Full wwPDB EM Validation Report ⓘ

Nov 5, 2024 – 06:42 AM EST

PDB ID	:	9E1E
EMDB ID	:	EMD-47391
Title	:	Structure of RyR1 in the primed state in the presence of uracil
Authors	:	Miotto, M.C.; Marks, A.R.
Deposited on	:	2024-10-21
Resolution	:	2.92 Å(reported)
Based on initial model	:	7TZC

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

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

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

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

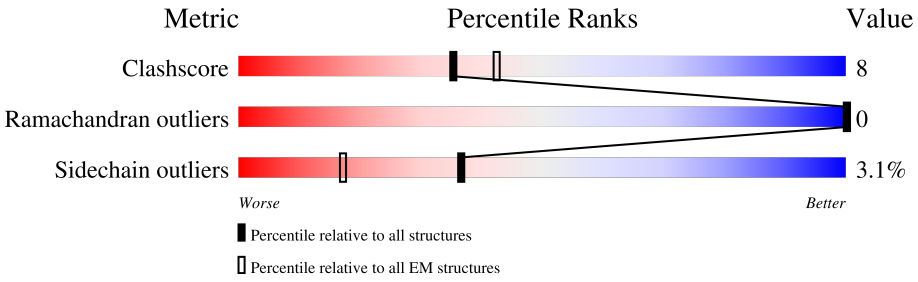
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance

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

The reported resolution of this entry is 2.92 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	5037	29% 70% 16% • 13%
1	B	5037	29% 70% 17% • 13%
1	C	5037	29% 69% 17% • 13%
1	D	5037	29% 72% 15% • 13%
2	E	108	30% 72% 25% ••
2	F	108	28% 69% 30% ••
2	G	108	29% 73% 25% ••
2	H	108	28% 69% 30% ••

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 144088 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.

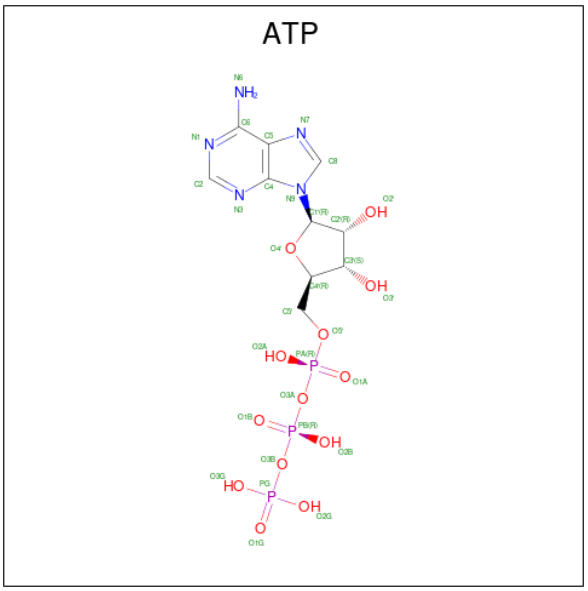
- Molecule 1 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4404	Total 35150	C 22365	N 6063	O 6485	S 237	9	0
1	B	4404	Total 35150	C 22365	N 6063	O 6485	S 237	9	0
1	D	4404	Total 35150	C 22365	N 6063	O 6485	S 237	9	0
1	C	4404	Total 35150	C 22365	N 6063	O 6485	S 237	9	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	E	107	Total 831	C 527	N 146	O 154	S 4	0	0
2	H	107	Total 831	C 527	N 146	O 154	S 4	0	0
2	G	107	Total 831	C 527	N 146	O 154	S 4	0	0
2	F	107	Total 831	C 527	N 146	O 154	S 4	0	0

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



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

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

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

- Molecule 5 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

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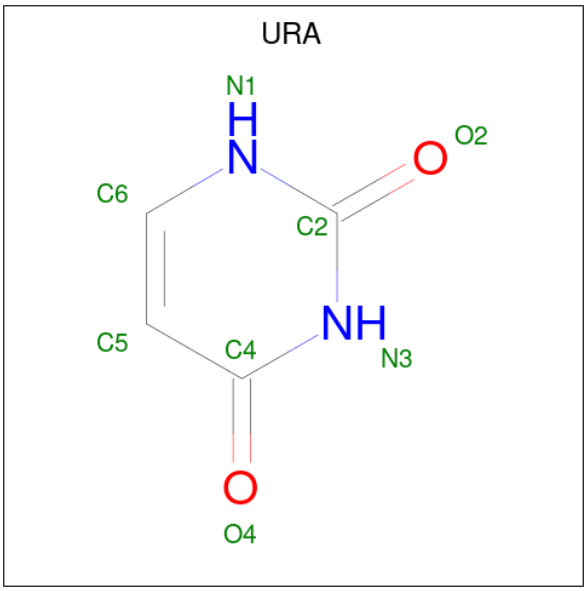
Mol	Chain	Residues	Atoms	AltConf
5	B	1	Total Zn 1 1	0
5	D	1	Total Zn 1 1	0
5	C	1	Total Zn 1 1	0

- Molecule 6 is URACIL (three-letter code: URA) (formula: $C_4H_4N_2O_2$) (labeled as "Ligand of Interest" by depositor).



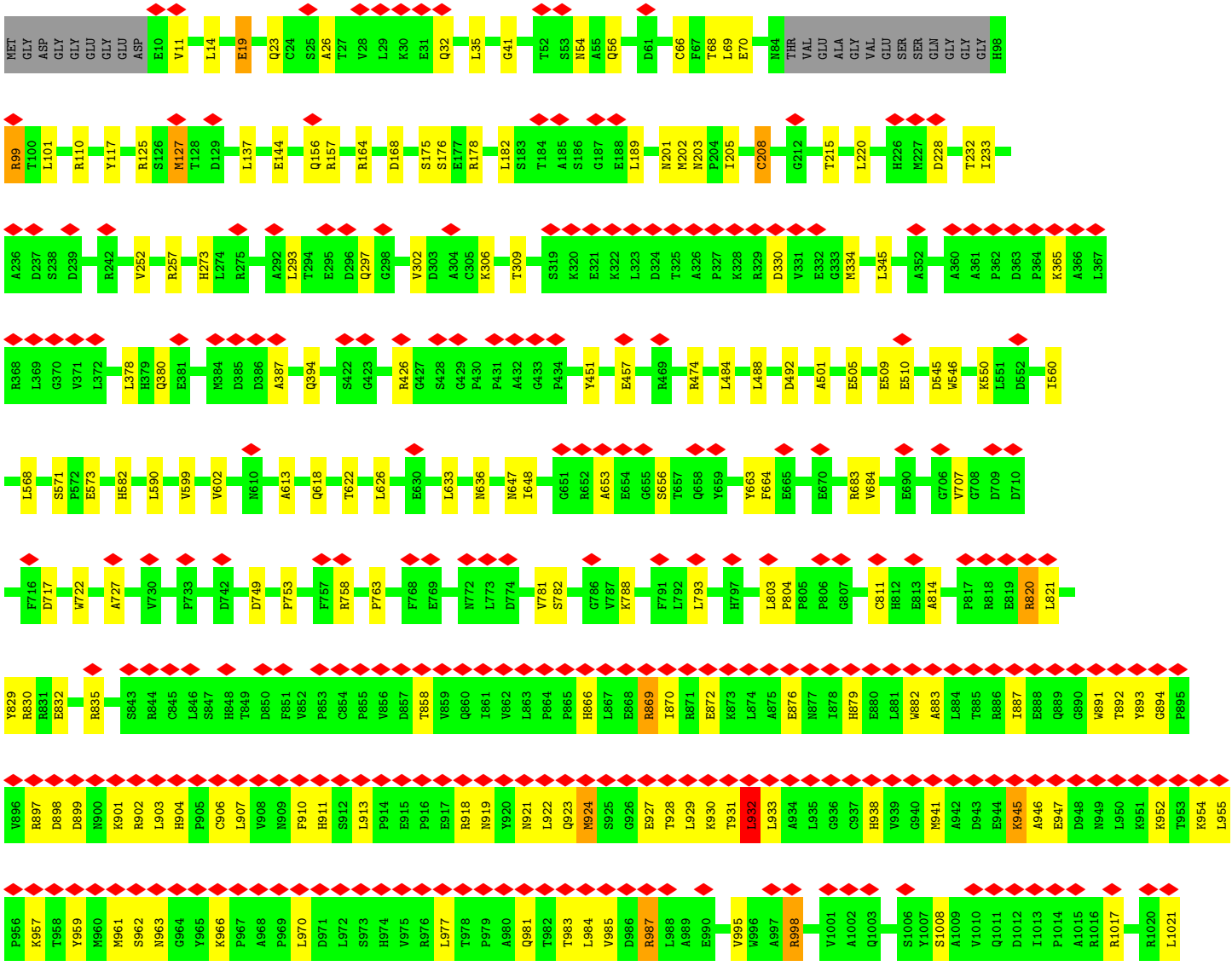
Mol	Chain	Residues	Atoms	AltConf
6	A	1	Total C N O 8 4 2 2	0
6	B	1	Total C N O 8 4 2 2	0
6	D	1	Total C N O 8 4 2 2	0
6	C	1	Total C N O 8 4 2 2	0

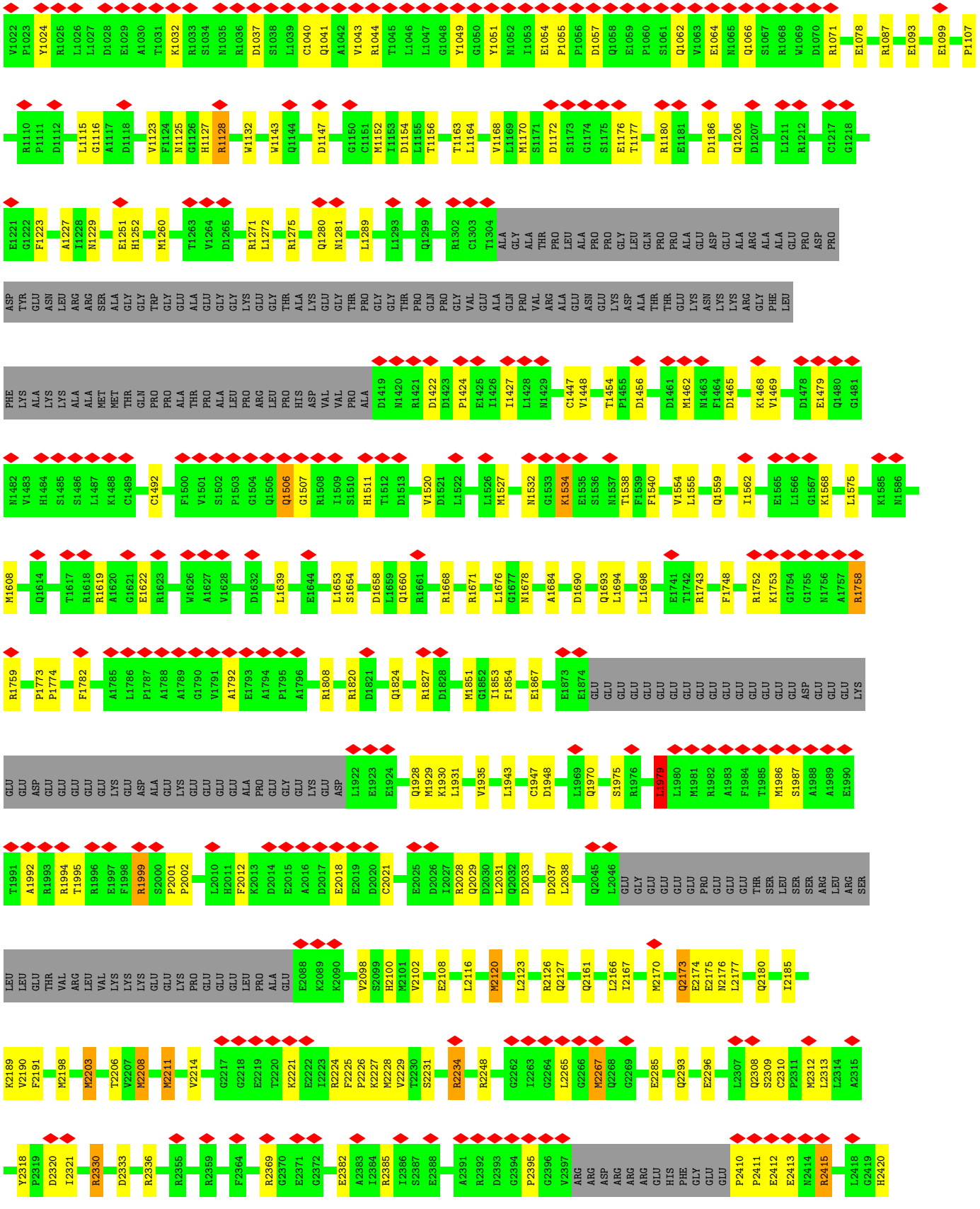
3 Residue-property plots (i)

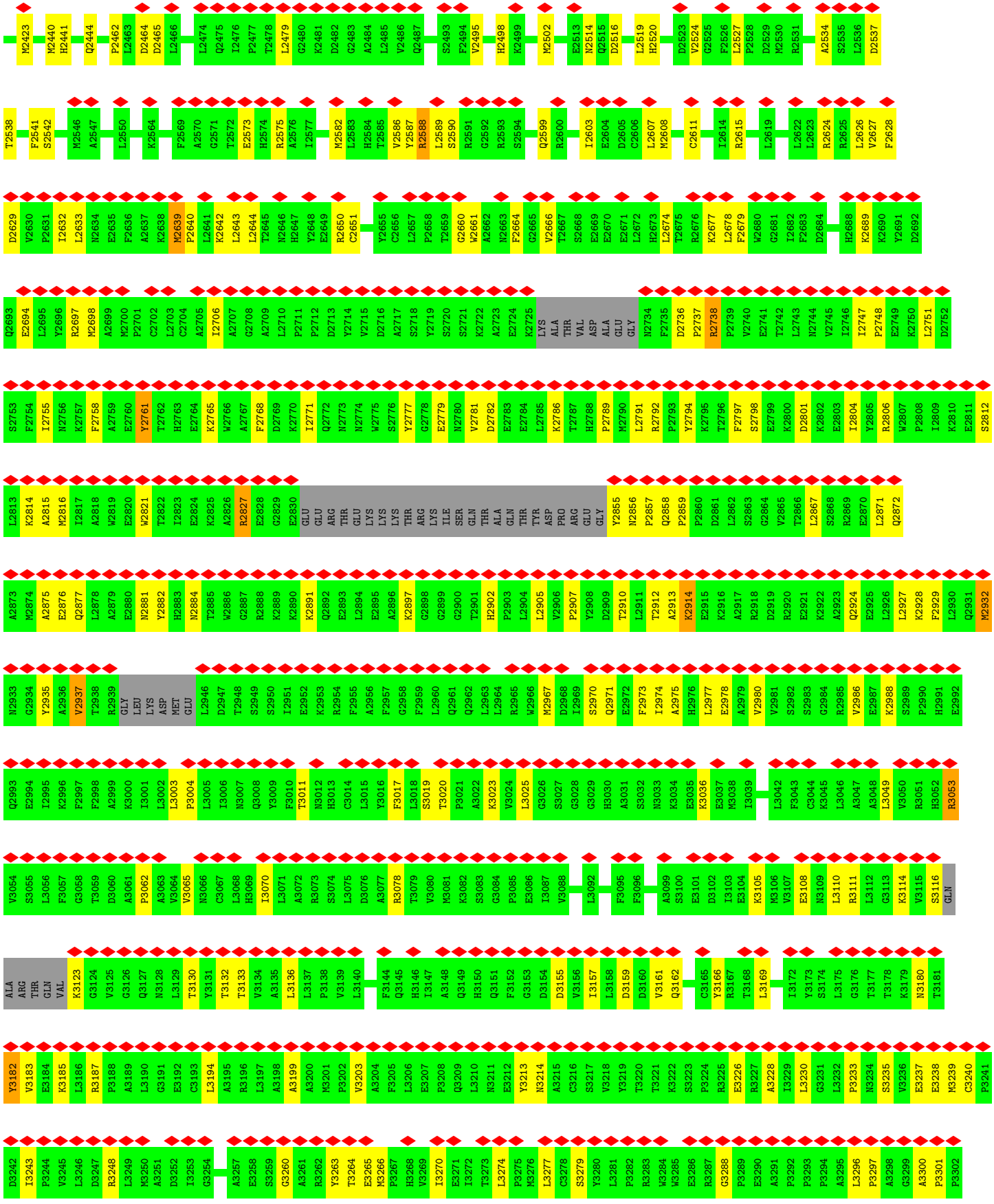
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

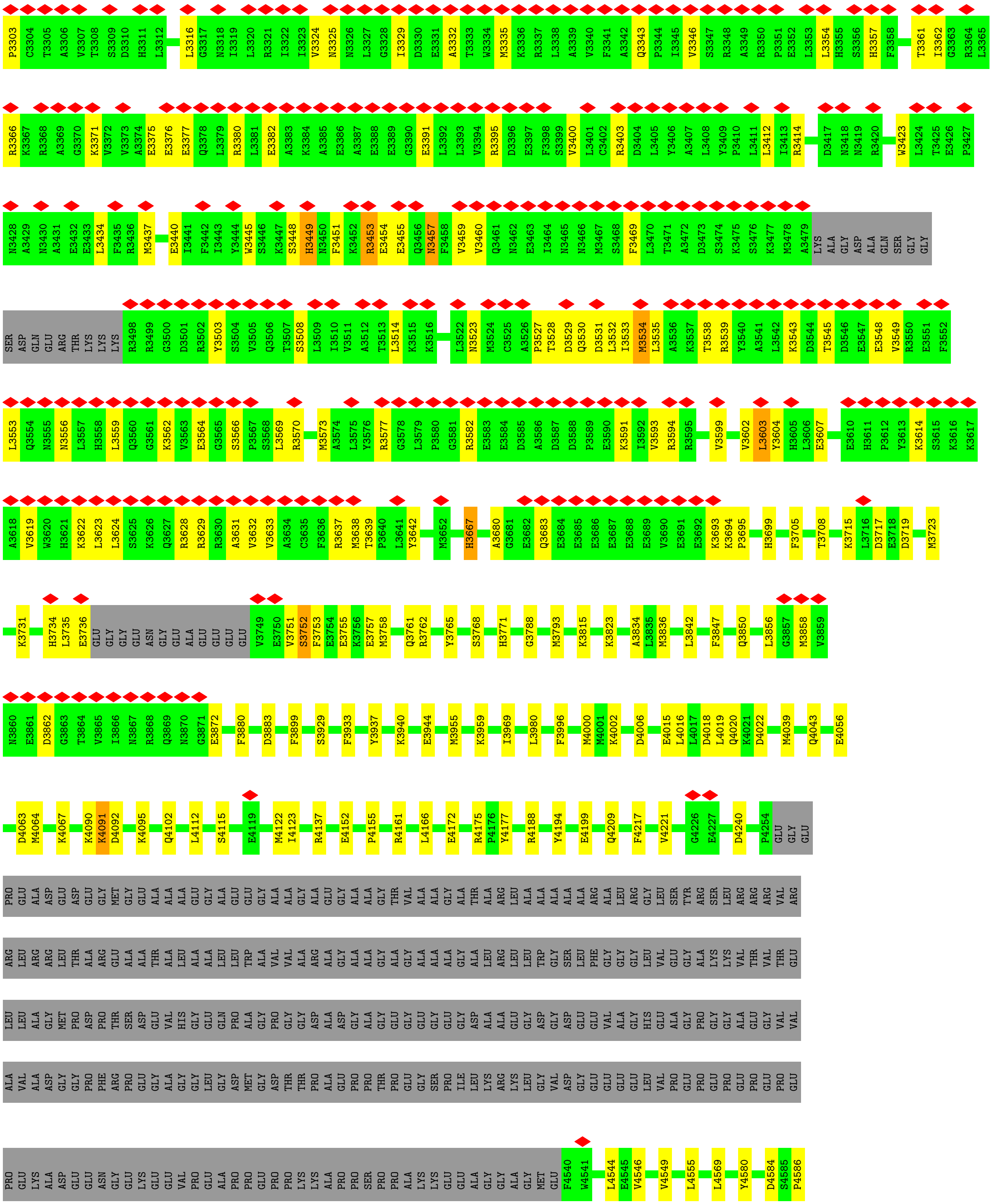
- Molecule 1: Ryanodine receptor 1

Chain A:






