2.10	0.52
1:D:4244:THR:HG22	1:D:4248:MET:HE3	1.90	0.52
1:A:2877:GLU:OE2	1:A:2921:ARG:NE	2.41	0.52
2:G:86:THR:HG23	2:G:87:GLY:N	2.24	0.52
1:B:924:GLN:O	1:B:925:MET:C	2.52	0.52
1:B:2774:ASN:O	1:B:2787:LYS:NZ	2.21	0.52
1:B:2877:GLU:OE2	1:B:2921:ARG:NE	2.41	0.52
1:C:921:TYR:CE1	1:C:925:MET:SD	3.03	0.52
1:C:2167:LEU:HD11	1:C:2207:THR:HG23	1.91	0.52
1:C:3591:GLU:O	1:C:3595:ARG:HG2	2.10	0.52
1:D:797:ARG:O	1:D:1620:ARG:NH2	2.41	0.52
1:D:3082:MET:HE1	1:D:3090:LYS:HA	1.92	0.52
1:B:614:ALA:HB2	1:B:1677:LEU:HD12	1.90	0.52
1:B:921:TYR:CE1	1:B:925:MET:SD	3.03	0.52
1:B:2771:LYS:CE	1:B:2792:LEU:HD11	2.39	0.52
1:B:4886:TYR:HA	1:C:4916:ILE:HD11	1.90	0.52
1:C:614:ALA:HB2	1:C:1677:LEU:HD12	1.90	0.52
1:C:2816:ALA:HB1	1:C:2882:ASN:ND2	2.23	0.52
1:C:3082:MET:HE1	1:C:3090:LYS:HA	1.92	0.52
1:D:3672:ASP:OD2	1:D:3735:HIS:NE2	2.42	0.52
1:A:249:GLU:HB3	1:A:253:VAL:HG11	1.92	0.52
1:A:2771:LYS:CE	1:A:2792:LEU:HD11	2.39	0.52
1:B:893:THR:O	1:B:905:HIS:N	2.42	0.52
1:B:2872:LEU:HD22	1:B:2932:GLN:HE21	1.73	0.52
1:B:3294:PRO:HB2	1:B:3297:LEU:HD22	1.92	0.52
1:B:4244:THR:HG22	1:B:4248:MET:HE3	1.90	0.52
1:D:921:TYR:CE1	1:D:925:MET:SD	3.03	0.52
1:D:4706:THR:HG23	1:D:4708:SER:H	1.74	0.52
1:D:4723:LEU:HA	1:D:4735:ILE:HG21	1.91	0.52
1:A:921:TYR:CE1	1:A:925:MET:SD	3.03	0.52
1:A:4244:THR:HG22	1:A:4248:MET:HE3	1.90	0.52
1:B:249:GLU:HB3	1:B:253:VAL:HG11	1.92	0.52
1:B:932:THR:O	1:B:936:LEU:HD23	2.09	0.52
1:B:2740:PRO:HG3	1:B:2886:THR:HG22	1.91	0.52
1:B:4706:THR:HG23	1:B:4708:SER:H	1.74	0.52
1:C:249:GLU:HB3	1:C:253:VAL:HG11	1.92	0.52
1:C:3294:PRO:HB2	1:C:3297:LEU:HD22	1.92	0.52
1:D:614:ALA:HB2	1:D:1677:LEU:HD12	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:924:GLN:O	1:D:925:MET:C	2.52	0.52
1:A:924:GLN:O	1:A:925:MET:C	2.52	0.52
1:C:932:THR:O	1:C:936:LEU:HD23	2.09	0.52
1:C:3672:ASP:OD2	1:C:3735:HIS:NE2	2.42	0.52
1:D:3294:PRO:HB2	1:D:3297:LEU:HD22	1.92	0.52
1:A:4916:ILE:HD11	1:D:4886:TYR:HA	1.90	0.52
1:B:3457:GLN:NE2	1:B:3461:VAL:HG11	2.25	0.52
1:D:249:GLU:HB3	1:D:253:VAL:HG11	1.92	0.52
1:A:3082:MET:HE1	1:A:3090:LYS:HA	1.92	0.52
1:B:2743:THR:HG22	1:B:2816:ALA:HB2	1.92	0.52
1:C:1423:ASP:OD1	1:C:1569:LYS:NZ	2.40	0.52
1:B:3532:ASP:OD1	1:B:3533:LEU:N	2.43	0.52
1:C:2740:PRO:HG3	1:C:2886:THR:HG22	1.91	0.52
1:C:3457:GLN:NE2	1:C:3461:VAL:HG11	2.25	0.52
1:D:2737:ASP:OD1	1:D:2892:LYS:NZ	2.37	0.52
1:C:3532:ASP:OD1	1:C:3533:LEU:N	2.43	0.51
1:D:2948:ASP:O	1:D:2954:LYS:NZ	2.42	0.51
1:A:3457:GLN:NE2	1:A:3461:VAL:HG11	2.25	0.51
2:F:86:THR:HG23	2:F:87:GLY:N	2.25	0.51
1:B:3591:GLU:O	1:B:3595:ARG:HG2	2.10	0.51
1:C:4244:THR:HG22	1:C:4248:MET:HE3	1.90	0.51
1:D:2695:GLU:OE1	1:D:2698:ARG:NH2	2.43	0.51
1:A:2267:GLY:O	1:A:2269:GLN:NE2	2.44	0.51
1:A:3294:PRO:HB2	1:A:3297:LEU:HD22	1.92	0.51
1:A:4723:LEU:HA	1:A:4735:ILE:HG21	1.91	0.51
1:B:2737:ASP:OD1	1:B:2892:LYS:NZ	2.37	0.51
1:B:2974:PHE:CD2	1:B:2996:ILE:HG13	2.46	0.51
1:B:3082:MET:HE1	1:B:3090:LYS:HA	1.92	0.51
1:C:2267:GLY:O	1:C:2269:GLN:NE2	2.44	0.51
1:A:321:LYS:NZ	1:A:382:GLU:O	2.42	0.51
1:B:620:ASP:OD1	1:B:1681:ARG:NH2	2.43	0.51
1:B:2267:GLY:O	1:B:2269:GLN:NE2	2.44	0.51
1:B:3506:VAL:O	1:B:3509:SER:OG	2.16	0.51
1:C:620:ASP:OD1	1:C:1681:ARG:NH2	2.43	0.51
1:D:71:GLU:OE1	1:D:111:ARG:NE	2.40	0.51
1:D:2974:PHE:CD2	1:D:2996:ILE:HG13	2.46	0.51
1:A:2695:GLU:OE1	1:A:2698:ARG:NH2	2.43	0.51
1:A:3236:SER:OG	1:A:3238:GLU:OE1	2.27	0.51
1:B:3236:SER:OG	1:B:3238:GLU:OE1	2.27	0.51
1:C:2743:THR:HG22	1:C:2816:ALA:HB2	1.92	0.51
1:D:2771:LYS:CE	1:D:2792:LEU:HD11	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4965:TYR:OH	1:C:5031:GLU:OE2	2.28	0.51
1:D:1252:GLU:N	1:D:1252:GLU:OE1	2.44	0.51
1:A:4899:ILE:HG13	1:A:4911:ARG:NH2	2.26	0.51
1:B:228:MET:O	1:B:229:ASP:OD1	2.29	0.51
1:B:318:ARG:NH1	1:B:325:ASP:OD1	2.44	0.51
1:C:797:ARG:O	1:C:1620:ARG:NH2	2.41	0.51
1:D:620:ASP:OD1	1:D:1681:ARG:NH2	2.43	0.51
1:D:3457:GLN:NE2	1:D:3461:VAL:HG11	2.25	0.51
1:C:2757:ASN:OD1	1:C:2807:ARG:NE	2.44	0.51
1:D:318:ARG:NH1	1:D:325:ASP:OD1	2.44	0.51
1:D:4700:ASP:C	1:D:4702:LEU:H	2.19	0.51
1:A:2743:THR:HG22	1:A:2816:ALA:HB2	1.92	0.51
1:A:3591:GLU:O	1:A:3595:ARG:HG2	2.10	0.51
1:C:2943:LYS:O	1:C:2947:LEU:HD13	2.11	0.51
1:D:2267:GLY:O	1:D:2269:GLN:NE2	2.44	0.51
1:B:4694:ASP:OD1	1:B:4697:GLY:N	2.30	0.51
1:B:4700:ASP:C	1:B:4702:LEU:H	2.19	0.51
1:D:2943:LYS:O	1:D:2947:LEU:HD13	2.11	0.51
1:A:2570:PHE:CE1	1:A:2583:MET:HE1	2.46	0.50
1:A:2942:LEU:HD23	1:A:2942:LEU:H	1.77	0.50
1:A:2974:PHE:CD2	1:A:2996:ILE:HG13	2.46	0.50
1:B:1159:ASN:ND2	1:B:1183:ILE:O	2.44	0.50
1:B:2570:PHE:CE1	1:B:2583:MET:HE1	2.46	0.50
1:B:2695:GLU:OE1	1:B:2698:ARG:NH2	2.43	0.50
1:B:2942:LEU:HD23	1:B:2942:LEU:H	1.76	0.50
1:C:318:ARG:NH1	1:C:325:ASP:OD1	2.44	0.50
1:C:1252:GLU:OE1	1:C:1252:GLU:N	2.44	0.50
1:C:3972:ILE:CG2	1:C:3983:LEU:HD12	2.42	0.50
1:D:4899:ILE:HG13	1:D:4911:ARG:NH2	2.26	0.50
1:A:228:MET:O	1:A:229:ASP:OD1	2.29	0.50
1:B:2948:ASP:O	1:B:2954:LYS:NZ	2.41	0.50
1:C:2953:GLU:OE1	1:C:2953:GLU:N	2.44	0.50
1:D:2570:PHE:CE1	1:D:2583:MET:HE1	2.46	0.50
1:D:3532:ASP:OD1	1:D:3533:LEU:N	2.43	0.50
1:B:4230:GLU:N	1:B:4230:GLU:OE1	2.44	0.50
1:C:2226:PHE:N	1:C:2227:PRO:HD3	2.26	0.50
1:C:2570:PHE:CE1	1:C:2583:MET:HE1	2.46	0.50
1:C:2942:LEU:HD23	1:C:2942:LEU:H	1.77	0.50
1:D:2942:LEU:HD23	1:D:2942:LEU:H	1.76	0.50
1:A:620:ASP:OD1	1:A:1681:ARG:NH2	2.43	0.50
1:A:1252:GLU:N	1:A:1252:GLU:OE1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2226:PHE:N	1:A:2227:PRO:HD3	2.26	0.50
1:A:4700:ASP:C	1:A:4702:LEU:H	2.19	0.50
1:C:2907:VAL:HG22	1:C:2911:THR:OG1	2.12	0.50
1:C:4230:GLU:OE1	1:C:4230:GLU:N	2.44	0.50
1:C:4625:MET:HE1	1:C:4627:TYR:CZ	2.47	0.50
1:D:228:MET:O	1:D:229:ASP:OD1	2.29	0.50
1:D:2907:VAL:HG22	1:D:2911:THR:OG1	2.12	0.50
1:A:2795:TYR:HA	1:A:2798:PHE:HB2	1.94	0.50
1:B:4899:ILE:HG13	1:B:4911:ARG:NH2	2.26	0.50
1:C:2192:PHE:HA	1:C:2199:MET:HE3	1.94	0.50
1:C:4700:ASP:C	1:C:4702:LEU:H	2.19	0.50
1:C:4899:ILE:HG13	1:C:4911:ARG:NH2	2.26	0.50
1:D:2795:TYR:HA	1:D:2798:PHE:HB2	1.94	0.50
1:D:2802:ASP:HA	1:D:2805:ILE:HG12	1.94	0.50
1:A:2757:ASN:OD1	1:A:2807:ARG:NE	2.44	0.50
2:H:86:THR:HG23	2:H:87:GLY:N	2.26	0.50
1:B:2645:LEU:HD13	1:B:2679:LEU:HD21	1.93	0.50
1:B:2907:VAL:HG22	1:B:2911:THR:OG1	2.12	0.50
1:B:4625:MET:HE1	1:B:4627:TYR:CZ	2.47	0.50
1:C:2695:GLU:OE1	1:C:2698:ARG:NH2	2.43	0.50
1:C:2802:ASP:HA	1:C:2805:ILE:HG12	1.94	0.50
1:C:2974:PHE:CD2	1:C:2996:ILE:HG13	2.46	0.50
1:D:3972:ILE:CG2	1:D:3983:LEU:HD12	2.42	0.50
1:D:4625:MET:HE1	1:D:4627:TYR:CZ	2.47	0.50
1:A:318:ARG:NH1	1:A:325:ASP:OD1	2.44	0.50
1:B:2943:LYS:O	1:B:2947:LEU:HD13	2.11	0.50
1:C:321:LYS:NZ	1:C:382:GLU:O	2.42	0.50
1:D:2743:THR:HG22	1:D:2816:ALA:HB2	1.92	0.50
1:A:649:ILE:HG23	1:A:815:ALA:HB3	1.93	0.50
1:A:2802:ASP:HA	1:A:2805:ILE:HG12	1.94	0.50
1:A:3972:ILE:CG2	1:A:3983:LEU:HD12	2.41	0.50
1:A:4230:GLU:OE1	1:A:4230:GLU:N	2.44	0.50
1:B:1252:GLU:OE1	1:B:1252:GLU:N	2.44	0.50
1:C:4088:ARG:HB2	1:C:4090:LEU:HD12	1.93	0.50
1:D:4230:GLU:OE1	1:D:4230:GLU:N	2.44	0.50
1:A:3532:ASP:OD1	1:A:3533:LEU:N	2.43	0.50
1:B:2226:PHE:N	1:B:2227:PRO:HD3	2.26	0.50
1:B:2795:TYR:HA	1:B:2798:PHE:HB2	1.94	0.50
1:B:4163:LEU:O	1:B:4167:LEU:HD23	2.12	0.50
1:C:228:MET:O	1:C:229:ASP:OD1	2.29	0.50
1:D:2226:PHE:N	1:D:2227:PRO:HD3	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:185:THR:HG22	1:A:190:LEU:HD22	1.94	0.49
1:A:2907:VAL:HG22	1:A:2911:THR:OG1	2.12	0.49
1:A:4332:LEU:O	1:A:4336:LEU:HG	2.12	0.49
1:C:2795:TYR:HA	1:C:2798:PHE:HB2	1.94	0.49
1:D:649:ILE:HG23	1:D:815:ALA:HB3	1.93	0.49
1:D:2757:ASN:OD1	1:D:2807:ARG:NE	2.44	0.49
1:D:4846:VAL:HG11	1:D:4885:MET:HG2	1.94	0.49
1:B:2192:PHE:HA	1:B:2199:MET:HE3	1.94	0.49
1:B:4320:LEU:HD22	1:B:4325:ALA:HB2	1.95	0.49
1:B:4332:LEU:O	1:B:4336:LEU:HG	2.12	0.49
1:D:1064:VAL:O	1:D:1065:ASP:OD1	2.30	0.49
1:D:2953:GLU:OE1	1:D:2953:GLU:N	2.44	0.49
1:A:36:LEU:HD23	1:A:52:PRO:HA	1.94	0.49
1:A:215:VAL:HG21	1:A:391:LEU:HD12	1.94	0.49
1:A:1159:ASN:ND2	1:A:1183:ILE:O	2.44	0.49
1:A:4163:LEU:O	1:A:4167:LEU:HD23	2.12	0.49
1:B:1064:VAL:O	1:B:1065:ASP:OD1	2.30	0.49
1:C:924:GLN:O	1:C:925:MET:C	2.52	0.49
1:C:2645:LEU:HD13	1:C:2679:LEU:HD21	1.93	0.49
1:C:4846:VAL:HG11	1:C:4885:MET:HG2	1.94	0.49
1:D:4163:LEU:O	1:D:4167:LEU:HD23	2.12	0.49
1:D:4332:LEU:O	1:D:4336:LEU:HG	2.12	0.49
1:A:2645:LEU:HD13	1:A:2679:LEU:HD21	1.93	0.49
1:A:2943:LYS:O	1:A:2947:LEU:HD13	2.11	0.49
1:B:2757:ASN:OD1	1:B:2807:ARG:NE	2.44	0.49
1:B:3972:ILE:CG2	1:B:3983:LEU:HD12	2.41	0.49
1:C:4320:LEU:HD22	1:C:4325:ALA:HB2	1.95	0.49
1:D:185:THR:HG22	1:D:190:LEU:HD22	1.94	0.49
1:A:2192:PHE:HA	1:A:2199:MET:HE3	1.94	0.49
1:B:185:THR:HG22	1:B:190:LEU:HD22	1.94	0.49
1:D:4088:ARG:HB2	1:D:4090:LEU:HD12	1.93	0.49
1:D:4753:GLU:O	1:D:4754:ARG:CZ	2.61	0.49
1:A:156:LYS:HB2	1:D:228:MET:SD	2.52	0.49
1:A:1695:LEU:O	1:A:1699:LEU:HD13	2.13	0.49
1:A:3313:LEU:HD23	1:A:3346:ILE:HG13	1.94	0.49
1:B:2802:ASP:HA	1:B:2805:ILE:HG12	1.94	0.49
1:B:3041:THR:OG1	1:B:3081:VAL:HG21	2.13	0.49
1:B:3553:PHE:O	1:B:3556:ASN:OD1	2.31	0.49
1:C:36:LEU:HD23	1:C:52:PRO:HA	1.94	0.49
1:C:228:MET:SD	1:D:156:LYS:HB2	2.52	0.49
1:C:1159:ASN:ND2	1:C:1183:ILE:O	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3107:MET:SD	1:C:3133:THR:OG1	2.58	0.49
1:D:2645:LEU:HD13	1:D:2679:LEU:HD21	1.93	0.49
1:A:228:MET:SD	1:B:156:LYS:HB2	2.53	0.49
1:A:3553:PHE:O	1:A:3556:ASN:OD1	2.31	0.49
1:A:4088:ARG:HB2	1:A:4090:LEU:HD12	1.93	0.49
1:D:215:VAL:HG21	1:D:391:LEU:HD12	1.94	0.49
1:A:4625:MET:HE1	1:A:4627:TYR:CZ	2.47	0.49
1:B:1695:LEU:O	1:B:1699:LEU:HD13	2.13	0.49
1:C:1479:ASP:OD2	1:C:1483:ASN:ND2	2.46	0.49
1:C:1695:LEU:O	1:C:1699:LEU:HD13	2.13	0.49
1:C:4753:GLU:O	1:C:4754:ARG:CZ	2.61	0.49
1:A:3506:VAL:O	1:A:3509:SER:OG	2.16	0.49
1:A:3687:GLU:OE2	1:A:3695:LYS:NZ	2.46	0.49
1:B:1420:ASP:O	1:B:1421:ASN:OD1	2.31	0.49
1:B:2953:GLU:OE1	1:B:2953:GLU:N	2.44	0.49
1:C:649:ILE:HG23	1:C:815:ALA:HB3	1.93	0.49
1:C:2234:CYS:O	1:C:2237:LEU:N	2.46	0.49
1:C:4694:ASP:OD1	1:C:4697:GLY:N	2.30	0.49
1:D:2192:PHE:HA	1:D:2199:MET:HE3	1.94	0.49
1:A:1064:VAL:O	1:A:1065:ASP:OD1	2.30	0.49
1:A:4753:GLU:O	1:A:4754:ARG:CZ	2.61	0.49
1:B:228:MET:SD	1:C:156:LYS:HB2	2.52	0.49
1:B:4753:GLU:O	1:B:4754:ARG:CZ	2.61	0.49
1:A:1420:ASP:O	1:A:1421:ASN:OD1	2.31	0.48
1:A:4846:VAL:HG11	1:A:4885:MET:HG2	1.94	0.48
1:B:649:ILE:HG23	1:B:815:ALA:HB3	1.93	0.48
1:B:3313:LEU:HD23	1:B:3346:ILE:HG13	1.94	0.48
1:C:3041:THR:OG1	1:C:3081:VAL:HG21	2.13	0.48
1:C:3869:ILE:HG22	1:C:3872:GLN:H	1.78	0.48
1:C:4332:LEU:O	1:C:4336:LEU:HG	2.12	0.48
1:D:36:LEU:HD23	1:D:52:PRO:HA	1.94	0.48
1:D:1420:ASP:O	1:D:1421:ASN:OD1	2.31	0.48
1:D:3553:PHE:O	1:D:3556:ASN:OD1	2.31	0.48
1:A:2234:CYS:O	1:A:2237:LEU:N	2.46	0.48
1:A:4320:LEU:HD22	1:A:4325:ALA:HB2	1.95	0.48
1:B:2234:CYS:O	1:B:2237:LEU:N	2.46	0.48
1:C:1064:VAL:O	1:C:1065:ASP:OD1	2.30	0.48
1:C:3553:PHE:O	1:C:3556:ASN:OD1	2.31	0.48
1:C:4163:LEU:O	1:C:4167:LEU:HD23	2.12	0.48
1:D:3313:LEU:HD23	1:D:3346:ILE:HG13	1.94	0.48
1:D:4320:LEU:HD22	1:D:4325:ALA:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:185:THR:HG22	1:C:190:LEU:HD22	1.94	0.48
1:D:3687:GLU:OE2	1:D:3695:LYS:NZ	2.46	0.48
1:A:369:ARG:NH1	1:A:2308:LEU:HD11	2.28	0.48
1:A:4628:TYR:OH	1:B:4858:ARG:NH1	2.43	0.48
1:B:36:LEU:HD23	1:B:52:PRO:HA	1.94	0.48
1:B:369:ARG:NH1	1:B:2308:LEU:HD11	2.28	0.48
1:B:1479:ASP:OD2	1:B:1483:ASN:ND2	2.46	0.48
1:B:3025:VAL:HG23	1:B:3025:VAL:O	2.13	0.48
1:B:4685:TYR:CE2	1:B:4701:ARG:HG2	2.49	0.48
1:C:215:VAL:HG21	1:C:391:LEU:HD12	1.94	0.48
1:C:369:ARG:NH1	1:C:2308:LEU:HD11	2.28	0.48
1:D:1159:ASN:ND2	1:D:1183:ILE:O	2.44	0.48
1:A:723:TRP:CZ2	1:A:728:ALA:HB2	2.49	0.48
1:A:3025:VAL:HG23	1:A:3025:VAL:O	2.13	0.48
1:A:4072:LYS:HA	1:A:4132:ALA:HB1	1.95	0.48
1:B:723:TRP:CZ2	1:B:728:ALA:HB2	2.49	0.48
1:B:1066:SER:OG	1:B:1067:GLN:OE1	2.14	0.48
1:B:3380:LEU:HD21	1:B:3391:GLY:C	2.38	0.48
1:B:4846:VAL:HG11	1:B:4885:MET:HG2	1.94	0.48
1:D:2356:ARG:NH2	1:D:2450:GLU:OE2	2.47	0.48
1:D:3025:VAL:HG23	1:D:3025:VAL:O	2.13	0.48
1:D:3730:MET:O	1:D:3733:SER:OG	2.30	0.48
1:A:2948:ASP:O	1:A:2954:LYS:NZ	2.41	0.48
1:A:5011:MET:HE1	1:A:5018:ASP:HB2	1.96	0.48
1:B:2515:ASN:OD1	1:B:2517:ASP:N	2.45	0.48
1:B:4088:ARG:HB2	1:B:4090:LEU:HD12	1.93	0.48
1:C:2891:LYS:O	1:C:2895:LEU:HG	2.14	0.48
1:C:3313:LEU:HD23	1:C:3346:ILE:HG13	1.94	0.48
1:D:321:LYS:NZ	1:D:382:GLU:O	2.42	0.48
1:A:3730:MET:O	1:A:3733:SER:OG	2.30	0.48
1:A:3869:ILE:HG22	1:A:3872:GLN:H	1.78	0.48
1:B:321:LYS:NZ	1:B:382:GLU:O	2.42	0.48
1:B:658:THR:HG22	1:B:1002:VAL:CG2	2.44	0.48
1:C:723:TRP:CZ2	1:C:728:ALA:HB2	2.49	0.48
1:C:3687:GLU:OE2	1:C:3695:LYS:NZ	2.46	0.48
1:C:4179:PRO:O	1:C:4205:ARG:NH2	2.47	0.48
1:D:723:TRP:CZ2	1:D:728:ALA:HB2	2.49	0.48
1:D:1695:LEU:O	1:D:1699:LEU:HD13	2.13	0.48
1:B:1273:LEU:HD22	1:B:1290:LEU:HD11	1.96	0.48
1:B:3869:ILE:HG22	1:B:3872:GLN:H	1.78	0.48
1:B:4072:LYS:HA	1:B:4132:ALA:HB1	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:5011:MET:HE1	1:B:5018:ASP:HB2	1.96	0.48
1:C:2356:ARG:NH2	1:C:2450:GLU:OE2	2.47	0.48
1:C:3025:VAL:HG23	1:C:3025:VAL:O	2.13	0.48
1:C:4225:VAL:HG11	1:C:4948:VAL:HA	1.95	0.48
1:D:2234:CYS:O	1:D:2237:LEU:N	2.46	0.48
1:D:4179:PRO:O	1:D:4205:ARG:NH2	2.47	0.48
1:A:2737:ASP:OD1	1:A:2892:LYS:NZ	2.37	0.48
1:B:4860:PHE:CB	1:B:4911:ARG:HH12	2.27	0.48
1:C:1420:ASP:O	1:C:1421:ASN:OD1	2.31	0.48
1:D:369:ARG:NH1	1:D:2308:LEU:HD11	2.28	0.48
1:D:1273:LEU:HD22	1:D:1290:LEU:HD11	1.96	0.48
1:D:1479:ASP:OD2	1:D:1483:ASN:ND2	2.46	0.48
1:A:1281:GLN:O	1:A:1282:ASN:OD1	2.32	0.48
1:A:1479:ASP:OD2	1:A:1483:ASN:ND2	2.46	0.48
1:B:215:VAL:HG21	1:B:391:LEU:HD12	1.94	0.48
1:B:2891:LYS:O	1:B:2895:LEU:HG	2.14	0.48
1:B:4927:LEU:O	1:B:4931:GLN:OE1	2.32	0.48
1:C:2866:VAL:O	1:C:2929:LYS:NZ	2.40	0.48
1:C:2887:TRP:CG	1:C:2891:LYS:HZ1	2.32	0.48
1:C:4860:PHE:CB	1:C:4911:ARG:HH12	2.27	0.48
1:D:3282:LEU:HD12	1:D:3316:LEU:HD22	1.96	0.48
1:D:3380:LEU:HD21	1:D:3391:GLY:C	2.38	0.48
1:D:4685:TYR:CE2	1:D:4701:ARG:HG2	2.49	0.48
1:D:4927:LEU:O	1:D:4931:GLN:OE1	2.32	0.48
1:A:658:THR:HG22	1:A:1002:VAL:CG2	2.44	0.47
1:A:4860:PHE:CB	1:A:4911:ARG:HH12	2.27	0.47
1:B:2356:ARG:NH2	1:B:2450:GLU:OE2	2.47	0.47
1:B:3227:GLU:O	1:B:3228:ARG:HB3	2.14	0.47
1:C:876:ALA:O	1:C:879:ILE:HG22	2.14	0.47
1:C:3380:LEU:HD21	1:C:3391:GLY:C	2.38	0.47
1:D:4694:ASP:OD1	1:D:4697:GLY:N	2.30	0.47
1:A:1273:LEU:HD22	1:A:1290:LEU:HD11	1.96	0.47
1:A:3282:LEU:HD12	1:A:3316:LEU:HD22	1.96	0.47
1:A:3667:ASP:O	1:A:3667:ASP:OD1	2.32	0.47
1:A:4179:PRO:O	1:A:4205:ARG:NH2	2.47	0.47
1:B:864:LEU:HD13	1:B:869:GLU:HB2	1.96	0.47
1:C:1281:GLN:O	1:C:1282:ASN:OD1	2.32	0.47
1:A:581:GLU:HG3	1:A:621:LEU:HD22	1.96	0.47
1:A:3004:LEU:HB2	1:A:3005:PRO:HD3	1.96	0.47
1:A:3380:LEU:HD21	1:A:3391:GLY:C	2.38	0.47
1:B:3667:ASP:OD1	1:B:3667:ASP:O	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4225:VAL:HG11	1:B:4948:VAL:HA	1.95	0.47
1:C:1273:LEU:HD22	1:C:1290:LEU:HD11	1.96	0.47
1:C:3667:ASP:OD1	1:C:3667:ASP:O	2.32	0.47
1:D:876:ALA:O	1:D:879:ILE:HG22	2.14	0.47
1:D:3667:ASP:O	1:D:3667:ASP:OD1	2.32	0.47
1:D:3869:ILE:HG22	1:D:3872:GLN:H	1.78	0.47
1:A:876:ALA:O	1:A:879:ILE:HG22	2.14	0.47
1:A:2356:ARG:NH2	1:A:2450:GLU:OE2	2.47	0.47
1:A:2887:TRP:CG	1:A:2891:LYS:HZ1	2.32	0.47
1:A:3041:THR:OG1	1:A:3081:VAL:HG21	2.13	0.47
1:A:3227:GLU:O	1:A:3228:ARG:HB3	2.14	0.47
1:B:876:ALA:O	1:B:879:ILE:HG22	2.14	0.47
1:B:3687:GLU:OE2	1:B:3695:LYS:NZ	2.46	0.47
1:C:658:THR:HG22	1:C:1002:VAL:CG2	2.44	0.47
1:C:924:GLN:O	1:C:927:GLY:N	2.47	0.47
1:C:2525:VAL:HG23	1:C:2526:GLY:N	2.30	0.47
1:C:4685:TYR:CE2	1:C:4701:ARG:HG2	2.49	0.47
1:C:5032:ASP:OD1	1:C:5033:GLN:OE1	2.33	0.47
1:D:4225:VAL:HG11	1:D:4948:VAL:HA	1.95	0.47
1:A:1810:ARG:HG3	1:A:1856:PHE:CE1	2.50	0.47
1:A:4225:VAL:HG11	1:A:4948:VAL:HA	1.95	0.47
1:A:4235:GLU:OE2	1:A:5015:ARG:NH2	2.48	0.47
1:B:1281:GLN:O	1:B:1282:ASN:OD1	2.32	0.47
1:B:2887:TRP:CG	1:B:2891:LYS:HZ1	2.32	0.47
1:B:4235:GLU:OE2	1:B:5015:ARG:NH2	2.48	0.47
1:C:864:LEU:HD13	1:C:869:GLU:HB2	1.96	0.47
1:C:2771:LYS:HE2	1:C:2792:LEU:HD11	1.96	0.47
1:D:924:GLN:O	1:D:927:GLY:N	2.47	0.47
1:D:3041:THR:OG1	1:D:3081:VAL:HG21	2.13	0.47
1:A:4685:TYR:CE2	1:A:4701:ARG:HG2	2.49	0.47
1:B:2942:LEU:HA	1:B:2945:MET:SD	2.55	0.47
1:B:3282:LEU:HD12	1:B:3316:LEU:HD22	1.96	0.47
1:C:1810:ARG:HG3	1:C:1856:PHE:CE1	2.50	0.47
1:C:3951:LYS:NZ	1:C:4012:GLN:HB3	2.30	0.47
1:C:4235:GLU:OE2	1:C:5015:ARG:NH2	2.48	0.47
1:D:897:VAL:HG22	1:D:898:ARG:N	2.30	0.47
1:A:490:ASN:O	1:A:494:ARG:HG2	2.15	0.47
1:A:2953:GLU:N	1:A:2953:GLU:OE1	2.44	0.47
1:A:2996:ILE:HD12	1:A:2996:ILE:H	1.80	0.47
1:B:151:MET:HB3	1:B:170:LEU:HD12	1.97	0.47
1:B:897:VAL:HG22	1:B:898:ARG:N	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1810:ARG:HG3	1:B:1856:PHE:CE1	2.50	0.47
1:B:2771:LYS:HE2	1:B:2792:LEU:HD11	1.96	0.47
1:B:2887:TRP:CZ2	1:B:2905:LEU:HD23	2.50	0.47
1:B:2996:ILE:HD12	1:B:2996:ILE:H	1.80	0.47
1:B:3951:LYS:NZ	1:B:4012:GLN:HB3	2.30	0.47
1:B:4179:PRO:O	1:B:4205:ARG:NH2	2.47	0.47
1:D:658:THR:HG22	1:D:1002:VAL:CG2	2.44	0.47
1:D:1281:GLN:O	1:D:1282:ASN:OD1	2.32	0.47
1:D:2525:VAL:HG23	1:D:2526:GLY:N	2.30	0.47
1:D:2752:LEU:HD11	1:D:2824:VAL:CG2	2.43	0.47
1:D:2891:LYS:O	1:D:2895:LEU:HG	2.14	0.47
1:D:4072:LYS:HA	1:D:4132:ALA:HB1	1.95	0.47
1:A:897:VAL:HG22	1:A:898:ARG:N	2.30	0.47
1:A:3107:MET:SD	1:A:3133:THR:OG1	2.58	0.47
1:A:4926:LEU:HA	1:A:4929:ILE:HD12	1.97	0.47
1:A:5032:ASP:OD1	1:A:5033:GLN:OE1	2.33	0.47
2:F:26:HIS:HD1	2:F:105:LEU:HD11	1.80	0.47
1:C:151:MET:HB3	1:C:170:LEU:HD12	1.97	0.47
1:C:500:THR:HG23	1:C:503:HIS:H	1.80	0.47
1:C:2942:LEU:HA	1:C:2945:MET:SD	2.55	0.47
1:C:5011:MET:HE1	1:C:5018:ASP:HB2	1.96	0.47
1:D:151:MET:HB3	1:D:170:LEU:HD12	1.97	0.47
1:D:1810:ARG:HG3	1:D:1856:PHE:CE1	2.50	0.47
1:D:5011:MET:HE1	1:D:5018:ASP:HB2	1.96	0.47
1:A:3184:VAL:O	1:A:3188:ARG:HG3	2.15	0.47
1:B:490:ASN:O	1:B:494:ARG:HG2	2.15	0.47
1:B:500:THR:HG23	1:B:503:HIS:H	1.80	0.47
1:B:569:LEU:HD12	1:B:603:VAL:HG13	1.97	0.47
1:B:581:GLU:HG3	1:B:621:LEU:HD22	1.96	0.47
1:B:3004:LEU:HB2	1:B:3005:PRO:HD3	1.96	0.47
1:C:3004:LEU:HB2	1:C:3005:PRO:HD3	1.96	0.47
1:C:4072:LYS:HA	1:C:4132:ALA:HB1	1.95	0.47
1:C:4927:LEU:O	1:C:4931:GLN:OE1	2.32	0.47
1:D:2771:LYS:HE2	1:D:2792:LEU:HD11	1.96	0.47
1:D:2887:TRP:CZ2	1:D:2905:LEU:HD23	2.50	0.47
1:A:924:GLN:O	1:A:927:GLY:N	2.47	0.47
1:A:2891:LYS:O	1:A:2895:LEU:HG	2.14	0.47
1:B:924:GLN:O	1:B:927:GLY:N	2.47	0.47
1:C:3282:LEU:HD12	1:C:3316:LEU:HD22	1.96	0.47
1:C:3958:MET:HE3	1:C:4018:GLU:HG2	1.97	0.47
1:D:3548:GLU:OE1	1:D:3551:ARG:NH2	2.40	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:5032:ASP:OD1	1:D:5033:GLN:OE1	2.33	0.47
1:A:151:MET:HB3	1:A:170:LEU:HD12	1.97	0.46
1:A:3820:LEU:HD21	1:A:3901:ASP:HB3	1.98	0.46
1:B:4628:TYR:OH	1:C:4858:ARG:NH1	2.42	0.46
1:C:490:ASN:O	1:C:494:ARG:HG2	2.15	0.46
1:C:581:GLU:HG3	1:C:621:LEU:HD22	1.96	0.46
1:C:3227:GLU:O	1:C:3228:ARG:HB3	2.14	0.46
1:C:3820:LEU:HD21	1:C:3901:ASP:HB3	1.98	0.46
1:D:3004:LEU:HB2	1:D:3005:PRO:HD3	1.96	0.46
1:D:3951:LYS:NZ	1:D:4012:GLN:HB3	2.30	0.46
1:D:4965:TYR:OH	1:D:5031:GLU:OE2	2.28	0.46
1:A:2752:LEU:HD11	1:A:2824:VAL:CG2	2.43	0.46
1:A:2771:LYS:HE2	1:A:2792:LEU:HD11	1.96	0.46
1:B:1053:ASN:OD1	1:B:1053:ASN:O	2.34	0.46
1:D:500:THR:HG23	1:D:503:HIS:H	1.80	0.46
1:D:4860:PHE:CB	1:D:4911:ARG:HH12	2.27	0.46
1:A:1053:ASN:OD1	1:A:1053:ASN:O	2.34	0.46
1:A:1494:TYR:CB	1:A:1528:MET:HE1	2.46	0.46
1:C:1132:ARG:NH1	1:C:1138:GLU:OE1	2.49	0.46
1:D:938:CYS:HA	1:D:1057:PRO:HD3	1.98	0.46
1:D:3227:GLU:O	1:D:3228:ARG:HB3	2.14	0.46
1:A:864:LEU:HD13	1:A:869:GLU:HB2	1.96	0.46
1:A:2866:VAL:O	1:A:2929:LYS:NZ	2.40	0.46
1:A:3951:LYS:NZ	1:A:4012:GLN:HB3	2.30	0.46
2:G:26:HIS:HD1	2:G:105:LEU:HD11	1.80	0.46
1:B:1494:TYR:CB	1:B:1528:MET:HE1	2.46	0.46
1:B:2525:VAL:HG23	1:B:2526:GLY:N	2.30	0.46
1:B:3958:MET:HE3	1:B:4018:GLU:HG2	1.97	0.46
1:B:5032:ASP:OD1	1:B:5033:GLN:OE1	2.33	0.46
1:C:2737:ASP:OD1	1:C:2892:LYS:NZ	2.37	0.46
1:D:490:ASN:O	1:D:494:ARG:HG2	2.15	0.46
1:D:864:LEU:HD13	1:D:869:GLU:HB2	1.96	0.46
1:A:2525:VAL:HG23	1:A:2526:GLY:N	2.30	0.46
1:A:2942:LEU:HA	1:A:2945:MET:SD	2.55	0.46
1:C:70:LEU:HD13	1:C:102:LEU:HD11	1.97	0.46
1:C:3184:VAL:O	1:C:3188:ARG:HG3	2.15	0.46
1:C:4628:TYR:OH	1:D:4858:ARG:NH1	2.42	0.46
1:C:4814:ILE:HD12	1:C:4821:LEU:CD1	2.46	0.46
1:D:569:LEU:HD12	1:D:603:VAL:HG13	1.97	0.46
1:D:1053:ASN:OD1	1:D:1053:ASN:O	2.34	0.46
1:D:1494:TYR:CB	1:D:1528:MET:HE1	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2391:PRO:O	1:D:2392:ALA:HB3	2.16	0.46
1:D:3184:VAL:O	1:D:3188:ARG:HG3	2.15	0.46
1:D:4235:GLU:OE2	1:D:5015:ARG:NH2	2.48	0.46
1:A:873:GLU:O	1:A:877:GLU:OE1	2.34	0.46
1:A:2391:PRO:O	1:A:2392:ALA:HB3	2.16	0.46
1:A:3761:MET:SD	1:A:4753:GLU:OE1	2.74	0.46
2:H:26:HIS:HD1	2:H:105:LEU:HD11	1.80	0.46
1:B:3184:VAL:O	1:B:3188:ARG:HG3	2.15	0.46
1:B:3761:MET:SD	1:B:4753:GLU:OE1	2.74	0.46
1:C:2996:ILE:HD12	1:C:2996:ILE:H	1.80	0.46
1:D:581:GLU:HG3	1:D:621:LEU:HD22	1.96	0.46
1:D:2942:LEU:HA	1:D:2945:MET:SD	2.55	0.46
1:D:3761:MET:SD	1:D:4753:GLU:OE1	2.74	0.46
1:D:3820:LEU:HD21	1:D:3901:ASP:HB3	1.98	0.46
1:A:1685:ALA:HA	2:E:91:ILE:HD11	1.97	0.46
1:A:2156:LEU:HD13	1:A:2199:MET:HE1	1.98	0.46
1:B:2752:LEU:HD11	1:B:2824:VAL:CG2	2.43	0.46
1:B:3820:LEU:HD21	1:B:3901:ASP:HB3	1.97	0.46
1:B:4318:ARG:NH1	1:D:4910:TYR:OH	2.49	0.46
1:C:569:LEU:HD12	1:C:603:VAL:HG13	1.97	0.46
1:C:1494:TYR:CB	1:C:1528:MET:HE1	2.46	0.46
1:D:2482:LYS:O	1:D:2483:ASP:OD2	2.34	0.46
1:D:4066:ASP:OD1	1:D:4066:ASP:C	2.59	0.46
1:D:4814:ILE:HD12	1:D:4821:LEU:CD1	2.46	0.46
1:A:70:LEU:HD13	1:A:102:LEU:HD11	1.97	0.46
1:A:2887:TRP:CZ2	1:A:2905:LEU:HD23	2.50	0.46
1:A:3082:MET:HE3	1:A:3093:LEU:CD2	2.43	0.46
1:A:4814:ILE:HD12	1:A:4821:LEU:CD1	2.46	0.46
1:B:4926:LEU:HA	1:B:4929:ILE:HD12	1.97	0.46
1:C:897:VAL:HG22	1:C:898:ARG:N	2.30	0.46
1:C:2752:LEU:HD11	1:C:2824:VAL:CG2	2.43	0.46
1:C:4186:ILE:CD1	1:C:4196:ILE:HD11	2.46	0.46
1:D:871:ILE:HD12	1:D:1050:TYR:HD2	1.81	0.46
1:D:873:GLU:O	1:D:877:GLU:OE1	2.34	0.46
1:D:2996:ILE:HD12	1:D:2996:ILE:H	1.80	0.46
1:A:4927:LEU:O	1:A:4931:GLN:OE1	2.32	0.46
1:C:1053:ASN:OD1	1:C:1053:ASN:O	2.34	0.46
1:C:1066:SER:OG	1:C:1067:GLN:OE1	2.14	0.46
1:C:2887:TRP:CZ2	1:C:2905:LEU:HD23	2.50	0.46
1:C:3761:MET:SD	1:C:4753:GLU:OE1	2.74	0.46
1:D:4926:LEU:HA	1:D:4929:ILE:HD12	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2482:LYS:O	1:B:2483:ASP:OD2	2.34	0.46
1:C:3051:VAL:CG2	1:C:3065:VAL:HG11	2.46	0.46
1:D:397:GLU:OE2	1:D:471:SER:OG	2.29	0.46
1:A:938:CYS:HA	1:A:1057:PRO:HD3	1.98	0.45
1:A:4720:ARG:HH11	1:A:4720:ARG:H	1.64	0.45
1:B:873:GLU:O	1:B:877:GLU:OE1	2.34	0.45
1:B:4814:ILE:HD12	1:B:4821:LEU:CD1	2.46	0.45
1:C:4926:LEU:HA	1:C:4929:ILE:HD12	1.97	0.45
1:A:3541:TYR:OH	1:A:3598:GLN:NE2	2.49	0.45
1:A:3958:MET:HE3	1:A:4018:GLU:HG2	1.97	0.45
1:B:2830:GLY:HA2	1:B:2934:ASN:HA	1.99	0.45
1:B:4720:ARG:HH11	1:B:4720:ARG:H	1.64	0.45
1:C:871:ILE:HD12	1:C:1050:TYR:HD2	1.81	0.45
1:C:2482:LYS:O	1:C:2483:ASP:OD2	2.34	0.45
1:D:2798:PHE:CZ	1:D:2802:ASP:HB3	2.51	0.45
1:D:2887:TRP:CG	1:D:2891:LYS:HZ1	2.33	0.45
1:D:3541:TYR:HB3	1:D:3605:TYR:CD2	2.52	0.45
1:A:2482:LYS:O	1:A:2483:ASP:OD2	2.34	0.45
1:A:2978:LEU:HD22	1:A:3057:LEU:HD23	1.98	0.45
1:A:3006:LEU:O	1:A:3007:ILE:C	2.60	0.45
1:B:2798:PHE:CZ	1:B:2802:ASP:HB3	2.51	0.45
1:B:4186:ILE:CD1	1:B:4196:ILE:HD11	2.46	0.45
1:C:2156:LEU:HD13	1:C:2199:MET:HE1	1.98	0.45
1:C:3591:GLU:O	1:C:3594:VAL:HG22	2.17	0.45
1:A:216:THR:OG1	1:A:219:HIS:CE1	2.70	0.45
1:A:500:THR:HG23	1:A:503:HIS:H	1.80	0.45
1:A:569:LEU:HD12	1:A:603:VAL:HG13	1.97	0.45
1:A:2007:ILE:CD1	1:A:3642:LEU:HD21	2.47	0.45
1:B:978:LEU:HD12	1:B:982:GLN:HB3	1.99	0.45
1:B:3006:LEU:O	1:B:3007:ILE:C	2.60	0.45
1:C:873:GLU:O	1:C:877:GLU:OE1	2.34	0.45
1:C:3548:GLU:OE1	1:C:3551:ARG:NH2	2.40	0.45
1:D:70:LEU:HD13	1:D:102:LEU:HD11	1.97	0.45
1:D:1132:ARG:NH1	1:D:1138:GLU:OE1	2.49	0.45
1:D:2978:LEU:HD22	1:D:3057:LEU:HD23	1.98	0.45
1:D:3591:GLU:O	1:D:3594:VAL:HG22	2.17	0.45
2:H:91:ILE:HD11	1:D:1685:ALA:HA	1.98	0.45
1:B:938:CYS:HA	1:B:1057:PRO:HD3	1.98	0.45
1:B:1793:ALA:C	1:B:1794:THR:HG1	2.15	0.45
1:B:3541:TYR:HB3	1:B:3605:TYR:CD2	2.52	0.45
1:B:3591:GLU:O	1:B:3594:VAL:HG22	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:216:THR:OG1	1:C:219:HIS:CE1	2.70	0.45
1:D:2830:GLY:HA2	1:D:2934:ASN:HA	1.99	0.45
1:D:3051:VAL:CG2	1:D:3065:VAL:HG11	2.46	0.45
1:D:3509:SER:OG	1:D:3512:VAL:HG12	2.17	0.45
1:A:871:ILE:HD12	1:A:1050:TYR:HD2	1.81	0.45
1:A:2798:PHE:CZ	1:A:2802:ASP:HB3	2.51	0.45
2:G:91:ILE:HD11	1:C:1685:ALA:HA	1.97	0.45
1:B:70:LEU:HD13	1:B:102:LEU:HD11	1.97	0.45
1:B:216:THR:OG1	1:B:219:HIS:CE1	2.70	0.45
1:B:2156:LEU:HD13	1:B:2199:MET:HE1	1.98	0.45
1:C:1041:CYS:SG	1:C:1042:GLN:NE2	2.87	0.45
1:C:2798:PHE:CZ	1:C:2802:ASP:HB3	2.51	0.45
1:D:216:THR:OG1	1:D:219:HIS:CE1	2.70	0.45
1:D:3958:MET:HE3	1:D:4018:GLU:HG2	1.97	0.45
1:D:4186:ILE:CD1	1:D:4196:ILE:HD11	2.46	0.45
1:A:3541:TYR:HB3	1:A:3605:TYR:CD2	2.52	0.45
1:B:2007:ILE:CD1	1:B:3642:LEU:HD21	2.47	0.45
1:B:3399:PHE:HB2	1:B:3455:GLU:HG3	1.99	0.45
1:B:3440:GLY:HA2	1:B:3515:LEU:HD12	1.99	0.45
1:C:2391:PRO:O	1:C:2392:ALA:HB3	2.16	0.45
1:C:3399:PHE:HB2	1:C:3455:GLU:HG3	1.99	0.45
1:C:3515:LEU:HD11	1:C:3603:VAL:HG13	1.99	0.45
1:C:4075:VAL:HG21	1:C:4132:ALA:HB2	1.99	0.45
1:D:3006:LEU:O	1:D:3007:ILE:C	2.60	0.45
1:A:978:LEU:HD12	1:A:982:GLN:HB3	1.99	0.45
1:A:2515:ASN:OD1	1:A:2517:ASP:N	2.45	0.45
1:B:1132:ARG:NH1	1:B:1138:GLU:OE1	2.49	0.45
1:B:2391:PRO:O	1:B:2392:ALA:HB3	2.16	0.45
1:C:938:CYS:HA	1:C:1057:PRO:HD3	1.98	0.45
1:C:4062:LEU:HD13	1:C:4170:ALA:HB2	1.99	0.45
1:D:877:GLU:O	1:D:881:GLU:HG2	2.17	0.45
1:D:4062:LEU:HD13	1:D:4170:ALA:HB2	1.99	0.45
1:A:877:GLU:O	1:A:881:GLU:HG2	2.17	0.45
1:A:1555:VAL:HG21	1:A:1562:VAL:CG1	2.47	0.45
1:A:3051:VAL:CG2	1:A:3065:VAL:HG11	2.46	0.45
1:A:4066:ASP:OD1	1:A:4066:ASP:C	2.59	0.45
1:A:4577:PHE:HB2	1:A:4630:LEU:HD11	1.99	0.45
1:B:2160:LEU:HD13	1:B:2204:MET:HG2	1.99	0.45
1:C:2160:LEU:HD13	1:C:2204:MET:HG2	1.99	0.45
1:C:2830:GLY:HA2	1:C:2934:ASN:HA	1.99	0.45
1:C:4577:PHE:HB2	1:C:4630:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3082:MET:HE3	1:D:3093:LEU:CD2	2.43	0.45
1:A:3130:LEU:O	1:A:3134:THR:HG22	2.17	0.45
1:A:3509:SER:OG	1:A:3512:VAL:HG12	2.17	0.45
1:A:4186:ILE:CD1	1:A:4196:ILE:HD11	2.46	0.45
2:F:91:ILE:HD11	1:B:1685:ALA:HA	1.97	0.45
1:B:877:GLU:O	1:B:881:GLU:HG2	2.17	0.45
1:B:1555:VAL:HG21	1:B:1562:VAL:CG1	2.47	0.45
1:B:1967:VAL:HG21	1:B:3650:ALA:HB1	1.99	0.45
1:B:2216:LEU:HD23	1:B:2224:ILE:HG21	1.99	0.45
1:B:4075:VAL:HG21	1:B:4132:ALA:HB2	1.99	0.45
1:C:978:LEU:HD12	1:C:982:GLN:HB3	1.99	0.45
1:C:3440:GLY:HA2	1:C:3515:LEU:HD12	1.99	0.45
1:D:2866:VAL:O	1:D:2929:LYS:NZ	2.40	0.45
1:D:3515:LEU:HD11	1:D:3603:VAL:HG13	1.99	0.45
2:E:26:HIS:HD1	2:E:105:LEU:HD11	1.81	0.44
1:B:2978:LEU:HD22	1:B:3057:LEU:HD23	1.98	0.44
1:B:3082:MET:HE3	1:B:3093:LEU:CD2	2.43	0.44
1:B:3674:MET:HE2	1:B:3726:TYR:HE1	1.83	0.44
1:C:446:LEU:HD23	1:C:526:LEU:HD22	2.00	0.44
1:C:4066:ASP:OD1	1:C:4066:ASP:C	2.59	0.44
1:C:4720:ARG:HH11	1:C:4720:ARG:H	1.64	0.44
1:D:1967:VAL:HG21	1:D:3650:ALA:HB1	1.99	0.44
1:D:2007:ILE:CD1	1:D:3642:LEU:HD21	2.47	0.44
1:D:2160:LEU:HD13	1:D:2204:MET:HG2	1.99	0.44
1:D:2771:LYS:HE3	1:D:2792:LEU:HD11	1.99	0.44
1:A:3399:PHE:HB2	1:A:3455:GLU:HG3	1.99	0.44
1:A:3683:GLU:OE1	1:A:3686:GLU:HG2	2.18	0.44
1:A:3999:PHE:HD1	1:A:4019:LEU:HD11	1.83	0.44
1:B:3999:PHE:HD1	1:B:4019:LEU:HD11	1.83	0.44
1:C:923:LEU:O	1:C:926:SER:OG	2.34	0.44
1:C:2892:LYS:HA	1:C:2895:LEU:HD12	2.00	0.44
1:C:4638:GLU:HB3	1:C:4639:PRO:HD3	2.00	0.44
1:D:3399:PHE:HB2	1:D:3455:GLU:HG3	1.99	0.44
1:D:3674:MET:HE2	1:D:3726:TYR:HE1	1.83	0.44
1:B:871:ILE:HD12	1:B:1050:TYR:HD2	1.81	0.44
1:B:3051:VAL:CG2	1:B:3065:VAL:HG11	2.47	0.44
1:C:2883:TYR:OH	1:C:2927:LEU:HD13	2.18	0.44
1:C:3170:LEU:CD1	1:C:3195:LEU:HD11	2.40	0.44
1:D:2883:TYR:OH	1:D:2927:LEU:HD13	2.18	0.44
1:D:4577:PHE:HB2	1:D:4630:LEU:HD11	1.99	0.44
1:D:4720:ARG:HH11	1:D:4720:ARG:H	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:723:TRP:CE2	1:A:728:ALA:HB2	2.53	0.44