M2423 M2440 H2441 Q2444 P2462 L2463 D2464 D2465 L2466 L2474 Q2475 I2476 P2477 T2478 L2479 G2480 K2481 D2482 G2483 A2484 L2485 V2486 Q2487 S2493 P2494 V2495 H2498 K2499 M2502 E2513 N2514 Q2515 D2516 L2519 H2520 D2523 V2524 G2525 F2526 L2527 P2528 D2529 M2530 R2531 A2534 S2535 L2536 D2537
T2538 F2541 S2542 M2546 A2547 L2550 K2564 F2569 A2570 G2571 T2572 E2573 H2574 R2575 A2576 I2577 M2582 L2583 H2584 T2585 V2586 Y2587 R2588 L2589 S2590 R2591 G2592 R2593 S2594 Q2599 R2600 I2603 E2604 D2605 C2606 L2607 M2608 C2611 I2614 R2615 L2619 L2622 L2623 R2624 R2625 L2626 V2627 F2628
D2629 V2630 P2631 I2632 L2633 N2634 E2635 F2636 A2637 K2638 M2639 P2640 L2641 K2642 L2643 L2644 T2645 N2646 H2647 Y2648 E2649 R2650 C2651 Y2655 C2656 L2657 P2658 T2659 G2660 W2661 A2662 N2663 F2664 G2665 V2666 T2667 S2668 E2669 E2670 E2671 L2672 H2673 L2674 T2675 R2676 K2677 L2678 F2679 W2680 G2681 I2682 F2683 D2684 H2688 K2689 K2690 Y2691 D2692
Q2693 E2694 L2695 Y2696 R2697 M2698 A2699 M2700 P2701 C2702 L2703 C2704 A2705 I2706 A2707 G2708 A2709 L2710 P2711 P2712 D2713 Y2714 V2715 D2716 A2717 S2718 Y2719 S2720 S2721 K2722 A2723 E2724 K2725 LYS ALA THR VAL ASP ALA GLU GLY N2734 F2735 D2736 P2737 R2738 P2739 V2740 E2741 T2742 L2743 N2744 V2745 I2746 I2747 P2748 E2749 K2750 L2751 D2752
S2753 F2754 I2755 N2756 K2757 F2758 A2759 E2760 Y2761 T2762 H2763 E2764 K2765 W2766 A2767 F2768 D2769 K2770 I2771 Q2772 N2773 N2774 W2775 S2776 Y2777 G2778 E2779 N2780 V2781 D2782 E2783 E2784 L2785 K2786 T2787 H2788 P2789 M2790 L2791 R2792 P2793 Y2794 K2795 T2796 F2797 S2798 E2799 K2800 D2801 K2802 E2803 I2804 Y2805 R2806 W2807 P2808 I2809 K2810 E2811 S2812
L2813 K2814 A2815 M2816 I2817 A2818 W2819 E2820 W2821 T2822 I2823 E2824 K2825 A2826 R2827 E2828 G2829 E2830 GLU GLU ARG THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2855 N2856 P2857 Q2858 P2859 P2860 D2861 L2862 S2863 G2864 V2865 T2866 L2867 S2868 R2869 E2870 L2871 Q2872
A2873 M2874 A2875 E2876 Q2877 L2878 A2879 E2880 N2881 Y2882 H2883 N2884 T2885 W2886 G2887 R2888 K2889 K2890 K2891 Q2892 E2893 L2894 E2895 A2896 K2897 G2898 G2899 G2900 T2901 H2902 P2903 L2904 L2905 V2906 P2907 Y2908 D2909 T2910 L2911 T2912 A2913 K2914 E2915 K2916 A2917 R2918 D2919 R2920 E2921 K2922 A2923 Q2924 E2925 L2926 L2927 K2928 F2929 L2930 Q2931 M2932
N2933 G2934 Y2935 A2936 V2937 T2938 R2939 GLY LEU LYS ASP MET GLU L2946 D2947 T2948 S2949 S2950 I2951 E2952 K2953 R2954 F2955 A2956 F2957 G2958 F2959 L2960 Q2961 Q2962 L2963 L2964 R2965 W2966 M2967 D2968 I2969 S2970 Q2971 E2972 F2973 I2974 A2975 H2976 L2977 E2978 A2979 V2980 Y2981 S2982 S2983 G2984 R2985 V2986 E2987 K2988 S2989 P2990 H2991 E2992
Q2993 E2994 I2995 K2996 F2997 F2998 A2999 K3000 I3001 L3002 L3003 P3004 L3005 I3006 N3007 Q3008 Y3009 F3010 T3011 N3012 H3013 C3014 L3015 Y3016 F3017 L3018 S3019 T3020 P3021 A3022 K3023 V3024 L3025 G3026 S3027 G3028 G3029 H3030 A3031 S3032 N3033 K3034 E3035 K3036 E3037 M3038 I3039 L3042 F3043 C3044 K3045 L3046 A3047 A3048 L3049 V3050 R3051 H3052 R3053
V3054 S3055 L3056 F3057 G3058 T3059 D3060 A3061 P3062 A3063 V3064 V3065 N3066 C3067 L3068 H3069 I3070 L3071 A3072 R3073 S3074 L3075 D3076 A3077 R3078 T3079 V3080 M3081 K3082 S3083 G3084 P3085 E3086 I3087 V3088 L3092 F3095 F3096 A3099 S3100 E3101 D3102 I3103 E3104 K3105 M3106 V3107 E3108 N3109 L3110 R3111 L3112 G3113 K3114 V3115 S3116 GLN
ALA ARG THR GLN VAL K3123 G3124 V3125 G3126 Q3127 N3128 L3129 T3130 Y3131 T3132 T3133 V3134 A3135 L3136 L3137 P3138 V3139 L3140 F3144 Q3145 H3146 I3147 A3148 Q3149 H3150 Q3151 F3152 G3153 D3154 D3155 V3156 I3157 L3158 D3159 D3160 V3161 Q3162 C3165 Y3166 R3167 T3168 L3169 I3172 Y3173 S3174 L3175 G3176 T3177 T3178 K3179 N3180 T3181
Y3182 V3183 E3184 K3185 L3186 R3187 P3188 A3189 L3190 G3191 E3192 C3193 L3194 A3195 R3196 L3197 A3198 A3199 A3200 M3201 P3202 V3203 A3204 F3205 L3206 E3207 P3208 Q3209 L3210 N3211 E3212 Y3213 M3214 A3215 C3216 S3217 V3218 Y3219 T3220 T3221 K3222 S3223 P3224 R3225 E3226 R3227 A3228 I3229 L3230 G3231 L3232 P3233 N3234 S3235 V3236 E3237 E3238 M3239 C3240 P3241
D3242 I3243 P3244 V3245 L3246 D3247 R3248 L3249 M3250 A3251 D3252 I3253 G3254 A3257 E3258 S3259 G3260 A3261 R3262 Y3263 T3264 E3265 M3266 P3267 H3268 V3269 I3270 E3271 I3272 T3273 L3274 P3275 M3276 L3277 C3278 S3279 Y3280 L3281 P3282 R3283 W3284 W3285 E3286 R3287 G3288 P3289 E3290 A3291 P3292 P3293 P3294 A3295 L3296 P3297 A3298 G3299 A3300 P3301 P3302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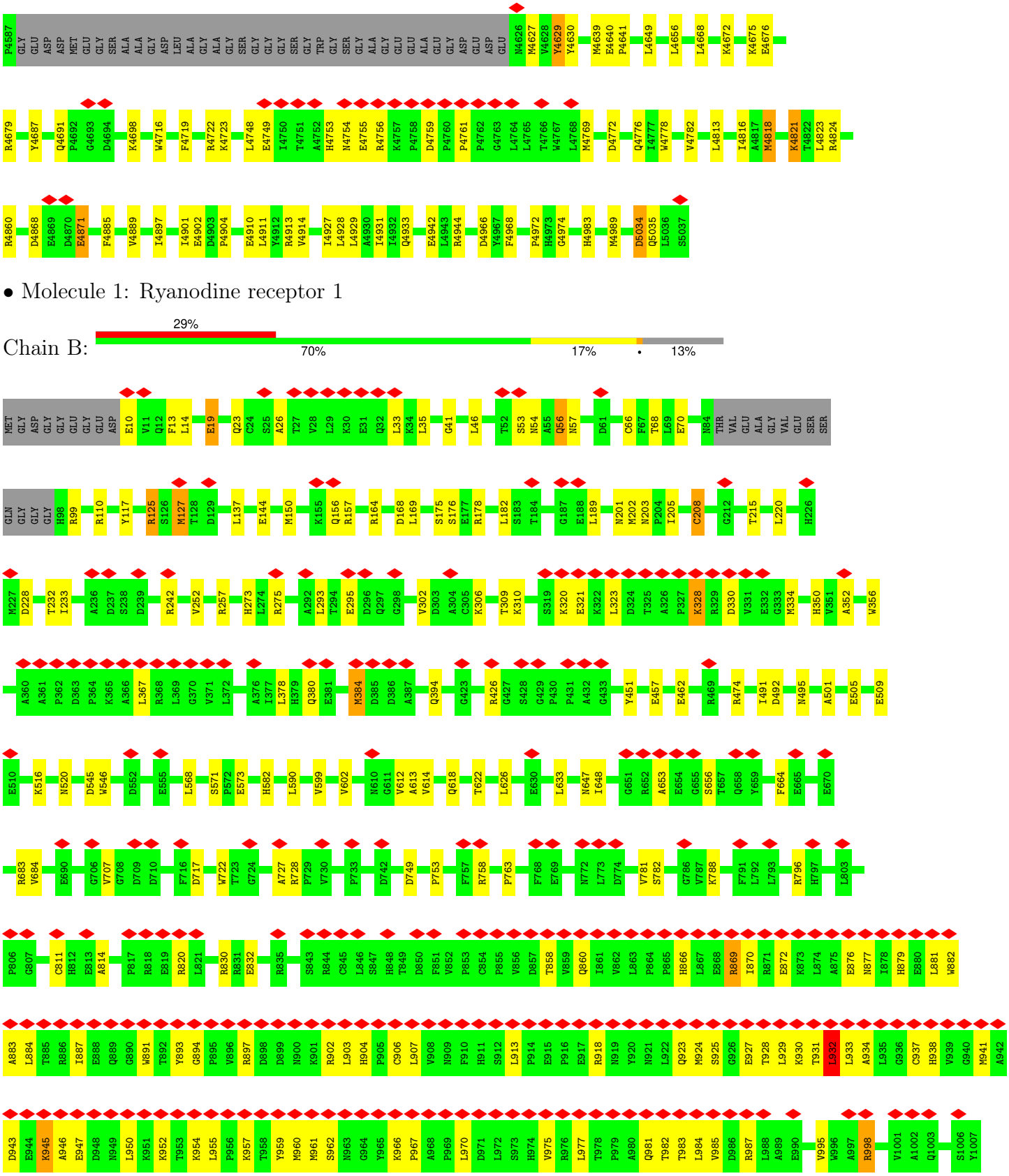
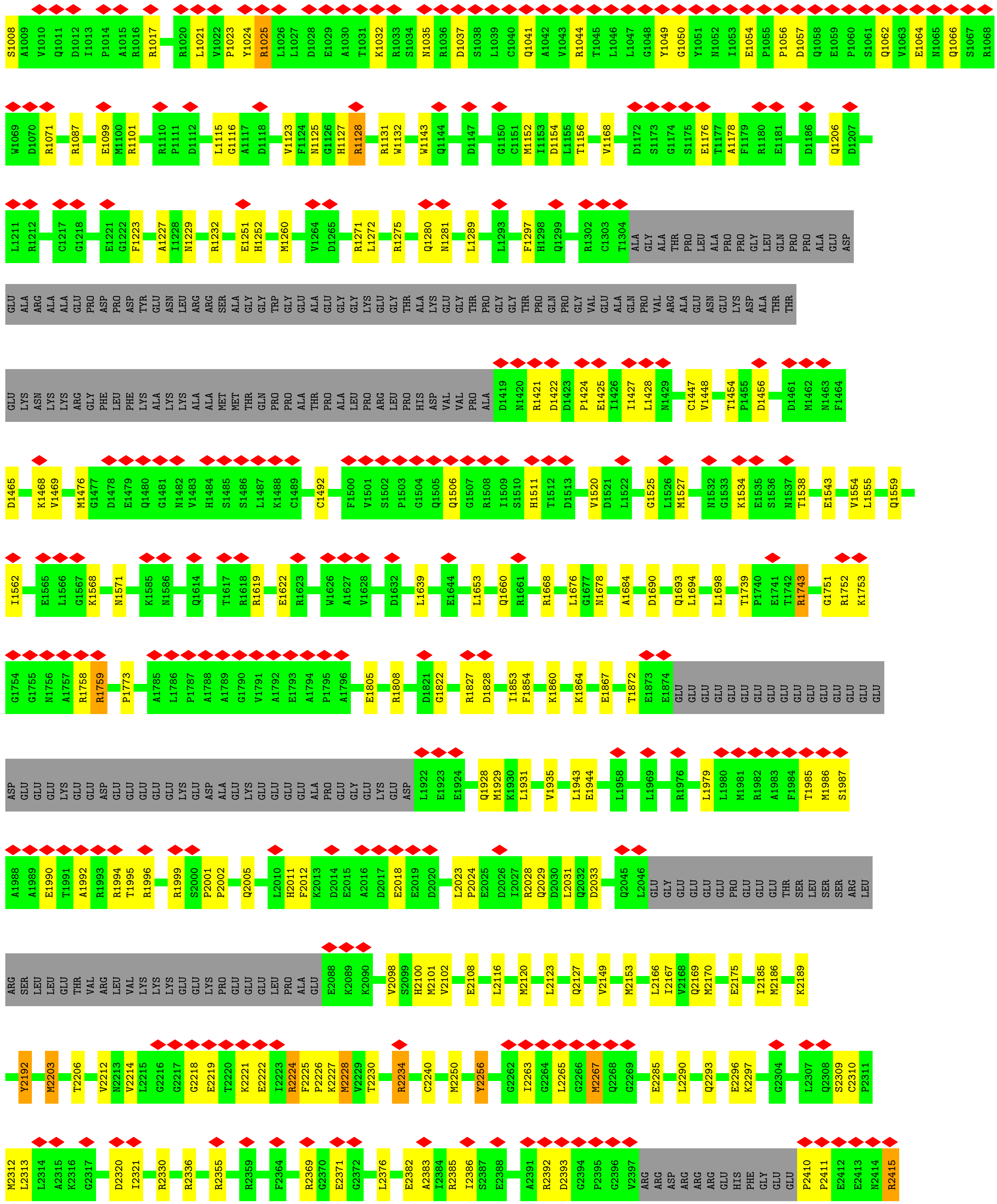
R3366 K3367 R3368 A3369 G3370 K3371 V3372 V3373 A3374 E3375 E3376 E3377 Q3378 L3379 R3380 L3381 E3382 A3383 K3384 A3385 E3386 A3387 E3388 E3389 G3390 E3391 L3392 L3393 V3394 R3395 D3396 E3397 F3398 S3399 V3400 L3401 C3402 R3403 D3404 L3405 Y3406 A3407 L3408 Y3409 P3410 L3411 L3412 I3413 R3414 D3417 N3418 N3419 R3420 W3423 L3424 T3425 E3426 P3427
N3428 A3429 N3430 A3431 E3432 E3433 L3434 F3435 R3436 M3437 E3440 I3441 F3442 I3443 Y3444 W3445 S3446 K3447 S3448 H3449 N3450 F3451 K3452 R3453 E3454 E3455 Q3456 N3457 F3458 V3459 V3460 Q3461 N3462 E3463 I3464 N3465 N3466 M3467 S3468 F3469 L3470 T3471 A3472 D3473 S3474 K3475 S3476 K3477 M3478 A3479 LYS ALA GLY ASP ALA GLN SER GLY GLY
SER ASP GLN GLU ARG THR LYS LYS LYS R3498 R3499 G3500 D3501 R3502 Y3503 S3504 V3505 Q3506 T3507 S3508 L3509 I3510 V3511 A3512 T3513 L3514 K3515 K3516 L3522 N3523 M3524 C3525 A3526 P3527 T3528 D3529 Q3530 D3531 L3532 I3533 M3534 L3535 A3536 K3537 T3538 R3539 Y3540 A3541 L3542 K3543 D3544 T3545 D3546 E3547 E3548 V3549 R3550 E3551 F3552
L3553 Q3554 N3555 N3556 L3557 H3558 L3559 Q3560 G3561 K3562 V3563 E3564 G3565 S3566 P3567 S3568 L3569 R3570 M3573 A3574 L3575 Y3576 R3577 G3578 L3579 P3580 G3581 R3582 E3583 E3584 D3585 A3586 D3587 D3588 P3589 E3590 K3591 I3592 V3593 R3594 R3595 V3599 V3602 L3603 Y3604 H3605 L3606 E3607 E3610 H3611 P3612 Y3613 K3614 S3615 K3616 K3617
A3618 V3619 W3620 H3621 K3622 L3623 L3624 S3625 K3626 Q3627 R3628 R3629 R3630 A3631 V3632 V3633 A3634 C3635 F3636 R3637 M3638 T3639 P3640 L3641 Y3642 M3652 H3667 A3680 G3681 E3682 Q3683 E3684 E3685 E3686 E3687 E3688 E3689 V3690 E3691 E3692 K3693 K3694 P3695 H3699 F3705 T3708 K3715 L3716 D3717 E3718 D3719 M3723
K3731 H3734 L3735 E3736 GLU GLY GLY GLU ASN GLY GLU ALA GLU GLU GLU GLU V3749 E3750 V3751 S3752 F3753 E3754 E3755 K3756 E3757 M3758 Q3761 R3762 Y3765 S3768 H3771 G3788 M3793 K3815 K3823 A3834 L3835 M3836 L3842 F3847 Q3850 L3856 G3857 M3858 V3859
N3860 E3861 D3862 G3863 T3864 V3865 I3866 N3867 R3868 Q3869 N3870 G3871 E3872 F3880 D3883 F3899 S3929 F3933 Y3937 K3940 E3944 M3955 K3959 I3969 L3980 F3996 M4000 M4001 K4002 D4006 E4015 L4016 L4017 D4018 L4019 Q4020 K4021 D4022 M4039 Q4043 E4056
D4063 M4064 K4067 K4090 K4091 D4092 K4095 Q4102 L4112 S4115 E4119 M4122 I4123 R4137 E4152 P4155 R4161 L4166 E4172 R4175 P4176 Y4177 R4188 Y4194 E4199 Q4209 F4217 V4221 G4226 E4227 D4240 P4254 GLU GLY GLU
PRO GLU ALA ASP GLU ASP GLU GLY MET GLY GLU ALA ALA ALA GLU GLY ALA GLU GLU GLY ALA ALA GLY ALA GLU GLY ALA ALA GLY THR VAL ALA ALA GLY ALA THR ALA ARG LEU ALA ALA ALA ALA ARG ALA LEU ARG GLY LEU SER TYR ARG SER LEU ARG ARG ARG VAL ARG
ARG LEU ARG ARG LEU THR ALA ARG GLU ALA ALA THR ALA LEU ALA ALA LEU LEU TRP ALA VAL VAL ALA ARG ALA GLY ALA ALA GLY ALA GLY ALA ALA ALA GLY ALA LEU ARG LEU LEU TRP GLY SER LEU PHE GLY GLY GLY LEU VAL GLU GLY ALA LYS LYS VAL THR VAL THR GLU
LEU LEU ALA GLY MET PRO ASP PRO THR SER ASP GLU VAL HIS GLY GLU GLN PRO ALA GLY PRO GLY GLY ASP ALA ASP GLY ALA GLY GLU GLY GLU GLY GLU GLY ASP ALA ALA GLU GLY ASP GLY ASP GLU GLU VAL ALA GLY HIS GLU ALA GLY PRO GLY GLY ALA GLU GLY VAL VAL
ALA VAL ALA ASP GLY GLY PRO PHE ARG PRO GLU GLY ALA GLY GLY LEU GLY ASP MET GLY ASP THR THR PRO ALA GLU PRO PRO THR PRO GLU GLY SER PRO ILE LEU LYS ARG LYS LEU GLY VAL ASP GLY GLU GLU GLU GLU LEU VAL PRO GLU PRO GLU PRO GLU PRO GLU PRO GLU
PRO GLU LYS ALA ASP GLU GLU ASN GLY GLU LYS GLU GLU VAL PRO GLU ALA PRO PRO GLU PRO PRO LYS LYS ALA PRO PRO SER PRO PRO ALA LYS LYS GLU GLU ALA GLY GLY ALA GLY MET GLU F4540 W4541 L4544 E4545 V4546 V4549 L4555 L4569 Y4580 D4584 S4585 P4586



• Molecule 1: Ryanodine receptor 1

Chain B: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W1069 D1070 R1071 R1087 E1099 M1100 R1101 R1110 P1111 D1112 L1115 G1116 A1117 D1118 V1123 F1124 N1125 G1126 H1127 R1128 R1131 W1132 W1143 Q1144 D1147 G1150 C1151 M1152 I1153 D1154 L1155 T1156 V1168 D1172 S1173 G1174 S1175 E1176 T1177 A1178 F1179 R1180 E1181 D1186 Q1206 D1207
L1211 R1212 C1217 G1218 E1221 G1222 F1223 A1227 I1228 N1229 R1232 E1251 H1252 M1260 V1264 D1265 R1271 L1272 R1275 Q1280 N1281 L1289 L1293 F1297 H1298 Q1299 R1302 C1303 T1304 ALA GLY ALA THR PRO LEU ALA PRO PRO GLY LEU GLN PRO PRO ALA GLU ASP
GLU ALA ARG ALA ALA GLU PRO ASP PRO ASP TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR PRO GLN PRO GLY VAL GLU ALA GLN PRO VAL ARG ALA GLU ASN GLU LYS ASP ALA THR THR
GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS ALA ALA MET MET THR GLN PRO PRO ALA THR PRO ALA LEU PRO ARG LEU PRO HIS ASP VAL VAL PRO ALA D1419 N1420 R1421 D1422 D1423 P1424 E1425 I1426 I1427 L1428 N1429 C1447 V1448 T1454 P1455 D1456 D1461 M1462 N1463 F1464
D1465 K1468 V1469 M1476 G1477 D1478 E1479 Q1480 G1481 N1482 V1483 H1484 S1485 S1486 L1487 K1488 C1489 C1492 F1500 V1501 S1502 P1503 G1504 Q1505 Q1506 G1507 R1508 I1509 S1510 H1511 T1512 D1513 V1520 D1521 L1522 G1525 L1526 M1527 N1532 G1533 K1534 E1535 S1536 N1537 T1538 E1543 V1554 L1555 Q1559
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ASP GLU GLU GLU LYS GLU GLU ASP GLU GLU GLU GLU GLU LYS GLU ASP ALA GLU LYS GLU GLU GLU GLU ALA PRO GLU GLY GLU LYS ASP L1922 E1923 E1924 Q1928 M1929 K1930 L1931 V1935 L1943 E1944 L1958 L1969 R1976 L1979 L1980 M1981 R1982 A1983 F1984 T1985 M1986 S1987
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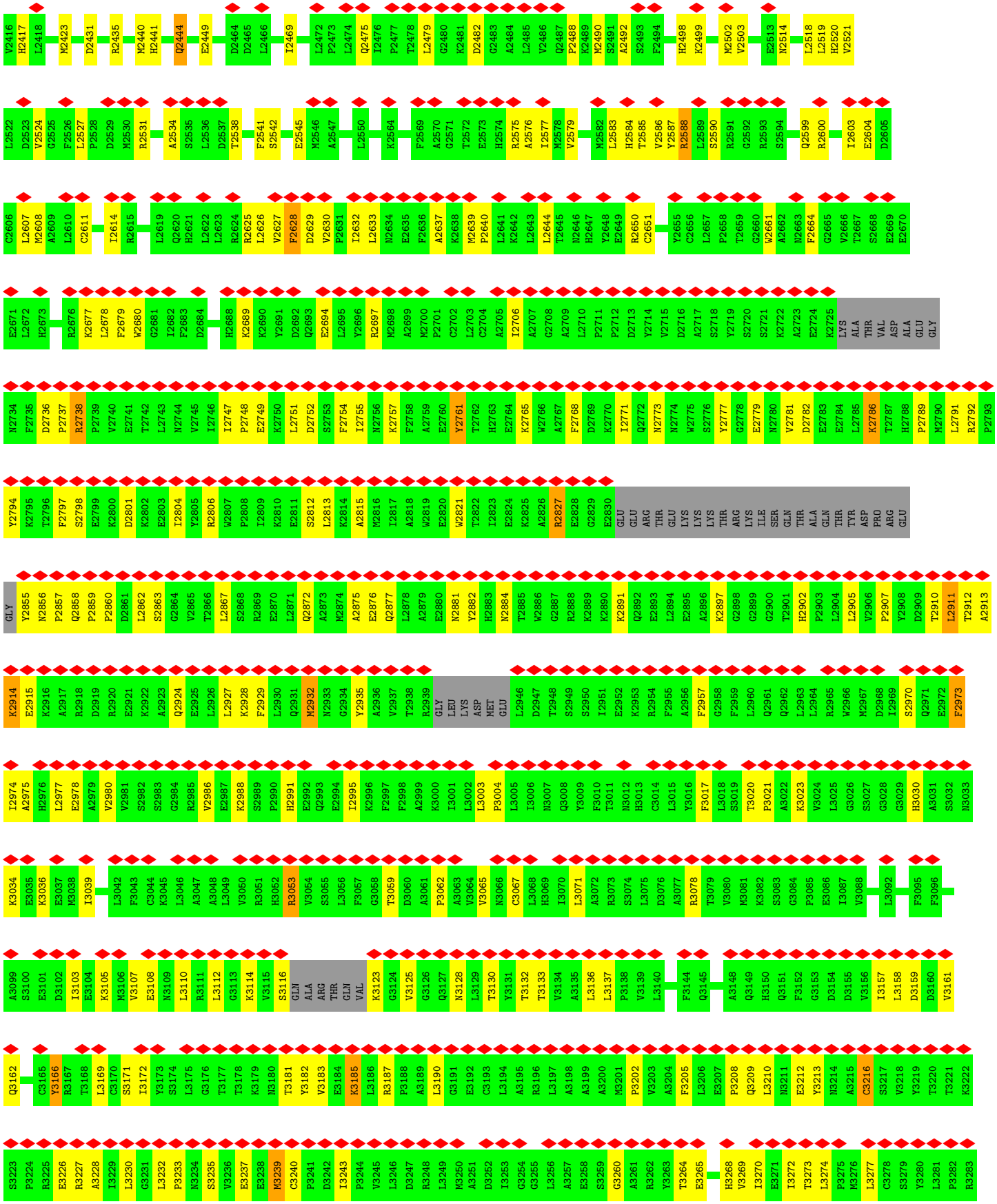
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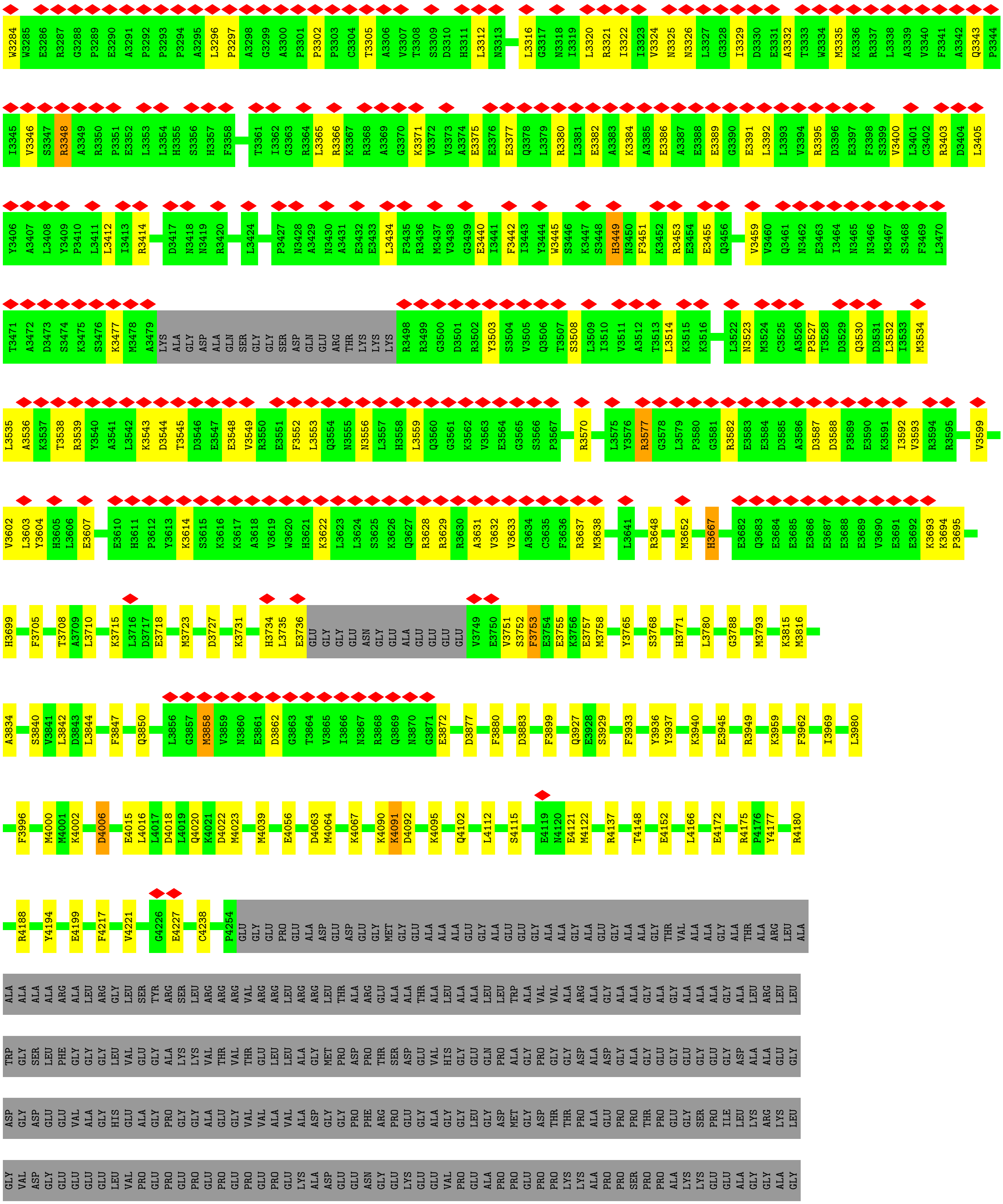
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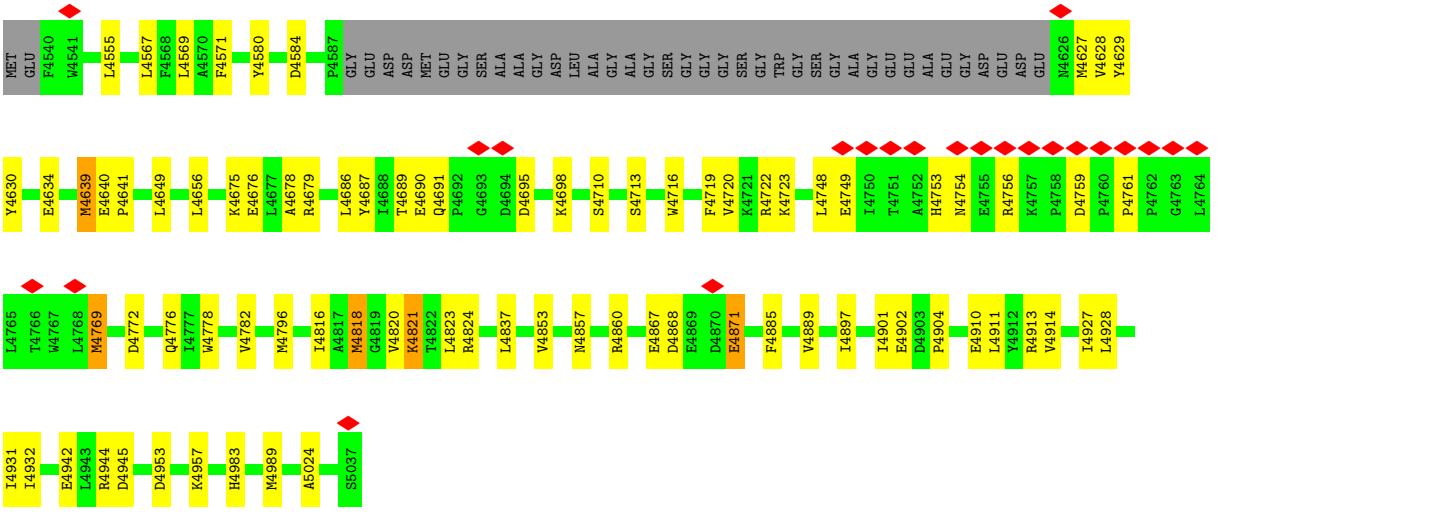
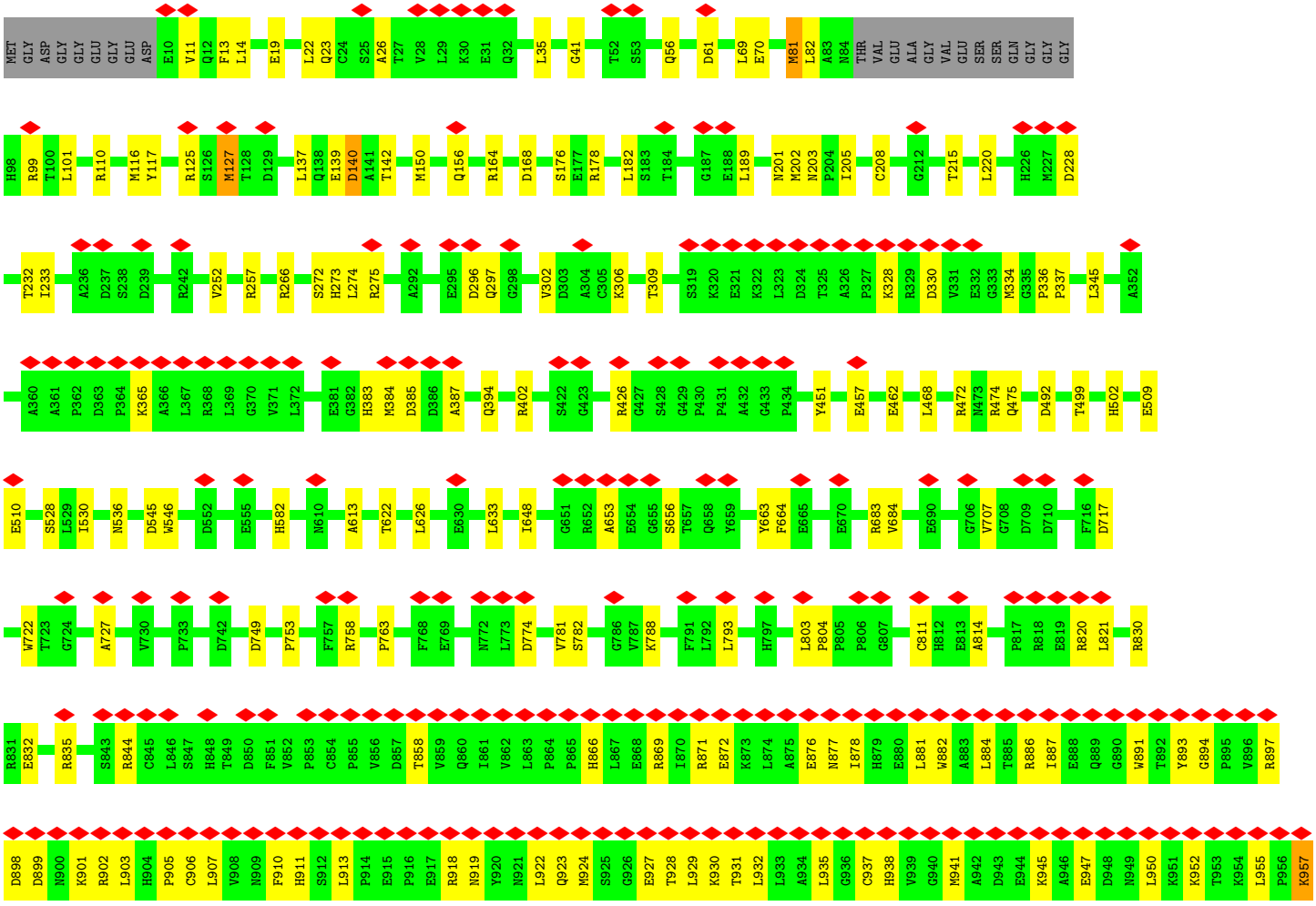
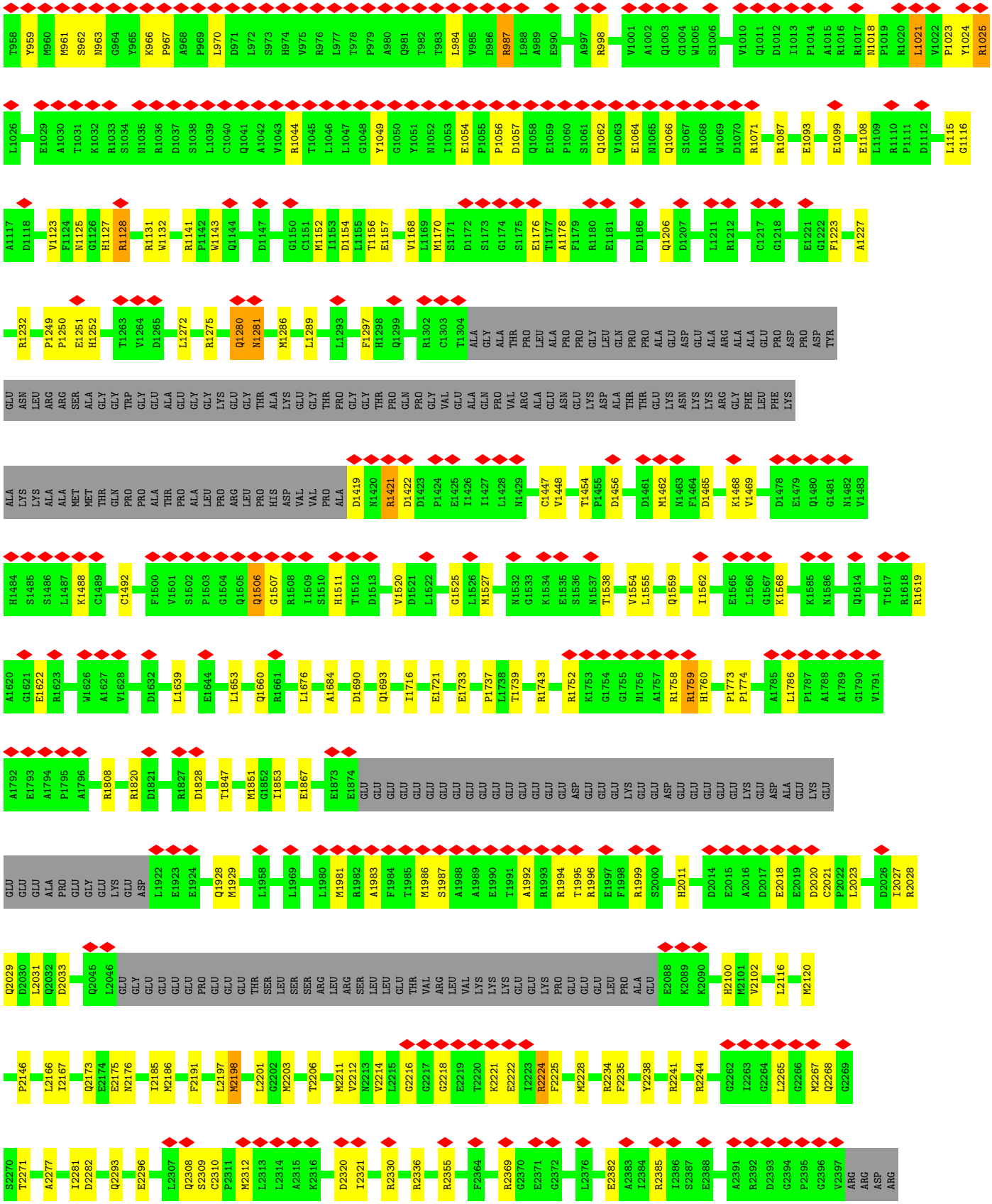


• Molecule 1: Ryanodine receptor 1

Chain D:

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R1232 P1249 P1250 E1251 H1252 T1263 V1264 D1265 L1272 R1275 Q1280 N1281 M1286 L1289 L1293 F1297 H1298 Q1299 R1302 C1303 T1304 ALA GLY ALA THR PRO LEU ALA PRO PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP PRO ASP TYR
GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR PRO GLN PRO GLY VAL GLU ALA GLN PRO VAL ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS
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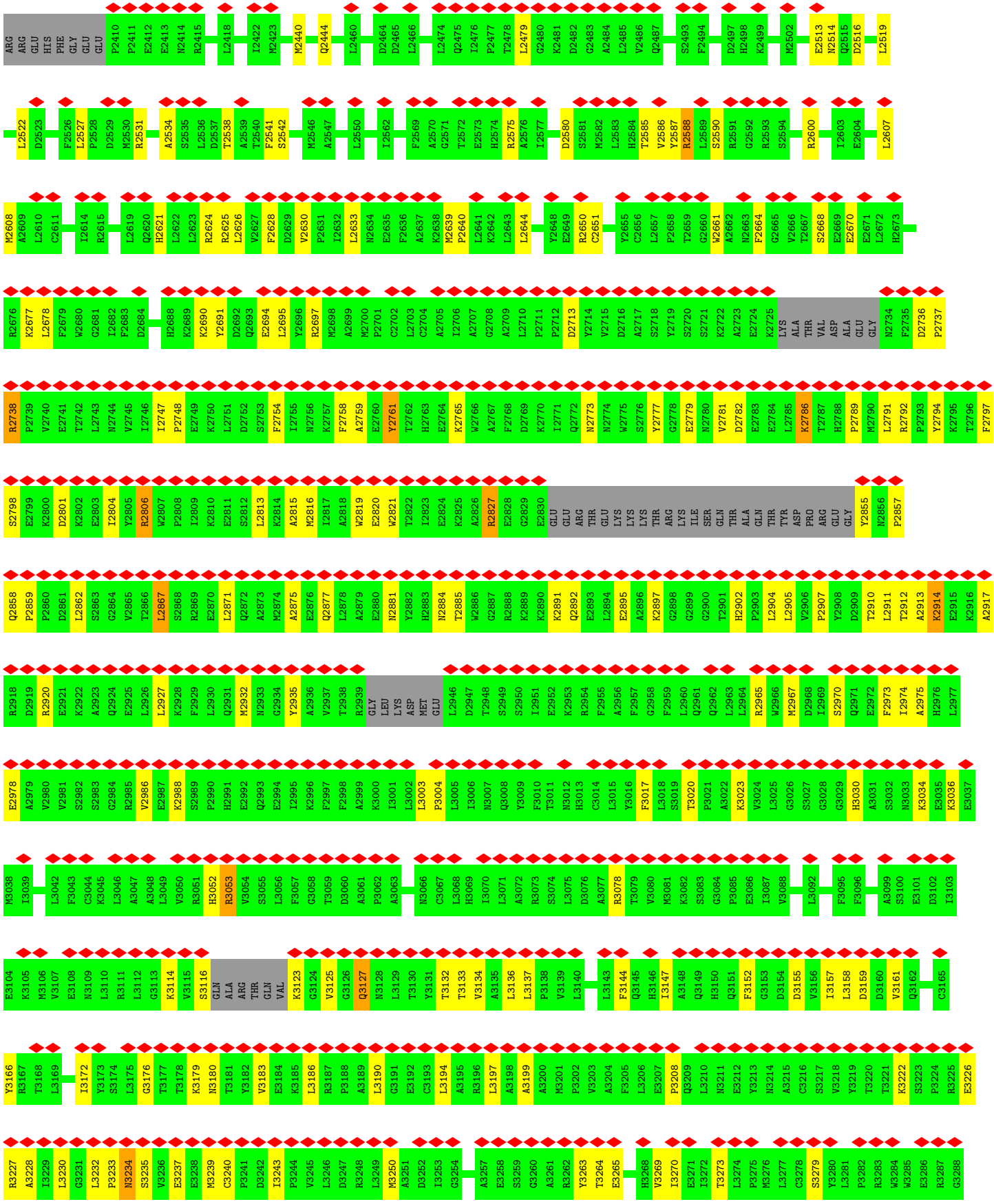
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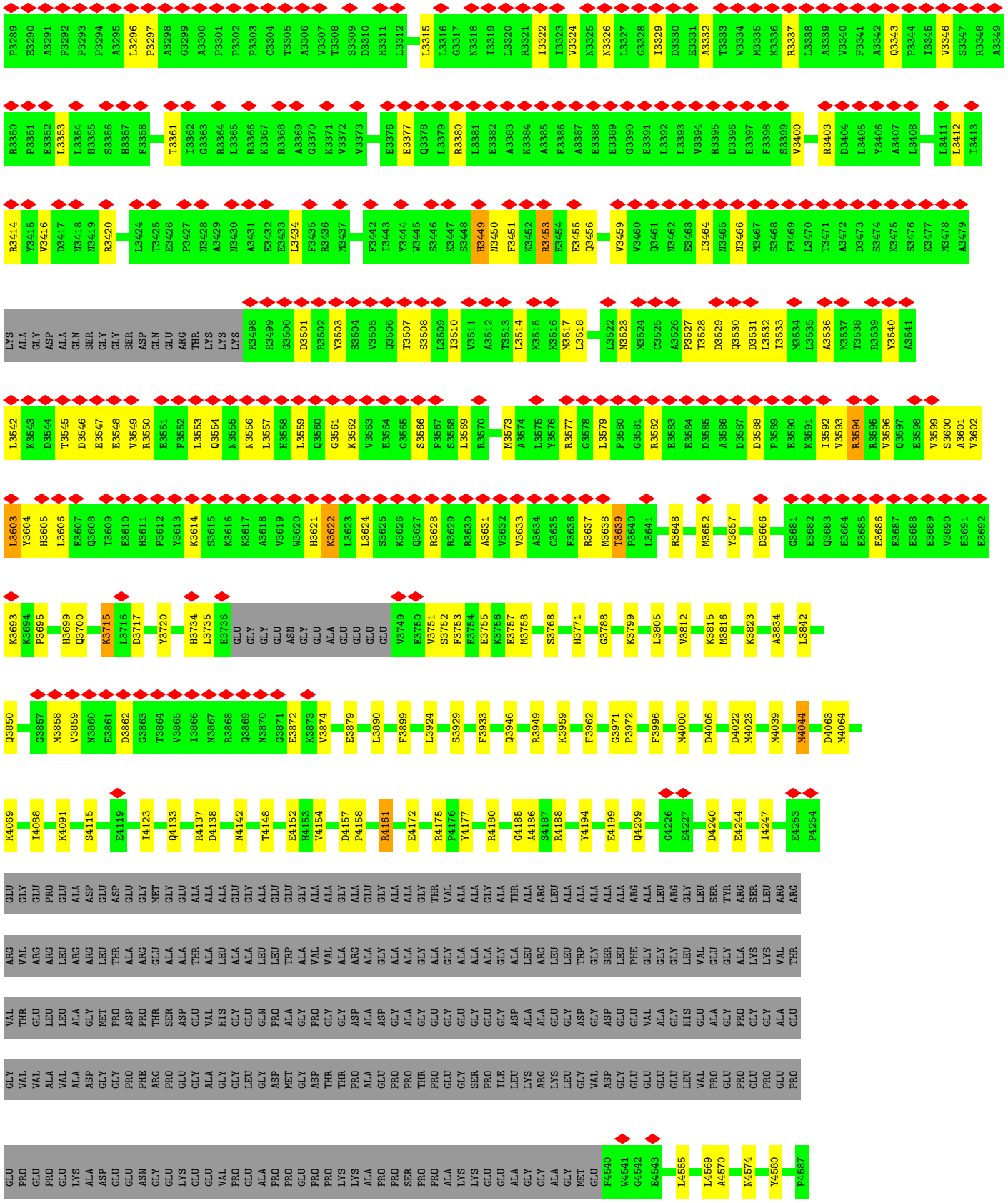
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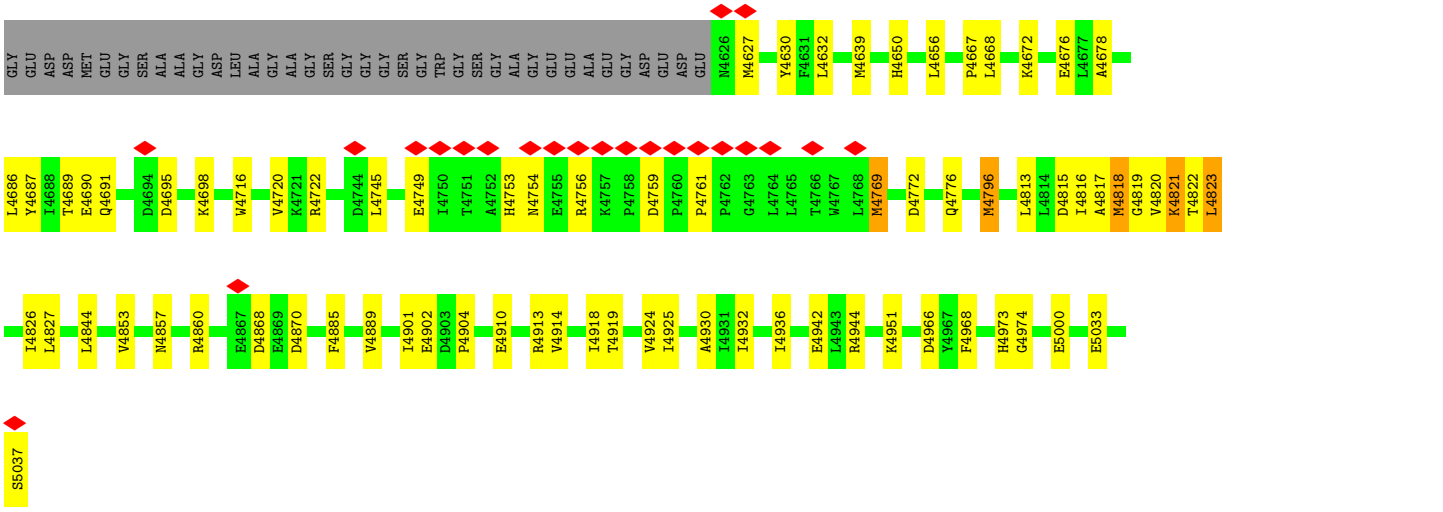
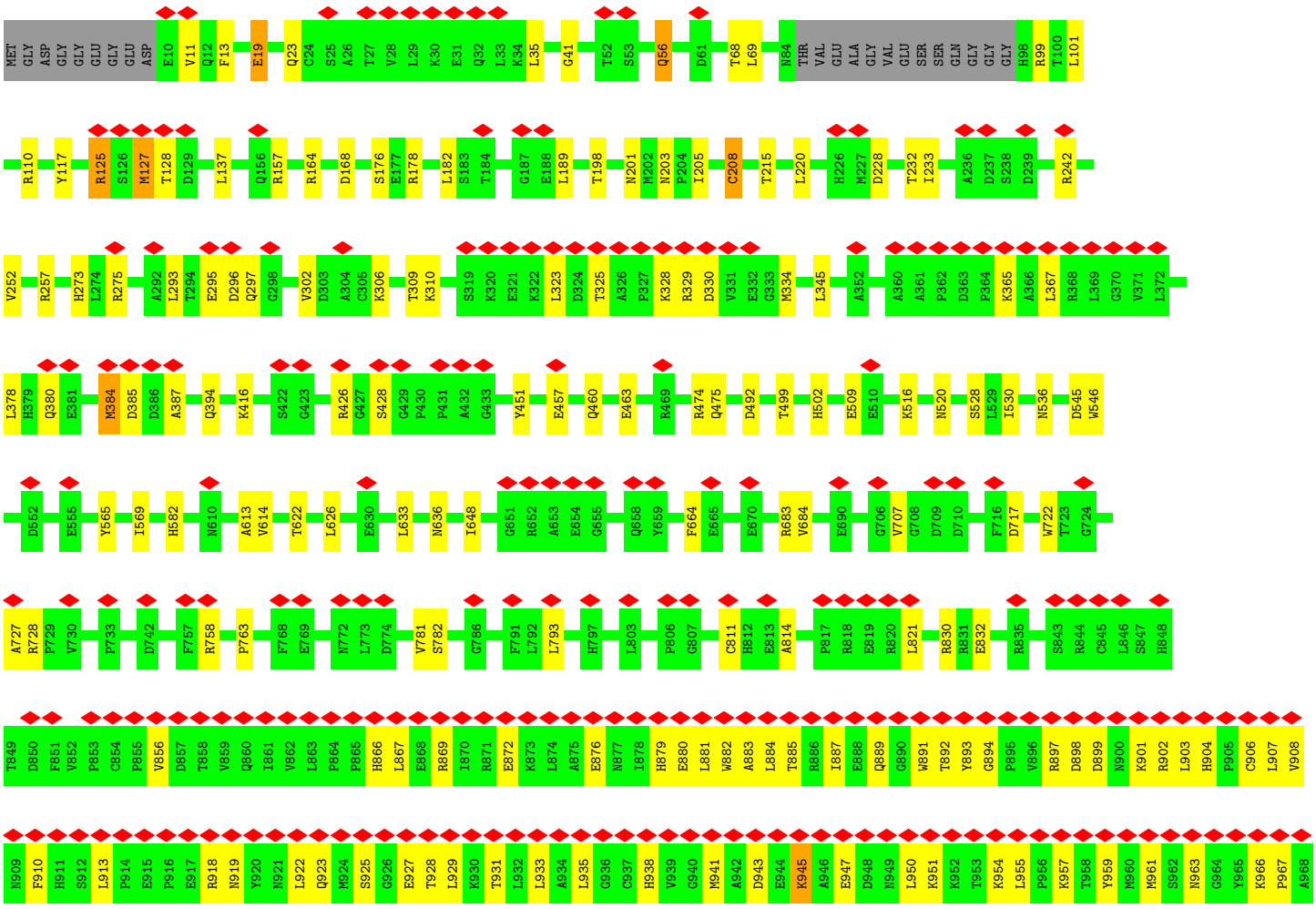
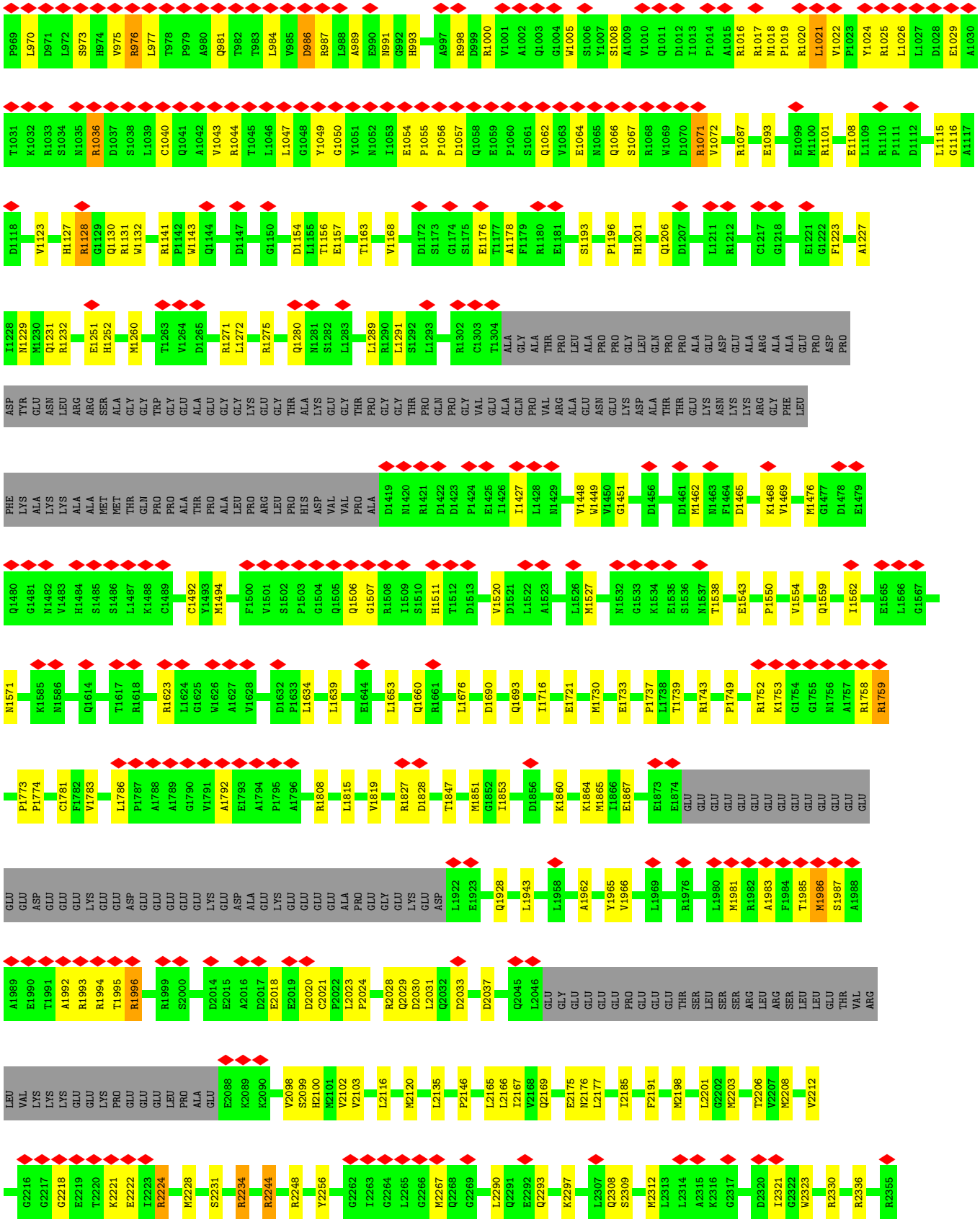