1:A:2160:LEU:HD13	1:A:2204:MET:HG2	1.99	0.44
1:A:2432:ASP:OD2	1:A:2436:ARG:NE	2.50	0.44
1:A:3421:ARG:NH2	1:A:3517:LYS:O	2.51	0.44
1:A:4858:ARG:NH1	1:D:4628:TYR:OH	2.42	0.44
1:B:3130:LEU:O	1:B:3134:THR:HG22	2.17	0.44
1:B:3421:ARG:NH2	1:B:3517:LYS:O	2.51	0.44
1:B:4066:ASP:OD1	1:B:4066:ASP:C	2.59	0.44
1:B:4093:LYS:HE2	1:B:4093:LYS:HB2	1.30	0.44
1:C:4043:ILE:H	1:C:4043:ILE:HD12	1.83	0.44
1:D:2859:GLN:OE1	1:D:2859:GLN:N	2.51	0.44
1:D:4075:VAL:HG21	1:D:4132:ALA:HB2	1.99	0.44
1:A:2859:GLN:OE1	1:A:2859:GLN:N	2.51	0.44
1:A:2883:TYR:OH	1:A:2927:LEU:HD13	2.18	0.44
1:A:3674:MET:HE2	1:A:3726:TYR:HE1	1.83	0.44
1:A:4107:THR:HG22	1:A:4108:GLY:N	2.33	0.44
1:A:4965:TYR:OH	1:A:5031:GLU:OE2	2.28	0.44
1:B:3683:GLU:OE1	1:B:3686:GLU:HG2	2.18	0.44
1:B:4043:ILE:H	1:B:4043:ILE:HD12	1.83	0.44
1:B:4910:TYR:OH	1:D:4318:ARG:NH1	2.49	0.44
1:C:2859:GLN:OE1	1:C:2859:GLN:N	2.51	0.44
1:C:3541:TYR:HB3	1:C:3605:TYR:CD2	2.52	0.44
1:C:3674:MET:HE2	1:C:3726:TYR:HE1	1.83	0.44
1:D:3293:PRO:O	1:D:3295:PRO:CD	2.66	0.44
1:D:3440:GLY:HA2	1:D:3515:LEU:HD12	1.99	0.44
1:D:3683:GLU:OE1	1:D:3686:GLU:HG2	2.18	0.44
1:A:3591:GLU:O	1:A:3594:VAL:HG22	2.17	0.44
1:B:2859:GLN:N	1:B:2859:GLN:OE1	2.51	0.44
1:B:2928:LEU:HA	1:B:2931:LEU:HD12	1.99	0.44
1:B:3548:GLU:OE1	1:B:3551:ARG:NH2	2.40	0.44
1:B:4094:LYS:HD2	1:B:4094:LYS:HA	1.36	0.44
1:C:2216:LEU:HD23	1:C:2224:ILE:HG21	1.99	0.44
1:C:2759:PHE:HD1	1:C:2930:PHE:CG	2.36	0.44
1:C:2771:LYS:HE3	1:C:2792:LEU:HD11	1.99	0.44
1:A:1967:VAL:HG21	1:A:3650:ALA:HB1	1.99	0.44
1:A:2216:LEU:HD23	1:A:2224:ILE:HG21	1.99	0.44
1:A:2830:GLY:HA2	1:A:2934:ASN:HA	1.99	0.44
1:A:3106:LYS:O	1:A:3109:GLU:HG3	2.18	0.44
1:A:3515:LEU:HD11	1:A:3603:VAL:HG13	1.99	0.44
1:B:2266:LEU:HD13	1:B:2331:ARG:HE	1.83	0.44
1:B:3360:ILE:HB	1:B:3361:PRO:HD3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4062:LEU:HD13	1:B:4170:ALA:HB2	1.99	0.44
1:B:4577:PHE:HB2	1:B:4630:LEU:HD11	1.99	0.44
1:C:1555:VAL:HG21	1:C:1562:VAL:CG1	2.47	0.44
1:C:2978:LEU:HD22	1:C:3057:LEU:HD23	1.99	0.44
1:C:3683:GLU:OE1	1:C:3686:GLU:HG2	2.18	0.44
1:C:4935:ILE:HG12	1:D:4932:GLY:HA2	1.99	0.44
1:D:1294:LEU:O	1:D:1580:MET:HE2	2.18	0.44
1:D:2266:LEU:HD21	1:D:2327:CYS:SG	2.58	0.44
1:D:2892:LYS:HA	1:D:2895:LEU:HD12	2.00	0.44
1:A:2887:TRP:O	1:A:2891:LYS:HE2	2.18	0.44
1:A:3591:GLU:HA	1:A:3594:VAL:HG22	2.00	0.44
1:B:2782:ILE:HG23	1:B:2782:ILE:O	2.18	0.44
1:B:3509:SER:OG	1:B:3512:VAL:HG12	2.17	0.44
1:B:4107:THR:HG22	1:B:4108:GLY:N	2.33	0.44
1:C:3509:SER:OG	1:C:3512:VAL:HG12	2.17	0.44
1:C:3999:PHE:HD1	1:C:4019:LEU:HD11	1.83	0.44
1:C:4828:VAL:HG21	1:D:4929:ILE:HD11	2.00	0.44
1:D:1555:VAL:HG21	1:D:1562:VAL:CG1	2.47	0.44
1:D:2156:LEU:HD13	1:D:2199:MET:HE1	1.98	0.44
1:D:3541:TYR:OH	1:D:3598:GLN:NE2	2.49	0.44
1:D:3591:GLU:HA	1:D:3594:VAL:HG22	2.00	0.44
1:A:3176:LEU:O	1:A:3176:LEU:HD23	2.18	0.44
1:A:4075:VAL:HG21	1:A:4132:ALA:HB2	1.99	0.44
1:A:4700:ASP:C	1:A:4702:LEU:N	2.76	0.44
1:B:1041:CYS:SG	1:B:1042:GLN:NE2	2.87	0.44
1:B:2759:PHE:HD1	1:B:2930:PHE:CG	2.36	0.44
1:B:4334:TRP:HA	1:B:4334:TRP:CE3	2.53	0.44
1:C:877:GLU:O	1:C:881:GLU:HG2	2.17	0.44
1:C:2007:ILE:CD1	1:C:3642:LEU:HD21	2.47	0.44
1:C:2782:ILE:HG23	1:C:2782:ILE:O	2.18	0.44
1:D:938:CYS:HA	1:D:1057:PRO:CD	2.48	0.44
1:D:978:LEU:HD12	1:D:982:GLN:HB3	1.99	0.44
1:D:3360:ILE:HB	1:D:3361:PRO:HD3	2.00	0.44
1:A:938:CYS:HA	1:A:1057:PRO:CD	2.48	0.43
1:A:3410:TYR:N	1:A:3411:PRO:HD2	2.33	0.43
1:A:4062:LEU:HD13	1:A:4170:ALA:HB2	1.99	0.43
1:B:2266:LEU:HD21	1:B:2327:CYS:SG	2.58	0.43
1:B:2887:TRP:O	1:B:2891:LYS:HE2	2.18	0.43
1:B:3515:LEU:HD11	1:B:3603:VAL:HG13	1.99	0.43
1:B:4965:TYR:OH	1:B:5031:GLU:OE2	2.28	0.43
1:C:1793:ALA:C	1:C:1794:THR:HG1	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3293:PRO:O	1:C:3295:PRO:CD	2.66	0.43
1:C:3421:ARG:NH2	1:C:3517:LYS:O	2.51	0.43
1:D:914:LEU:HD12	1:D:915:PRO:HD2	1.99	0.43
1:D:1793:ALA:C	1:D:1794:THR:HG1	2.14	0.43
1:D:3999:PHE:HD1	1:D:4019:LEU:HD11	1.83	0.43
1:A:3515:LEU:HD23	1:A:3515:LEU:C	2.43	0.43
1:A:4009:ASP:OD1	1:A:4010:SER:N	2.51	0.43
1:A:4706:THR:HA	1:A:4707:PRO:HD3	1.91	0.43
1:B:723:TRP:CE2	1:B:728:ALA:HB2	2.53	0.43
1:B:843:PRO:O	1:B:1197:PRO:HA	2.19	0.43
1:B:938:CYS:HA	1:B:1057:PRO:CD	2.48	0.43
1:B:2883:TYR:OH	1:B:2927:LEU:HD13	2.18	0.43
1:B:3170:LEU:CD1	1:B:3195:LEU:HD11	2.40	0.43
1:B:3293:PRO:O	1:B:3295:PRO:CD	2.66	0.43
1:B:4638:GLU:HB3	1:B:4639:PRO:HD3	2.00	0.43
1:C:938:CYS:HA	1:C:1057:PRO:CD	2.48	0.43
1:C:2187:MET:HE2	1:C:2236:PHE:HA	2.01	0.43
1:C:2928:LEU:HA	1:C:2931:LEU:HD12	1.99	0.43
1:D:723:TRP:CE2	1:D:728:ALA:HB2	2.53	0.43
1:D:864:LEU:HD12	1:D:864:LEU:O	2.19	0.43
1:D:2887:TRP:O	1:D:2891:LYS:HE2	2.18	0.43
1:D:2928:LEU:HA	1:D:2931:LEU:HD12	1.99	0.43
1:D:4090:LEU:HD22	1:D:4125:MET:HB3	2.00	0.43
1:A:923:LEU:O	1:A:926:SER:OG	2.34	0.43
1:A:3293:PRO:O	1:A:3295:PRO:CD	2.66	0.43
1:A:4694:ASP:OD1	1:A:4697:GLY:N	2.30	0.43
1:A:4935:ILE:HG12	1:B:4932:GLY:HA2	2.00	0.43
1:B:446:LEU:HD23	1:B:526:LEU:HD22	2.00	0.43
1:B:914:LEU:HD12	1:B:915:PRO:HD2	1.99	0.43
1:B:951:LEU:HD11	1:B:1049:GLY:O	2.18	0.43
1:B:3410:TYR:N	1:B:3411:PRO:HD2	2.33	0.43
1:B:3515:LEU:HD23	1:B:3515:LEU:C	2.43	0.43
1:C:1967:VAL:HG21	1:C:3650:ALA:HB1	1.99	0.43
1:C:3410:TYR:N	1:C:3411:PRO:HD2	2.33	0.43
1:D:2627:LEU:HD22	1:D:2641:PRO:HB3	2.00	0.43
1:D:3130:LEU:O	1:D:3134:THR:HG22	2.17	0.43
1:D:3506:VAL:O	1:D:3509:SER:OG	2.16	0.43
1:D:3515:LEU:HD23	1:D:3515:LEU:C	2.43	0.43
1:D:4638:GLU:HB3	1:D:4639:PRO:HD3	2.00	0.43
1:A:2266:LEU:HD21	1:A:2327:CYS:SG	2.58	0.43
1:A:2782:ILE:O	1:A:2782:ILE:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3440:GLY:HA2	1:A:3515:LEU:HD12	1.99	0.43
1:A:3638:ARG:HH11	1:A:3640:THR:HG23	1.84	0.43
1:A:4828:VAL:HG21	1:B:4929:ILE:HD11	2.01	0.43
1:B:2771:LYS:HE3	1:B:2792:LEU:HD11	1.99	0.43
1:B:2892:LYS:HA	1:B:2895:LEU:HD12	2.00	0.43
1:B:3541:TYR:OH	1:B:3598:GLN:NE2	2.49	0.43
1:C:47:LEU:HD12	1:C:126:ARG:HH12	1.84	0.43
1:C:2266:LEU:HD21	1:C:2327:CYS:SG	2.58	0.43
1:C:2887:TRP:O	1:C:2891:LYS:HE2	2.18	0.43
1:C:3006:LEU:O	1:C:3007:ILE:C	2.60	0.43
1:C:3082:MET:HE3	1:C:3093:LEU:CD2	2.43	0.43
1:C:3130:LEU:O	1:C:3134:THR:HG22	2.17	0.43
1:C:4107:THR:HG22	1:C:4108:GLY:N	2.33	0.43
1:D:2432:ASP:OD2	1:D:2436:ARG:NE	2.50	0.43
1:D:2515:ASN:OD1	1:D:2517:ASP:N	2.45	0.43
1:D:3410:TYR:N	1:D:3411:PRO:HD2	2.33	0.43
1:D:4043:ILE:H	1:D:4043:ILE:HD12	1.83	0.43
1:A:1132:ARG:NH1	1:A:1138:GLU:OE1	2.49	0.43
1:A:4090:LEU:HD22	1:A:4125:MET:HB3	2.00	0.43
1:B:3106:LYS:O	1:B:3109:GLU:HG3	2.18	0.43
1:B:4700:ASP:C	1:B:4702:LEU:N	2.76	0.43
1:C:461:GLN:HB2	1:C:464:GLU:OE1	2.19	0.43
1:C:951:LEU:HD11	1:C:1049:GLY:O	2.18	0.43
1:C:2438:ALA:HB2	1:C:2510:VAL:HG22	2.01	0.43
1:C:3106:LYS:O	1:C:3109:GLU:HG3	2.18	0.43
1:D:446:LEU:HD23	1:D:526:LEU:HD22	2.00	0.43
1:D:951:LEU:HD11	1:D:1049:GLY:O	2.18	0.43
1:D:1038:ASP:O	1:D:1042:GLN:HG2	2.19	0.43
1:D:2266:LEU:HD13	1:D:2331:ARG:HE	1.83	0.43
1:D:2782:ILE:O	1:D:2782:ILE:HG23	2.18	0.43
1:A:843:PRO:O	1:A:1197:PRO:HA	2.19	0.43
1:A:2438:ALA:HB2	1:A:2510:VAL:HG22	2.01	0.43
1:A:3360:ILE:HB	1:A:3361:PRO:HD3	2.00	0.43
1:B:670:ASP:OD2	1:B:789:LYS:NZ	2.33	0.43
1:B:1294:LEU:O	1:B:1580:MET:HE2	2.18	0.43
1:B:3176:LEU:O	1:B:3176:LEU:HD23	2.18	0.43
1:B:3591:GLU:HA	1:B:3594:VAL:HG22	2.00	0.43
1:B:4902:PRO:HB3	1:B:4911:ARG:HG2	2.01	0.43
1:C:3176:LEU:HD23	1:C:3176:LEU:O	2.18	0.43
1:D:858:ASP:OD1	1:D:859:THR:N	2.52	0.43
1:D:2216:LEU:HD23	1:D:2224:ILE:HG21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3106:LYS:O	1:D:3109:GLU:HG3	2.18	0.43
1:D:3176:LEU:O	1:D:3176:LEU:HD23	2.18	0.43
1:A:446:LEU:HD23	1:A:526:LEU:HD22	2.00	0.43
1:A:1038:ASP:O	1:A:1042:GLN:HG2	2.19	0.43
1:A:1713:TYR:OH	1:A:1816:MET:SD	2.77	0.43
1:A:2627:LEU:HD22	1:A:2641:PRO:HB3	2.00	0.43
1:A:2928:LEU:HA	1:A:2931:LEU:HD12	1.99	0.43
1:A:4334:TRP:CE3	1:A:4334:TRP:HA	2.53	0.43
1:B:47:LEU:HD12	1:B:126:ARG:HH12	1.84	0.43
1:B:554:ARG:NE	1:B:556:GLU:OE2	2.51	0.43
1:B:4828:VAL:HG21	1:C:4929:ILE:HD11	2.01	0.43
1:C:546:ASP:OD1	1:C:583:HIS:NE2	2.38	0.43
1:C:723:TRP:CE2	1:C:728:ALA:HB2	2.53	0.43
1:C:1294:LEU:O	1:C:1580:MET:HE2	2.18	0.43
1:C:3228:ARG:HG2	1:C:3228:ARG:O	2.19	0.43
1:C:3360:ILE:HB	1:C:3361:PRO:HD3	2.00	0.43
1:C:3638:ARG:HH11	1:C:3640:THR:HG23	1.84	0.43
1:C:4334:TRP:HA	1:C:4334:TRP:CE3	2.53	0.43
1:C:4902:PRO:HB3	1:C:4911:ARG:HG2	2.01	0.43
1:D:47:LEU:HD12	1:D:126:ARG:HH12	1.84	0.43
1:D:2234:CYS:SG	1:D:2271:SER:HB3	2.59	0.43
1:D:3421:ARG:NH2	1:D:3517:LYS:O	2.51	0.43
1:A:858:ASP:OD1	1:A:859:THR:N	2.52	0.43
1:A:1294:LEU:O	1:A:1580:MET:HE2	2.18	0.43
1:A:3170:LEU:CD1	1:A:3195:LEU:HD11	2.40	0.43
1:B:422:PHE:O	1:B:423:SER:C	2.62	0.43
1:B:3638:ARG:HH11	1:B:3640:THR:HG23	1.84	0.43
1:B:4730:PHE:CB	1:B:4735:ILE:HD11	2.49	0.43
1:C:2234:CYS:SG	1:C:2271:SER:HB3	2.59	0.43
1:C:3591:GLU:HA	1:C:3594:VAL:HG22	2.00	0.43
1:C:4730:PHE:CB	1:C:4735:ILE:HD11	2.49	0.43
1:D:843:PRO:O	1:D:1197:PRO:HA	2.19	0.43
1:D:2759:PHE:HD1	1:D:2930:PHE:CG	2.36	0.43
1:A:864:LEU:HD12	1:A:864:LEU:O	2.19	0.43
1:A:2771:LYS:HE3	1:A:2792:LEU:HD11	1.99	0.43
1:A:2892:LYS:HA	1:A:2895:LEU:HD12	2.00	0.43
1:A:3551:ARG:HD2	1:A:3595:ARG:NH2	2.34	0.43
1:A:4318:ARG:NH1	1:C:4910:TYR:OH	2.50	0.43
1:A:4932:GLY:HA2	1:D:4935:ILE:HG12	2.00	0.43
1:B:910:ASN:O	1:B:914:LEU:N	2.52	0.43
1:B:1420:ASP:O	1:B:1422:ARG:HD3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3253:GLU:O	1:B:3257:LEU:HD23	2.19	0.43
1:C:864:LEU:O	1:C:864:LEU:HD12	2.19	0.43
1:C:3515:LEU:C	1:C:3515:LEU:HD23	2.43	0.43
1:D:2187:MET:HE2	1:D:2236:PHE:HA	2.01	0.43
1:A:871:ILE:O	1:A:872:ARG:C	2.62	0.43
1:B:2234:CYS:SG	1:B:2271:SER:HB3	2.59	0.43
1:B:4706:THR:HA	1:B:4707:PRO:HD3	1.91	0.43
1:C:871:ILE:O	1:C:872:ARG:C	2.62	0.43
1:C:916:GLU:O	1:C:919:ARG:HG2	2.19	0.43
1:C:2213:VAL:HG21	1:C:2257:TYR:HE2	1.82	0.43
1:C:3730:MET:O	1:C:3733:SER:OG	2.30	0.43
1:D:422:PHE:O	1:D:423:SER:C	2.62	0.43
1:D:1420:ASP:O	1:D:1422:ARG:HD3	2.19	0.43
1:D:2481:GLY:O	1:D:2485:ALA:N	2.51	0.43
1:D:3208:GLU:OE2	1:D:3307:ALA:N	2.49	0.43
1:D:3228:ARG:O	1:D:3228:ARG:HG2	2.19	0.43
1:D:4334:TRP:CE3	1:D:4334:TRP:HA	2.53	0.43
1:D:4700:ASP:C	1:D:4702:LEU:N	2.76	0.43
1:A:397:GLU:OE2	1:A:471:SER:OG	2.29	0.42
1:A:916:GLU:O	1:A:919:ARG:HG2	2.19	0.42
1:A:1041:CYS:SG	1:A:1042:GLN:NE2	2.87	0.42
1:A:1420:ASP:O	1:A:1422:ARG:HD3	2.19	0.42
1:A:4043:ILE:H	1:A:4043:ILE:HD12	1.83	0.42
1:A:4638:GLU:HB3	1:A:4639:PRO:HD3	2.00	0.42
1:A:4929:ILE:HD11	1:D:4828:VAL:HG21	2.01	0.42
1:B:858:ASP:OD1	1:B:859:THR:N	2.52	0.42
1:B:3551:ARG:HD2	1:B:3595:ARG:NH2	2.34	0.42
1:B:4935:ILE:HG12	1:C:4932:GLY:HA2	2.00	0.42
1:C:843:PRO:O	1:C:1197:PRO:HA	2.19	0.42
1:C:871:ILE:HG13	1:C:1052:TYR:CE2	2.54	0.42
1:D:871:ILE:HG13	1:D:1052:TYR:CE2	2.54	0.42
1:D:4730:PHE:CB	1:D:4735:ILE:HD11	2.49	0.42
1:A:871:ILE:HG13	1:A:1052:TYR:CE2	2.54	0.42
1:A:910:ASN:O	1:A:914:LEU:N	2.52	0.42
1:B:461:GLN:HB2	1:B:464:GLU:OE1	2.19	0.42
1:B:864:LEU:HD12	1:B:864:LEU:O	2.19	0.42
1:B:2124:LEU:O	1:B:2128:GLN:HG2	2.20	0.42
1:B:4090:LEU:HD22	1:B:4125:MET:HB3	2.00	0.42
1:C:910:ASN:O	1:C:914:LEU:N	2.52	0.42
1:C:2265:GLY:O	1:C:2266:LEU:HB3	2.20	0.42
1:D:2265:GLY:O	1:D:2266:LEU:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3228:ARG:O	1:A:3228:ARG:HG2	2.19	0.42
1:B:1266:ASP:OD1	1:B:1267:THR:HG23	2.19	0.42
1:B:1713:TYR:OH	1:B:1816:MET:SD	2.77	0.42
1:B:3088:ILE:HD12	1:B:3088:ILE:H	1.85	0.42
1:C:397:GLU:OE2	1:C:471:SER:OG	2.29	0.42
1:C:1038:ASP:O	1:C:1042:GLN:HG2	2.19	0.42
1:C:4093:LYS:HB2	1:C:4093:LYS:HE2	1.30	0.42
1:D:3551:ARG:HD2	1:D:3595:ARG:NH2	2.34	0.42
1:D:3638:ARG:HH11	1:D:3640:THR:HG23	1.84	0.42
1:D:3974:GLY:N	1:D:3975:PRO:HA	2.34	0.42
1:A:914:LEU:HD12	1:A:915:PRO:HD2	1.99	0.42
1:A:2187:MET:HE2	1:A:2236:PHE:HA	2.01	0.42
1:A:2266:LEU:HD13	1:A:2331:ARG:HE	1.83	0.42
1:A:3088:ILE:H	1:A:3088:ILE:HD12	1.85	0.42
1:A:3428:PRO:HG2	1:A:3583:ARG:HD3	2.02	0.42
1:A:4902:PRO:HB3	1:A:4911:ARG:HG2	2.01	0.42
1:B:3282:LEU:HB2	1:B:3283:PRO:HD3	2.01	0.42
1:C:914:LEU:HD12	1:C:915:PRO:HD2	1.99	0.42
1:C:2266:LEU:HD13	1:C:2331:ARG:HE	1.83	0.42
1:C:2432:ASP:OD2	1:C:2436:ARG:NE	2.50	0.42
1:C:2515:ASN:OD1	1:C:2517:ASP:N	2.45	0.42
1:C:4072:LYS:HE3	1:C:4136:GLN:HG3	2.02	0.42
1:A:422:PHE:O	1:A:423:SER:C	2.62	0.42
1:A:1793:ALA:C	1:A:1794:THR:HG1	2.16	0.42
1:A:4685:TYR:HE2	1:A:4701:ARG:HG2	1.84	0.42
1:A:4730:PHE:CB	1:A:4735:ILE:HD11	2.49	0.42
1:A:4910:TYR:OH	1:C:4318:ARG:NH1	2.51	0.42
1:B:1038:ASP:O	1:B:1042:GLN:HG2	2.19	0.42
1:B:1437:SER:OG	1:B:1566:GLU:HB2	2.20	0.42
1:B:2866:VAL:O	1:B:2929:LYS:NZ	2.40	0.42
1:B:3228:ARG:HG2	1:B:3228:ARG:O	2.19	0.42
1:B:3428:PRO:HG2	1:B:3583:ARG:HD3	2.02	0.42
1:C:2124:LEU:O	1:C:2128:GLN:HG2	2.20	0.42
1:C:2627:LEU:HD22	1:C:2641:PRO:HB3	2.00	0.42
1:C:3037:LYS:O	1:C:3040:ILE:HG22	2.19	0.42
1:C:3551:ARG:HD2	1:C:3595:ARG:NH2	2.34	0.42
1:C:3974:GLY:N	1:C:3975:PRO:HA	2.34	0.42
1:D:461:GLN:HB2	1:D:464:GLU:OE1	2.19	0.42
1:D:4173:ILE:HD12	1:D:4173:ILE:H	1.85	0.42
1:D:4736:ALA:HB2	1:D:4743:LEU:CD1	2.50	0.42
1:A:2152:ASP:HB3	1:A:2191:VAL:HG23	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3037:LYS:O	1:A:3040:ILE:HG22	2.19	0.42
2:E:89:PRO:O	2:E:91:ILE:HD12	2.20	0.42
2:H:89:PRO:O	2:H:91:ILE:HD12	2.20	0.42
1:B:2810:ILE:H	1:B:2810:ILE:HD12	1.85	0.42
1:C:1420:ASP:O	1:C:1422:ARG:HD3	2.19	0.42
1:C:4675:LEU:HD23	1:C:4709:PHE:CE1	2.55	0.42
1:D:871:ILE:O	1:D:872:ARG:C	2.62	0.42
1:D:2152:ASP:HB3	1:D:2191:VAL:HG23	2.02	0.42
1:D:2810:ILE:HD12	1:D:2810:ILE:H	1.85	0.42
1:A:670:ASP:OD2	1:A:789:LYS:NZ	2.33	0.42
1:A:1437:SER:OG	1:A:1566:GLU:HB2	2.20	0.42
1:A:2124:LEU:O	1:A:2128:GLN:HG2	2.20	0.42
1:A:2234:CYS:SG	1:A:2271:SER:HB3	2.59	0.42
1:A:2759:PHE:HD1	1:A:2930:PHE:CG	2.36	0.42
1:A:2810:ILE:H	1:A:2810:ILE:HD12	1.85	0.42
1:A:4736:ALA:HB2	1:A:4743:LEU:CD1	2.50	0.42
2:H:12:ASP:OD2	2:H:12:ASP:C	2.63	0.42
1:B:627:LEU:N	1:B:628:PRO:HD2	2.34	0.42
1:B:871:ILE:O	1:B:872:ARG:C	2.62	0.42
1:B:4009:ASP:OD1	1:B:4010:SER:N	2.51	0.42
1:B:4072:LYS:HE3	1:B:4136:GLN:HG3	2.02	0.42
1:C:753:VAL:HB	1:C:754:PRO:C	2.45	0.42
1:C:1266:ASP:OD1	1:C:1267:THR:HG23	2.19	0.42
1:C:2810:ILE:H	1:C:2810:ILE:HD12	1.85	0.42
1:C:3253:GLU:O	1:C:3257:LEU:HD23	2.19	0.42
1:C:3428:PRO:HG2	1:C:3583:ARG:HD3	2.02	0.42
1:C:4090:LEU:HD22	1:C:4125:MET:HB3	2.00	0.42
1:D:753:VAL:HB	1:D:754:PRO:C	2.45	0.42
1:D:3282:LEU:HB2	1:D:3283:PRO:HD3	2.01	0.42
1:D:4107:THR:HG22	1:D:4108:GLY:N	2.33	0.42
1:A:103:LEU:HD12	1:A:161:GLY:O	2.20	0.42
1:A:461:GLN:HB2	1:A:464:GLU:OE1	2.19	0.42
1:A:951:LEU:HD11	1:A:1049:GLY:O	2.18	0.42
1:A:2265:GLY:O	1:A:2266:LEU:HB3	2.20	0.42
1:A:3195:LEU:HD12	1:A:3195:LEU:HA	1.93	0.42
1:A:3559:ASN:O	1:A:3560:LEU:HB2	2.20	0.42
1:B:103:LEU:HD12	1:B:161:GLY:O	2.20	0.42
1:B:871:ILE:HG13	1:B:1052:TYR:CE2	2.54	0.42
1:B:1758:GLY:O	1:B:1759:PRO:C	2.63	0.42
1:B:2627:LEU:HD22	1:B:2641:PRO:HB3	2.00	0.42
1:B:3227:GLU:C	1:B:3229:ALA:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3559:ASN:O	1:B:3560:LEU:HB2	2.20	0.42
1:C:1758:GLY:O	1:C:1759:PRO:C	2.63	0.42
1:C:2481:GLY:O	1:C:2485:ALA:N	2.51	0.42
1:D:916:GLU:O	1:D:919:ARG:HG2	2.19	0.42
1:D:2872:LEU:HD11	1:D:2940:ARG:NH1	2.35	0.42
1:D:4902:PRO:HB3	1:D:4911:ARG:HG2	2.01	0.42
1:A:554:ARG:NE	1:A:556:GLU:OE2	2.51	0.42
1:A:2752:LEU:HD23	1:A:2752:LEU:HA	1.93	0.42
1:A:3974:GLY:N	1:A:3975:PRO:HA	2.34	0.42
1:B:2438:ALA:HB2	1:B:2510:VAL:HG22	2.01	0.42
1:C:627:LEU:N	1:C:628:PRO:HD2	2.34	0.42
1:C:858:ASP:OD1	1:C:859:THR:N	2.52	0.42
1:C:3176:LEU:HD21	1:C:3184:VAL:HG13	2.02	0.42
1:D:1423:ASP:OD1	1:D:1569:LYS:NZ	2.40	0.42
1:D:2948:ASP:O	1:D:2949:THR:C	2.63	0.42
1:D:3088:ILE:H	1:D:3088:ILE:HD12	1.85	0.42
1:D:3428:PRO:HG2	1:D:3583:ARG:HD3	2.02	0.42
1:D:3559:ASN:O	1:D:3560:LEU:HB2	2.20	0.42
1:D:4072:LYS:HE3	1:D:4136:GLN:HG3	2.02	0.42
1:A:2814:LEU:HD23	1:A:2814:LEU:O	2.20	0.42
1:A:2925:GLN:O	1:A:2929:LYS:HG3	2.20	0.42
1:B:2925:GLN:O	1:B:2929:LYS:HG3	2.20	0.42
1:B:4685:TYR:HE2	1:B:4701:ARG:HG2	1.84	0.42
1:B:4736:ALA:HB2	1:B:4743:LEU:CD1	2.50	0.42
1:C:2925:GLN:O	1:C:2929:LYS:HG3	2.20	0.42
1:C:4736:ALA:HB2	1:C:4743:LEU:CD1	2.50	0.42
1:D:103:LEU:HD12	1:D:161:GLY:O	2.20	0.42
1:D:910:ASN:O	1:D:914:LEU:N	2.52	0.42
1:D:2183:ILE:HG23	1:D:2236:PHE:HB2	2.02	0.42
1:D:2234:CYS:C	1:D:2236:PHE:N	2.78	0.42
1:A:2872:LEU:HD11	1:A:2940:ARG:NH1	2.35	0.41
1:A:3548:GLU:OE1	1:A:3551:ARG:NH2	2.40	0.41
1:A:4094:LYS:HA	1:A:4094:LYS:HD2	1.35	0.41
2:F:8:ILE:HA	1:B:720:LEU:HD11	2.02	0.41
2:F:89:PRO:O	2:F:91:ILE:HD12	2.20	0.41
1:B:2183:ILE:HG23	1:B:2236:PHE:HB2	2.02	0.41
1:B:3176:LEU:HD21	1:B:3184:VAL:HG13	2.02	0.41
1:C:3457:GLN:O	1:C:3460:VAL:HG12	2.20	0.41
1:D:627:LEU:N	1:D:628:PRO:HD2	2.34	0.41
1:D:1266:ASP:OD1	1:D:1267:THR:HG23	2.19	0.41
1:A:627:LEU:N	1:A:628:PRO:HD2	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1266:ASP:OD1	1:A:1267:THR:HG23	2.19	0.41
1:A:3253:GLU:O	1:A:3257:LEU:HD23	2.19	0.41
1:A:4093:LYS:HB2	1:A:4093:LYS:HE2	1.30	0.41
2:G:89:PRO:O	2:G:91:ILE:HD12	2.20	0.41
1:B:882:LEU:HD21	1:B:1042:GLN:HG3	2.03	0.41
1:B:3457:GLN:O	1:B:3460:VAL:HG12	2.20	0.41
1:C:103:LEU:HD12	1:C:161:GLY:O	2.20	0.41
1:C:938:CYS:SG	1:C:1054:ILE:HG23	2.60	0.41
1:C:2268:MET:CE	1:C:2272:THR:HG22	2.50	0.41
1:C:3088:ILE:H	1:C:3088:ILE:HD12	1.85	0.41
1:D:2438:ALA:HB2	1:D:2510:VAL:HG22	2.01	0.41
1:D:2581:ASP:OD2	1:D:2581:ASP:C	2.63	0.41
1:D:3176:LEU:HD21	1:D:3184:VAL:HG13	2.02	0.41
1:D:4074:ILE:HD12	1:D:4103:GLN:HE21	1.86	0.41
1:D:4323:ARG:O	1:D:4327:THR:HG23	2.21	0.41
1:A:47:LEU:HD12	1:A:126:ARG:HH12	1.84	0.41
1:B:916:GLU:O	1:B:919:ARG:HG2	2.19	0.41
1:B:2265:GLY:O	1:B:2266:LEU:HB3	2.20	0.41
1:B:2268:MET:CE	1:B:2272:THR:HG22	2.50	0.41
1:B:2948:ASP:O	1:B:2949:THR:C	2.63	0.41
1:B:4063:LYS:O	1:B:4067:MET:HG3	2.20	0.41
1:C:1964:GLU:HA	1:C:3651:CYS:SG	2.61	0.41
1:C:2152:ASP:HB3	1:C:2191:VAL:HG23	2.02	0.41
1:C:4323:ARG:O	1:C:4327:THR:HG23	2.21	0.41
1:C:4332:LEU:HD12	1:C:4332:LEU:C	2.46	0.41
1:D:883:TRP:O	1:D:887:ARG:HG2	2.20	0.41
1:D:4063:LYS:O	1:D:4067:MET:HG3	2.20	0.41
1:A:938:CYS:SG	1:A:1054:ILE:HG23	2.60	0.41
1:A:2179:MET:HE3	1:A:2183:ILE:HD11	2.02	0.41
1:A:2581:ASP:OD2	1:A:2585:HIS:ND1	2.54	0.41
1:A:3294:PRO:CB	1:A:3297:LEU:HD22	2.50	0.41
1:A:4063:LYS:O	1:A:4067:MET:HG3	2.20	0.41
1:A:4072:LYS:HE3	1:A:4136:GLN:HG3	2.02	0.41
1:B:753:VAL:HB	1:B:754:PRO:C	2.45	0.41
1:B:2814:LEU:O	1:B:2814:LEU:HD23	2.20	0.41
1:B:3037:LYS:O	1:B:3040:ILE:HG22	2.19	0.41
1:B:3294:PRO:CB	1:B:3297:LEU:HD22	2.50	0.41
1:B:4173:ILE:H	1:B:4173:ILE:HD12	1.85	0.41
1:C:2581:ASP:OD2	1:C:2585:HIS:ND1	2.54	0.41
1:C:3282:LEU:HB2	1:C:3283:PRO:HD3	2.01	0.41
1:C:3541:TYR:OH	1:C:3598:GLN:NE2	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4173:ILE:H	1:C:4173:ILE:HD12	1.85	0.41
1:D:938:CYS:SG	1:D:1054:ILE:HG23	2.60	0.41
1:D:1964:GLU:HA	1:D:3651:CYS:SG	2.61	0.41
1:D:4009:ASP:OD1	1:D:4010:SER:N	2.51	0.41
1:A:3377:GLU:O	1:A:3381:ARG:HG2	2.21	0.41
1:A:4173:ILE:H	1:A:4173:ILE:HD12	1.85	0.41
2:H:8:ILE:HA	1:D:720:LEU:HD11	2.03	0.41
1:B:938:CYS:SG	1:B:1054:ILE:HG23	2.60	0.41
1:B:3974:GLY:N	1:B:3975:PRO:HA	2.34	0.41
1:B:4675:LEU:HD23	1:B:4709:PHE:CE1	2.55	0.41
1:C:883:TRP:O	1:C:887:ARG:HG2	2.20	0.41
1:D:892:TRP:HA	1:D:903:ARG:HB3	2.03	0.41
1:D:1437:SER:OG	1:D:1566:GLU:HB2	2.20	0.41
1:D:1750:PRO:O	1:D:1752:GLY:N	2.54	0.41
1:D:2179:MET:HE3	1:D:2183:ILE:HD11	2.02	0.41
1:D:4093:LYS:HE2	1:D:4093:LYS:HB2	1.30	0.41
1:D:4332:LEU:HD12	1:D:4332:LEU:C	2.46	0.41
1:A:3176:LEU:HD21	1:A:3184:VAL:HG13	2.02	0.41
1:B:365:PRO:O	1:B:366:LYS:HB3	2.21	0.41
1:B:546:ASP:OD1	1:B:583:HIS:NE2	2.38	0.41
1:B:554:ARG:NH2	1:B:556:GLU:OE2	2.51	0.41
1:B:1964:GLU:HA	1:B:3651:CYS:SG	2.61	0.41
1:B:2000:ARG:HG2	1:B:3639:MET:HE1	2.03	0.41
1:B:2581:ASP:OD2	1:B:2585:HIS:ND1	2.54	0.41
1:B:2872:LEU:HD11	1:B:2940:ARG:NH1	2.35	0.41
1:B:4074:ILE:HD12	1:B:4103:GLN:HE21	1.86	0.41
1:B:4332:LEU:C	1:B:4332:LEU:HD12	2.46	0.41
1:C:422:PHE:O	1:C:423:SER:C	2.62	0.41
1:C:1437:SER:OG	1:C:1566:GLU:HB2	2.20	0.41
1:C:3294:PRO:CB	1:C:3297:LEU:HD22	2.50	0.41
1:C:4700:ASP:C	1:C:4702:LEU:N	2.76	0.41
1:D:2814:LEU:O	1:D:2814:LEU:HD23	2.20	0.41
1:D:3294:PRO:HB2	1:D:3297:LEU:HD13	2.03	0.41
1:A:753:VAL:HB	1:A:754:PRO:C	2.45	0.41
1:A:883:TRP:O	1:A:887:ARG:HG2	2.20	0.41
1:A:2183:ILE:HG23	1:A:2236:PHE:HB2	2.02	0.41
1:A:3077:ASP:O	1:A:3081:VAL:HG23	2.21	0.41
1:A:4323:ARG:O	1:A:4327:THR:HG23	2.21	0.41
1:B:2187:MET:HE2	1:B:2236:PHE:HA	2.01	0.41
1:B:2563:ILE:HG22	1:B:2611:LEU:HD21	2.03	0.41
1:C:36:LEU:HD11	1:C:190:LEU:HD13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:892:TRP:HA	1:C:903:ARG:HB3	2.03	0.41
1:C:2183:ILE:HG23	1:C:2236:PHE:HB2	2.02	0.41
1:C:4094:LYS:HD2	1:C:4094:LYS:HA	1.36	0.41
1:D:2213:VAL:HG21	1:D:2257:TYR:HE2	1.82	0.41
1:D:2581:ASP:OD2	1:D:2585:HIS:ND1	2.54	0.41
1:D:3077:ASP:O	1:D:3081:VAL:HG23	2.21	0.41
1:D:3170:LEU:CD1	1:D:3195:LEU:HD11	2.40	0.41
1:D:3227:GLU:C	1:D:3229:ALA:H	2.28	0.41
1:A:882:LEU:HD21	1:A:1042:GLN:HG3	2.03	0.41
1:A:1830:ASP:N	1:A:1830:ASP:OD1	2.54	0.41
1:A:1964:GLU:HA	1:A:3651:CYS:SG	2.61	0.41
1:A:2213:VAL:HG21	1:A:2257:TYR:HE2	1.82	0.41
1:A:4332:LEU:HD12	1:A:4332:LEU:C	2.46	0.41
1:B:623:THR:HG23	1:B:627:LEU:HD12	2.03	0.41
1:B:892:TRP:HA	1:B:903:ARG:HB3	2.03	0.41
1:B:2152:ASP:HB3	1:B:2191:VAL:HG23	2.02	0.41
1:B:3377:GLU:O	1:B:3381:ARG:HG2	2.21	0.41
1:C:365:PRO:O	1:C:366:LYS:HB3	2.21	0.41
1:C:623:THR:HG23	1:C:627:LEU:HD12	2.03	0.41
1:C:2563:ILE:HG22	1:C:2611:LEU:HD21	2.03	0.41
1:C:3250:LEU:HD23	1:C:3278:LEU:HD21	2.03	0.41
1:C:4009:ASP:OD1	1:C:4010:SER:N	2.51	0.41
1:C:4074:ILE:HD12	1:C:4103:GLN:HE21	1.86	0.41
1:D:2124:LEU:O	1:D:2128:GLN:HG2	2.20	0.41
1:D:3250:LEU:HD23	1:D:3278:LEU:HD21	2.03	0.41
1:D:3253:GLU:O	1:D:3257:LEU:HD23	2.19	0.41
1:D:3377:GLU:O	1:D:3381:ARG:HG2	2.21	0.41
1:D:4707:PRO:HD2	1:D:4770:ASP:OD2	2.21	0.41
1:A:1043:ALA:O	1:A:1047:LEU:HD23	2.21	0.41
1:A:2000:ARG:HG2	1:A:3639:MET:HE1	2.03	0.41
1:A:2337:ARG:HG2	1:A:2436:ARG:HD2	2.03	0.41
1:A:2563:ILE:HG22	1:A:2611:LEU:HD21	2.03	0.41
1:A:3208:GLU:OE2	1:A:3307:ALA:N	2.49	0.41
1:A:3534:ILE:HG13	1:A:3597:VAL:HG13	2.02	0.41
1:A:4707:PRO:HD2	1:A:4770:ASP:OD2	2.21	0.41
1:B:1830:ASP:N	1:B:1830:ASP:OD1	2.54	0.41
1:B:2179:MET:HE3	1:B:2183:ILE:HD11	2.02	0.41
1:B:3124:LYS:HG3	1:B:3125:GLY:H	1.86	0.41
1:B:4707:PRO:HD2	1:B:4770:ASP:OD2	2.21	0.41
1:B:4763:LEU:O	1:B:4767:MET:CE	2.69	0.41
1:C:2234:CYS:C	1:C:2236:PHE:N	2.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2581:ASP:OD2	1:C:2581:ASP:C	2.63	0.41
1:C:2814:LEU:HD23	1:C:2814:LEU:O	2.20	0.41
1:C:2872:LEU:HD11	1:C:2940:ARG:NH1	2.35	0.41
1:C:3227:GLU:C	1:C:3229:ALA:H	2.28	0.41
1:C:3534:ILE:HG13	1:C:3597:VAL:HG13	2.02	0.41
1:D:1758:GLY:O	1:D:1759:PRO:C	2.63	0.41
1:D:2000:ARG:HG2	1:D:3639:MET:HE1	2.03	0.41
1:D:2268:MET:CE	1:D:2272:THR:HG22	2.50	0.41
1:D:2337:ARG:HG2	1:D:2436:ARG:HD2	2.03	0.41
1:D:3124:LYS:HG3	1:D:3125:GLY:H	1.86	0.41
1:D:4675:LEU:HD23	1:D:4709:PHE:CE1	2.55	0.41
1:D:4763:LEU:O	1:D:4767:MET:CE	2.69	0.41
1:A:365:PRO:O	1:A:366:LYS:HB3	2.21	0.41
1:A:2748:ILE:O	1:A:2748:ILE:HG23	2.21	0.41
1:A:2948:ASP:O	1:A:2949:THR:C	2.63	0.41
1:A:3536:LEU:O	1:A:3540:ARG:HG2	2.21	0.41
2:G:12:ASP:OD1	2:G:12:ASP:C	2.64	0.41
1:B:923:LEU:O	1:B:926:SER:OG	2.34	0.41
1:B:2234:CYS:HB3	1:B:2238:CYS:HB3	1.88	0.41
1:B:3230:ILE:HD12	1:B:3230:ILE:H	1.86	0.41
1:C:2000:ARG:HG2	1:C:3639:MET:HE1	2.03	0.41
1:C:3077:ASP:O	1:C:3081:VAL:HG23	2.21	0.41
1:C:4576:LEU:HD23	1:C:4576:LEU:HA	1.74	0.41
1:D:2563:ILE:HG22	1:D:2611:LEU:HD21	2.03	0.41
1:A:546:ASP:OD1	1:A:583:HIS:NE2	2.38	0.40
1:A:720:LEU:HD11	2:E:8:ILE:HA	2.03	0.40
1:A:1750:PRO:O	1:A:1752:GLY:N	2.54	0.40
1:A:2581:ASP:OD2	1:A:2581:ASP:C	2.63	0.40
1:A:2869:SER:O	1:A:2870:ARG:C	2.64	0.40
1:A:3282:LEU:HB2	1:A:3283:PRO:HD3	2.01	0.40
1:A:3294:PRO:HB2	1:A:3297:LEU:HD13	2.03	0.40
1:A:4675:LEU:HD23	1:A:4709:PHE:CE1	2.55	0.40
1:A:4728:ASP:HB3	1:D:4104:LYS:HG2	2.03	0.40
1:A:4763:LEU:O	1:A:4767:MET:CE	2.69	0.40
1:B:863:VAL:O	1:B:863:VAL:HG13	2.21	0.40
1:B:883:TRP:O	1:B:887:ARG:HG2	2.20	0.40
1:B:2869:SER:O	1:B:2870:ARG:C	2.64	0.40
1:B:3534:ILE:HG13	1:B:3597:VAL:HG13	2.02	0.40
1:B:3536:LEU:O	1:B:3540:ARG:HG2	2.21	0.40
1:B:4323:ARG:O	1:B:4327:THR:HG23	2.21	0.40
1:C:55:ASN:OD1	1:C:58:ASN:ND2	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:882:LEU:HD21	1:C:1042:GLN:HG3	2.03	0.40
1:C:2948:ASP:O	1:C:2949:THR:C	2.63	0.40
1:D:684:ARG:NH1	1:D:708:VAL:O	2.48	0.40
1:D:2925:GLN:O	1:D:2929:LYS:HG3	2.20	0.40
1:D:3536:LEU:O	1:D:3540:ARG:HG2	2.21	0.40
1:B:55:ASN:OD1	1:B:58:ASN:ND2	2.54	0.40
1:B:1750:PRO:HA	1:B:1751:PRO:HD3	1.99	0.40
1:B:3730:MET:O	1:B:3733:SER:OG	2.30	0.40
1:C:2179:MET:HE3	1:C:2183:ILE:HD11	2.02	0.40
1:C:3124:LYS:HG3	1:C:3125:GLY:H	1.86	0.40
1:C:4744:ALA:O	1:C:4748:ILE:HG22	2.21	0.40
1:D:3457:GLN:O	1:D:3460:VAL:HG12	2.20	0.40
1:D:4538:PHE:O	1:D:4542:LEU:HD23	2.21	0.40
1:D:4685:TYR:HE2	1:D:4701:ARG:HG2	1.84	0.40
1:A:55:ASN:OD1	1:A:58:ASN:ND2	2.54	0.40
1:A:1041:CYS:HA	1:A:1044:VAL:HG12	2.03	0.40
1:A:2701:MET:HB3	1:A:2702:PRO:HD3	2.04	0.40
1:A:2738:PRO:HB2	1:A:2885:ASN:HA	2.04	0.40
1:A:2865:VAL:HG13	1:A:2866:VAL:N	2.37	0.40
2:F:12:ASP:OD2	2:F:12:ASP:C	2.64	0.40
1:B:1043:ALA:O	1:B:1047:LEU:HD23	2.21	0.40
1:B:2978:LEU:O	1:B:2982:VAL:HG23	2.21	0.40
1:C:1750:PRO:O	1:C:1752:GLY:N	2.54	0.40
1:C:2473:LEU:O	1:C:2500:LYS:NZ	2.54	0.40
1:C:2869:SER:O	1:C:2870:ARG:C	2.64	0.40
1:C:4685:TYR:HE2	1:C:4701:ARG:HG2	1.84	0.40
1:D:36:LEU:HD11	1:D:190:LEU:HD13	2.03	0.40
1:D:55:ASN:OD1	1:D:58:ASN:ND2	2.54	0.40
1:D:775:ASP:OD1	1:D:775:ASP:N	2.53	0.40
1:D:3037:LYS:O	1:D:3040:ILE:HG22	2.19	0.40
1:D:4016:LEU:HD23	1:D:4135:PHE:CE1	2.57	0.40
1:A:892:TRP:HA	1:A:903:ARG:HB3	2.03	0.40
1:A:1064:VAL:O	1:A:1065:ASP:C	2.65	0.40
1:A:2268:MET:CE	1:A:2272:THR:HG22	2.50	0.40
1:A:2625:ARG:CD	1:A:2907:VAL:HG11	2.52	0.40
1:A:2997:LYS:HA	1:A:2997:LYS:HD2	1.95	0.40
1:A:4744:ALA:O	1:A:4748:ILE:HG22	2.21	0.40
2:F:5:VAL:HG22	2:F:75:LEU:HD22	2.03	0.40
1:B:2701:MET:HB3	1:B:2702:PRO:HD3	2.04	0.40
1:B:3077:ASP:O	1:B:3081:VAL:HG23	2.21	0.40
1:B:3158:ILE:O	1:B:3159:LEU:HD12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4016:LEU:HD23	1:B:4135:PHE:CE1	2.57	0.40
1:B:4538:PHE:O	1:B:4542:LEU:HD23	2.21	0.40
1:C:218:GLY:N	1:C:263:LEU:O	2.50	0.40
1:C:1713:TYR:OH	1:C:1816:MET:SD	2.77	0.40
1:C:3373:VAL:HG12	1:C:3399:PHE:CE2	2.57	0.40
1:C:3559:ASN:O	1:C:3560:LEU:HB2	2.20	0.40
1:C:4063:LYS:O	1:C:4067:MET:HG3	2.20	0.40
1:C:4538:PHE:O	1:C:4542:LEU:HD23	2.21	0.40
1:D:2473:LEU:O	1:D:2500:LYS:NZ	2.54	0.40
1:D:3837:ALA:O	1:D:3841:THR:HG23	2.22	0.40
1:D:4006:LEU:HA	1:D:4012:GLN:HE21	1.87	0.40
1:A:2892:LYS:O	1:A:2895:LEU:N	2.55	0.40
1:A:3158:ILE:O	1:A:3159:LEU:HD12	2.21	0.40
1:A:3250:LEU:HD23	1:A:3278:LEU:HD21	2.03	0.40
1:A:4538:PHE:O	1:A:4542:LEU:HD23	2.21	0.40
1:B:1064:VAL:O	1:B:1065:ASP:C	2.65	0.40
1:C:308:ALA:HB1	1:C:313:THR:HG21	2.04	0.40
1:C:1928:LEU:O	1:C:2105:ARG:NH2	2.55	0.40
1:C:3158:ILE:O	1:C:3159:LEU:HD12	2.21	0.40
1:C:4006:LEU:HA	1:C:4012:GLN:HE21	1.87	0.40
1:D:2738:PRO:HB2	1:D:2885:ASN:HA	2.04	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	4368/5035 (87%)	4233 (97%)	135 (3%)	0	100	100
1	B	4368/5035 (87%)	4233 (97%)	135 (3%)	0	100	100
1	C	4368/5035 (87%)	4233 (97%)	135 (3%)	0	100	100
1	D	4368/5035 (87%)	4234 (97%)	134 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	E	105/108 (97%)	101 (96%)	4 (4%)	0	100	100
2	F	105/108 (97%)	100 (95%)	5 (5%)	0	100	100
2	G	105/108 (97%)	101 (96%)	4 (4%)	0	100	100
2	H	105/108 (97%)	102 (97%)	3 (3%)	0	100	100
All	All	17892/20572 (87%)	17337 (97%)	555 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	3823/4296 (89%)	3801 (99%)	22 (1%)	84	94
1	B	3823/4296 (89%)	3801 (99%)	22 (1%)	84	94
1	C	3823/4296 (89%)	3801 (99%)	22 (1%)	84	94
1	D	3823/4296 (89%)	3801 (99%)	22 (1%)	84	94
2	E	89/90 (99%)	89 (100%)	0	100	100
2	F	89/90 (99%)	89 (100%)	0	100	100
2	G	89/90 (99%)	89 (100%)	0	100	100
2	H	89/90 (99%)	89 (100%)	0	100	100
All	All	15648/17544 (89%)	15560 (99%)	88 (1%)	82	94