• Molecule 1: Ryanodine receptor 1

Chain C:

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ASP TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR PRO GLN PRO GLY VAL GLU ALA GLN PRO VAL ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU
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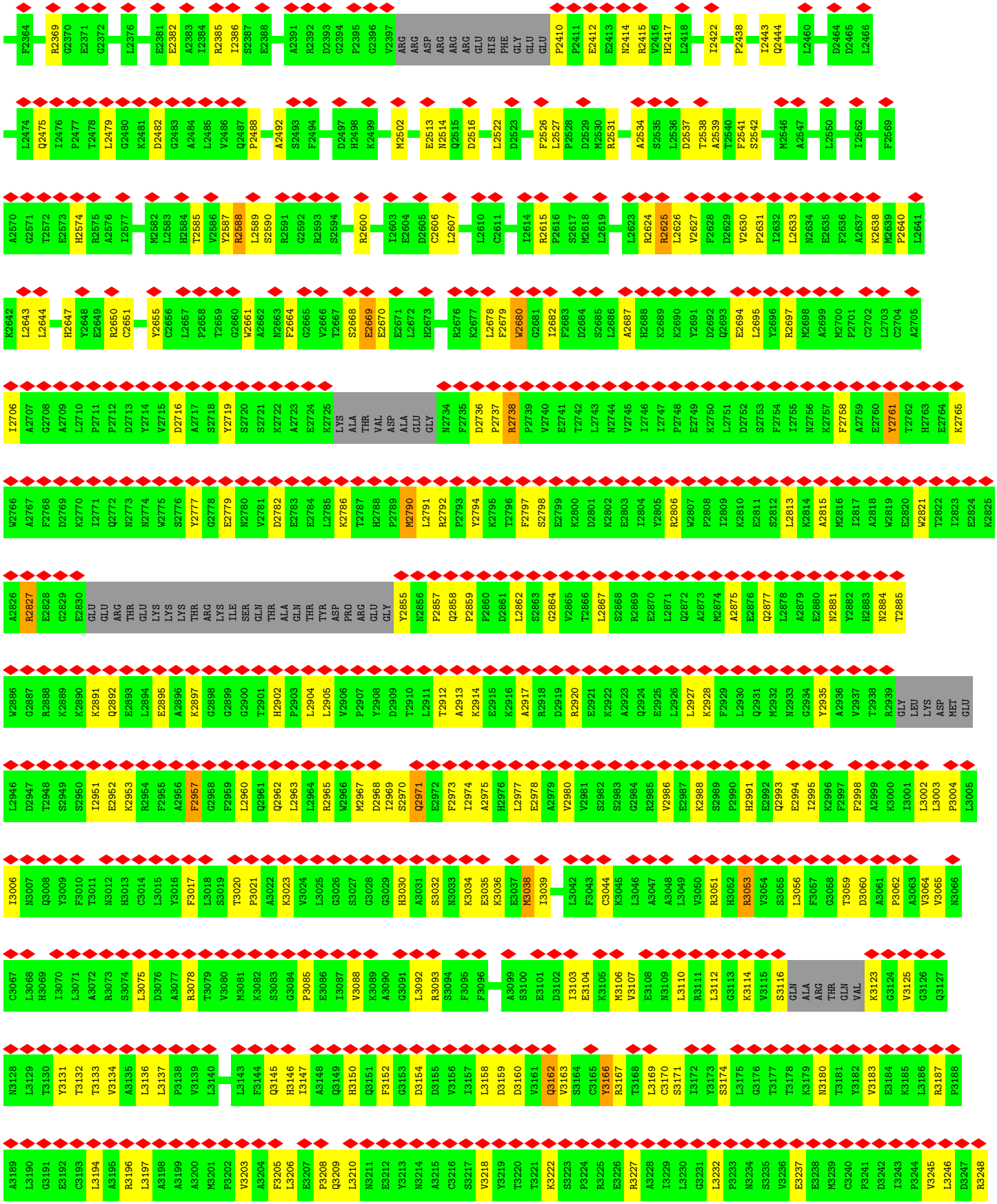
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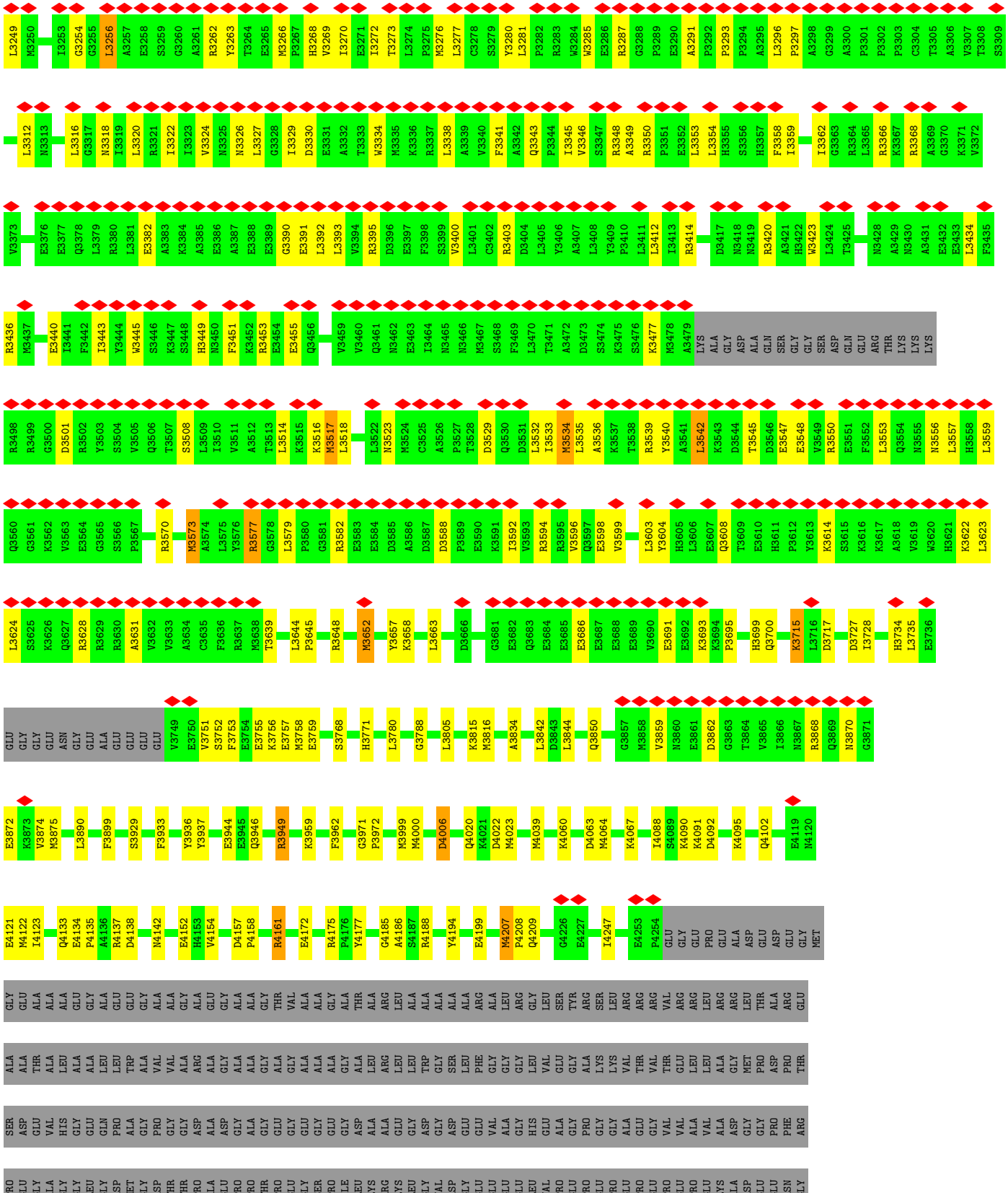
C3067 L3068 H3069 I3070 L3071 A3072 R3073 S3074 L3075 D3076 A3077 R3078 T3079 V3080 M3081 K3082 S3083 G3084 P3085 E3086 I3087 V3088 K3089 A3090 G3091 L3092 R3093 S3094 F3095 F3096 A3099 S3100 E3101 D3102 I3103 E3104 K3105 M3106 V3107 E3108 N3109 L3110 R3111 L3112 G3113 K3114 V3115 S3116 GLN ALA ARG THR GLN VAL K3123 G3124 V3125 G3126 Q3127
N3128 L3129 T3130 Y3131 T3132 T3133 V3134 A3135 L3136 L3137 P3138 V3139 L3140 L3143 F3144 Q3145 H3146 I3147 A3148 Q3149 H3150 Q3151 F3152 G3153 D3154 D3155 V3156 I3157 L3158 D3159 D3160 V3161 Q3162 V3163 S3164 C3165 Y3166 R3167 T3168 L3169 C3170 S3171 I3172 Y3173 S3174 L3175 G3176 T3177 T3178 K3179 N3180 T3181 Y3182 V3183 E3184 K3185 L3186 R3187 P3188
A3189 L3190 G3191 E3192 C3193 L3194 A3195 R3196 L3197 A3198 A3199 A3200 M3201 P3202 V3203 A3204 F3205 L3206 E3207 P3208 Q3209 L3210 N3211 E3212 Y3213 N3214 A3215 C3216 S3217 V3218 Y3219 T3220 T3221 K3222 S3223 P3224 R3225 E3226 R3227 A3228 I3229 L3230 G3231 L3232 P3233 N3234 S3235 V3236 E3237 E3238 M3239 C3240 P3241 D3242 I3243 P3244 V3245 L3246 D3247 R3248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L3312 N3313 L3316 G3317 N3318 I3319 L3320 R3321 I3322 I3323 V3324 N3325 N3326 L3327 G3328 I3329 D3330 E3331 A3332 T3333 W3334 M3335 K3336 R3337 L3338 A3339 V3340 F3341 A3342 Q3343 P3344 I3345 V3346 S3347 R3348 A3349 R3350 P3351 E3352 L3353 L3354 H3355 S3356 H3357 F3358 I3359 I3362 G3363 R3364 L3365 R3366 K3367 R3368 A3369 G3370 K3371 V3372
V3373 E3376 E3377 Q3378 L3379 R3380 L3381 E3382 A3383 K3384 A3385 E3386 A3387 E3388 E3389 G3390 E3391 L3392 L3393 V3394 R3395 D3396 E3397 F3398 S3399 V3400 L3401 C3402 R3403 D3404 L3405 Y3406 A3407 L3408 Y3409 P3410 L3411 L3412 I3413 R3414 D3417 N3418 N3419 R3420 A3421 H3422 W3423 L3424 T3425 N3428 A3429 N3430 A3431 E3432 E3433 L3434 F3435
R3436 M3437 E3440 I3441 F3442 I3443 Y3444 W3445 S3446 K3447 S3448 H3449 N3450 F3451 K3452 R3453 E3454 E3455 Q3456 V3459 V3460 Q3461 N3462 E3463 I3464 N3465 N3466 M3467 S3468 F3469 L3470 T3471 A3472 D3473 S3474 K3475 S3476 K3477 M3478 A3479 LYS ALA GLY ASP ALA GLN SER GLY GLY SER ASP GLN GLU ARG THR LYS LYS LYS
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Q3560 G3561 K3562 V3563 E3564 G3565 S3566 P3567 R3570 M3573 A3574 L3575 Y3576 R3577 G3578 L3579 P3580 G3581 R3582 E3583 E3584 D3585 A3586 D3587 D3588 P3589 E3590 K3591 I3592 V3593 R3594 R3595 V3596 Q3597 E3598 V3599 L3603 Y3604 H3605 L3606 E3607 Q3608 T3609 E3610 H3611 P3612 Y3613 K3614 S3615 K3616 K3617 A3618 V3619 W3620 H3621 K3622 L3623
L3624 S3625 K3626 Q3627 R3628 R3629 R3630 A3631 V3632 V3633 A3634 C3635 P3636 R3637 M3638 T3639 L3644 P3645 R3648 M3652 Y3657 K3658 L3663 D3666 G3681 E3682 Q3683 E3684 E3685 E3686 E3687 E3688 E3689 V3690 E3691 E3692 K3693 K3694 P3695 H3699 Q3700 K3715 L3716 D3717 D3727 I3728 H3734 L3735 E3736
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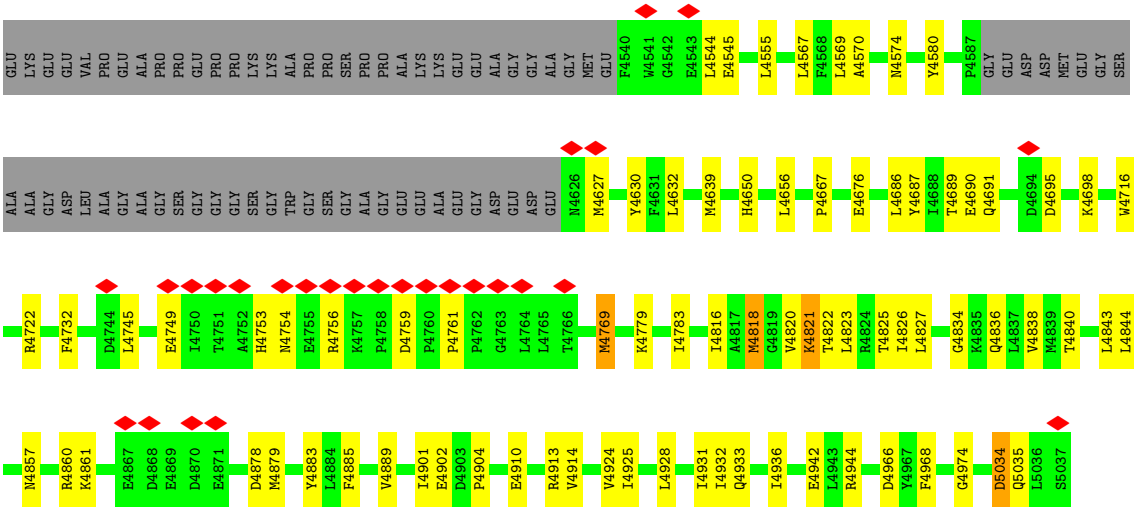
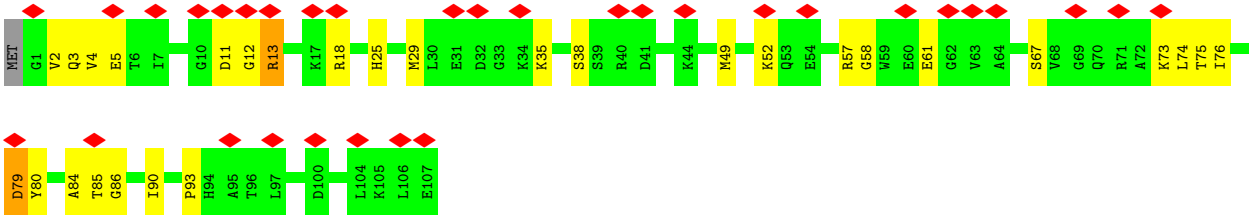
E3872 K3873 V3874 M3875 L3890 F3899 S3929 F3933 Y3936 Y3937 E3944 E3945 Q3946 R3949 K3959 F3962 G3971 P3972 M3999 M4000 D4006 Q4020 K4021 D4022 M4023 M4039 K4060 D4063 M4064 K4067 I4088 S4089 K4090 K4091 D4092 K4095 Q4102 E4119 N4120
E4121 M4122 I4123 Q4133 E4134 P4135 A4136 R4137 D4138 N4142 E4152 H4153 V4154 D4157 P4158 R4161 E4172 R4175 P4176 Y4177 G4185 A4186 S4187 R4188 Y4194 E4199 M4207 P4208 Q4209 G4226 E4227 I4247 E4253 P4254 GLU GLY GLU PRO GLU ALA ASP GLU GLY MET
GLY GLU ALA ALA ALA GLU GLY ALA GLU GLU GLY ALA ALA GLY ALA GLU GLY ALA ALA GLY THR VAL ALA ALA GLY ALA ALA ARG LEU ALA ALA ALA ARG ALA ALA ARG ARG VAL ARG ARG LEU ARG ARG LEU THR ARG GLU
ALA ALA THR ALA LEU ALA ALA LEU LEU TRP ALA VAL VAL ALA ARG ALA GLY ALA GLY GLY ALA ALA GLY ALA ALA GLY ALA ALA ARG LEU LEU TRP GLY SER ALA ALA LEU PHE GLY GLY GLY LEU VAL GLU GLY ALA LYS LYS VAL THR VAL THR GLU LEU LEU ALA GLY MET PRO ASP PRO THR
SER ASP GLU VAL HIS GLY GLU GLN PRO GLY PRO GLY GLY ASP ALA ASP GLY ALA GLY GLU GLY GLY ASP GLY GLU GLY GLU GLY ALA ASP GLU ALA ALA GLY HIS GLU GLY ALA GLY PRO GLY GLY ALA GLU GLY VAL VAL ALA GLY ASP GLY GLY PRO PHE ARG
PRO GLU GLY ALA GLY LEU GLY ASP MET GLY ASP THR THR PRO ALA GLU PRO PRO THR PRO GLU GLY SER PRO ILE LEU LEU LYS ARG LYS LEU GLY VAL ASP GLY GLU GLU GLU GLU LEU VAL PRO GLU PRO GLU PRO GLU PRO GLU PRO GLU PRO GLU LYS ALA ASP GLU GLU GLY ASN GLY