All (88) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4082	ASP
1	A	4083	TYR
1	A	4090	LEU
1	A	4092	SER
1	A	4093	LYS
1	A	4094	LYS

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Mol	Chain	Res	Type
1	A	4097	GLN
1	A	4098	LYS
1	A	4100	MET
1	A	4129	GLU
1	A	4319	ARG
1	A	4320	LEU
1	A	4323	ARG
1	A	4332	LEU
1	A	4333	LEU
1	A	4576	LEU
1	A	4702	LEU
1	A	4706	THR
1	A	4718	VAL
1	A	4720	ARG
1	A	4771	VAL
1	A	4772	LYS
1	B	4082	ASP
1	B	4083	TYR
1	B	4090	LEU
1	B	4092	SER
1	B	4093	LYS
1	B	4094	LYS
1	B	4097	GLN
1	B	4098	LYS
1	B	4100	MET
1	B	4129	GLU
1	B	4319	ARG
1	B	4320	LEU
1	B	4323	ARG
1	B	4332	LEU
1	B	4333	LEU
1	B	4576	LEU
1	B	4702	LEU
1	B	4706	THR
1	B	4718	VAL
1	B	4720	ARG
1	B	4771	VAL
1	B	4772	LYS
1	C	4082	ASP
1	C	4083	TYR
1	C	4090	LEU
1	C	4092	SER

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Mol	Chain	Res	Type
1	C	4093	LYS
1	C	4094	LYS
1	C	4097	GLN
1	C	4098	LYS
1	C	4100	MET
1	C	4129	GLU
1	C	4319	ARG
1	C	4320	LEU
1	C	4323	ARG
1	C	4332	LEU
1	C	4333	LEU
1	C	4576	LEU
1	C	4702	LEU
1	C	4706	THR
1	C	4718	VAL
1	C	4720	ARG
1	C	4771	VAL
1	C	4772	LYS
1	D	4082	ASP
1	D	4083	TYR
1	D	4090	LEU
1	D	4092	SER
1	D	4093	LYS
1	D	4094	LYS
1	D	4097	GLN
1	D	4098	LYS
1	D	4100	MET
1	D	4129	GLU
1	D	4319	ARG
1	D	4320	LEU
1	D	4323	ARG
1	D	4332	LEU
1	D	4333	LEU
1	D	4576	LEU
1	D	4702	LEU
1	D	4706	THR
1	D	4718	VAL
1	D	4720	ARG
1	D	4771	VAL
1	D	4772	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (169) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	55	ASN
1	A	57	GLN
1	A	58	ASN
1	A	106	HIS
1	A	242	GLN
1	A	413	ASN
1	A	462	HIS
1	A	534	ASN
1	A	766	GLN
1	A	924	GLN
1	A	1004	GLN
1	A	1126	ASN
1	A	1232	GLN
1	A	1461	HIS
1	A	1546	ASN
1	A	1587	ASN
1	A	1591	GLN
1	A	1939	GLN
1	A	1973	ASN
1	A	2030	GLN
1	A	2101	HIS
1	A	2128	GLN
1	A	2162	GLN
1	A	2188	ASN
1	A	2418	HIS
1	A	2488	GLN
1	A	2689	HIS
1	A	2878	GLN
1	A	2977	HIS
1	A	2992	HIS
1	A	3009	GLN
1	A	3555	GLN
1	A	3598	GLN
1	A	3609	GLN
1	A	3817	GLN
1	A	3917	ASN
1	A	4103	GLN
1	A	4159	HIS
1	A	4204	ASN
1	A	4219	GLN
1	A	4774	GLN
1	A	4855	ASN
1	A	4945	GLN