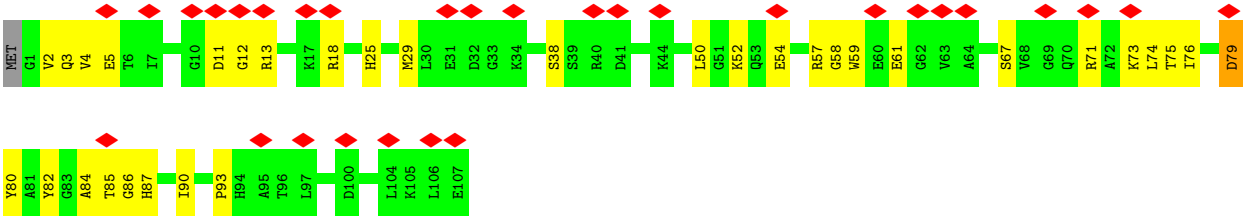
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A

Chain E:



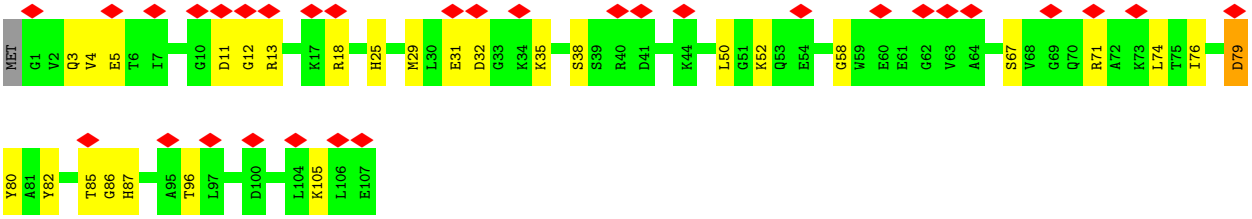
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A

Chain H:



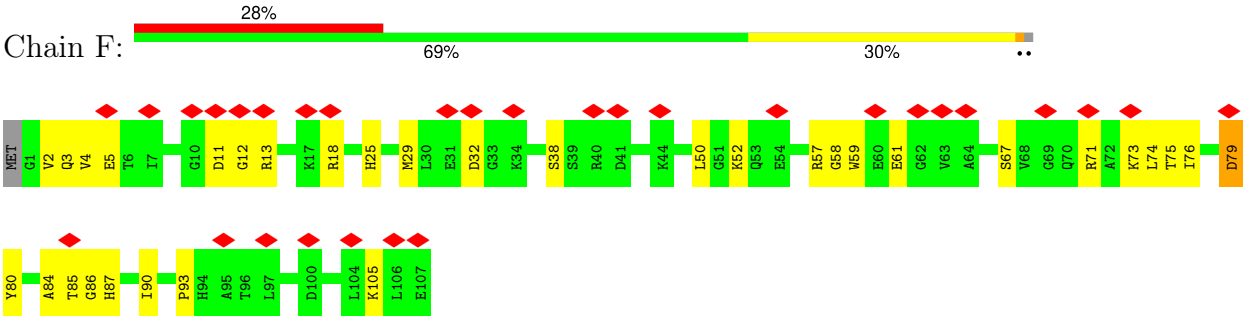
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1A

Chain G:



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

Chain F:


28%
69%
30%
MET G1 V2 Q3 V4 E5 T6 I7 G10 D11 G12 R13 K17 R18 H25 M29 L30 E31 D32 G33 K34 S38 S39 R40 D41 K44 L50 G51 K52 Q53 E54 R57 G58 W59 E60 E61 G62 V63 A64 S67 V68 G69 Q70 R71 A72 K73 L74 T75 I76 D79
Y80 A84 T85 G86 H87 I90 P93 H94 A95 T96 L97 D100 L104 K105 L106 E107

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	33584	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)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.482	Depositor
Minimum map value	-0.232	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.019	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	428.544, 428.544, 428.544	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.837, 0.837, 0.837	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CA, URA, ATP, 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	0.28	0/35977	0.50	4/48726 (0.0%)
1	B	0.28	0/35977	0.50	1/48726 (0.0%)
1	C	0.28	0/35977	0.51	3/48726 (0.0%)
1	D	0.27	0/35977	0.49	3/48726 (0.0%)
2	E	0.29	0/850	0.53	0/1146
2	F	0.30	0/850	0.55	0/1146
2	G	0.30	0/850	0.54	0/1146
2	H	0.29	0/850	0.53	0/1146
All	All	0.28	0/147308	0.50	11/199488 (0.0%)

There are no bond length outliers.

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	3603	LEU	CA-CB-CG	7.34	132.17	115.30
1	A	1979	LEU	CA-CB-CG	6.30	129.79	115.30
1	D	3666	ASP	CB-CG-OD2	6.20	123.88	118.30
1	D	3542	LEU	CA-CB-CG	5.87	128.79	115.30
1	C	3542	LEU	CA-CB-CG	5.64	128.27	115.30
1	B	932	LEU	CA-CB-CG	5.63	128.24	115.30
1	A	932	LEU	CA-CB-CG	5.59	128.16	115.30
1	D	3603	LEU	CA-CB-CG	5.44	127.81	115.30
1	C	2669	GLU	CA-CB-CG	5.42	125.32	113.40
1	A	3534	MET	CB-CG-SD	5.22	128.06	112.40
1	C	2971	GLN	CA-CB-CG	5.13	124.70	113.40

There are no chirality outliers.

There are no planarity outliers.

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	35150	0	34797	529	0
1	B	35150	0	34797	555	0
1	C	35150	0	34797	580	0
1	D	35150	0	34797	492	0
2	E	831	0	831	17	0
2	F	831	0	831	16	0
2	G	831	0	831	15	0
2	H	831	0	831	17	0
3	A	31	0	12	1	0
3	B	31	0	12	1	0
3	C	31	0	12	0	0
3	D	31	0	12	0	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	D	1	0	0	0	0
6	A	8	0	3	0	0
6	B	8	0	3	0	0
6	C	8	0	3	0	0
6	D	8	0	3	0	0
All	All	144088	0	142572	2194	0