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Mol	Chain	Res	Type
2	E	26	HIS
2	G	26	HIS
2	H	26	HIS
1	B	57	GLN
1	B	106	HIS
1	B	242	GLN
1	B	413	ASN
1	B	462	HIS
1	B	534	ASN
1	B	766	GLN
1	B	924	GLN
1	B	1004	GLN
1	B	1085	GLN
1	B	1126	ASN
1	B	1232	GLN
1	B	1546	ASN
1	B	1591	GLN
1	B	1632	GLN
1	B	1939	GLN
1	B	1973	ASN
1	B	2030	GLN
1	B	2128	GLN
1	B	2162	GLN
1	B	2188	ASN
1	B	2488	GLN
1	B	2689	HIS
1	B	2789	HIS
1	B	2878	GLN
1	B	2977	HIS
1	B	2992	HIS
1	B	3009	GLN
1	B	3555	GLN
1	B	3598	GLN
1	B	3609	GLN
1	B	3817	GLN
1	B	3917	ASN
1	B	4097	GLN
1	B	4103	GLN
1	B	4159	HIS
1	B	4204	ASN
1	B	4219	GLN
1	B	4774	GLN

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Mol	Chain	Res	Type
1	B	4855	ASN
1	B	4945	GLN
1	C	57	GLN
1	C	106	HIS
1	C	242	GLN
1	C	413	ASN
1	C	462	HIS
1	C	534	ASN
1	C	766	GLN
1	C	924	GLN
1	C	1004	GLN
1	C	1085	GLN
1	C	1126	ASN
1	C	1232	GLN
1	C	1461	HIS
1	C	1546	ASN
1	C	1587	ASN
1	C	1591	GLN
1	C	1778	HIS
1	C	1939	GLN
1	C	1973	ASN
1	C	2030	GLN
1	C	2101	HIS
1	C	2162	GLN
1	C	2188	ASN
1	C	2488	GLN
1	C	2689	HIS
1	C	2789	HIS
1	C	2878	GLN
1	C	2977	HIS
1	C	2992	HIS
1	C	3009	GLN
1	C	3419	ASN
1	C	3555	GLN
1	C	3598	GLN
1	C	3609	GLN
1	C	3817	GLN
1	C	3917	ASN
1	C	3963	GLN
1	C	4103	GLN
1	C	4204	ASN
1	C	4219	GLN

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Mol	Chain	Res	Type
1	C	4945	GLN
1	D	57	GLN
1	D	106	HIS
1	D	242	GLN
1	D	413	ASN
1	D	462	HIS
1	D	534	ASN
1	D	766	GLN
1	D	924	GLN
1	D	1004	GLN
1	D	1085	GLN
1	D	1126	ASN
1	D	1232	GLN
1	D	1546	ASN
1	D	1587	ASN
1	D	1591	GLN
1	D	1939	GLN
1	D	1973	ASN
1	D	2030	GLN
1	D	2162	GLN
1	D	2188	ASN
1	D	2415	ASN
1	D	2488	GLN
1	D	2499	HIS
1	D	2689	HIS
1	D	2878	GLN
1	D	2977	HIS
1	D	2992	HIS
1	D	3009	GLN
1	D	3555	GLN
1	D	3598	GLN
1	D	3609	GLN
1	D	3817	GLN
1	D	3917	ASN
1	D	4097	GLN
1	D	4103	GLN
1	D	4159	HIS
1	D	4204	ASN
1	D	4219	GLN
1	D	4774	GLN
1	D	4855	ASN
1	D	4945	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 12 ligands modelled in this entry, 4 are monoatomic - leaving 8 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	PCW	A	8003	-	53,53,53	1.24	7 (13%)	59,61,61	1.03	3 (5%)
4	PCW	D	5101	-	53,53,53	1.24	7 (13%)	59,61,61	1.03	3 (5%)
4	PCW	B	8002	-	53,53,53	1.25	7 (13%)	59,61,61	1.04	3 (5%)
4	PCW	C	8003	-	53,53,53	1.24	7 (13%)	59,61,61	1.03	3 (5%)
4	PCW	B	8003	-	53,53,53	1.24	7 (13%)	59,61,61	1.03	3 (5%)
4	PCW	D	5103	-	53,53,53	1.25	7 (13%)	59,61,61	1.04	3 (5%)
4	PCW	A	8002	-	53,53,53	1.25	7 (13%)	59,61,61	1.04	3 (5%)
4	PCW	C	8002	-	53,53,53	1.25	7 (13%)	59,61,61	1.04	3 (5%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	PCW	A	8003	-	-	25/57/57/57	-
4	PCW	D	5101	-	-	25/57/57/57	-
4	PCW	B	8002	-	-	33/57/57/57	-
4	PCW	C	8003	-	-	25/57/57/57	-
4	PCW	B	8003	-	-	25/57/57/57	-
4	PCW	D	5103	-	-	33/57/57/57	-
4	PCW	A	8002	-	-	33/57/57/57	-
4	PCW	C	8002	-	-	33/57/57/57	-

All (56) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	8003	PCW	O3-C11	3.02	1.42	1.33
4	C	8003	PCW	O3-C11	3.02	1.42	1.33
4	D	5101	PCW	O3-C11	3.02	1.42	1.33
4	A	8003	PCW	O3-C11	2.99	1.42	1.33
4	A	8002	PCW	O3-C11	2.96	1.42	1.33
4	B	8002	PCW	O3-C11	2.96	1.42	1.33
4	C	8002	PCW	O3-C11	2.96	1.42	1.33
4	D	5103	PCW	O3-C11	2.94	1.41	1.33
4	D	5103	PCW	O2-C31	2.88	1.42	1.34
4	A	8002	PCW	O2-C31	2.87	1.42	1.34
4	B	8002	PCW	O2-C31	2.87	1.42	1.34
4	C	8002	PCW	O2-C31	2.87	1.42	1.34
4	B	8003	PCW	O2-C31	2.80	1.42	1.34
4	A	8003	PCW	O2-C31	2.80	1.42	1.34
4	C	8003	PCW	O2-C31	2.80	1.42	1.34
4	D	5101	PCW	O2-C31	2.80	1.42	1.34
4	A	8002	PCW	P-O4P	2.62	1.69	1.59
4	B	8002	PCW	P-O4P	2.62	1.69	1.59
4	C	8002	PCW	P-O4P	2.62	1.69	1.59
4	D	5103	PCW	P-O4P	2.62	1.69	1.59
4	B	8003	PCW	P-O4P	2.58	1.69	1.59
4	C	8003	PCW	P-O4P	2.58	1.69	1.59
4	D	5101	PCW	P-O4P	2.58	1.69	1.59
4	A	8003	PCW	P-O4P	2.57	1.69	1.59
4	A	8003	PCW	O2-C2	-2.35	1.41	1.46
4	B	8003	PCW	O2-C2	-2.35	1.41	1.46
4	C	8003	PCW	O2-C2	-2.35	1.41	1.46
4	D	5101	PCW	O2-C2	-2.35	1.41	1.46
4	A	8002	PCW	O2-C2	-2.29	1.41	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	8002	PCW	O2-C2	-2.29	1.41	1.46
4	C	8002	PCW	O2-C2	-2.29	1.41	1.46
4	D	5103	PCW	O2-C2	-2.29	1.41	1.46
4	A	8002	PCW	C5-C4	2.29	1.58	1.51
4	B	8002	PCW	C5-C4	2.29	1.58	1.51
4	D	5103	PCW	C5-C4	2.29	1.58	1.51
4	C	8002	PCW	C5-C4	2.29	1.58	1.51
4	A	8003	PCW	C5-C4	2.26	1.58	1.51
4	B	8003	PCW	C5-C4	2.26	1.58	1.51
4	C	8003	PCW	C5-C4	2.26	1.58	1.51
4	D	5101	PCW	C5-C4	2.26	1.58	1.51
4	D	5103	PCW	P-O3P	2.22	1.68	1.59
4	A	8002	PCW	C32-C31	2.21	1.57	1.50
4	B	8002	PCW	C32-C31	2.21	1.57	1.50
4	C	8002	PCW	C32-C31	2.21	1.57	1.50
4	D	5103	PCW	C32-C31	2.21	1.57	1.50
4	A	8002	PCW	P-O3P	2.21	1.68	1.59
4	B	8002	PCW	P-O3P	2.21	1.68	1.59
4	C	8002	PCW	P-O3P	2.21	1.68	1.59
4	C	8003	PCW	P-O3P	2.20	1.68	1.59
4	A	8003	PCW	C32-C31	2.19	1.57	1.50
4	B	8003	PCW	C32-C31	2.19	1.57	1.50
4	C	8003	PCW	C32-C31	2.19	1.57	1.50
4	D	5101	PCW	C32-C31	2.19	1.57	1.50
4	A	8003	PCW	P-O3P	2.18	1.67	1.59
4	B	8003	PCW	P-O3P	2.18	1.67	1.59
4	D	5101	PCW	P-O3P	2.18	1.67	1.59

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	8002	PCW	C21-C20-C19	3.88	153.88	124.83
4	B	8002	PCW	C21-C20-C19	3.88	153.88	124.83
4	C	8002	PCW	C21-C20-C19	3.88	153.88	124.83
4	D	5103	PCW	C21-C20-C19	3.88	153.88	124.83
4	A	8003	PCW	C21-C20-C19	3.81	153.38	124.83
4	D	5101	PCW	C21-C20-C19	3.81	153.38	124.83
4	B	8003	PCW	C21-C20-C19	3.81	153.37	124.83
4	C	8003	PCW	C21-C20-C19	3.81	153.35	124.83
4	A	8002	PCW	O2-C31-C32	3.64	119.35	111.48
4	B	8002	PCW	O2-C31-C32	3.64	119.35	111.48
4	C	8002	PCW	O2-C31-C32	3.64	119.35	111.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	5103	PCW	O2-C31-C32	3.61	119.30	111.48
4	A	8003	PCW	O2-C31-C32	3.38	118.80	111.48
4	C	8003	PCW	O2-C31-C32	3.38	118.80	111.48
4	D	5101	PCW	O2-C31-C32	3.38	118.80	111.48
4	B	8003	PCW	O2-C31-C32	3.37	118.77	111.48
4	A	8003	PCW	O3-C11-C12	2.58	119.71	111.83
4	D	5103	PCW	O3-C11-C12	2.58	119.71	111.83
4	A	8002	PCW	O3-C11-C12	2.58	119.70	111.83
4	B	8002	PCW	O3-C11-C12	2.58	119.70	111.83
4	B	8003	PCW	O3-C11-C12	2.58	119.70	111.83
4	C	8003	PCW	O3-C11-C12	2.58	119.70	111.83
4	D	5101	PCW	O3-C11-C12	2.58	119.70	111.83
4	C	8002	PCW	O3-C11-C12	2.56	119.65	111.83

There are no chirality outliers.

All (232) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	8002	PCW	C32-C31-O2-C2
4	A	8002	PCW	C1-O3P-P-O1P
4	A	8002	PCW	C1-O3P-P-O2P
4	A	8002	PCW	C1-O3P-P-O4P
4	A	8002	PCW	C4-O4P-P-O1P
4	A	8002	PCW	C4-O4P-P-O3P
4	A	8003	PCW	O4P-C4-C5-N
4	A	8003	PCW	C32-C31-O2-C2
4	B	8002	PCW	C32-C31-O2-C2
4	B	8002	PCW	C1-O3P-P-O1P
4	B	8002	PCW	C1-O3P-P-O2P
4	B	8002	PCW	C1-O3P-P-O4P
4	B	8002	PCW	C4-O4P-P-O1P
4	B	8002	PCW	C4-O4P-P-O3P
4	B	8003	PCW	O4P-C4-C5-N
4	B	8003	PCW	C32-C31-O2-C2
4	C	8002	PCW	C32-C31-O2-C2
4	C	8002	PCW	C1-O3P-P-O1P
4	C	8002	PCW	C1-O3P-P-O2P
4	C	8002	PCW	C1-O3P-P-O4P
4	C	8002	PCW	C4-O4P-P-O1P
4	C	8002	PCW	C4-O4P-P-O3P
4	C	8003	PCW	O4P-C4-C5-N
4	C	8003	PCW	C32-C31-O2-C2

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Mol	Chain	Res	Type	Atoms
4	D	5101	PCW	O4P-C4-C5-N
4	D	5101	PCW	C32-C31-O2-C2
4	D	5103	PCW	C32-C31-O2-C2
4	D	5103	PCW	C1-O3P-P-O1P
4	D	5103	PCW	C1-O3P-P-O2P
4	D	5103	PCW	C1-O3P-P-O4P
4	D	5103	PCW	C4-O4P-P-O1P
4	D	5103	PCW	C4-O4P-P-O3P
4	A	8002	PCW	O31-C31-O2-C2
4	A	8003	PCW	O31-C31-O2-C2
4	B	8002	PCW	O31-C31-O2-C2
4	B	8003	PCW	O31-C31-O2-C2
4	C	8002	PCW	O31-C31-O2-C2
4	C	8003	PCW	O31-C31-O2-C2
4	D	5101	PCW	O31-C31-O2-C2
4	D	5103	PCW	O31-C31-O2-C2
4	A	8002	PCW	C22-C23-C24-C25
4	B	8002	PCW	C22-C23-C24-C25
4	C	8002	PCW	C22-C23-C24-C25
4	D	5103	PCW	C22-C23-C24-C25
4	A	8002	PCW	C31-C32-C33-C34
4	B	8002	PCW	C31-C32-C33-C34
4	C	8002	PCW	C31-C32-C33-C34
4	D	5103	PCW	C31-C32-C33-C34
4	A	8002	PCW	C12-C11-O3-C3
4	B	8002	PCW	C12-C11-O3-C3
4	C	8002	PCW	C12-C11-O3-C3
4	D	5103	PCW	C12-C11-O3-C3
4	A	8003	PCW	C31-C32-C33-C34
4	B	8003	PCW	C31-C32-C33-C34
4	C	8003	PCW	C31-C32-C33-C34
4	D	5101	PCW	C31-C32-C33-C34
4	A	8003	PCW	C22-C23-C24-C25
4	B	8003	PCW	C22-C23-C24-C25
4	C	8003	PCW	C22-C23-C24-C25
4	D	5101	PCW	C22-C23-C24-C25
4	A	8002	PCW	O11-C11-O3-C3
4	B	8002	PCW	O11-C11-O3-C3
4	C	8002	PCW	O11-C11-O3-C3
4	D	5103	PCW	O11-C11-O3-C3
4	A	8003	PCW	C14-C15-C16-C17
4	B	8003	PCW	C14-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
4	C	8003	PCW	C14-C15-C16-C17
4	D	5101	PCW	C14-C15-C16-C17
4	B	8003	PCW	C13-C14-C15-C16
4	A	8003	PCW	C13-C14-C15-C16
4	C	8003	PCW	C13-C14-C15-C16
4	D	5101	PCW	C13-C14-C15-C16
4	A	8003	PCW	O2-C2-C3-O3
4	B	8003	PCW	O2-C2-C3-O3
4	C	8003	PCW	O2-C2-C3-O3
4	D	5101	PCW	O2-C2-C3-O3
4	A	8003	PCW	O3P-C1-C2-C3
4	B	8003	PCW	O3P-C1-C2-C3
4	C	8003	PCW	O3P-C1-C2-C3
4	D	5101	PCW	O3P-C1-C2-C3
4	A	8002	PCW	C35-C36-C37-C38
4	B	8002	PCW	C35-C36-C37-C38
4	C	8002	PCW	C35-C36-C37-C38
4	D	5103	PCW	C35-C36-C37-C38
4	A	8003	PCW	C41-C42-C43-C44
4	B	8003	PCW	C41-C42-C43-C44
4	C	8003	PCW	C41-C42-C43-C44
4	D	5101	PCW	C41-C42-C43-C44
4	A	8002	PCW	C42-C43-C44-C45
4	B	8002	PCW	C42-C43-C44-C45
4	C	8002	PCW	C42-C43-C44-C45
4	D	5103	PCW	C42-C43-C44-C45
4	A	8002	PCW	C25-C26-C27-C28
4	B	8002	PCW	C25-C26-C27-C28
4	C	8002	PCW	C25-C26-C27-C28
4	D	5103	PCW	C25-C26-C27-C28
4	A	8003	PCW	C1-C2-C3-O3
4	B	8003	PCW	C1-C2-C3-O3
4	C	8003	PCW	C1-C2-C3-O3
4	D	5101	PCW	C1-C2-C3-O3
4	A	8003	PCW	O3P-C1-C2-O2
4	B	8003	PCW	O3P-C1-C2-O2
4	C	8003	PCW	O3P-C1-C2-O2
4	D	5101	PCW	O3P-C1-C2-O2
4	A	8003	PCW	C21-C22-C23-C24
4	C	8003	PCW	C21-C22-C23-C24
4	D	5101	PCW	C21-C22-C23-C24
4	B	8003	PCW	C21-C22-C23-C24

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Mol	Chain	Res	Type	Atoms
4	A	8003	PCW	C33-C34-C35-C36
4	B	8003	PCW	C33-C34-C35-C36
4	C	8003	PCW	C33-C34-C35-C36
4	D	5101	PCW	C33-C34-C35-C36
4	A	8002	PCW	C24-C25-C26-C27
4	A	8002	PCW	C43-C44-C45-C46
4	B	8002	PCW	C24-C25-C26-C27
4	B	8002	PCW	C43-C44-C45-C46
4	C	8002	PCW	C24-C25-C26-C27
4	C	8002	PCW	C43-C44-C45-C46
4	D	5103	PCW	C43-C44-C45-C46
4	D	5103	PCW	C24-C25-C26-C27
4	A	8002	PCW	O4P-C4-C5-N
4	B	8002	PCW	O4P-C4-C5-N
4	C	8002	PCW	O4P-C4-C5-N
4	D	5103	PCW	O4P-C4-C5-N
4	A	8002	PCW	O2-C2-C3-O3
4	B	8002	PCW	O2-C2-C3-O3
4	C	8002	PCW	O2-C2-C3-O3
4	D	5103	PCW	O2-C2-C3-O3
4	A	8002	PCW	C4-O4P-P-O2P
4	A	8003	PCW	C1-O3P-P-O2P
4	A	8003	PCW	C4-O4P-P-O2P
4	B	8002	PCW	C4-O4P-P-O2P
4	B	8003	PCW	C1-O3P-P-O2P
4	B	8003	PCW	C4-O4P-P-O2P
4	C	8002	PCW	C4-O4P-P-O2P
4	C	8003	PCW	C1-O3P-P-O2P
4	C	8003	PCW	C4-O4P-P-O2P
4	D	5101	PCW	C1-O3P-P-O2P
4	D	5101	PCW	C4-O4P-P-O2P
4	D	5103	PCW	C4-O4P-P-O2P
4	A	8003	PCW	C12-C13-C14-C15
4	B	8003	PCW	C12-C13-C14-C15
4	C	8003	PCW	C12-C13-C14-C15
4	D	5101	PCW	C12-C13-C14-C15
4	A	8002	PCW	C2-C1-O3P-P
4	B	8002	PCW	C2-C1-O3P-P
4	C	8002	PCW	C2-C1-O3P-P
4	D	5103	PCW	C2-C1-O3P-P
4	A	8002	PCW	C21-C22-C23-C24
4	B	8002	PCW	C21-C22-C23-C24

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Mol	Chain	Res	Type	Atoms
4	C	8002	PCW	C21-C22-C23-C24
4	D	5103	PCW	C21-C22-C23-C24
4	A	8002	PCW	C12-C13-C14-C15
4	B	8002	PCW	C12-C13-C14-C15
4	C	8002	PCW	C12-C13-C14-C15
4	D	5103	PCW	C12-C13-C14-C15
4	C	8002	PCW	C33-C34-C35-C36
4	A	8002	PCW	C33-C34-C35-C36
4	D	5103	PCW	C33-C34-C35-C36
4	B	8002	PCW	C33-C34-C35-C36
4	A	8002	PCW	C14-C15-C16-C17
4	B	8002	PCW	C14-C15-C16-C17
4	C	8002	PCW	C14-C15-C16-C17
4	D	5103	PCW	C14-C15-C16-C17
4	A	8003	PCW	C35-C36-C37-C38
4	B	8003	PCW	C35-C36-C37-C38
4	C	8003	PCW	C35-C36-C37-C38
4	D	5101	PCW	C35-C36-C37-C38
4	A	8003	PCW	C20-C21-C22-C23
4	B	8003	PCW	C20-C21-C22-C23
4	C	8003	PCW	C20-C21-C22-C23
4	D	5101	PCW	C20-C21-C22-C23
4	A	8002	PCW	C37-C38-C39-C40
4	B	8002	PCW	C37-C38-C39-C40
4	C	8002	PCW	C37-C38-C39-C40
4	D	5103	PCW	C37-C38-C39-C40
4	D	5103	PCW	C44-C45-C46-C47
4	A	8002	PCW	C44-C45-C46-C47
4	B	8002	PCW	C44-C45-C46-C47
4	C	8002	PCW	C44-C45-C46-C47
4	A	8002	PCW	C36-C37-C38-C39
4	A	8002	PCW	C40-C41-C42-C43
4	B	8002	PCW	C36-C37-C38-C39
4	B	8002	PCW	C40-C41-C42-C43
4	C	8002	PCW	C36-C37-C38-C39
4	C	8002	PCW	C40-C41-C42-C43
4	D	5103	PCW	C36-C37-C38-C39
4	D	5103	PCW	C40-C41-C42-C43
4	A	8003	PCW	C39-C40-C41-C42
4	B	8003	PCW	C39-C40-C41-C42
4	C	8003	PCW	C39-C40-C41-C42
4	D	5101	PCW	C39-C40-C41-C42

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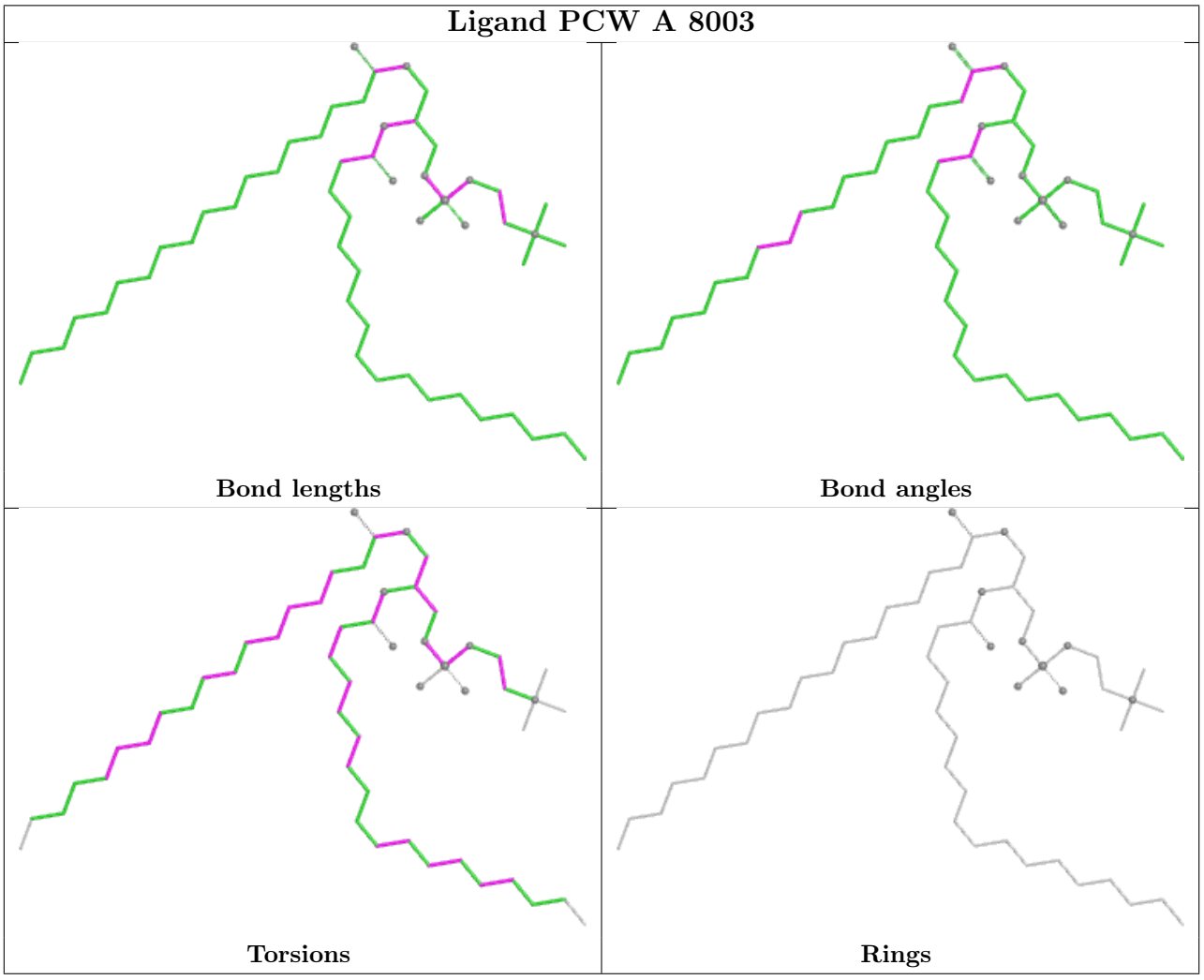
Mol	Chain	Res	Type	Atoms
4	A	8003	PCW	C17-C18-C19-C20
4	C	8003	PCW	C17-C18-C19-C20
4	D	5101	PCW	C17-C18-C19-C20
4	A	8002	PCW	C23-C24-C25-C26
4	B	8002	PCW	C23-C24-C25-C26
4	C	8002	PCW	C23-C24-C25-C26
4	D	5103	PCW	C23-C24-C25-C26
4	A	8002	PCW	C1-C2-C3-O3
4	B	8002	PCW	C1-C2-C3-O3
4	C	8002	PCW	C1-C2-C3-O3
4	D	5103	PCW	C1-C2-C3-O3
4	B	8003	PCW	O11-C11-O3-C3
4	C	8003	PCW	O11-C11-O3-C3
4	D	5101	PCW	O11-C11-O3-C3
4	B	8003	PCW	C17-C18-C19-C20
4	A	8003	PCW	O11-C11-O3-C3
4	A	8002	PCW	C19-C20-C21-C22
4	B	8002	PCW	C19-C20-C21-C22
4	C	8002	PCW	C19-C20-C21-C22
4	D	5103	PCW	C19-C20-C21-C22
4	A	8003	PCW	C15-C16-C17-C18
4	C	8003	PCW	C15-C16-C17-C18
4	D	5101	PCW	C15-C16-C17-C18
4	B	8003	PCW	C15-C16-C17-C18
4	B	8003	PCW	C43-C44-C45-C46
4	C	8003	PCW	C43-C44-C45-C46
4	A	8003	PCW	C43-C44-C45-C46
4	D	5101	PCW	C43-C44-C45-C46
4	A	8003	PCW	C12-C11-O3-C3
4	B	8003	PCW	C12-C11-O3-C3
4	C	8003	PCW	C12-C11-O3-C3
4	D	5101	PCW	C12-C11-O3-C3
4	A	8002	PCW	C17-C18-C19-C20
4	B	8002	PCW	C17-C18-C19-C20
4	C	8002	PCW	C17-C18-C19-C20
4	D	5103	PCW	C17-C18-C19-C20
4	A	8002	PCW	C39-C40-C41-C42
4	B	8002	PCW	C39-C40-C41-C42
4	C	8002	PCW	C39-C40-C41-C42
4	D	5103	PCW	C39-C40-C41-C42

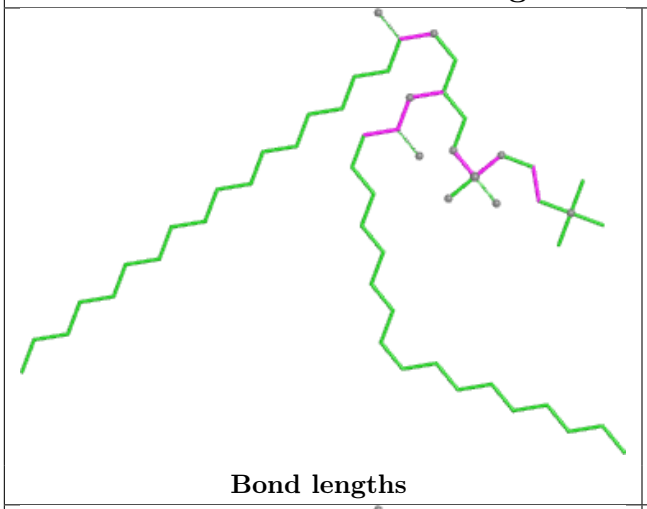
There are no ring outliers.

No monomer is involved in short contacts.

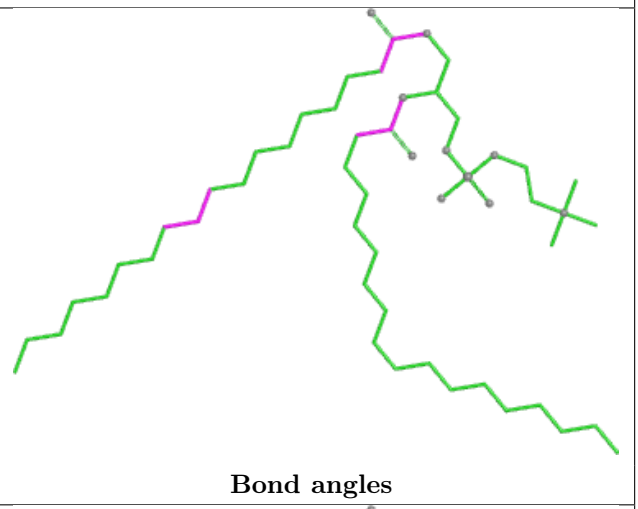
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