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

All (2194) 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:2647:HIS:HE2	1:C:2655:TYR:HH	1.18	0.89
1:C:3254:GLY:HA2	1:C:3318:ASN:HD21	1.40	0.86
1:D:957:LYS:H	1:D:957:LYS:HD2	1.41	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3573:MET:HB3	1:D:3577:ARG:HH21	1.43	0.81
1:D:3550:ARG:HD3	1:D:3594:ARG:HH22	1.44	0.81
1:D:894:GLY:HA3	1:D:903:LEU:HB3	1.63	0.81
1:B:2765:LYS:HZ3	1:B:2857:PRO:HB2	1.44	0.81
1:C:1520:VAL:HG12	1:C:1527:MET:HG2	1.64	0.79
1:A:876:GLU:HG2	1:A:918:ARG:HD3	1.65	0.79
1:A:1520:VAL:HG12	1:A:1527:MET:HG2	1.65	0.79
1:B:876:GLU:HG2	1:B:918:ARG:HD3	1.66	0.78
1:C:3322:ILE:O	1:C:3326:ASN:ND2	2.16	0.77
1:B:1996:ARG:HH21	1:B:1999:ARG:HE	1.31	0.77
1:B:2293:GLN:OE1	1:B:2293:GLN:N	2.18	0.77
1:C:2023:LEU:HD12	1:C:2024:PRO:HD2	1.66	0.77
1:D:1520:VAL:HG12	1:D:1527:MET:HG2	1.67	0.76
1:C:1067:SER:O	1:C:1071:ARG:NH2	2.18	0.76
1:A:2765:LYS:HZ3	1:A:2857:PRO:HB2	1.50	0.76
1:D:1280:GLN:O	1:D:1281:ASN:ND2	2.19	0.76
1:B:4821:LYS:HD3	1:B:4821:LYS:H	1.51	0.75
1:D:2694:GLU:HA	1:D:2697:ARG:HH12	1.51	0.75
1:D:3527:PRO:HG2	1:D:3573:MET:HE2	1.68	0.75
1:A:2293:GLN:OE1	1:A:2293:GLN:N	2.18	0.75
1:C:3132:THR:HA	1:C:3136:LEU:HB3	1.69	0.75
1:D:876:GLU:HG2	1:D:918:ARG:HD3	1.68	0.74
1:A:2441:HIS:HA	1:A:2444:GLN:HE21	1.52	0.74
1:A:3530:GLN:N	1:A:3530:GLN:OE1	2.20	0.74
1:C:876:GLU:HG2	1:C:918:ARG:HD3	1.69	0.74
1:A:3110:LEU:HD11	1:A:3182:TYR:HB2	1.67	0.74
1:B:3530:GLN:OE1	1:B:3530:GLN:N	2.20	0.74
1:B:3535:LEU:HD13	1:B:3552:PHE:HE1	1.53	0.73
1:A:4821:LYS:HD3	1:A:4821:LYS:H	1.53	0.73
1:C:3107:VAL:HG21	1:C:3171:SER:HB2	1.69	0.73
1:B:2694:GLU:HA	1:B:2697:ARG:HH12	1.52	0.73
1:A:2694:GLU:HA	1:A:2697:ARG:HH12	1.52	0.73
1:B:2627:VAL:HG22	1:B:2678:LEU:HB2	1.71	0.73
1:A:4209:GLN:OE1	1:A:4209:GLN:N	2.20	0.72
1:A:2779:GLU:HG3	1:A:2792:ARG:HG2	1.70	0.72
1:D:2186:MET:HE3	1:D:2234:ARG:HH22	1.55	0.72
1:B:3527:PRO:HA	1:B:3530:GLN:HE22	1.53	0.72
1:D:2293:GLN:OE1	1:D:2293:GLN:N	2.19	0.72
2:G:52:LYS:HE2	2:G:52:LYS:HA	1.72	0.72
1:B:2175:GLU:HG3	1:B:2228:MET:HB2	1.71	0.72
1:C:973:SER:O	1:C:976:ARG:NH1	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3550:ARG:HE	1:C:3594:ARG:HH12	1.37	0.72
1:C:4161:ARG:HE	1:C:4161:ARG:H	1.38	0.72
1:D:4186:ALA:O	1:D:4188:ARG:NH1	2.19	0.71
1:D:3329:ILE:HD11	1:D:3332:ALA:HB2	1.71	0.71
1:D:3233:PRO:O	1:D:3234:ASN:ND2	2.21	0.71
1:C:2779:GLU:HG3	1:C:2792:ARG:HG2	1.71	0.71
1:A:3329:ILE:HD11	1:A:3332:ALA:HB2	1.72	0.71
1:B:2779:GLU:HG3	1:B:2792:ARG:HG2	1.71	0.71
2:F:52:LYS:HE2	2:F:52:LYS:HA	1.72	0.71
1:D:955:LEU:O	1:D:966:LYS:NZ	2.24	0.71
1:C:4186:ALA:O	1:C:4188:ARG:NH1	2.21	0.71
1:A:3623:LEU:HD12	1:A:3624:LEU:HG	1.73	0.70
1:C:2737:PRO:HD2	1:C:2891:LYS:HD3	1.71	0.70
1:C:3208:PRO:HB2	1:C:3237:GLU:HG3	1.73	0.70
1:C:955:LEU:O	1:C:966:LYS:NZ	2.23	0.70
1:D:2779:GLU:HG3	1:D:2792:ARG:HG2	1.73	0.70
1:D:3523:ASN:O	1:D:3582:ARG:NH2	2.24	0.70
1:C:23:GLN:NE2	1:C:203:ASN:OD1	2.24	0.70
1:B:3132:THR:HA	1:B:3136:LEU:HB3	1.72	0.70
1:A:2479:LEU:O	1:A:2897:LYS:NZ	2.24	0.70
1:B:3412:LEU:HD11	1:B:3434:LEU:HD21	1.74	0.70
1:D:2737:PRO:HD2	1:D:2891:LYS:HD3	1.72	0.70
1:A:2867:LEU:HB2	1:A:2928:LYS:HZ3	1.57	0.70
1:A:3527:PRO:HA	1:A:3530:GLN:HE22	1.57	0.70
1:B:380:GLN:OE1	1:B:380:GLN:N	2.22	0.69
1:B:3039:ILE:HD11	1:B:3071:LEU:HD22	1.73	0.69
1:D:872:GLU:HA	1:D:922:LEU:HD11	1.74	0.69
1:B:3110:LEU:HD11	1:B:3182:TYR:HB2	1.74	0.69
1:D:3514:LEU:HD21	1:D:3602:VAL:HG13	1.74	0.69
1:C:3078:ARG:NH2	1:C:3150:HIS:O	2.26	0.69
1:B:3329:ILE:HD11	1:B:3332:ALA:HB2	1.73	0.69
1:C:2650:ARG:NH1	1:C:2651:CYS:SG	2.66	0.69
1:C:3114:LYS:HD3	1:C:3116:SER:H	1.56	0.69
1:C:457:GLU:N	1:C:457:GLU:OE2	2.24	0.69
1:A:3114:LYS:HD3	1:A:3116:SER:H	1.57	0.68
1:B:2867:LEU:HB2	1:B:2928:LYS:HZ3	1.58	0.68
1:D:3114:LYS:HD3	1:D:3116:SER:H	1.56	0.68
1:B:891:TRP:HA	1:B:902:ARG:HB3	1.75	0.68
1:B:3128:ASN:O	1:B:3132:THR:HG23	1.93	0.68
1:B:4630:TYR:OH	1:C:4860:ARG:NH1	2.26	0.68
1:A:156:GLN:OE1	1:A:156:GLN:N	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:23:GLN:NE2	1:B:203:ASN:OD1	2.27	0.68
1:B:3477:LYS:HB3	1:C:1141:ARG:HD3	1.74	0.68
1:D:2781:VAL:HA	1:D:2789:PRO:HB2	1.76	0.68
1:B:2479:LEU:O	1:B:2897:LYS:NZ	2.26	0.68
1:B:2737:PRO:HD2	1:B:2891:LYS:HD3	1.76	0.68
1:C:3445:TRP:NE1	1:C:3455:GLU:OE1	2.26	0.68
1:A:2781:VAL:HA	1:A:2789:PRO:HB2	1.76	0.68
1:D:510:GLU:OE1	1:D:510:GLU:N	2.24	0.68
1:A:23:GLN:NE2	1:A:203:ASN:OD1	2.26	0.68
1:C:380:GLN:OE1	1:C:380:GLN:N	2.22	0.68
1:B:54:ASN:HA	1:B:56:GLN:HE22	1.59	0.67
1:C:1981:MET:N	1:C:1981:MET:SD	2.67	0.67
1:A:3412:LEU:HD11	1:A:3434:LEU:HD21	1.76	0.67
1:A:835:ARG:NH2	1:A:1093:GLU:OE1	2.27	0.67
1:D:23:GLN:NE2	1:D:203:ASN:OD1	2.26	0.67
1:C:2513:GLU:N	1:C:2513:GLU:OE2	2.27	0.67
1:A:1792:ALA:O	1:A:2176:ASN:ND2	2.28	0.67
1:B:2577:ILE:H	1:B:2577:ILE:HD12	1.59	0.67
1:C:2534:ALA:HA	1:C:2588:ARG:HH21	1.60	0.67
1:B:3449:HIS:HB2	1:B:3453:ARG:NH2	2.10	0.67
1:C:3262:ARG:HD2	1:C:3329:ILE:HD11	1.77	0.67
1:B:879:HIS:HA	1:B:882:TRP:CD1	2.30	0.66
1:B:2781:VAL:HA	1:B:2789:PRO:HB2	1.77	0.66
1:A:858:THR:HB	1:A:930:LYS:HD2	1.77	0.66
1:C:3194:LEU:HD13	1:C:3276:MET:HB3	1.76	0.66
1:C:3579:LEU:HB3	1:C:3582:ARG:HG2	1.77	0.66
1:B:858:THR:HB	1:B:930:LYS:HD2	1.76	0.66
1:B:3114:LYS:HD3	1:B:3116:SER:H	1.61	0.66
1:C:2638:LYS:HE2	1:C:2695:LEU:HD13	1.77	0.66
1:A:2642:LYS:HE2	1:A:2642:LYS:HA	1.77	0.66
1:C:2765:LYS:NZ	1:C:2859:PRO:O	2.28	0.66
1:B:3523:ASN:O	1:B:3582:ARG:NH2	2.29	0.66
1:C:2765:LYS:HZ3	1:C:2857:PRO:HB2	1.60	0.66
1:B:394:GLN:OE1	1:B:394:GLN:N	2.29	0.66
1:C:297:GLN:OE1	1:C:297:GLN:N	2.27	0.66
1:A:879:HIS:HA	1:A:882:TRP:CD1	2.31	0.66
1:A:3324:VAL:HG11	1:A:3361:THR:HG22	1.78	0.66
1:D:2479:LEU:O	1:D:2897:LYS:NZ	2.28	0.66
1:D:3456:GLN:OE1	1:D:3456:GLN:N	2.27	0.66
1:C:3545:THR:HG23	1:C:3547:GLU:H	1.60	0.66
1:D:3579:LEU:HB2	1:D:3582:ARG:HG2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4689:THR:OG1	1:C:4690:GLU:OE1	2.12	0.65
1:B:2410:PRO:HB3	1:B:2415:ARG:HB2	1.79	0.65
1:B:3389:GLU:N	1:B:3389:GLU:OE2	2.28	0.65
1:B:2519:LEU:HD13	1:B:2575:ARG:HG3	1.77	0.65
1:C:622:THR:HG23	1:C:626:LEU:HD12	1.77	0.65
1:C:4820:VAL:HG12	1:C:4823:LEU:H	1.61	0.65
1:A:2018:GLU:OE1	1:A:2028:ARG:NH1	2.30	0.65
1:A:2410:PRO:HB3	1:A:2415:ARG:HB2	1.77	0.65
1:A:866:HIS:CD2	1:A:941:MET:HG2	2.32	0.65
1:A:2175:GLU:HG3	1:A:2228:MET:HB3	1.79	0.65
1:B:2679:PHE:HB2	1:B:2706:ILE:HG21	1.78	0.65
1:D:2244:ARG:NH2	1:D:3859:VAL:O	2.30	0.65
1:B:3945:GLU:OE1	1:B:3949:ARG:NH2	2.30	0.64
1:D:2765:LYS:NZ	1:D:2859:PRO:O	2.30	0.64
1:C:2479:LEU:O	1:C:2897:LYS:NZ	2.29	0.64
1:C:2627:VAL:HG22	1:C:2678:LEU:HB2	1.78	0.64
1:A:2644:LEU:HD13	1:A:2678:LEU:HD21	1.80	0.64
1:D:4821:LYS:HD3	1:D:4821:LYS:H	1.60	0.64
1:B:275:ARG:HH21	1:B:328:LYS:NZ	1.96	0.64
1:C:3414:ARG:NH1	1:C:3414:ARG:HB2	2.12	0.64
1:D:156:GLN:OE1	1:D:156:GLN:N	2.22	0.64
1:D:457:GLU:OE2	1:D:457:GLU:N	2.24	0.64
1:B:2475:GLN:HG2	1:B:2488:PRO:HG3	1.80	0.64
1:D:2309:SER:OG	1:D:2321:ILE:O	2.15	0.64
1:C:1024:TYR:OH	1:C:1036:ARG:NH2	2.29	0.64
1:D:2650:ARG:NH1	1:D:2651:CYS:SG	2.71	0.64
1:C:984:LEU:HD21	1:C:1056:PRO:HD2	1.79	0.64
1:C:3085:PRO:HG2	1:C:3088:VAL:HB	1.79	0.64
1:B:1985:THR:OG1	1:B:1986:MET:SD	2.52	0.64
1:B:3114:LYS:HD2	1:B:3125:VAL:HG11	1.79	0.64
1:C:872:GLU:HA	1:C:922:LEU:HD11	1.79	0.64
1:A:2534:ALA:HA	1:A:2588:ARG:HH21	1.62	0.64
1:A:2737:PRO:HD2	1:A:2891:LYS:HD3	1.79	0.64
1:D:622:THR:HG23	1:D:626:LEU:HD12	1.78	0.64
1:C:2522:LEU:HA	1:C:2526:PHE:HB2	1.80	0.63
1:C:3533:ILE:HD12	1:C:3596:VAL:HG23	1.80	0.63
1:A:3523:ASN:O	1:A:3582:ARG:NH2	2.30	0.63
1:C:2694:GLU:HA	1:C:2697:ARG:HH12	1.63	0.63
1:B:955:LEU:O	1:B:966:LYS:NZ	2.30	0.63
1:C:4209:GLN:OE1	1:C:4209:GLN:N	2.23	0.63
1:A:1975:SER:O	1:A:1979:LEU:HD12	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1987:SER:HB2	1:A:1994:ARG:HH22	1.63	0.63
1:B:4818:MET:N	1:B:4818:MET:SD	2.71	0.63
1:D:4796:MET:HE2	1:D:4796:MET:HA	1.80	0.63
1:C:4137:ARG:NH2	1:C:4199:GLU:OE2	2.31	0.63
1:B:2765:LYS:NZ	1:B:2859:PRO:O	2.32	0.63
1:D:4689:THR:OG1	1:D:4690:GLU:OE1	2.17	0.63
1:A:4860:ARG:NH2	1:D:4630:TYR:OH	2.31	0.63
1:C:3103:ILE:HD11	1:C:3137:LEU:HD21	1.80	0.63
1:B:46:LEU:HD23	1:B:125:ARG:HH21	1.64	0.63
1:D:2765:LYS:HZ3	1:D:2857:PRO:HB2	1.63	0.63
1:C:2222:GLU:O	1:C:2224:ARG:NH1	2.32	0.63
1:A:2765:LYS:NZ	1:A:2859:PRO:O	2.26	0.63
1:B:925:SER:O	1:B:928:THR:OG1	2.15	0.63
1:B:2777:TYR:HB3	1:B:2791:LEU:HD23	1.81	0.63
1:D:394:GLN:OE1	1:D:394:GLN:N	2.32	0.63
1:D:2029:GLN:NE2	1:D:2033:ASP:OD1	2.31	0.63
1:D:2633:LEU:HD22	1:D:2695:LEU:HD11	1.81	0.63
1:C:929:LEU:HD23	1:C:929:LEU:H	1.63	0.63
1:A:893:TYR:HB3	1:A:962:SER:HB2	1.81	0.62
1:D:2222:GLU:O	1:D:2224:ARG:NH2	2.32	0.62
1:C:394:GLN:N	1:C:394:GLN:OE1	2.32	0.62
1:C:919:ASN:HA	1:C:922:LEU:HD23	1.81	0.62
1:C:2960:LEU:HD21	1:C:3039:ILE:HB	1.81	0.62
1:A:3414:ARG:NH1	1:A:3414:ARG:HB2	2.15	0.62
1:B:869:ARG:HH11	1:B:870:ILE:HB	1.64	0.62
1:B:2902:HIS:HB3	1:B:2905:LEU:HG	1.81	0.62
1:B:1520:VAL:HG12	1:B:1527:MET:HG2	1.82	0.62
1:A:894:GLY:HA3	1:A:903:LEU:HB3	1.81	0.62
1:A:2875:ALA:HB2	1:A:2927:LEU:HD22	1.82	0.62
1:B:156:GLN:OE1	1:B:156:GLN:N	2.22	0.62
1:D:56:GLN:OE1	1:D:56:GLN:N	2.26	0.62
1:C:925:SER:O	1:C:928:THR:OG1	2.15	0.62
1:B:894:GLY:HA3	1:B:903:LEU:HB3	1.81	0.62
1:B:622:THR:HG23	1:B:626:LEU:HD12	1.81	0.62
1:C:1792:ALA:O	1:C:2176:ASN:ND2	2.33	0.62
1:A:945:LYS:HD2	1:A:946:ALA:N	2.15	0.62
1:B:2827:ARG:NH2	1:B:2935:TYR:OH	2.33	0.62
1:D:2175:GLU:HG3	1:D:2228:MET:HB3	1.82	0.62
1:C:891:TRP:HA	1:C:902:ARG:HB3	1.82	0.62
1:B:3227:ARG:HG3	1:B:3232:LEU:HD12	1.82	0.61
1:D:891:TRP:HA	1:D:902:ARG:HB3	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2902:HIS:HB3	1:C:2905:LEU:HG	1.82	0.61
1:A:2116:LEU:O	1:A:2120:MET:HG2	2.00	0.61
1:A:2309:SER:OG	1:A:2321:ILE:O	2.18	0.61
1:A:3599:VAL:O	1:A:3603:LEU:HD22	2.00	0.61
1:A:4137:ARG:NH2	1:A:4199:GLU:OE2	2.33	0.61
1:B:2023:LEU:HD23	1:B:2024:PRO:HD2	1.80	0.61
1:D:462:GLU:OE2	1:D:462:GLU:N	2.23	0.61
1:C:3592:ILE:O	1:C:3596:VAL:HG12	2.00	0.61
1:A:394:GLN:OE1	1:A:394:GLN:N	2.34	0.61
1:A:830:ARG:NH2	1:A:832:GLU:OE2	2.33	0.61
1:A:2812:SER:OG	1:A:2882:TYR:OH	2.14	0.61
1:B:4689:THR:OG1	1:B:4690:GLU:OE1	2.17	0.61
1:D:545:ASP:OD1	1:D:582:HIS:NE2	2.29	0.61
1:C:3577:ARG:NH1	1:C:3577:ARG:HA	2.14	0.61
1:B:952:LYS:HD3	1:B:970:LEU:HA	1.81	0.61
1:A:3996:PHE:O	1:A:4000:MET:HG3	2.00	0.61
1:B:2018:GLU:OE1	1:B:2028:ARG:NH1	2.34	0.61
1:D:2271:THR:HG21	1:D:2330:ARG:HH22	1.65	0.61
1:C:3017:PHE:O	1:C:3036:LYS:NZ	2.33	0.61
1:A:622:THR:HG23	1:A:626:LEU:HD12	1.81	0.61
1:B:4137:ARG:NH2	1:B:4199:GLU:OE2	2.33	0.61
1:C:866:HIS:HB2	1:C:941:MET:HE3	1.83	0.61
1:D:2534:ALA:HA	1:D:2588:ARG:HH21	1.66	0.61
1:D:3020:THR:HG23	1:D:3023:LYS:H	1.64	0.61
1:C:3114:LYS:HD2	1:C:3125:VAL:HG11	1.82	0.61
2:E:11:ASP:OD2	2:E:12:GLY:N	2.34	0.61
1:B:4628:VAL:HG21	1:C:4860:ARG:HH22	1.66	0.61
1:C:1108:GLU:OE1	1:C:1108:GLU:N	2.27	0.61
1:A:3454:GLU:HA	1:A:3457:ASN:ND2	2.16	0.61
1:B:3455:GLU:OE2	1:B:3508:SER:OG	2.15	0.60
1:D:2018:GLU:OE1	1:D:2028:ARG:NH1	2.34	0.60
1:B:866:HIS:O	1:B:869:ARG:NH1	2.34	0.60
1:D:893:TYR:CE1	1:D:905:PRO:HA	2.36	0.60
1:D:4137:ARG:NH2	1:D:4199:GLU:OE2	2.35	0.60
1:C:4185:GLY:O	1:C:4188:ARG:NH2	2.34	0.60
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.83	0.60
1:A:2821:TRP:HH2	1:A:2877:GLN:HB3	1.67	0.60
1:A:2970:SER:HA	1:A:2973:PHE:CE2	2.36	0.60
1:B:56:GLN:O	1:B:309:THR:OG1	2.17	0.60
1:B:462:GLU:HG3	1:B:3710:LEU:HD13	1.84	0.60
1:D:1108:GLU:OE1	1:D:1108:GLU:N	2.25	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2792:ARG:NH2	1:D:2798:SER:OG	2.34	0.60
1:D:3455:GLU:OE2	1:D:3508:SER:OG	2.19	0.60
1:C:1987:SER:HB2	1:C:1994:ARG:HH22	1.66	0.60
1:A:2624:ARG:NH1	1:A:2910:THR:O	2.34	0.60
1:D:928:THR:O	1:D:931:THR:OG1	2.18	0.60
2:F:11:ASP:OD2	2:F:12:GLY:N	2.34	0.60
1:B:943:ASP:HB2	1:B:1050:GLY:HA3	1.83	0.60
1:D:4853:VAL:O	1:D:4857:ASN:ND2	2.34	0.60
1:A:1676:LEU:HD22	1:A:2167:ILE:HD12	1.83	0.60
1:A:2777:TYR:HB3	1:A:2791:LEU:HD23	1.82	0.60
1:A:891:TRP:HA	1:A:902:ARG:HB3	1.82	0.60
1:A:2382:GLU:OE1	1:A:2385:ARG:NH1	2.34	0.60
1:A:2792:ARG:NH2	1:A:2798:SER:OG	2.34	0.60
1:A:3531:ASP:O	1:A:3535:LEU:HG	2.02	0.60
1:C:3020:THR:HG23	1:C:3023:LYS:H	1.65	0.60
1:B:2875:ALA:HB2	1:B:2927:LEU:HD22	1.83	0.60
1:D:2902:HIS:HB3	1:D:2905:LEU:HG	1.84	0.60
1:A:1454:THR:OG1	1:A:1456:ASP:OD1	2.16	0.60
1:D:919:ASN:HA	1:D:922:LEU:HD23	1.84	0.60
1:B:984:LEU:HD21	1:B:1056:PRO:HD2	1.84	0.60
1:B:2821:TRP:HH2	1:B:2877:GLN:HB3	1.66	0.60
1:D:830:ARG:NH2	1:D:832:GLU:OE2	2.35	0.60
1:D:3176:GLY:O	1:D:3179:LYS:NZ	2.35	0.60
1:C:4823:LEU:HA	1:C:4826:ILE:HD12	1.84	0.60
1:A:56:GLN:O	1:A:309:THR:OG1	2.17	0.59
1:A:2420:HIS:HA	1:A:2423:MET:HE3	1.83	0.59
1:A:3335:MET:SD	1:A:3403:ARG:NH1	2.75	0.59
1:A:3449:HIS:HB2	1:A:3453:ARG:CZ	2.32	0.59
1:B:3020:THR:HG23	1:B:3023:LYS:H	1.66	0.59
1:B:3648:ARG:O	1:B:3652:MET:HG3	2.01	0.59
1:D:3222:LYS:O	1:D:3227:ARG:NH2	2.31	0.59
1:C:989:ALA:HB3	1:C:1036:ARG:HH21	1.67	0.59
1:C:4158:PRO:O	1:C:4161:ARG:NH2	2.35	0.59
1:A:4901:ILE:HG13	1:A:4913:ARG:NH2	2.16	0.59
1:D:110:ARG:NH2	1:D:117:TYR:OH	2.35	0.59
1:C:3545:THR:HG22	1:C:3548:GLU:HG3	1.83	0.59
1:A:887:ILE:HG12	1:A:907:LEU:HD11	1.83	0.59
1:B:2116:LEU:O	1:B:2120:MET:HG2	2.02	0.59
1:C:2827:ARG:NH2	1:C:2935:TYR:OH	2.35	0.59
1:B:1676:LEU:HD22	1:B:2167:ILE:HD12	1.85	0.59
1:B:1808:ARG:HD3	1:B:1853:ILE:HG22	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:728:ARG:NH2	1:C:1543:GLU:OE2	2.31	0.59
1:B:3844:LEU:HD11	1:B:3936:TYR:HB2	1.84	0.59
1:C:3249:LEU:HD23	1:C:3277:LEU:HD21	1.85	0.59
1:A:110:ARG:NH2	1:A:117:TYR:OH	2.36	0.59
1:B:1808:ARG:NH1	1:B:1853:ILE:O	2.35	0.59
1:A:1448:VAL:HG22	1:A:1554:VAL:HG23	1.84	0.59
1:A:3020:THR:HG23	1:A:3023:LYS:H	1.66	0.59
2:H:52:LYS:HD3	2:H:52:LYS:N	2.18	0.59
1:B:1448:VAL:HG22	1:B:1554:VAL:HG23	1.85	0.59
1:B:4676:GLU:OE2	1:B:4698:LYS:NZ	2.36	0.59
1:D:468:LEU:HD22	1:D:472:ARG:HH12	1.67	0.59
1:B:3768:SER:HA	1:B:3771:HIS:CD2	2.38	0.59
1:D:4172:GLU:OE1	1:D:4175:ARG:NH1	2.36	0.59
1:C:880:GLU:O	1:C:884:LEU:N	2.33	0.59
1:B:56:GLN:HE21	1:B:57:ASN:HD22	1.49	0.58
1:D:2644:LEU:HD13	1:D:2678:LEU:HD21	1.85	0.58
1:C:2029:GLN:NE2	1:C:2033:ASP:OD1	2.35	0.58
1:A:955:LEU:O	1:A:966:LYS:NZ	2.27	0.58
1:B:3940:LYS:O	1:B:4002:LYS:NZ	2.32	0.58
1:D:3599:VAL:O	1:D:3603:LEU:HD12	2.03	0.58
1:A:2626:LEU:HD22	1:A:2640:PRO:HB3	1.85	0.58
1:A:2978:GLU:OE2	1:A:3053:ARG:NH1	2.36	0.58
1:C:2794:TYR:H	1:C:2855:TYR:HB2	1.68	0.58
1:A:2650:ARG:NH1	1:A:2651:CYS:SG	2.77	0.58
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.39	0.58
1:B:2224:ARG:HE	1:B:2224:ARG:H	1.50	0.58
1:C:2224:ARG:H	1:C:2224:ARG:HD2	1.67	0.58
1:C:3169:LEU:HD13	1:C:3197:LEU:HD22	1.85	0.58
1:A:54:ASN:HA	1:A:56:GLN:HE22	1.68	0.58
1:A:1619:ARG:NH2	1:A:1622:GLU:OE1	2.37	0.58
1:A:2330:ARG:HA	1:A:2333:ASP:OD2	2.03	0.58
1:A:2679:PHE:HB2	1:A:2706:ILE:HG21	1.86	0.58
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.84	0.58
1:D:3453:ARG:HA	1:D:3456:GLN:HE22	1.68	0.58
1:D:3996:PHE:O	1:D:4000:MET:HG3	2.03	0.58
1:C:4687:TYR:O	1:C:4691:GLN:NE2	2.36	0.58
1:C:961:MET:HE1	1:C:963:ASN:HB2	1.86	0.58
1:C:1819:VAL:HG11	1:C:1865:MET:HG2	1.85	0.58
1:C:2165:LEU:HD11	1:C:2177:LEU:HD23	1.84	0.58
1:A:1808:ARG:HD3	1:A:1853:ILE:HG22	1.85	0.58
2:F:11:ASP:OD2	2:F:67:SER:OG	2.22	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.84	0.58
1:D:1676:LEU:HD22	1:D:2167:ILE:HD12	1.85	0.58
1:C:1427:ILE:HD13	1:C:1571:ASN:HA	1.86	0.58
1:A:633:LEU:HD13	1:A:1639:LEU:HD21	1.86	0.58
1:A:4676:GLU:OE2	1:A:4698:LYS:NZ	2.37	0.58
1:D:215:THR:HG22	1:D:273:HIS:HA	1.86	0.58
1:D:633:LEU:HD13	1:D:1639:LEU:HD21	1.86	0.58
1:C:426:ARG:NH2	1:C:509:GLU:OE2	2.36	0.58
1:C:545:ASP:OD1	1:C:582:HIS:NE2	2.29	0.58
1:A:928:THR:O	1:A:931:THR:OG1	2.22	0.58
1:B:2650:ARG:NH1	1:B:2651:CYS:SG	2.77	0.58
1:D:2197:LEU:HB3	1:D:2198:MET:HE1	1.84	0.58