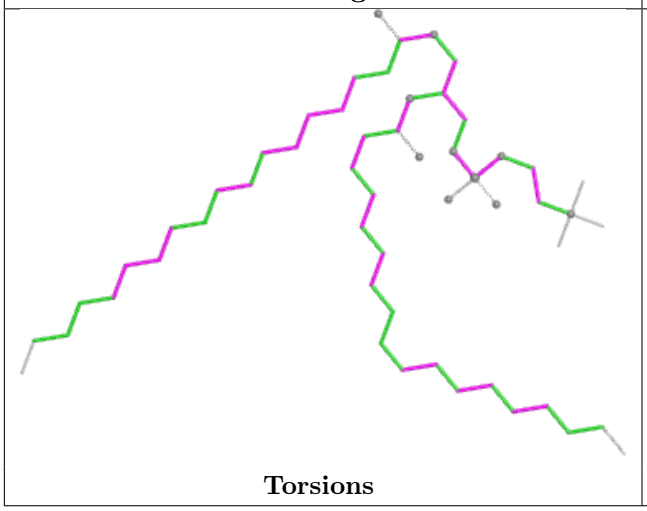
Ligand PCW D 5101



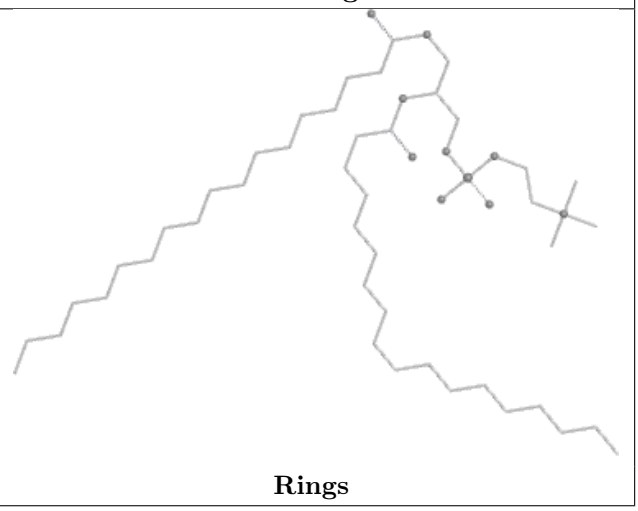
Bond lengths



Bond angles

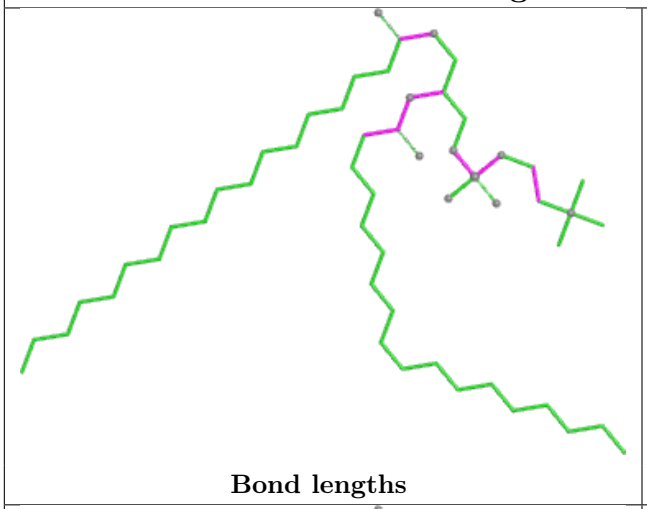


Torsions

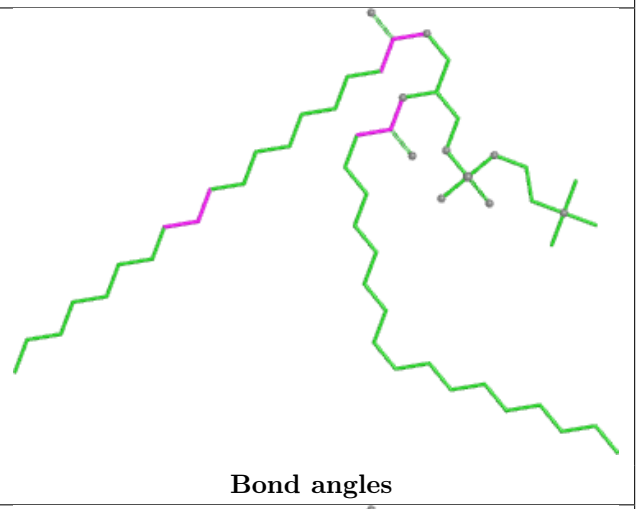


Rings

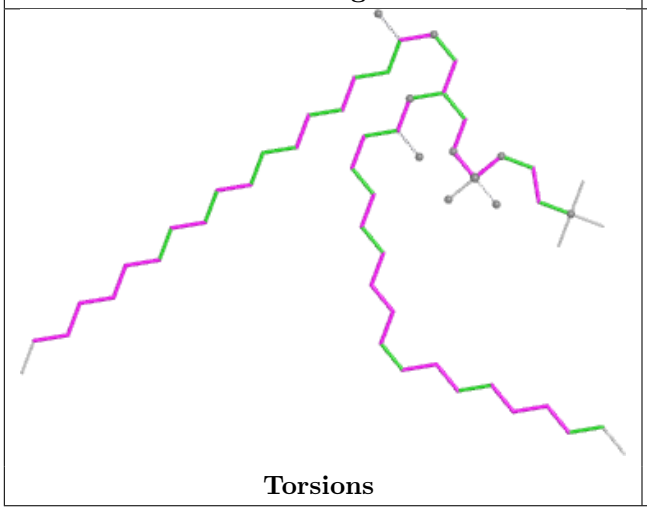
Ligand PCW B 8002



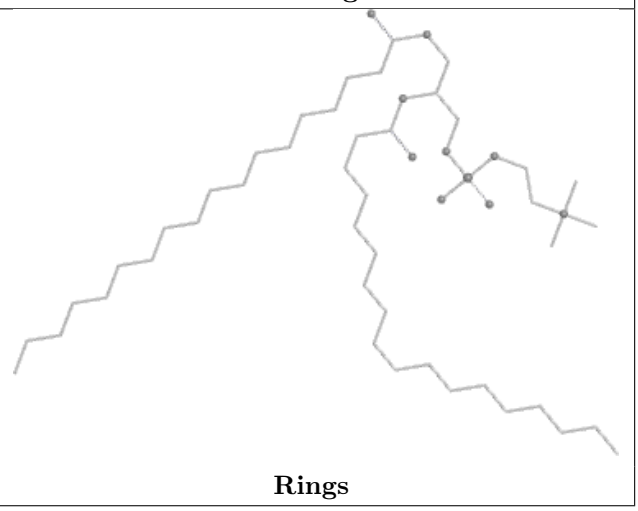
Bond lengths



Bond angles

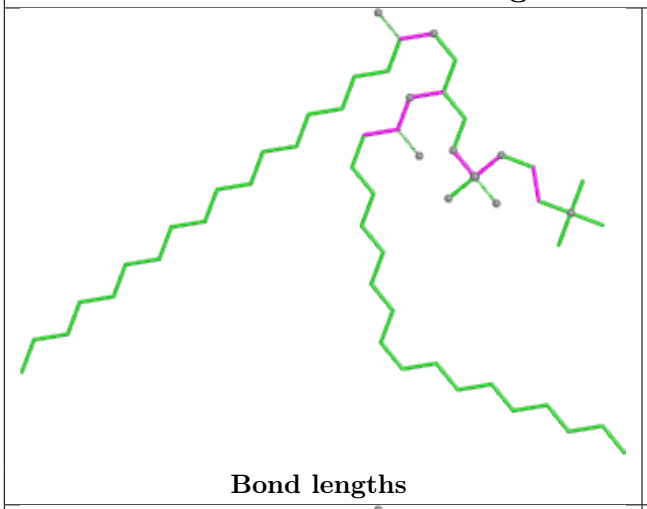


Torsions

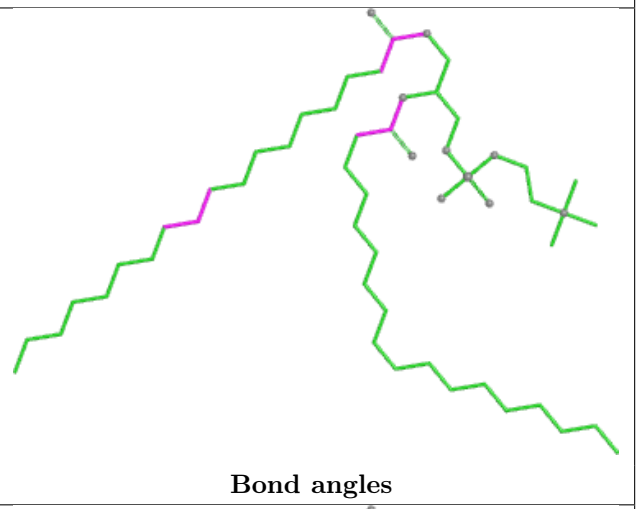


Rings

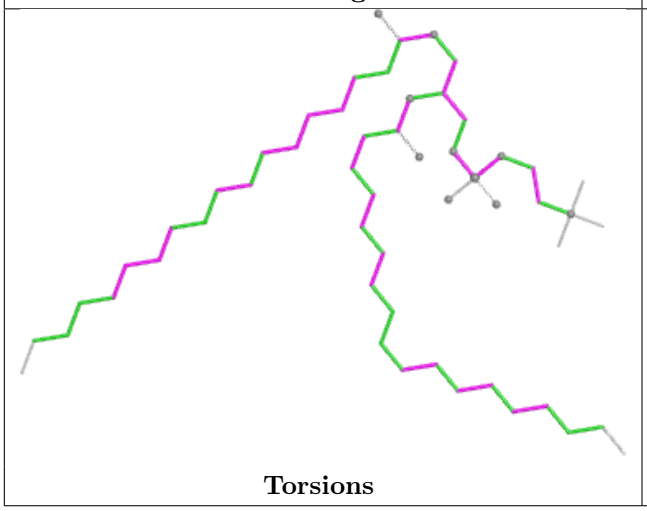
Ligand PCW C 8003



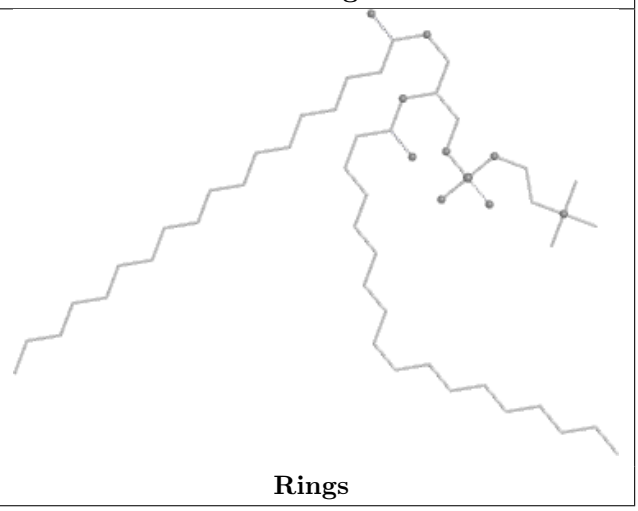
Bond lengths



Bond angles

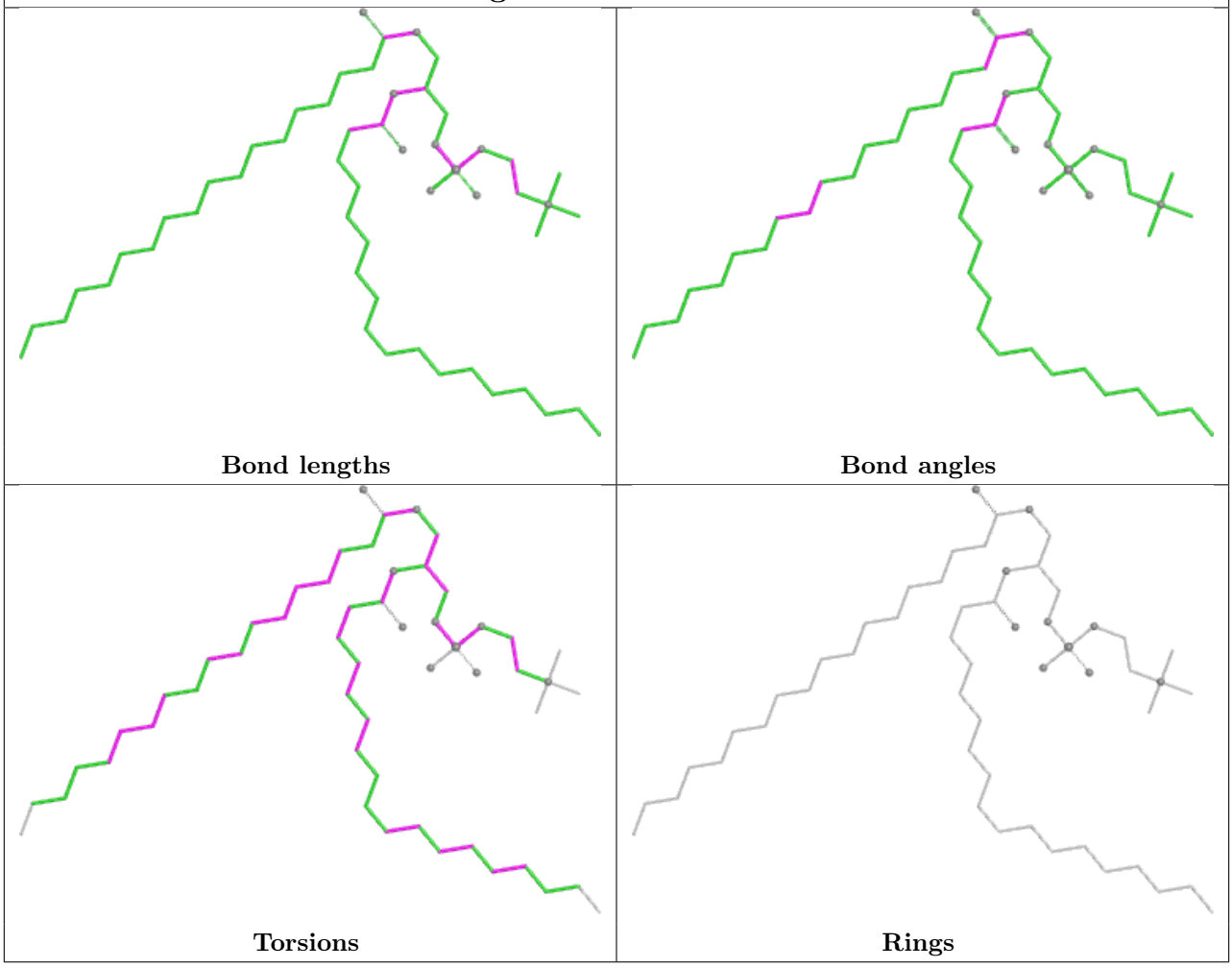


Torsions

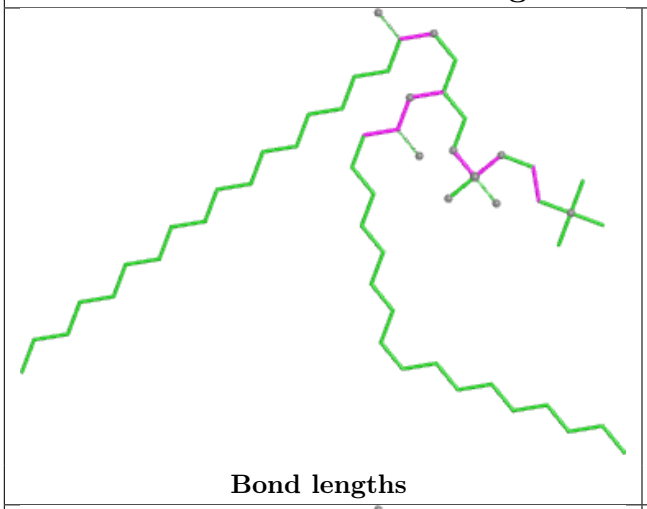


Rings

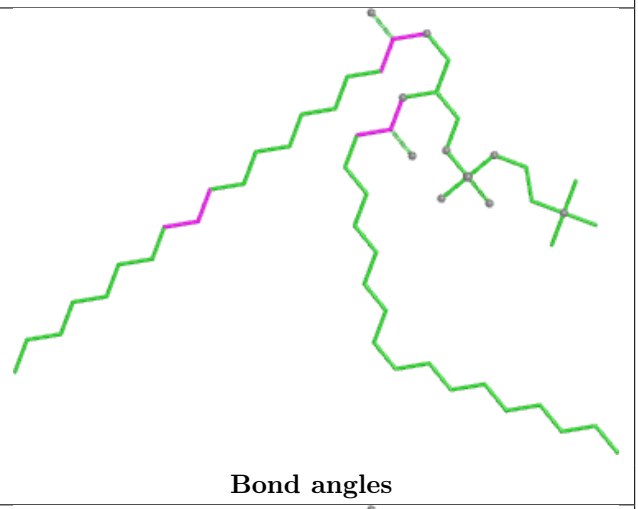
Ligand PCW B 8003



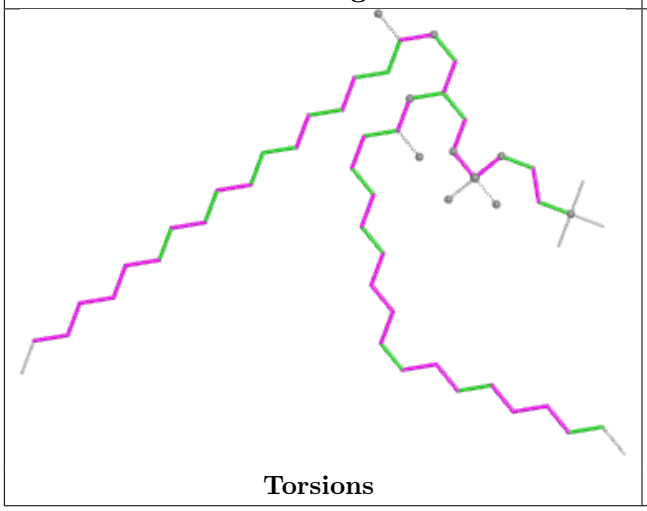
Ligand PCW D 5103



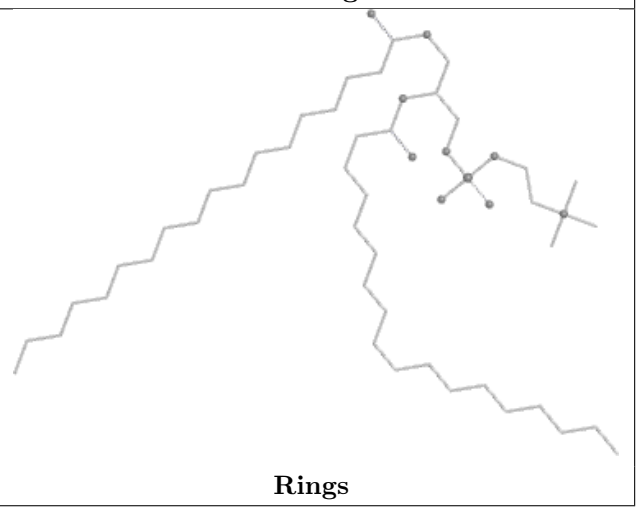
Bond lengths



Bond angles

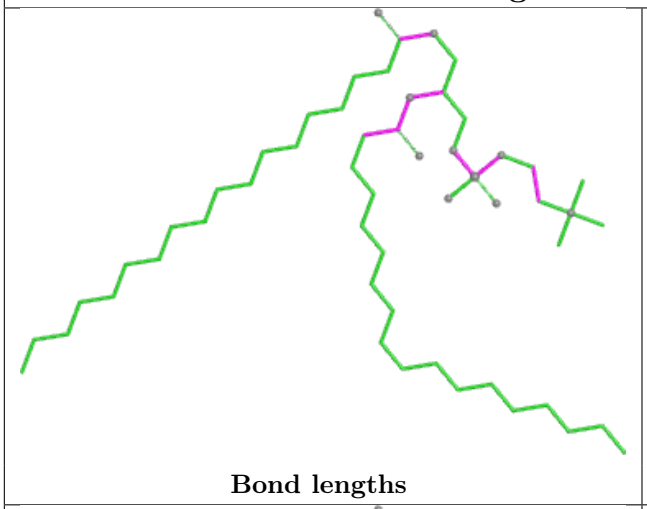


Torsions

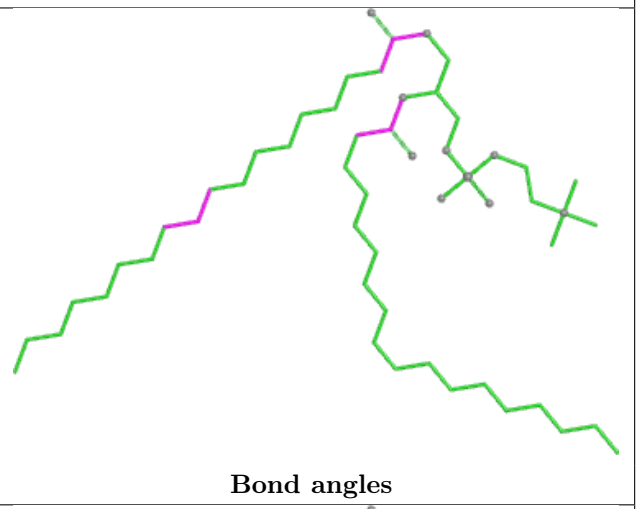


Rings

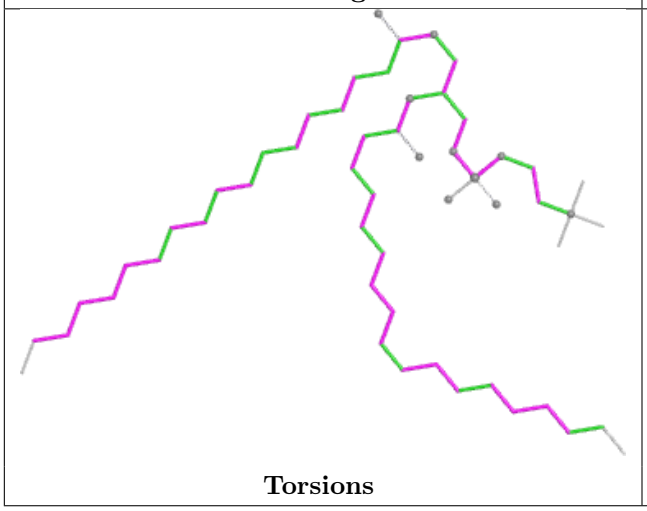
Ligand PCW A 8002



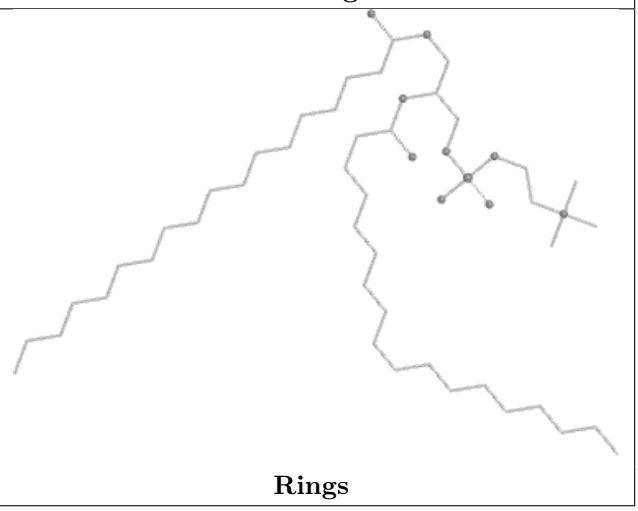
Bond lengths



Bond angles

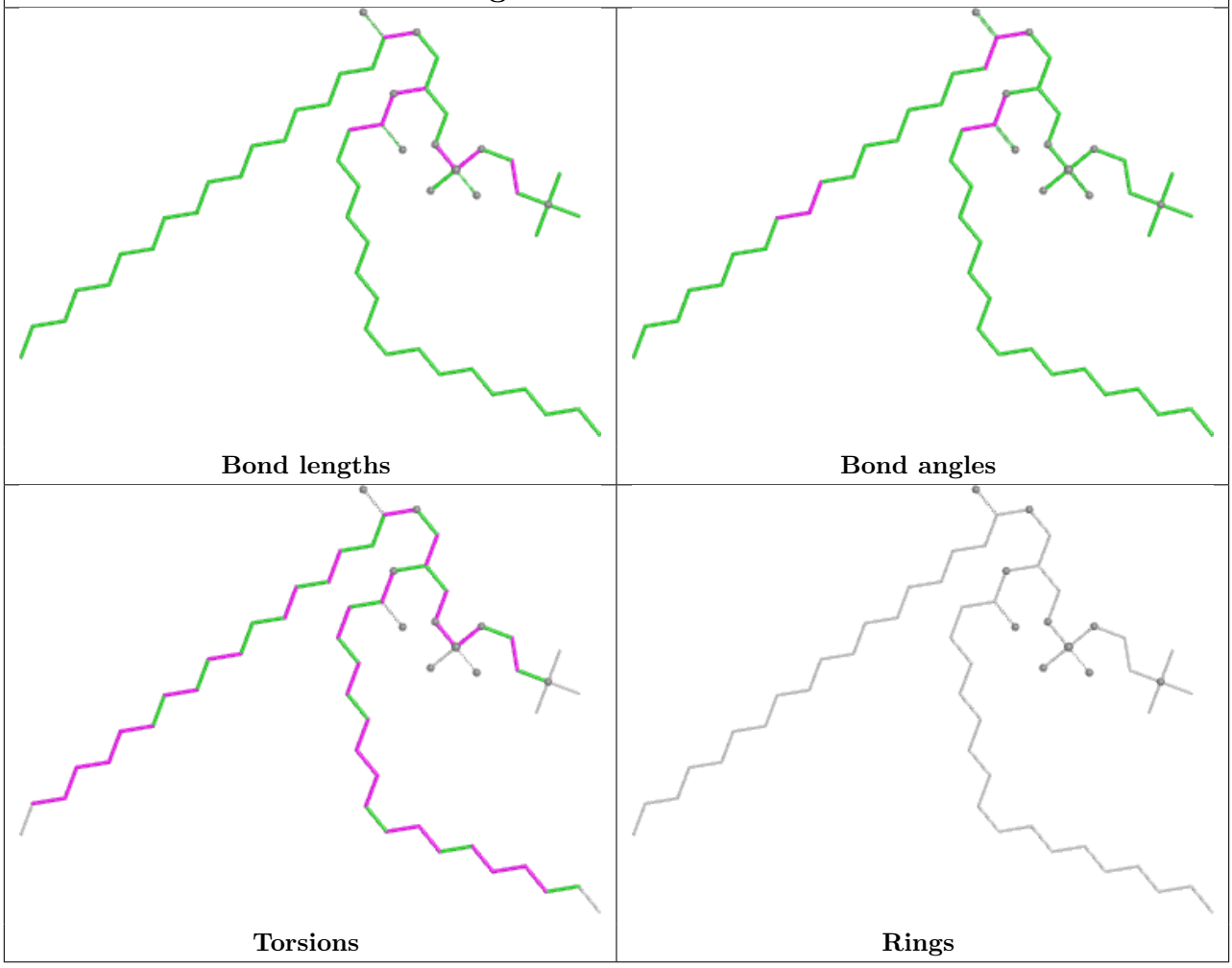


Torsions



Rings

Ligand PCW C 8002



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

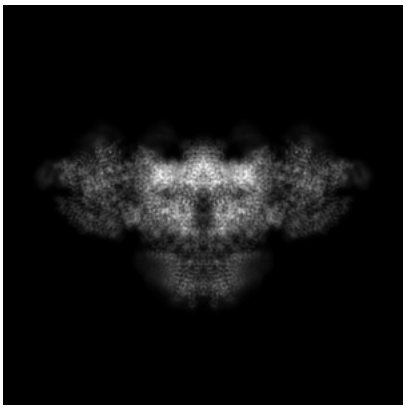
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-49538. These allow visual inspection of the internal detail of the map and identification of artifacts.

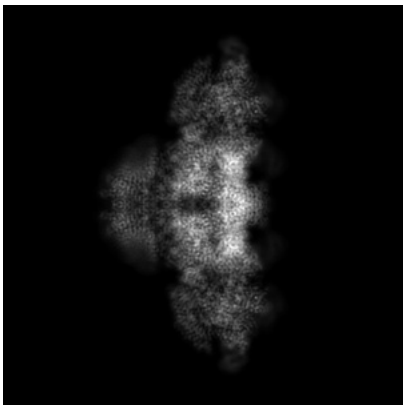
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

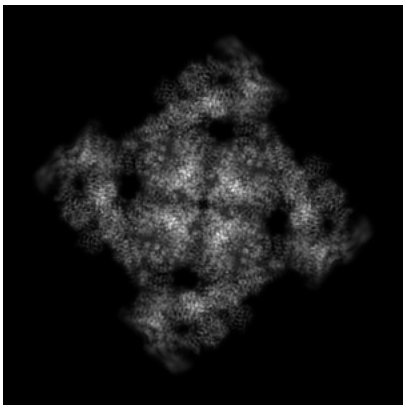
6.1.1 Primary map



X

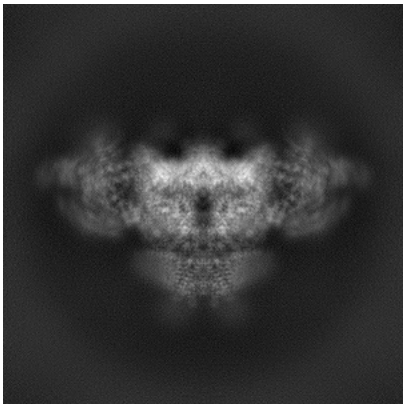


Y

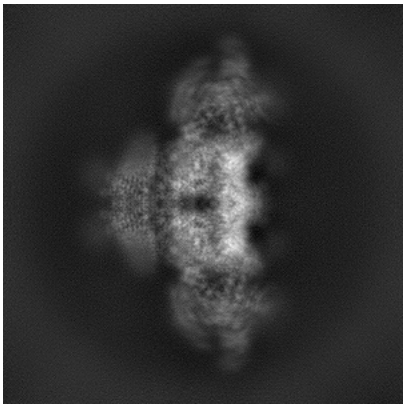


Z

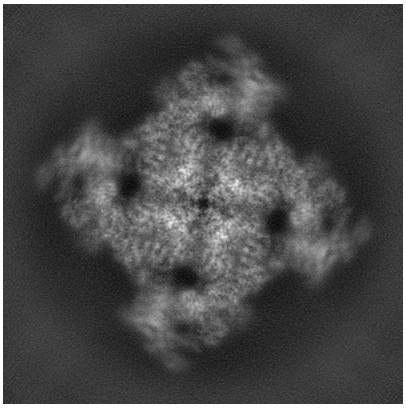
6.1.2 Raw map



X



Y



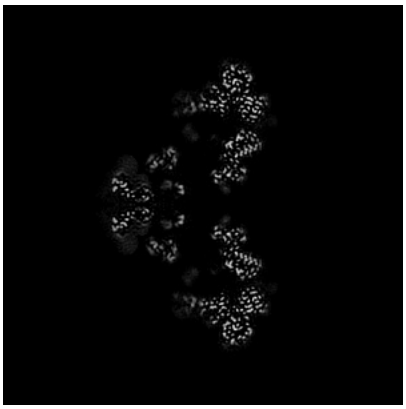
Z

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

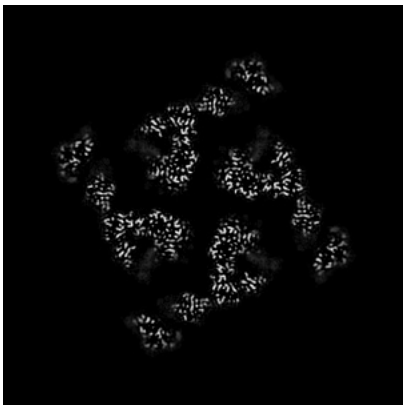
6.2 Central slices (i)

6.2.1 Primary map

X Index: 256

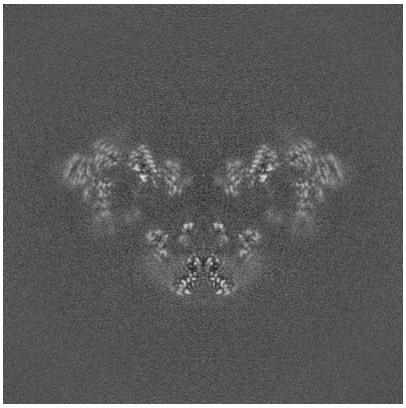


Y Index: 256

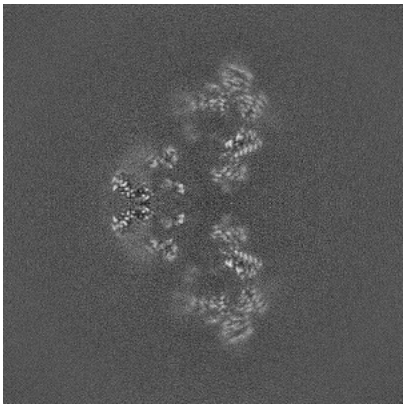


Z Index: 256

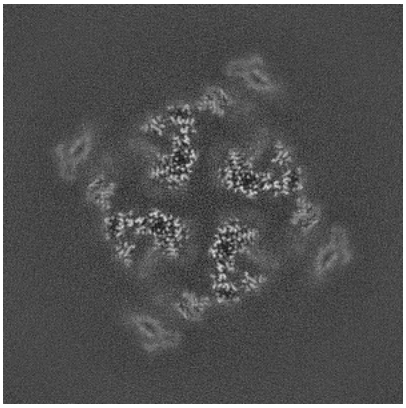
6.2.2 Raw map



X Index: 256



Y Index: 256



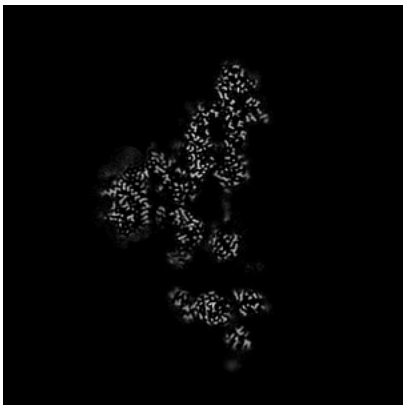
Z Index: 256

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

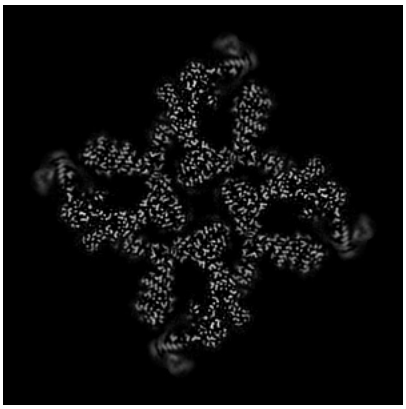
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 238

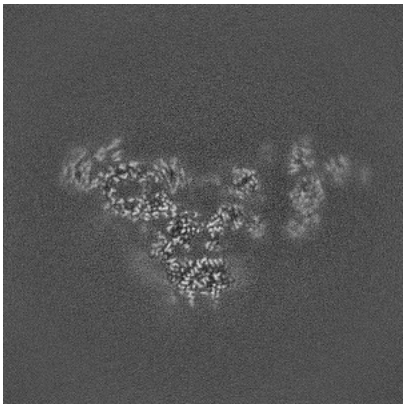


Y Index: 274

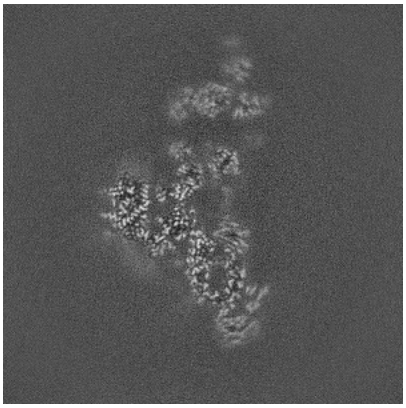


Z Index: 291

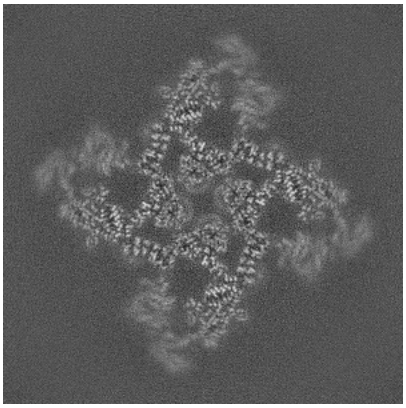
6.3.2 Raw map



X Index: 274



Y Index: 238

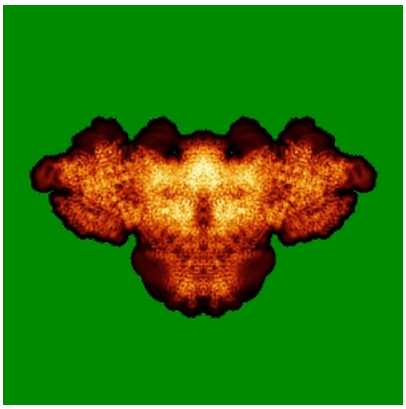


Z Index: 286

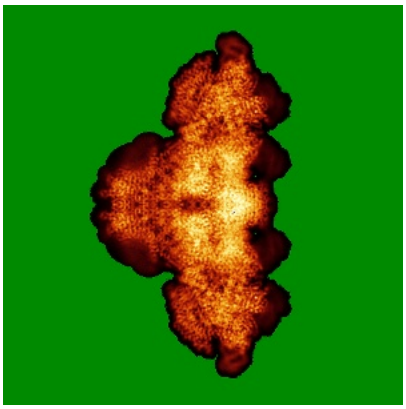
The images above show the largest variance slices of the map in three orthogonal directions.

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

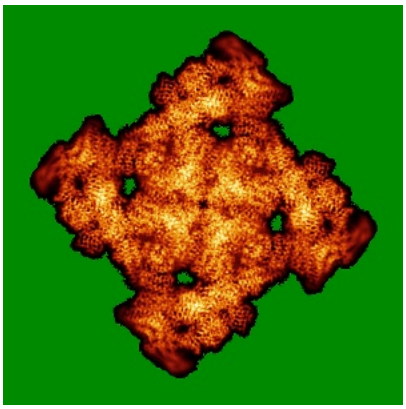
6.4.1 Primary map



X

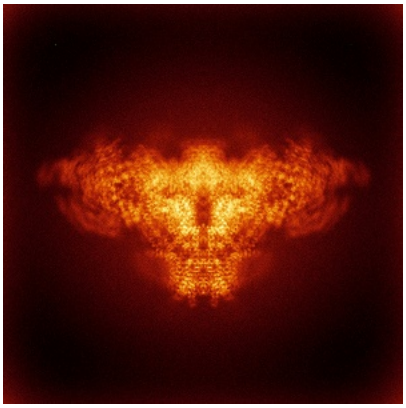


Y

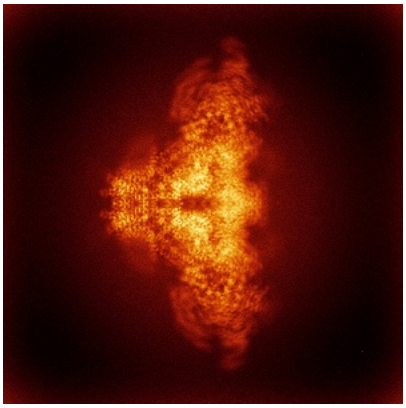


Z

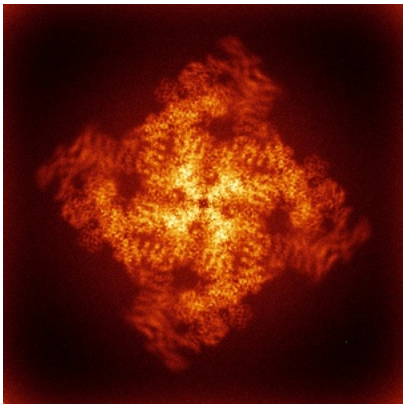
6.4.2 Raw map



X



Y

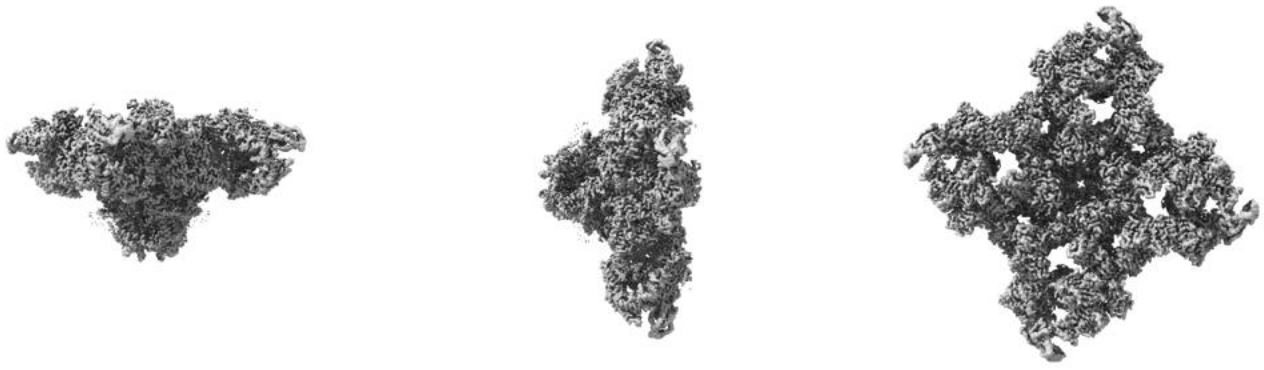


Z

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)

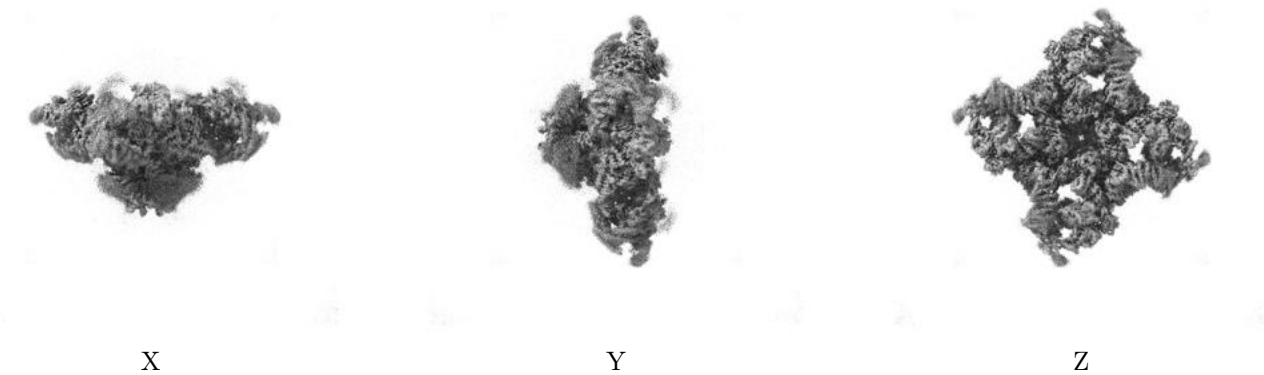
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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.