1:C:69:LEU:HD13	1:C:101:LEU:HD11	1.86	0.58
1:B:1987:SER:HB2	1:B:1994:ARG:HH22	1.67	0.58
1:C:11:VAL:HG11	1:C:164:ARG:HD3	1.84	0.58
1:C:110:ARG:NH2	1:C:117:TYR:OH	2.36	0.58
1:C:2962:GLN:HE22	1:C:2965:ARG:NH1	2.02	0.58
1:B:4901:ILE:HG13	1:B:4913:ARG:NH2	2.18	0.57
1:D:984:LEU:HD21	1:D:1056:PRO:HD2	1.85	0.57
1:C:1066:GLN:HB2	1:C:1071:ARG:HH21	1.69	0.57
1:C:2968:ASP:OD2	1:C:2969:ILE:N	2.37	0.57
1:A:2827:ARG:NH2	1:A:2935:TYR:OH	2.37	0.57
1:A:3169:LEU:HD12	1:A:3194:LEU:HD11	1.85	0.57
1:B:830:ARG:NH2	1:B:832:GLU:OE2	2.35	0.57
1:B:3202:PRO:HB2	1:B:3216:CYS:SG	2.43	0.57
1:C:4818:MET:SD	1:C:4818:MET:N	2.77	0.57
1:B:110:ARG:NH2	1:B:117:TYR:OH	2.37	0.57
1:B:2644:LEU:HD13	1:B:2678:LEU:HD21	1.85	0.57
1:B:3107:VAL:HG21	1:B:3171:SER:HB2	1.87	0.57
1:B:4687:TYR:O	1:B:4691:GLN:NE2	2.37	0.57
1:B:4722:ARG:HH11	1:B:4748:LEU:HD22	1.68	0.57
1:C:2974:ILE:O	1:C:2978:GLU:N	2.30	0.57
1:B:2792:ARG:NH2	1:B:2798:SER:OG	2.37	0.57
1:B:3103:ILE:HD11	1:B:3137:LEU:HD21	1.86	0.57
1:D:1448:VAL:HG22	1:D:1554:VAL:HG23	1.86	0.57
1:D:2224:ARG:HE	1:D:2224:ARG:H	1.51	0.57
1:A:4630:TYR:OH	1:B:4860:ARG:NH1	2.37	0.57
2:G:11:ASP:OD2	2:G:12:GLY:N	2.37	0.57
1:B:869:ARG:NH1	1:B:870:ILE:HB	2.19	0.57
1:B:2970:SER:HA	1:B:2973:PHE:CD2	2.39	0.57
1:B:3172:ILE:HD12	1:B:3190:LEU:HD22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:321:GLU:HG2	1:C:329:ARG:HH22	1.68	0.57
1:B:955:LEU:HD12	1:B:967:PRO:HD2	1.86	0.57
1:B:983:THR:O	1:B:987:ARG:HG3	2.05	0.57
1:B:2170:MET:HG2	1:B:2214:VAL:HG22	1.85	0.57
1:D:11:VAL:HG11	1:D:164:ARG:HD3	1.86	0.57
1:D:835:ARG:NH2	1:D:1093:GLU:OE1	2.30	0.57
1:D:3514:LEU:HD23	1:D:3606:LEU:HD11	1.85	0.57
1:C:1749:PRO:HB2	1:C:1758:ARG:HH11	1.70	0.57
1:C:3577:ARG:HH12	1:C:3582:ARG:HB3	1.68	0.57
1:C:4853:VAL:O	1:C:4857:ASN:ND2	2.36	0.57
1:B:2812:SER:HG	1:B:2882:TYR:HH	1.39	0.57
1:A:1066:GLN:HB2	1:A:1071:ARG:HE	1.69	0.57
1:B:1929:MET:HE2	1:B:1931:LEU:HD11	1.86	0.57
1:C:3268:HIS:CD2	1:C:3272:ILE:HD12	2.40	0.57
1:C:4090:LYS:HG2	1:C:4123:ILE:HD11	1.87	0.57
1:A:1792:ALA:HA	1:A:2173:GLN:HG3	1.87	0.57
1:A:1808:ARG:NH1	1:A:1853:ILE:O	2.38	0.57
1:A:3850:GLN:NE2	1:A:3872:GLU:OE1	2.34	0.57
2:E:49:MET:HG2	2:E:52:LYS:HG2	1.87	0.57
2:G:32:ASP:OD2	2:G:32:ASP:N	2.38	0.57
1:D:3545:THR:HG22	1:D:3548:GLU:HG3	1.87	0.57
1:C:1506:GLN:CD	1:C:1507:GLY:H	2.07	0.57
1:C:4749:GLU:HB3	1:C:4753:HIS:CE1	2.40	0.57
1:C:4844:LEU:HD21	1:C:4924:VAL:HG13	1.85	0.57
2:H:11:ASP:OD2	2:H:12:GLY:N	2.38	0.56
1:B:977:LEU:HG	1:B:1044:ARG:NH1	2.20	0.56
1:D:3850:GLN:NE2	1:D:3872:GLU:OE1	2.37	0.56
1:C:2018:GLU:OE1	1:C:2028:ARG:NH1	2.38	0.56
1:C:2957:PHE:CD2	1:C:3038:MET:HE1	2.39	0.56
1:D:1987:SER:HB2	1:D:1994:ARG:HH22	1.69	0.56
1:D:3752:SER:OG	1:D:3755:GLU:OE1	2.23	0.56
1:C:295:GLU:OE2	1:C:295:GLU:N	2.36	0.56
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.86	0.56
1:C:3162:GLN:HE21	1:C:3203:VAL:HG11	1.71	0.56
1:A:869:ARG:NH1	1:A:870:ILE:HB	2.20	0.56
1:A:2185:ILE:HD13	1:A:2203:MET:SD	2.45	0.56
1:A:4687:TYR:O	1:A:4691:GLN:NE2	2.39	0.56
1:B:295:GLU:OE2	1:B:295:GLU:N	2.37	0.56
1:D:14:LEU:HD13	1:D:202:MET:HE2	1.86	0.56
1:D:2224:ARG:H	1:D:2224:ARG:NE	2.03	0.56
1:D:4822:THR:O	1:D:4826:ILE:HD12	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1154:ASP:OD1	1:C:1156:THR:OG1	2.23	0.56
1:C:2309:SER:OG	1:C:2321:ILE:O	2.17	0.56
1:C:4063:ASP:OD1	1:C:4064:MET:N	2.39	0.56
1:A:869:ARG:HH11	1:A:870:ILE:HB	1.70	0.56
1:A:3371:LYS:NZ	1:A:3375:GLU:OE2	2.37	0.56
1:B:3017:PHE:O	1:B:3036:LYS:NZ	2.38	0.56
1:D:3017:PHE:O	1:D:3036:LYS:NZ	2.38	0.56
1:C:4172:GLU:OE1	1:C:4175:ARG:NH1	2.39	0.56
1:A:2794:TYR:H	1:A:2855:TYR:HB2	1.70	0.56
1:B:215:THR:HG22	1:B:273:HIS:HA	1.87	0.56
1:D:3324:VAL:HG11	1:D:3361:THR:HG22	1.86	0.56
1:D:4901:ILE:HG13	1:D:4913:ARG:NH2	2.20	0.56
1:C:3539:ARG:HH12	1:C:3542:LEU:HD22	1.71	0.56
1:C:4769:MET:SD	1:C:4769:MET:N	2.64	0.56
1:A:2265:LEU:HA	1:A:2330:ARG:NH1	2.20	0.56
1:A:2519:LEU:HD13	1:A:2575:ARG:HG3	1.86	0.56
1:A:3288:GLY:HA2	1:A:3303:PRO:HB3	1.86	0.56
1:A:4155:PRO:O	1:A:4161:ARG:NH2	2.36	0.56
1:B:614:VAL:HG22	1:B:2169:GLN:HG3	1.86	0.56
1:C:633:LEU:HD13	1:C:1639:LEU:HD21	1.86	0.56
1:C:1232:ARG:NH2	1:C:1828:ASP:O	2.39	0.56
1:B:1062:GLN:NE2	1:B:1064:GLU:OE1	2.31	0.56
1:B:3343:GLN:OE1	1:B:3414:ARG:NH1	2.38	0.56
1:B:4006:ASP:OD1	1:B:4006:ASP:N	2.38	0.56
1:D:866:HIS:CD2	1:D:941:MET:HG2	2.41	0.56
1:D:1454:THR:OG1	1:D:1456:ASP:OD1	2.17	0.56
1:C:2166:LEU:HD11	1:C:2206:THR:HG23	1.87	0.56
1:C:4207:MET:HG3	1:C:4208:PRO:HD2	1.88	0.56
1:A:930:LYS:HA	1:A:933:LEU:HD12	1.87	0.56
1:B:1066:GLN:HB2	1:B:1071:ARG:HE	1.70	0.56
1:C:893:TYR:HB2	1:C:961:MET:CE	2.35	0.56
1:C:2679:PHE:HB2	1:C:2706:ILE:HG21	1.86	0.56
1:A:545:ASP:OD1	1:A:582:HIS:NE2	2.30	0.56
1:C:866:HIS:CD2	1:C:941:MET:HG2	2.41	0.56
1:C:1448:VAL:HG22	1:C:1554:VAL:HG23	1.87	0.56
1:C:3455:GLU:OE2	1:C:3508:SER:OG	2.23	0.56
1:A:19:GLU:HB3	1:A:205:ILE:HB	1.86	0.56
1:B:633:LEU:HD13	1:B:1639:LEU:HD21	1.86	0.56
1:C:3644:LEU:HD12	1:C:3645:PRO:HD2	1.88	0.56
1:C:4188:ARG:HH11	1:C:4188:ARG:HG2	1.71	0.56
1:A:2881:ASN:HA	1:A:2884:ASN:ND2	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:26:ALA:HB2	1:B:182:LEU:HD21	1.87	0.55
1:B:3284:TRP:HB3	1:B:3305:THR:HG21	1.88	0.55
1:D:2102:VAL:HG13	1:D:2120:MET:HB2	1.88	0.55
1:D:3550:ARG:HD3	1:D:3594:ARG:NH2	2.19	0.55
1:C:2633:LEU:HG	1:C:2695:LEU:HD21	1.87	0.55
1:C:3755:GLU:HA	1:C:3758:MET:HB2	1.87	0.55
1:D:127:MET:N	1:D:127:MET:SD	2.80	0.55
1:C:1131:ARG:NH1	1:C:1178:ALA:O	2.39	0.55
1:D:858:THR:HB	1:D:930:LYS:HD2	1.89	0.55
1:D:1154:ASP:OD1	1:D:1156:THR:OG1	2.25	0.55
1:C:1676:LEU:HD22	1:C:2167:ILE:HD12	1.89	0.55
1:C:2687:ALA:O	1:C:2993:GLN:NE2	2.38	0.55
1:A:2902:HIS:HB3	1:A:2905:LEU:HG	1.88	0.55
1:A:3523:ASN:OD1	1:A:3582:ARG:NH2	2.38	0.55
1:B:1751:GLY:HA3	1:B:1759:ARG:HH12	1.71	0.55
1:C:56:GLN:O	1:C:309:THR:OG1	2.23	0.55
1:C:1749:PRO:HB2	1:C:1758:ARG:NH1	2.21	0.55
1:C:3246:LEU:HD11	1:C:3281:LEU:HD21	1.88	0.55
1:B:2382:GLU:OE1	1:B:2385:ARG:NH1	2.37	0.55
1:B:3535:LEU:HD13	1:B:3552:PHE:CE1	2.38	0.55
1:D:2978:GLU:OE2	1:D:3053:ARG:NH1	2.40	0.55
1:C:3269:VAL:HA	1:C:3273:THR:HB	1.89	0.55
2:G:82:TYR:HA	1:C:1786:LEU:HD21	1.87	0.55
1:B:1251:GLU:OE2	1:B:1251:GLU:N	2.36	0.55
1:D:168:ASP:OD1	1:D:201:ASN:ND2	2.40	0.55
1:D:952:LYS:HD3	1:D:970:LEU:HA	1.89	0.55
1:C:4006:ASP:N	1:C:4006:ASP:OD1	2.38	0.55
1:B:1154:ASP:OD1	1:B:1156:THR:OG1	2.24	0.55
1:B:3162:GLN:O	1:B:3166:TYR:HB2	2.07	0.55
1:B:3365:LEU:HD23	1:B:3405:LEU:HD12	1.87	0.55
1:C:2590:SER:O	1:C:2600:ARG:NH1	2.40	0.55
1:B:545:ASP:OD1	1:B:582:HIS:NE2	2.30	0.55
1:B:1422:ASP:OD2	1:B:1568:LYS:NZ	2.34	0.55
1:B:3842:LEU:HB2	1:B:3929:SER:HB2	1.89	0.55
1:C:3166:TYR:O	1:C:3170:CYS:HB2	2.06	0.55
1:C:4555:LEU:HD21	1:C:4656:LEU:HD22	1.89	0.55
1:C:4966:ASP:OD2	1:C:4966:ASP:N	2.40	0.55
1:A:3535:LEU:O	1:A:3539:ARG:HG2	2.07	0.55
1:A:4006:ASP:N	1:A:4006:ASP:OD1	2.40	0.55
1:B:2166:LEU:HD11	1:B:2206:THR:HG23	1.89	0.55
1:C:384:MET:HE3	1:C:384:MET:H	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:894:GLY:HA3	1:C:903:LEU:HB3	1.88	0.55
1:C:2777:TYR:HB3	1:C:2791:LEU:HD23	1.88	0.55
1:A:233:ILE:O	1:A:257:ARG:NH1	2.40	0.54
1:A:1251:GLU:OE1	1:A:1251:GLU:N	2.36	0.54
1:B:2382:GLU:O	1:B:2386:ILE:HG23	2.06	0.54
1:B:2881:ASN:HA	1:B:2884:ASN:ND2	2.22	0.54
1:B:3587:ASP:HA	1:B:3592:ILE:HD11	1.89	0.54
1:D:4820:VAL:HG13	1:D:4823:LEU:HB2	1.89	0.54
1:C:1057:ASP:OD1	1:C:1057:ASP:N	2.37	0.54
1:B:150:MET:HG2	1:B:169:LEU:HD23	1.89	0.54
1:B:2973:PHE:CE1	1:B:2995:ILE:HG12	2.41	0.54
1:D:233:ILE:O	1:D:257:ARG:NH1	2.40	0.54
1:D:2970:SER:HA	1:D:2973:PHE:CE1	2.41	0.54
1:D:4687:TYR:O	1:D:4691:GLN:NE2	2.40	0.54
1:C:3553:LEU:HD13	1:C:3596:VAL:HG13	1.90	0.54
1:C:3844:LEU:HD11	1:C:3936:TYR:HB2	1.89	0.54
1:A:1154:ASP:OD1	1:A:1156:THR:OG1	2.26	0.54
1:A:2587:TYR:O	1:A:2590:SER:OG	2.22	0.54
1:C:1451:GLY:HA3	1:C:1494:MET:HG2	1.89	0.54
1:A:1062:GLN:NE2	1:A:1064:GLU:OE1	2.33	0.54
2:E:13:ARG:HB3	2:E:13:ARG:NH1	2.23	0.54
1:B:2794:TYR:H	1:B:2855:TYR:HB2	1.72	0.54
1:B:4759:ASP:O	1:B:4761:PRO:HD3	2.07	0.54
1:D:961:MET:SD	1:D:962:SER:N	2.80	0.54
1:D:2198:MET:HG3	1:D:2203:MET:SD	2.46	0.54
1:A:3377:GLU:HA	1:A:3380:ARG:HG2	1.90	0.54
1:B:1024:TYR:HB3	1:B:1025:ARG:NH1	2.21	0.54
1:D:1057:ASP:OD1	1:D:1057:ASP:N	2.36	0.54
1:D:1759:ARG:NH1	1:D:1759:ARG:HA	2.23	0.54
1:C:296:ASP:HB2	1:C:297:GLN:OE1	2.07	0.54
1:A:2411:PRO:HD2	1:A:2415:ARG:HG3	1.88	0.54
1:B:457:GLU:OE2	1:B:457:GLU:N	2.29	0.54
1:B:1690:ASP:OD2	1:B:1693:GLN:NE2	2.40	0.54
1:B:3850:GLN:NE2	1:B:3872:GLU:OE1	2.38	0.54
1:D:426:ARG:NH2	1:D:509:GLU:OE2	2.41	0.54
1:D:4942:GLU:OE1	1:C:4944:ARG:NH1	2.41	0.54
1:C:2116:LEU:O	1:C:2120:MET:HG2	2.07	0.54
1:C:2736:ASP:OD1	1:C:2736:ASP:N	2.40	0.54
1:A:3940:LYS:O	1:A:4002:LYS:NZ	2.34	0.54
1:A:4063:ASP:OD1	1:A:4064:MET:N	2.41	0.54
1:D:910:PHE:HA	1:D:913:LEU:HD23	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2186:MET:HE1	1:D:2235:PHE:HA	1.90	0.54
1:C:3276:MET:O	1:C:3280:TYR:N	2.36	0.54
1:D:19:GLU:HB3	1:D:205:ILE:HB	1.89	0.54
1:D:1619:ARG:NH2	1:D:1622:GLU:OE1	2.40	0.54
1:C:3599:VAL:O	1:C:3603:LEU:HD12	2.08	0.54
1:A:4759:ASP:O	1:A:4761:PRO:HD3	2.08	0.54
1:B:3377:GLU:HA	1:B:3380:ARG:HG2	1.88	0.54
1:D:4240:ASP:OD2	1:D:4672:LYS:NZ	2.38	0.54
1:C:384:MET:H	1:C:384:MET:CE	2.20	0.54
1:A:3570:ARG:NH1	1:A:3570:ARG:HB2	2.23	0.54
1:A:4240:ASP:OD2	1:A:4672:LYS:NZ	2.35	0.54
2:G:58:GLY:HA3	2:G:76:ILE:HD13	1.89	0.54
1:C:2021:CYS:O	1:C:2028:ARG:NH2	2.41	0.54
1:A:3132:THR:HG23	1:A:3136:LEU:HD23	1.90	0.53
1:B:233:ILE:O	1:B:257:ARG:NH1	2.41	0.53
1:B:728:ARG:NH2	1:B:1543:GLU:OE2	2.31	0.53
1:D:1062:GLN:NE2	1:D:1064:GLU:OE1	2.32	0.53
1:C:897:ARG:NH2	1:C:899:ASP:OD1	2.41	0.53
1:A:3842:LEU:HB2	1:A:3929:SER:HB2	1.90	0.53
2:E:58:GLY:HA3	2:E:76:ILE:HD12	1.90	0.53
1:B:2583:LEU:HD11	1:B:2614:ILE:HD13	1.89	0.53
1:B:2626:LEU:O	1:B:2630:VAL:HG12	2.08	0.53
1:C:2892:GLN:NE2	1:C:2895:GLU:OE2	2.41	0.53
1:A:1690:ASP:OD2	1:A:1693:GLN:NE2	2.41	0.53
1:A:2736:ASP:N	1:A:2736:ASP:OD1	2.42	0.53
1:B:56:GLN:CD	1:B:56:GLN:H	2.10	0.53
1:B:3543:LYS:N	1:B:3543:LYS:HD2	2.24	0.53
1:B:4063:ASP:OD1	1:B:4064:MET:N	2.41	0.53
1:D:297:GLN:N	1:D:297:GLN:OE1	2.38	0.53
1:C:1093:GLU:HB3	1:C:1201:HIS:HB3	1.91	0.53
1:C:3556:ASN:HB3	1:C:3559:LEU:HD13	1.89	0.53
1:A:2190:VAL:HG12	1:A:2198:MET:HE3	1.90	0.53
1:B:4910:GLU:O	1:B:4914:VAL:HG13	2.08	0.53
1:C:215:THR:HG22	1:C:273:HIS:HA	1.91	0.53
1:A:1177:THR:OG1	1:A:1180:ARG:NH1	2.37	0.53
1:A:4910:GLU:O	1:A:4914:VAL:HG13	2.09	0.53
1:B:3123:LYS:HG3	1:B:3125:VAL:H	1.73	0.53
1:D:2116:LEU:O	1:D:2120:MET:HG2	2.09	0.53
1:C:2607:LEU:HG	1:C:2643:LEU:HD21	1.91	0.53
1:C:3316:LEU:HD21	1:C:3346:VAL:HG23	1.91	0.53
2:G:11:ASP:OD2	2:G:67:SER:OG	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2411:PRO:HD2	1:B:2415:ARG:HG3	1.90	0.53
1:D:2758:PHE:HA	1:D:2761:TYR:HB2	1.90	0.53
1:C:1251:GLU:OE1	1:C:1251:GLU:N	2.40	0.53
1:C:2862:LEU:HD13	1:C:2864:GLY:H	1.72	0.53
1:C:3359:ILE:HD12	1:C:3434:LEU:HD13	1.90	0.53
1:A:215:THR:HG22	1:A:273:HIS:HA	1.91	0.53
1:A:987:ARG:HB3	1:A:987:ARG:NH1	2.24	0.53
1:A:3539:ARG:HB2	1:A:3549:VAL:HG12	1.91	0.53
1:A:4569:LEU:HD21	1:A:4649:LEU:HD23	1.90	0.53
1:D:2794:TYR:H	1:D:2855:TYR:HB2	1.74	0.53
1:D:3132:THR:HG23	1:D:3136:LEU:HD23	1.90	0.53
1:C:2792:ARG:NH2	1:C:2798:SER:OG	2.41	0.53
1:C:2951:ILE:HD11	1:C:3032:SER:HB2	1.90	0.53
1:C:3540:TYR:HB3	1:C:3604:TYR:CD1	2.44	0.53
1:A:168:ASP:OD1	1:A:201:ASN:ND2	2.41	0.53
1:A:457:GLU:OE1	1:A:457:GLU:N	2.42	0.53
1:B:684:VAL:HG22	1:B:781:VAL:HG12	1.91	0.53
1:B:2907:PRO:O	1:B:2910:THR:OG1	2.21	0.53
1:D:1653:LEU:O	1:D:1660:GLN:NE2	2.41	0.53
1:D:3530:GLN:OE1	1:D:3530:GLN:N	2.30	0.53
1:C:887:ILE:HD13	1:C:907:LEU:HD21	1.89	0.53
1:C:3366:ARG:NH1	1:C:3440:GLU:OE1	2.38	0.53
1:A:952:LYS:HD3	1:A:970:LEU:HA	1.90	0.53
1:A:1506:GLN:OE1	1:A:1507:GLY:N	2.42	0.53
1:A:3449:HIS:O	1:A:3453:ARG:HD2	2.08	0.53
1:B:19:GLU:HB3	1:B:205:ILE:HB	1.89	0.53
1:B:2423:MET:HG3	1:B:2498:HIS:NE2	2.24	0.53
1:B:2626:LEU:HD22	1:B:2640:PRO:HB3	1.91	0.53
1:B:2736:ASP:O	1:B:2738:ARG:NH1	2.42	0.53
1:D:1066:GLN:HB2	1:D:1071:ARG:HE	1.72	0.53
1:D:4749:GLU:HB3	1:D:4753:HIS:CE1	2.44	0.53
1:C:2410:PRO:HB3	1:C:2415:ARG:HB3	1.91	0.53
1:C:3194:LEU:HD21	1:C:3272:ILE:HG23	1.91	0.53
1:C:4901:ILE:HG13	1:C:4913:ARG:NH2	2.23	0.53
1:B:647:ASN:ND2	1:B:820:ARG:O	2.31	0.53
1:B:3371:LYS:NZ	1:B:3375:GLU:OE2	2.39	0.53
1:D:3133:THR:HG23	1:D:3134:VAL:HG23	1.91	0.53
1:A:176:SER:OG	1:A:178:ARG:NH1	2.41	0.52
1:A:648:ILE:HG23	1:A:814:ALA:HB3	1.92	0.52
1:A:4722:ARG:HH11	1:A:4748:LEU:HD22	1.73	0.52
1:B:384:MET:CE	1:B:384:MET:H	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2490:MET:HE3	1:B:2545:GLU:HB2	1.92	0.52
1:B:3366:ARG:NH1	1:B:3440:GLU:OE1	2.35	0.52
1:C:2790:MET:N	1:C:2790:MET:SD	2.82	0.52
1:C:3850:GLN:NE2	1:C:3872:GLU:OE1	2.40	0.52
1:C:3937:TYR:OH	1:C:3944:GLU:OE2	2.27	0.52
1:D:932:LEU:H	1:D:932:LEU:HD12	1.75	0.52
1:D:3528:THR:HG23	1:D:3573:MET:HE3	1.92	0.52
1:C:2867:LEU:HB2	1:C:2928:LYS:HZ3	1.74	0.52
1:B:3296:LEU:HD12	1:B:3296:LEU:H	1.74	0.52
1:D:1419:ASP:HA	1:D:1421:ARG:NH2	2.24	0.52
1:D:4006:ASP:N	1:D:4006:ASP:OD1	2.41	0.52
1:D:4759:ASP:O	1:D:4761:PRO:HD3	2.09	0.52
1:C:1062:GLN:NE2	1:C:1064:GLU:OE1	2.33	0.52
1:C:3368:ARG:HH11	1:C:3368:ARG:HG3	1.75	0.52
1:C:3752:SER:OG	1:C:3755:GLU:OE1	2.27	0.52
1:B:1653:LEU:O	1:B:1660:GLN:NE2	2.42	0.52
1:D:2021:CYS:O	1:D:2028:ARG:NH2	2.42	0.52
1:D:2736:ASP:OD1	1:D:2736:ASP:N	2.41	0.52
1:D:2747:ILE:HD12	1:D:2748:PRO:HD2	1.91	0.52
1:D:2821:TRP:HH2	1:D:2877:GLN:HB3	1.75	0.52
1:C:2538:THR:O	1:C:2542:SER:HB2	2.10	0.52
1:A:684:VAL:HG22	1:A:781:VAL:HG12	1.92	0.52
1:A:2697:ARG:HB3	1:A:2697:ARG:NH1	2.24	0.52
1:A:3233:PRO:HB2	1:A:3238:GLU:HB2	1.91	0.52
1:B:228:ASP:OD1	1:B:228:ASP:N	2.42	0.52
1:B:2224:ARG:H	1:B:2224:ARG:NE	2.06	0.52
1:B:2747:ILE:HD12	1:B:2748:PRO:HD2	1.91	0.52
1:D:684:VAL:HG22	1:D:781:VAL:HG12	1.91	0.52
1:D:2244:ARG:NH2	1:D:3858:MET:SD	2.83	0.52
1:C:19:GLU:HB3	1:C:205:ILE:HB	1.90	0.52
1:C:2986:VAL:HG22	1:C:2988:LYS:H	1.74	0.52
1:A:983:THR:O	1:A:987:ARG:HG3	2.09	0.52
1:A:3455:GLU:OE2	1:A:3508:SER:OG	2.22	0.52
1:A:4966:ASP:OD2	1:A:4966:ASP:N	2.40	0.52
1:B:1454:THR:OG1	1:B:1456:ASP:OD1	2.19	0.52
1:C:901:LYS:HG3	1:C:903:LEU:HG	1.90	0.52
1:C:1653:LEU:O	1:C:1660:GLN:NE2	2.41	0.52
1:C:2293:GLN:OE1	1:C:2293:GLN:N	2.19	0.52
1:C:2514:ASN:ND2	1:C:2516:ASP:OD1	2.42	0.52
1:C:3133:THR:HG23	1:C:3134:VAL:HG23	1.90	0.52
1:B:2694:GLU:HA	1:B:2697:ARG:NH1	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3414:ARG:NH1	1:B:3414:ARG:HB2	2.24	0.52
1:D:3946:GLN:OE1	1:D:3949:ARG:NH2	2.43	0.52
1:C:3196:ARG:HH12	1:C:3341:PHE:HE1	1.57	0.52
1:B:275:ARG:HH21	1:B:328:LYS:HZ3	1.56	0.52
1:B:2219:GLU:OE2	1:B:2219:GLU:N	2.38	0.52
1:B:3130:THR:HA	1:B:3133:THR:HG22	1.90	0.52
1:B:4067:LYS:NZ	1:B:4102:GLN:O	2.35	0.52
1:D:648:ILE:HG23	1:D:814:ALA:HB3	1.92	0.52
1:D:2308:GLN:OE1	1:D:2309:SER:N	2.42	0.52
1:D:3264:THR:OG1	1:D:3265:GLU:OE1	2.28	0.52
1:D:4185:GLY:O	1:D:4188:ARG:NH2	2.42	0.52
1:C:233:ILE:O	1:C:257:ARG:NH1	2.43	0.52
1:A:3667:HIS:ND1	1:A:3667:HIS:O	2.38	0.52
1:B:928:THR:O	1:B:931:THR:OG1	2.28	0.52
1:B:3181:THR:O	1:B:3185:LYS:HG2	2.10	0.52
1:D:2736:ASP:O	1:D:2738:ARG:NH1	2.43	0.52
1:D:4966:ASP:N	1:D:4966:ASP:OD1	2.37	0.52
1:C:884:LEU:O	1:C:887:ILE:HG22	2.10	0.52
1:A:3114:LYS:HE3	1:A:3123:LYS:HD2	1.92	0.52
2:F:90:ILE:HD11	1:B:1684:ALA:HA	1.91	0.52
1:B:293:LEU:HD13	1:B:378:LEU:HD12	1.91	0.52
1:B:1424:PRO:HA	1:B:1427:ILE:HG22	1.92	0.52
1:C:2991:HIS:HB3	1:C:2994:GLU:HB2	1.92	0.52
2:E:11:ASP:OD2	2:E:67:SER:OG	2.27	0.51
1:D:2827:ARG:NH2	1:D:2935:TYR:OH	2.43	0.51
1:D:4555:LEU:HD21	1:D:4656:LEU:HD22	1.92	0.51
1:D:4722:ARG:HG2	1:D:4722:ARG:HH11	1.73	0.51
1:C:516:LYS:O	1:C:520:ASN:ND2	2.34	0.51
1:C:2382:GLU:O	1:C:2386:ILE:HG23	2.10	0.51
1:A:56:GLN:CD	1:A:56:GLN:H	2.14	0.51