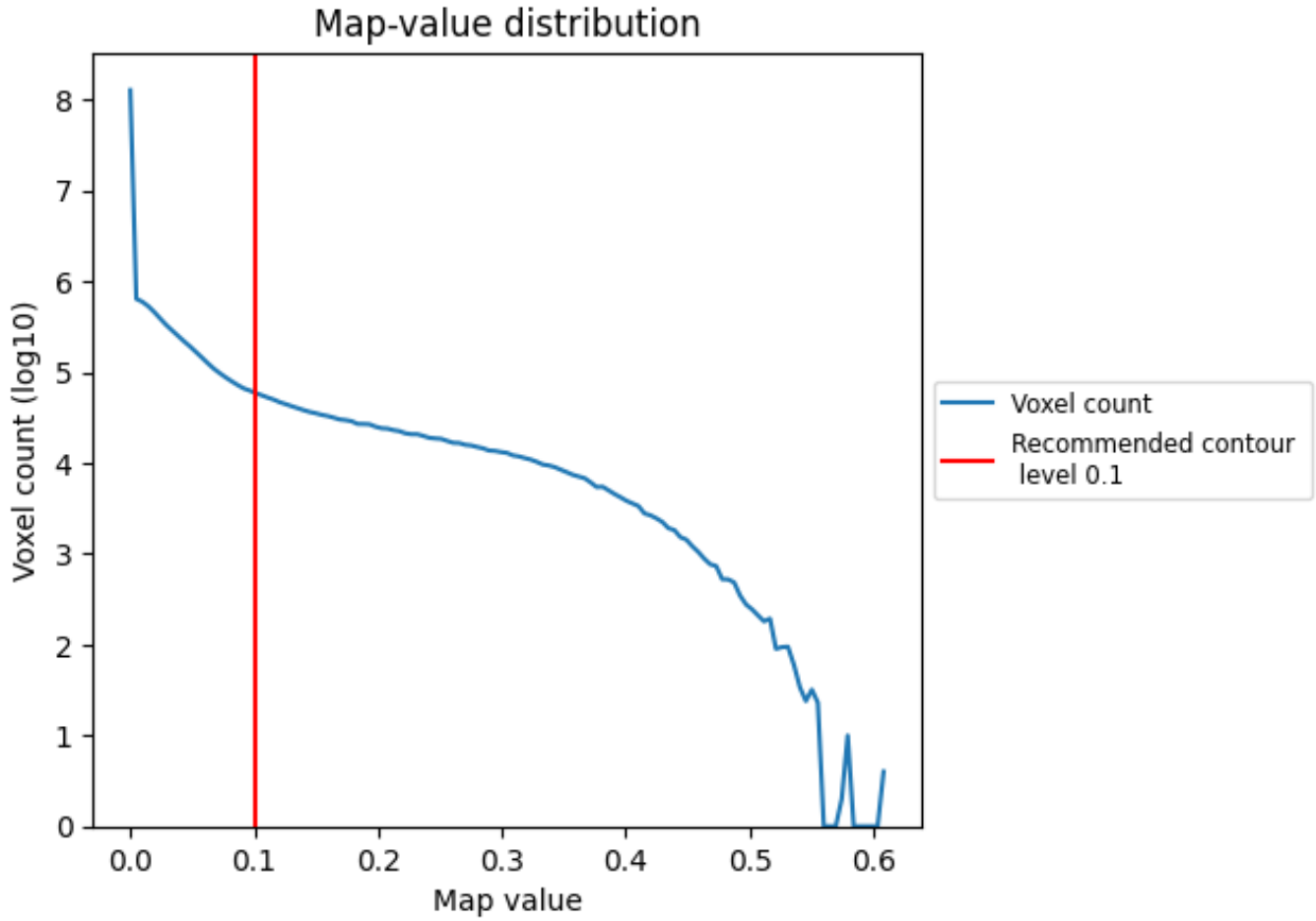
6.6 Mask visualisation (i)

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

7 Map analysis

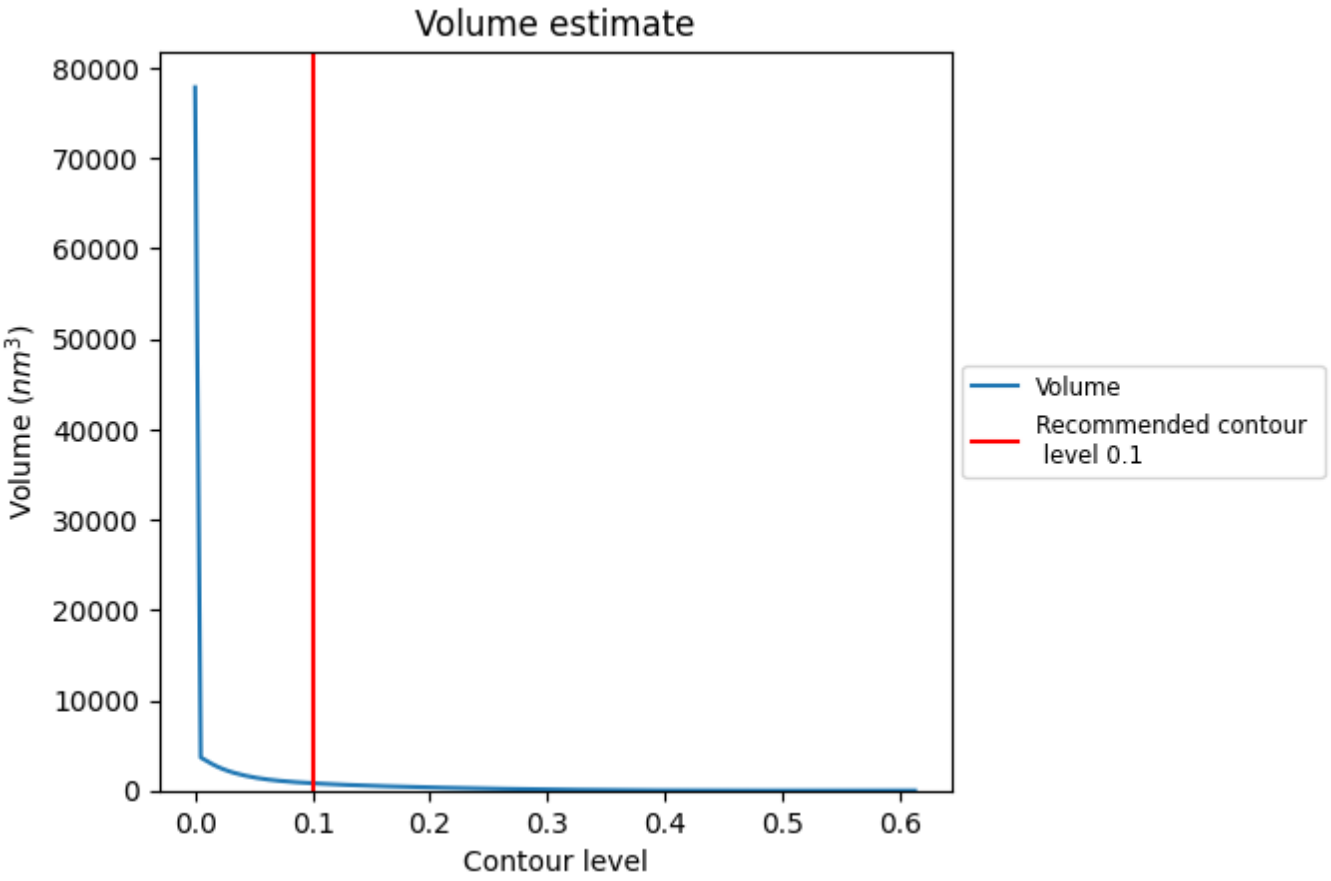
This section contains the results of statistical analysis of the map.

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.

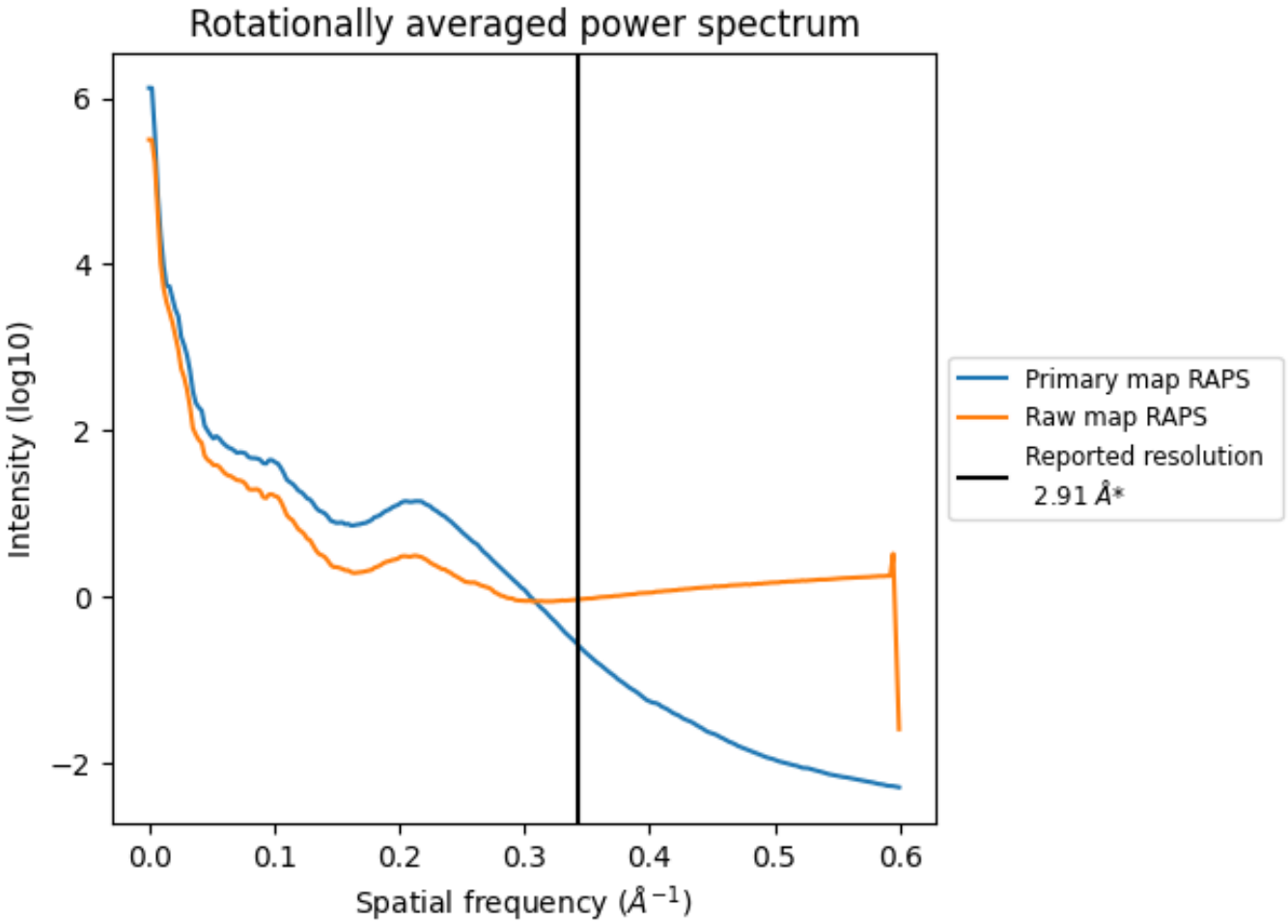
7.2 Volume estimate



The volume at the recommended contour level is 812 nm^3; this corresponds to an approximate mass of 734 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)

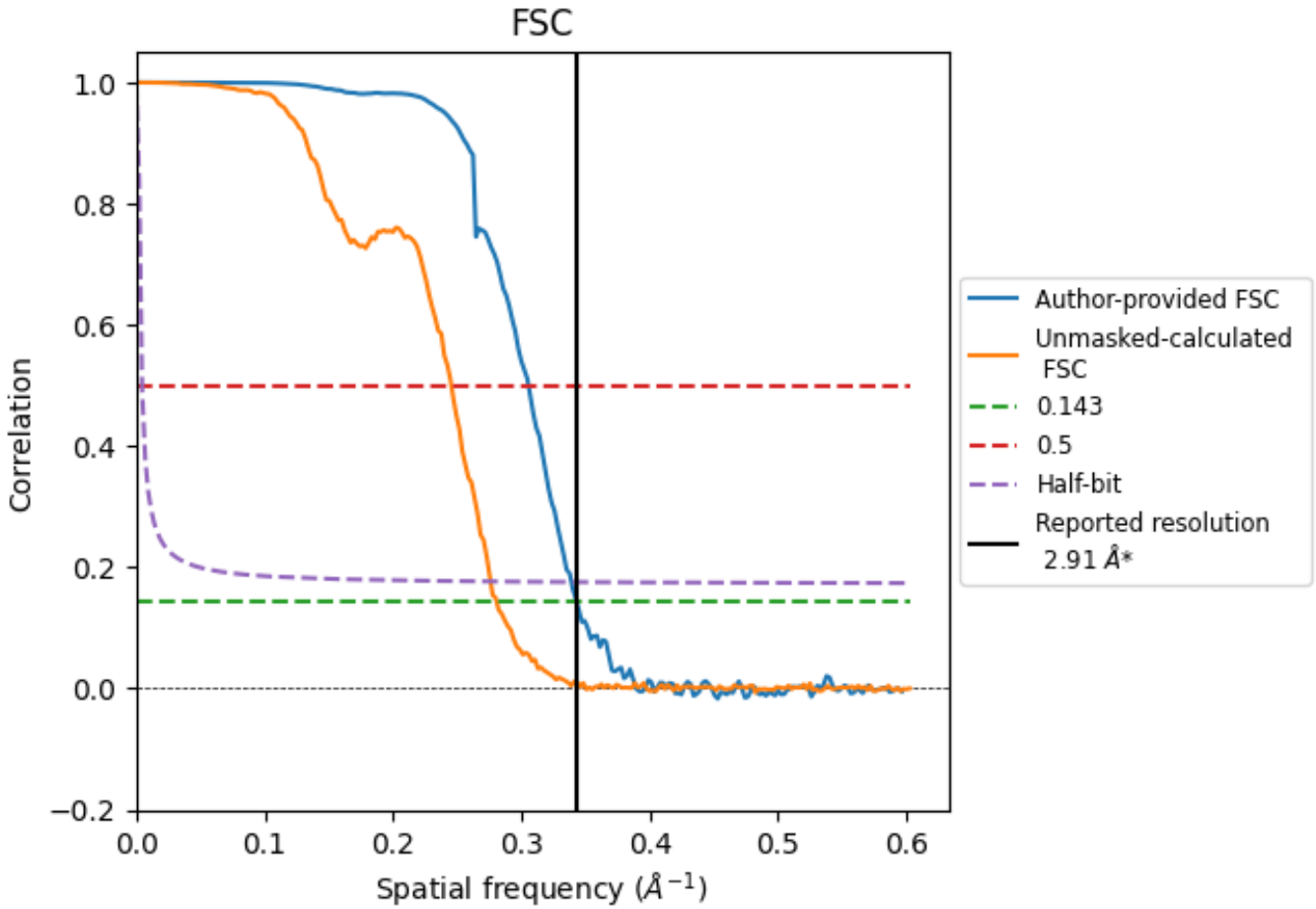


*Reported resolution corresponds to spatial frequency of 0.344 Å^{-1}

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 0.344 Å^{-1}

8.2 Resolution estimates (i)

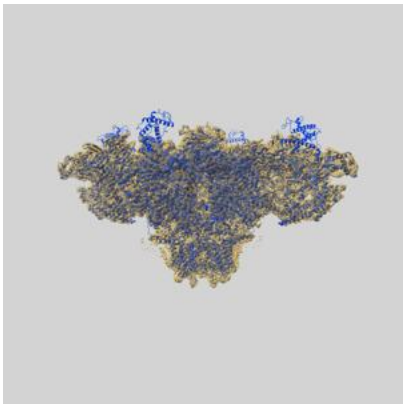
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.91	-	-
Author-provided FSC curve	2.91	3.27	2.95
Unmasked-calculated*	3.56	4.07	3.62

*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 3.56 differs from the reported value 2.91 by more than 10 %

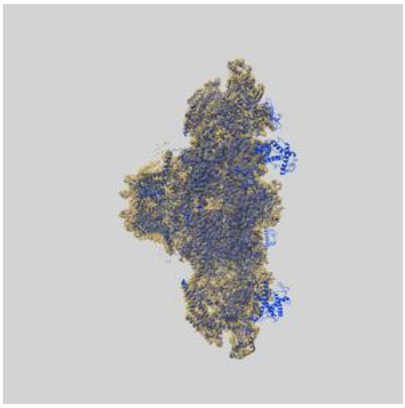
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-49538 and PDB model 9NMR. Per-residue inclusion information can be found in section 3 on page 6.

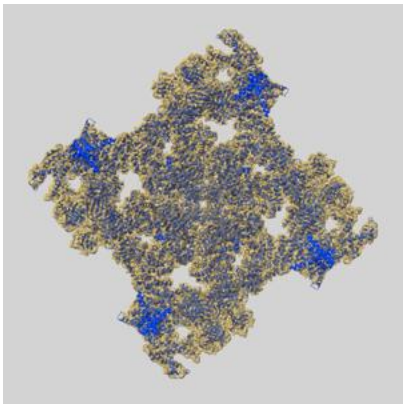
9.1 Map-model overlay



X



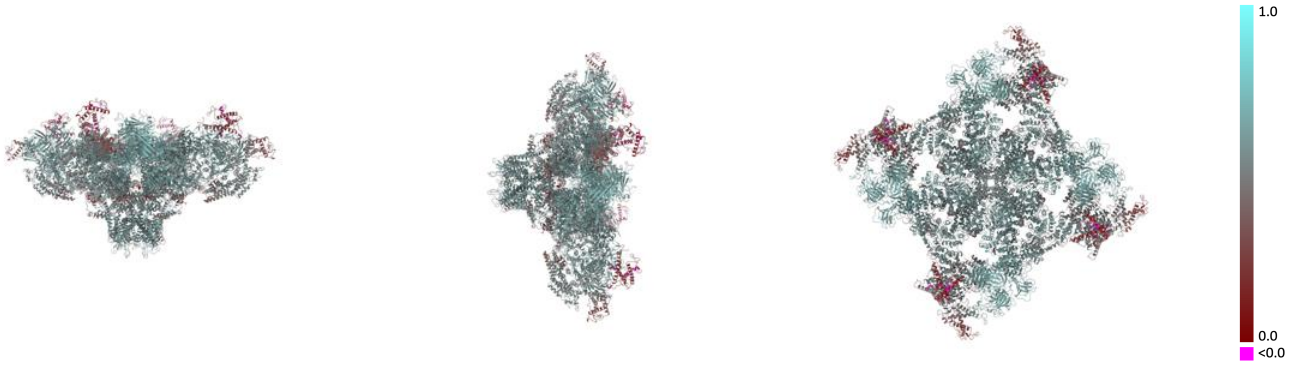
Y



Z

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

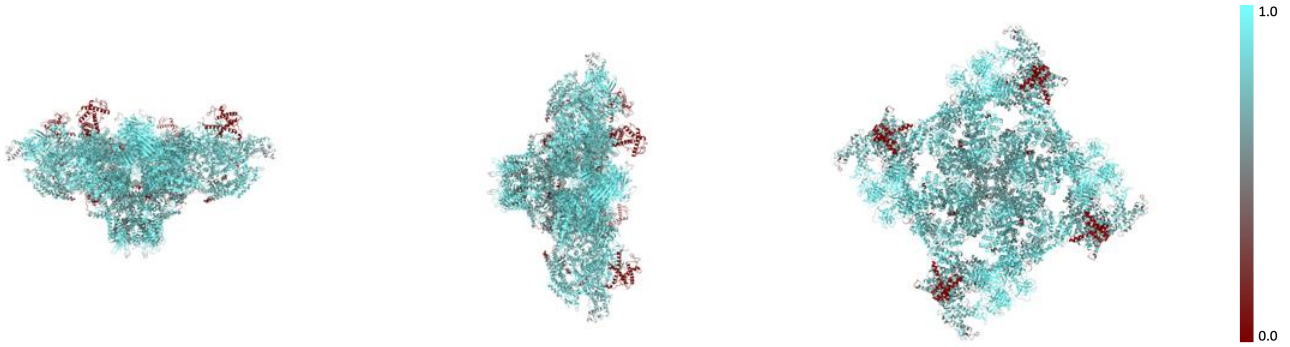
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

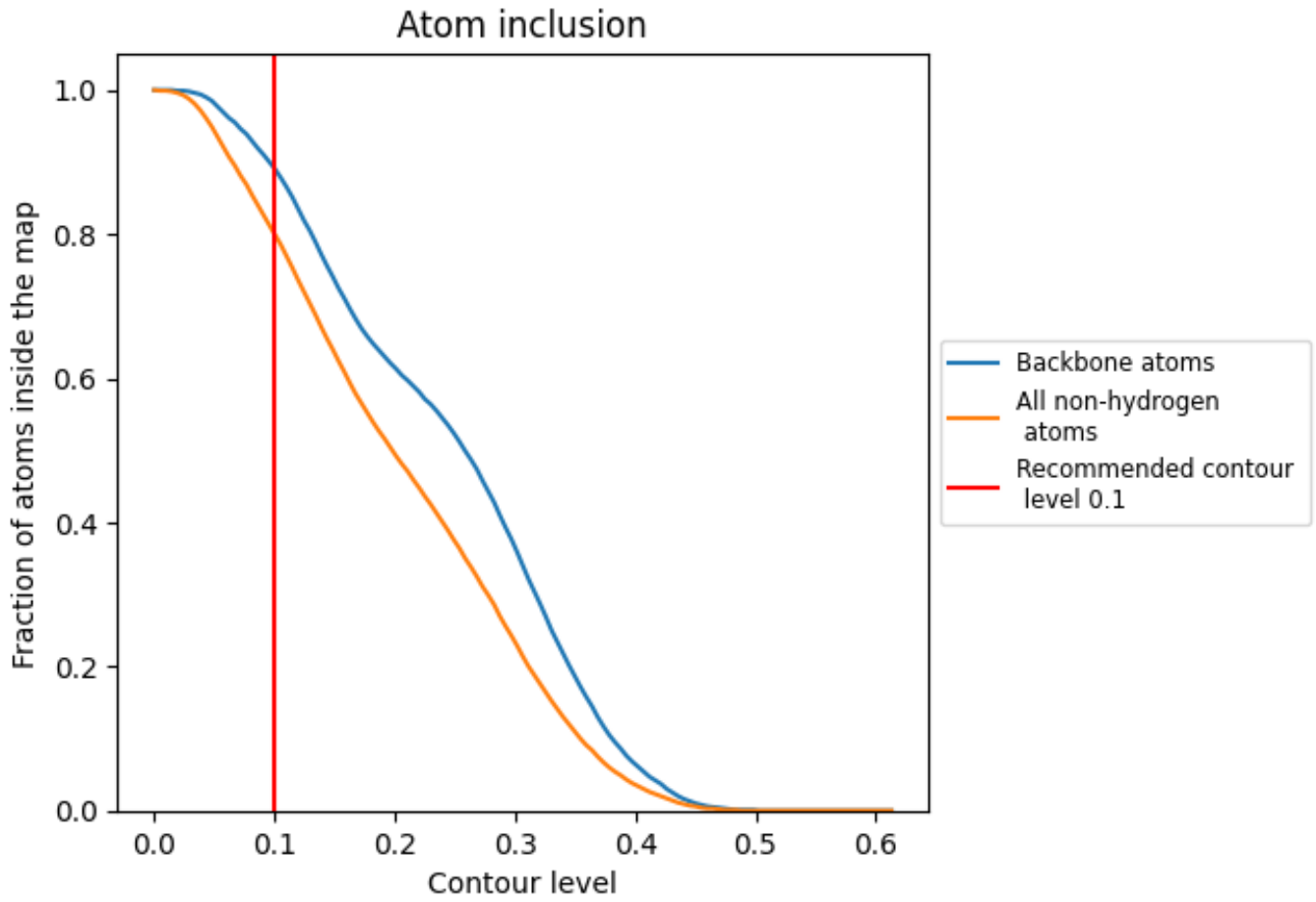
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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

9.4 Atom inclusion (i)



At the recommended contour level, 89% of all backbone atoms, 80% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8000	0.5360
A	0.7980	0.5340
B	0.7980	0.5340
C	0.7970	0.5340
D	0.7980	0.5350
E	0.9050	0.6020
F	0.9000	0.6000
G	0.9040	0.6040
H	0.9020	0.6040