1:A:1653:LEU:O	1:A:1660:GLN:NE2	2.42	0.51
1:A:2538:THR:HG23	1:A:2541:PHE:H	1.75	0.51
1:A:3017:PHE:O	1:A:3036:LYS:NZ	2.42	0.51
1:A:3157:ILE:HA	1:A:3161:VAL:HG23	1.92	0.51
1:A:3771:HIS:O	1:A:3815:LYS:NZ	2.43	0.51
1:B:2629:ASP:O	1:B:2632:ILE:HG22	2.09	0.51
1:D:22:LEU:HD23	1:D:202:MET:HG2	1.91	0.51
1:D:2519:LEU:HD13	1:D:2575:ARG:HG3	1.91	0.51
1:D:2777:TYR:HB3	1:D:2791:LEU:HD23	1.92	0.51
1:D:5000:GLU:OE1	1:D:5000:GLU:N	2.42	0.51
1:C:3034:LYS:O	1:C:3034:LYS:NZ	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3051:ARG:HG2	1:C:3051:ARG:HH11	1.75	0.51
1:C:3329:ILE:O	1:C:3403:ARG:NH2	2.42	0.51
1:A:3235:SER:OG	1:A:3237:GLU:OE1	2.28	0.51
1:A:4821:LYS:H	1:A:4821:LYS:CD	2.23	0.51
1:B:2285:GLU:HG3	1:B:3858:MET:HG3	1.91	0.51
1:B:2751:LEU:O	1:B:2755:ILE:HG12	2.09	0.51
1:D:116:MET:HG2	1:D:139:GLU:HA	1.91	0.51
1:D:2355:ARG:HH11	1:D:2355:ARG:HG3	1.75	0.51
1:C:986:ASP:HA	1:C:1036:ARG:NH2	2.26	0.51
1:C:1983:ALA:O	1:C:1987:SER:OG	2.28	0.51
1:C:2678:LEU:O	1:C:2682:ILE:HG22	2.09	0.51
1:C:4745:LEU:HD12	1:C:4745:LEU:H	1.76	0.51
1:A:1684:ALA:HA	2:E:90:ILE:HD11	1.93	0.51
1:D:961:MET:SD	1:D:963:ASN:N	2.76	0.51
1:D:3400:VAL:HG23	1:D:3403:ARG:NH2	2.25	0.51
1:C:893:TYR:HB2	1:C:961:MET:HE2	1.92	0.51
1:C:1759:ARG:NH1	1:C:1759:ARG:HB2	2.25	0.51
1:C:2231:SER:HA	1:C:2234:ARG:NH2	2.25	0.51
1:C:2821:TRP:HH2	1:C:2877:GLN:HB3	1.75	0.51
1:C:3514:LEU:O	1:C:3518:LEU:N	2.43	0.51
1:A:3757:GLU:O	1:A:3761:GLN:HG2	2.11	0.51
2:H:4:VAL:HG22	2:H:74:LEU:HD22	1.92	0.51
1:B:1759:ARG:H	1:B:1759:ARG:CD	2.23	0.51
1:B:2754:PHE:HE2	1:B:2813:LEU:HD11	1.76	0.51
1:D:176:SER:OG	1:D:178:ARG:NH1	2.39	0.51
1:D:2626:LEU:HD22	1:D:2640:PRO:HB3	1.92	0.51
1:D:3573:MET:HB3	1:D:3577:ARG:NH2	2.18	0.51
1:C:684:VAL:HG22	1:C:781:VAL:HG12	1.91	0.51
1:C:954:LYS:HB3	1:C:966:LYS:HE3	1.93	0.51
1:C:993:HIS:NE2	1:C:1022:VAL:O	2.41	0.51
1:C:3517:MET:O	1:C:3517:MET:HG3	2.11	0.51
1:C:3862:ASP:N	1:C:3862:ASP:OD1	2.42	0.51
1:C:4152:GLU:OE1	1:C:4194:TYR:OH	2.26	0.51
1:D:4138:ASP:O	1:D:4142:ASN:ND2	2.36	0.51
1:D:4209:GLN:OE1	1:D:4209:GLN:N	2.30	0.51
1:D:4745:LEU:H	1:D:4745:LEU:HD12	1.75	0.51
1:D:4818:MET:N	1:D:4818:MET:SD	2.83	0.51
1:C:293:LEU:HD13	1:C:378:LEU:HD12	1.92	0.51
1:C:943:ASP:HB2	1:C:1050:GLY:HA3	1.93	0.51
1:A:228:ASP:OD1	1:A:228:ASP:N	2.44	0.51
1:A:2751:LEU:O	1:A:2755:ILE:HG12	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4902:GLU:O	1:A:4913:ARG:NH1	2.40	0.51
1:B:1099:GLU:OE2	1:B:1125:ASN:ND2	2.43	0.51
1:B:1260:MET:HE1	1:B:1271:ARG:HH21	1.76	0.51
1:B:3588:ASP:O	1:B:3592:ILE:HG12	2.11	0.51
1:C:3021:PRO:HD3	1:C:3030:HIS:NE2	2.25	0.51
1:C:4567:LEU:HD11	1:C:4816:ILE:HG23	1.93	0.51
1:B:426:ARG:NH2	1:B:509:GLU:OE2	2.44	0.51
1:B:961:MET:SD	1:B:962:SER:N	2.84	0.51
1:B:4821:LYS:H	1:B:4821:LYS:CD	2.23	0.51
1:D:3459:VAL:HG13	1:D:3464:ILE:HB	1.92	0.51
1:D:4918:ILE:HD12	1:D:4919:THR:N	2.26	0.51
1:C:2244:ARG:NH2	1:C:3859:VAL:O	2.44	0.51
1:C:3159:ASP:HB2	1:C:3222:LYS:HE2	1.93	0.51
1:A:2627:VAL:HG21	1:A:2674:LEU:HD12	1.91	0.51
2:F:4:VAL:HG22	2:F:74:LEU:HD22	1.93	0.51
1:D:228:ASP:OD1	1:D:228:ASP:N	2.44	0.51
1:C:4759:ASP:O	1:C:4761:PRO:HD3	2.11	0.51
1:B:3169:LEU:HD21	1:B:3205:PHE:CD1	2.46	0.51
1:B:4695:ASP:OD1	1:B:4695:ASP:N	2.37	0.51
1:D:3114:LYS:HE3	1:D:3123:LYS:HD2	1.93	0.51
1:D:4904:PRO:HG3	1:D:4913:ARG:HG2	1.92	0.51
1:C:1289:LEU:HD12	1:C:1562:ILE:HD11	1.92	0.51
1:C:3523:ASN:O	1:C:3582:ARG:NH2	2.43	0.51
1:A:1057:ASP:OD1	1:A:1057:ASP:N	2.35	0.50
1:A:5034:ASP:OD2	1:A:5035:GLN:NE2	2.44	0.50
1:B:2376:LEU:HG	1:B:2469:ILE:HD11	1.93	0.50
1:B:3667:HIS:O	1:B:3667:HIS:ND1	2.40	0.50
1:D:2514:ASN:ND2	1:D:2516:ASP:OD1	2.44	0.50
1:C:3686:GLU:OE1	1:C:3686:GLU:N	2.44	0.50
1:A:910:PHE:HA	1:A:913:LEU:HD23	1.93	0.50
1:A:3400:VAL:HG23	1:A:3403:ARG:HH21	1.76	0.50
2:G:31:GLU:OE2	2:G:96:THR:HB	2.10	0.50
1:B:648:ILE:HG23	1:B:814:ALA:HB3	1.92	0.50
1:B:1822:GLY:HA3	1:B:1929:MET:HE1	1.93	0.50
1:B:3322:ILE:O	1:B:3326:ASN:ND2	2.43	0.50
1:B:3535:LEU:O	1:B:3539:ARG:HG2	2.10	0.50
1:D:901:LYS:HG3	1:D:903:LEU:HG	1.93	0.50
1:D:1251:GLU:OE1	1:D:1251:GLU:N	2.37	0.50
1:D:1737:PRO:HB2	1:D:1739:THR:HG23	1.92	0.50
1:D:3172:ILE:HG21	1:D:3194:LEU:HB2	1.93	0.50
1:D:4063:ASP:OD1	1:D:4064:MET:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:565:TYR:CZ	1:C:569:ILE:HD11	2.47	0.50
1:C:943:ASP:OD2	1:C:945:LYS:NZ	2.45	0.50
1:C:2661:TRP:HB3	1:C:2664:PHE:HB2	1.93	0.50
1:C:3946:GLN:HE22	1:C:3949:ARG:HH12	1.58	0.50
1:A:954:LYS:HB3	1:A:966:LYS:HE3	1.92	0.50
1:A:2661:TRP:HB3	1:A:2664:PHE:HB2	1.93	0.50
2:H:11:ASP:OD2	2:H:67:SER:OG	2.29	0.50
1:B:127:MET:N	1:B:127:MET:SD	2.74	0.50
1:D:4914:VAL:O	1:D:4918:ILE:HG13	2.10	0.50
1:A:1252:HIS:O	1:A:1275:ARG:NH1	2.45	0.50
1:A:2872:GLN:O	1:A:2876:GLU:HG2	2.12	0.50
1:B:3604:TYR:O	1:B:3607:GLU:HG3	2.12	0.50
1:B:3751:VAL:HG13	1:B:3755:GLU:HG2	1.93	0.50
1:D:906:CYS:SG	1:D:913:LEU:HD22	2.51	0.50
1:C:302:VAL:HB	1:C:306:LYS:HE3	1.92	0.50
1:C:3768:SER:HA	1:C:3771:HIS:CD2	2.46	0.50
1:C:4138:ASP:O	1:C:4142:ASN:ND2	2.35	0.50
1:A:2225:PHE:N	1:A:2226:PRO:HD3	2.26	0.50
1:A:2226:PRO:HB3	1:A:2267:MET:SD	2.51	0.50
2:E:4:VAL:HG22	2:E:74:LEU:HD22	1.93	0.50
1:B:653:ALA:HB3	1:B:656:SER:HB2	1.94	0.50
1:B:2736:ASP:OD1	1:B:2736:ASP:N	2.41	0.50
1:B:3335:MET:SD	1:B:3403:ARG:NH1	2.84	0.50
1:D:2538:THR:HG23	1:D:2541:PHE:H	1.77	0.50
1:D:3132:THR:HA	1:D:3136:LEU:HB3	1.93	0.50
1:C:2218:GLY:HA3	1:C:2224:ARG:HH12	1.76	0.50
1:B:2858:GLN:HB2	1:B:2859:PRO:HD3	1.93	0.50
1:B:3021:PRO:HD3	1:B:3030:HIS:CE1	2.46	0.50
1:B:3543:LYS:NZ	1:B:3604:TYR:OH	2.44	0.50
1:D:3799:LYS:NZ	1:D:3879:GLU:OE1	2.45	0.50
1:C:1737:PRO:HB2	1:C:1739:THR:HG23	1.92	0.50
1:C:2978:GLU:OE2	1:C:3053:ARG:NH1	2.45	0.50
1:C:3093:ARG:NH1	1:C:3160:ASP:OD2	2.43	0.50
1:A:2871:LEU:HD11	1:A:2937:VAL:HG13	1.93	0.50
1:B:2102:VAL:HG13	1:B:2120:MET:HB2	1.93	0.50
1:B:3264:THR:OG1	1:B:3265:GLU:OE1	2.29	0.50
1:B:4238:CYS:HA	1:B:4989:MET:HE1	1.93	0.50
1:C:4570:ALA:O	1:C:4574:ASN:ND2	2.38	0.50
1:A:302:VAL:HB	1:A:306:LYS:HE3	1.94	0.50
2:G:85:THR:OG1	2:G:86:GLY:N	2.45	0.50
1:B:1289:LEU:HD12	1:B:1562:ILE:HD11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2630:VAL:HG23	1:B:2637:ALA:HB1	1.92	0.50
1:B:2929:PHE:HA	1:B:2932:MET:SD	2.52	0.50
1:B:4902:GLU:O	1:B:4913:ARG:NH1	2.40	0.50
1:D:4821:LYS:HD3	1:D:4821:LYS:N	2.26	0.50
1:C:977:LEU:HD22	1:C:981:GLN:HB3	1.94	0.50
1:C:1993:ARG:O	1:C:1996:ARG:HD2	2.12	0.50
1:C:2531:ARG:HG2	1:C:2585:THR:HG21	1.94	0.50
1:A:2002:PRO:HD3	1:A:3638:MET:HE1	1.94	0.50
1:A:3604:TYR:O	1:A:3607:GLU:HG3	2.12	0.50
1:A:3695:PRO:HB3	1:A:3699:HIS:HB3	1.94	0.50
1:D:3540:TYR:HB3	1:D:3604:TYR:CD2	2.47	0.50
1:D:4924:VAL:HG12	1:D:4925:ILE:HD13	1.94	0.50
1:C:950:LEU:HD13	1:C:970:LEU:HG	1.94	0.50
1:C:1739:THR:HG22	1:C:2146:PRO:HB3	1.92	0.50
1:C:2323:TRP:CZ2	1:C:2422:ILE:HD12	2.47	0.50
1:C:3145:GLN:HG2	1:C:3196:ARG:HD2	1.94	0.50
1:A:4152:GLU:OE1	1:A:4194:TYR:OH	2.21	0.49
2:G:4:VAL:HG22	2:G:74:LEU:HD22	1.92	0.49
1:B:56:GLN:HE21	1:B:57:ASN:ND2	2.09	0.49
1:D:923:GLN:O	1:D:927:GLU:HG2	2.12	0.49
1:D:3946:GLN:HE22	1:D:3949:ARG:HE	1.60	0.49
1:D:4769:MET:SD	1:D:4769:MET:N	2.68	0.49
1:C:2102:VAL:HG13	1:C:2120:MET:HB2	1.94	0.49
1:C:4904:PRO:HG3	1:C:4913:ARG:HG2	1.94	0.49
1:A:11:VAL:HG11	1:A:164:ARG:HD3	1.94	0.49
1:A:1024:TYR:CZ	1:A:1032:LYS:HG3	2.46	0.49
1:A:2660:GLY:HA3	1:A:2666:VAL:HG22	1.94	0.49
1:B:1986:MET:SD	1:B:1986:MET:N	2.85	0.49
1:B:3718:GLU:HG3	1:B:3723:MET:HE1	1.93	0.49
1:A:69:LEU:HD13	1:A:101:LEU:HD11	1.95	0.49
1:A:2573:GLU:OE2	1:A:2615:ARG:NE	2.42	0.49
1:B:906:CYS:SG	1:B:913:LEU:HD22	2.52	0.49
1:B:3442:PHE:CD1	1:B:3514:LEU:HD22	2.47	0.49
1:B:3648:ARG:HH11	1:B:3648:ARG:HG3	1.77	0.49
1:A:127:MET:N	1:A:127:MET:SD	2.75	0.49
1:A:2166:LEU:HD11	1:A:2206:THR:HG23	1.94	0.49
1:A:3366:ARG:NH1	1:A:3440:GLU:OE1	2.34	0.49
1:A:3629:ARG:HA	1:A:3632:VAL:HG22	1.95	0.49
1:B:14:LEU:HD13	1:B:202:MET:HE2	1.95	0.49
1:B:1252:HIS:O	1:B:1275:ARG:NH1	2.45	0.49
1:B:1619:ARG:NH2	1:B:1622:GLU:OE1	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2309:SER:OG	1:B:2321:ILE:O	2.17	0.49
1:D:3114:LYS:HD2	1:D:3125:VAL:HG11	1.94	0.49
1:D:3545:THR:HG23	1:D:3547:GLU:H	1.77	0.49
1:D:3768:SER:HA	1:D:3771:HIS:CD2	2.47	0.49
1:A:14:LEU:HD13	1:A:202:MET:HE2	1.95	0.49
1:A:510:GLU:OE2	1:A:510:GLU:N	2.36	0.49
1:A:653:ALA:HB3	1:A:656:SER:HB2	1.95	0.49
1:A:1289:LEU:HD12	1:A:1562:ILE:HD11	1.94	0.49
1:A:2318:TYR:CZ	1:A:2395:PRO:HD3	2.48	0.49
1:A:3132:THR:HA	1:A:3136:LEU:HB3	1.94	0.49
1:A:3357:HIS:O	1:A:3361:THR:HG23	2.12	0.49
1:B:302:VAL:HB	1:B:306:LYS:HE3	1.93	0.49
1:B:2538:THR:HG23	1:B:2541:PHE:H	1.78	0.49
1:B:3269:VAL:HA	1:B:3273:THR:HB	1.95	0.49
1:B:3862:ASP:OD1	1:B:3862:ASP:N	2.46	0.49
1:B:3959:LYS:NZ	1:B:4022:ASP:OD2	2.39	0.49
1:D:2382:GLU:OE1	1:D:2385:ARG:NH1	2.38	0.49
1:C:1040:CYS:O	1:C:1044:ARG:HG2	2.12	0.49
1:C:3842:LEU:HB2	1:C:3929:SER:HB2	1.93	0.49
1:A:758:ARG:HG2	1:A:763:PRO:HA	1.93	0.49
1:A:923:GLN:O	1:A:927:GLU:HG2	2.13	0.49
1:A:1040:CYS:O	1:A:1044:ARG:HG2	2.13	0.49
1:A:1260:MET:HE1	1:A:1271:ARG:HH21	1.78	0.49
1:A:3157:ILE:HA	1:A:3161:VAL:CG2	2.43	0.49
1:A:3240:CYS:HB3	1:A:3243:ILE:HG12	1.94	0.49
1:B:4000:MET:SD	1:B:4020:GLN:NE2	2.77	0.49
1:D:955:LEU:HD12	1:D:967:PRO:HD2	1.94	0.49
1:D:1289:LEU:HD12	1:D:1562:ILE:HD11	1.93	0.49
1:C:1449:TRP:HB3	1:C:1494:MET:HE3	1.95	0.49
1:C:1867:GLU:OE2	1:C:1928:GLN:NE2	2.46	0.49
1:C:2680:TRP:CE3	1:C:2680:TRP:HA	2.47	0.49
1:C:2973:PHE:CE1	1:C:2995:ILE:HG12	2.46	0.49
1:C:3359:ILE:HD11	1:C:3434:LEU:HB2	1.94	0.49
1:C:3534:MET:N	1:C:3534:MET:SD	2.85	0.49
1:A:906:CYS:SG	1:A:913:LEU:HD22	2.51	0.49
1:A:3182:TYR:HA	1:A:3185:LYS:HG2	1.94	0.49
1:A:3719:ASP:O	1:A:3723:MET:HG3	2.13	0.49
1:B:4818:MET:O	1:B:4824:ARG:NH1	2.45	0.49
1:D:26:ALA:HB2	1:D:182:LEU:HD21	1.95	0.49
1:D:653:ALA:HB3	1:D:656:SER:HB2	1.95	0.49
1:C:228:ASP:OD1	1:C:228:ASP:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:830:ARG:NH2	1:C:832:GLU:OE2	2.43	0.49
1:C:881:LEU:HA	1:C:884:LEU:HB2	1.95	0.49
1:C:3788:GLY:HA3	1:C:3834:ALA:HB3	1.95	0.49
1:A:2174:GLU:HA	1:A:2177:LEU:HD12	1.94	0.49
2:G:35:LYS:HE3	1:C:636:ASN:HD21	1.78	0.49
1:B:4569:LEU:HD21	1:B:4649:LEU:HD23	1.94	0.49
1:B:4904:PRO:HB3	1:B:4913:ARG:HG2	1.94	0.49
1:D:758:ARG:HG2	1:D:763:PRO:HA	1.94	0.49
1:D:1131:ARG:NH1	1:D:1178:ALA:O	2.46	0.49
1:D:2166:LEU:HD11	1:D:2206:THR:HG23	1.94	0.49
1:C:475:GLN:NE2	1:C:528:SER:O	2.46	0.49
1:A:2537:ASP:OD2	1:A:2588:ARG:NH1	2.45	0.49
2:E:3:GLN:OE1	2:E:5:GLU:HG3	2.12	0.49
1:B:2872:GLN:O	1:B:2876:GLU:HG2	2.12	0.49
1:D:1099:GLU:OE2	1:D:1125:ASN:ND2	2.45	0.49
1:D:2191:PHE:HD2	1:D:2198:MET:HG2	1.78	0.49
1:D:3322:ILE:O	1:D:3326:ASN:ND2	2.45	0.49
1:D:3343:GLN:O	1:D:3346:VAL:HG12	2.12	0.49
1:C:125:ARG:NH1	1:C:125:ARG:O	2.46	0.49
1:C:2308:GLN:NE2	1:C:2309:SER:O	2.46	0.49
1:C:4676:GLU:OE2	1:C:4698:LYS:NZ	2.46	0.49
1:B:2441:HIS:HA	1:B:2444:GLN:NE2	2.28	0.49
1:B:4555:LEU:HD21	1:B:4656:LEU:HD22	1.95	0.49
1:D:1559:GLN:H	1:D:1559:GLN:CD	2.15	0.49
1:C:2967:MET:O	1:C:2970:SER:OG	2.30	0.49
1:C:3334:TRP:HE3	1:C:3338:LEU:HD13	1.78	0.49
1:C:3691:GLU:HA	1:C:3693:LYS:HE3	1.94	0.49
1:B:2218:GLY:HA3	1:B:2224:ARG:NH2	2.28	0.48
1:B:3553:LEU:HD13	1:B:3593:VAL:HA	1.95	0.48
1:B:3599:VAL:O	1:B:3603:LEU:HG	2.12	0.48
1:D:1168:VAL:HG11	1:D:1176:GLU:HG2	1.95	0.48
1:D:1759:ARG:HD3	1:D:1760:HIS:N	2.28	0.48
1:D:3157:ILE:HA	1:D:3161:VAL:HB	1.95	0.48
1:D:3377:GLU:HA	1:D:3380:ARG:HG2	1.95	0.48
1:C:2694:GLU:HA	1:C:2697:ARG:NH1	2.28	0.48
1:C:3751:VAL:HG13	1:C:3755:GLU:HG2	1.94	0.48
1:A:54:ASN:OD1	1:A:56:GLN:NE2	2.46	0.48
1:A:2924:GLN:O	1:A:2928:LYS:HG2	2.13	0.48
1:B:4152:GLU:OE1	1:B:4194:TYR:OH	2.21	0.48
1:D:69:LEU:HD13	1:D:101:LEU:HD11	1.95	0.48
1:D:932:LEU:HB3	1:D:937:CYS:HB3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1422:ASP:OD2	1:D:1568:LYS:NZ	2.34	0.48
1:D:1983:ALA:O	1:D:1987:SER:OG	2.23	0.48
1:D:3553:LEU:HB3	1:D:3593:VAL:HG12	1.95	0.48
1:C:3316:LEU:HD22	1:C:3346:VAL:HA	1.94	0.48
1:C:4158:PRO:HA	1:C:4161:ARG:CZ	2.42	0.48
1:A:613:ALA:HB2	1:A:1676:LEU:HD12	1.95	0.48
1:A:977:LEU:HG	1:A:1044:ARG:NH1	2.28	0.48
1:B:613:ALA:HB2	1:B:1676:LEU:HD12	1.95	0.48
1:B:758:ARG:HG2	1:B:763:PRO:HA	1.95	0.48
1:B:2108:GLU:O	1:B:3694:LYS:NZ	2.45	0.48
1:B:2185:ILE:HD13	1:B:2203:MET:SD	2.53	0.48
1:B:2661:TRP:HB3	1:B:2664:PHE:HB2	1.95	0.48
1:B:3449:HIS:O	1:B:3453:ARG:NE	2.39	0.48
1:D:1232:ARG:NH2	1:D:1828:ASP:O	2.46	0.48
1:D:3862:ASP:OD1	1:D:3862:ASP:N	2.46	0.48
1:C:2626:LEU:HD23	1:C:2644:LEU:HD21	1.96	0.48
1:A:2765:LYS:NZ	1:A:2857:PRO:HB2	2.26	0.48
1:A:3130:THR:HA	1:A:3133:THR:HG22	1.95	0.48
1:B:2924:GLN:O	1:B:2928:LYS:HG2	2.12	0.48
1:B:3880:PHE:HA	1:B:3883:ASP:OD2	2.14	0.48
1:D:1252:HIS:O	1:D:1275:ARG:NH1	2.46	0.48
1:C:883:ALA:HB1	1:C:907:LEU:HD13	1.95	0.48
1:A:4091:LYS:HD2	1:A:4092:ASP:N	2.28	0.48
1:A:4719:PHE:O	1:A:4723:LYS:HG3	2.14	0.48
1:B:2383:ALA:HA	1:B:2386:ILE:HG12	1.96	0.48
1:B:4754:ASN:HB3	1:B:4756:ARG:HH21	1.78	0.48
1:D:70:GLU:OE2	1:D:110:ARG:NE	2.42	0.48
1:D:275:ARG:NH2	1:D:328:LYS:HZ2	2.12	0.48
1:D:2265:LEU:HA	1:D:2330:ARG:CZ	2.42	0.48
1:D:2917:ALA:HA	1:D:2920:ARG:HB3	1.95	0.48
1:D:3517:MET:HG3	1:D:3517:MET:O	2.13	0.48
1:C:3872:GLU:HG3	1:C:3874:VAL:H	1.78	0.48
1:B:3208:PRO:HB2	1:B:3237:GLU:HG3	1.96	0.48
1:B:3514:LEU:HD21	1:B:3602:VAL:HG13	1.96	0.48
1:D:475:GLN:NE2	1:D:528:SER:O	2.47	0.48
1:C:1690:ASP:OD2	1:C:1693:GLN:NE2	2.44	0.48
1:A:156:GLN:NE2	1:D:385:ASP:OD2	2.46	0.48
1:A:2108:GLU:O	1:A:3694:LYS:NZ	2.46	0.48
1:A:2173:GLN:O	1:A:2177:LEU:HG	2.13	0.48
1:A:3528:THR:HG23	1:A:3573:MET:HE3	1.95	0.48
1:B:1931:LEU:HB3	1:B:1935:VAL:HB	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2265:LEU:O	1:B:2330:ARG:NH2	2.47	0.48
1:B:3629:ARG:HA	1:B:3632:VAL:HG22	1.95	0.48
1:B:4634:GLU:HG2	1:B:4639:MET:HE2	1.96	0.48
1:D:3536:ALA:HB2	1:D:3553:LEU:HD21	1.95	0.48
1:D:3588:ASP:O	1:D:3592:ILE:HG12	2.13	0.48
1:D:3628:ARG:HG3	1:D:3631:ALA:HB3	1.96	0.48
1:C:168:ASP:OD1	1:C:201:ASN:ND2	2.44	0.48
1:C:613:ALA:HB2	1:C:1676:LEU:HD12	1.94	0.48
1:C:1252:HIS:O	1:C:1275:ARG:NH1	2.47	0.48
1:A:3457:ASN:HA	1:A:3460:VAL:HG22	1.96	0.48
1:B:3235:SER:OG	1:B:3237:GLU:OE1	2.32	0.48
1:B:3695:PRO:HB3	1:B:3699:HIS:HB3	1.95	0.48
1:D:3157:ILE:HG23	1:D:3161:VAL:HG12	1.95	0.48
1:D:3235:SER:OG	1:D:3237:GLU:OE1	2.32	0.48
1:D:3771:HIS:O	1:D:3815:LYS:NZ	2.47	0.48
1:D:4676:GLU:OE2	1:D:4698:LYS:NZ	2.47	0.48
1:A:947:GLU:HA	1:A:1049:TYR:HD1	1.79	0.48
1:A:3862:ASP:OD1	1:A:3862:ASP:N	2.47	0.48
1:B:904:HIS:NE2	1:B:906:CYS:HB3	2.29	0.48
1:B:1168:VAL:HG11	1:B:1176:GLU:HG2	1.96	0.48
1:B:3545:THR:HG22	1:B:3548:GLU:HG3	1.95	0.48
1:D:302:VAL:HB	1:D:306:LYS:HE3	1.96	0.48
1:D:3208:PRO:HB2	1:D:3237:GLU:HG3	1.96	0.48
1:D:4152:GLU:OE1	1:D:4194:TYR:OH	2.26	0.48
1:D:4815:ASP:O	1:D:4819:GLY:N	2.42	0.48
1:C:13:PHE:CE1	1:C:164:ARG:HG2	2.49	0.48
1:C:3400:VAL:HG23	1:C:3403:ARG:NH2	2.28	0.48
1:C:3715:LYS:NZ	1:C:3717:ASP:HB3	2.29	0.48
1:C:4821:LYS:H	1:C:4821:LYS:CD	2.27	0.48
1:B:930:LYS:HA	1:B:933:LEU:HD12	1.96	0.48
1:B:1023:PRO:HB3	1:B:1025:ARG:NH2	2.29	0.48
1:B:1057:ASP:OD1	1:B:1057:ASP:N	2.36	0.48
1:B:1559:GLN:CD	1:B:1559:GLN:H	2.17	0.48
1:B:1751:GLY:HA3	1:B:1759:ARG:NH1	2.29	0.48
1:B:2309:SER:OG	1:B:2320:ASP:OD1	2.32	0.48
1:C:1071:ARG:HD3	1:C:1196:PRO:HG3	1.96	0.48
1:C:1087:ARG:HB3	1:C:1223:PHE:CD2	2.49	0.48
1:C:2175:GLU:HG3	1:C:2228:MET:HB2	1.96	0.48
1:C:3162:GLN:O	1:C:3166:TYR:HB2	2.13	0.48
1:A:901:LYS:HG3	1:A:903:LEU:HG	1.96	0.47
1:A:1107:PRO:HD2	1:A:1186:ASP:OD2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:613:ALA:HB2	1:D:1676:LEU:HD12	1.95	0.47
1:D:3842:LEU:HB2	1:D:3929:SER:HB2	1.94	0.47
1:D:4188:ARG:HG2	1:D:4188:ARG:HH11	1.79	0.47
1:A:1099:GLU:OE2	1:A:1125:ASN:ND2	2.45	0.47
1:A:1422:ASP:OD2	1:A:1568:LYS:NZ	2.33	0.47
1:A:1970:GLN:HG2	1:A:3642:TYR:HA	1.96	0.47
1:B:2587:TYR:O	1:B:2590:SER:OG	2.21	0.47
1:B:3157:ILE:HG23	1:B:3161:VAL:HG12	1.95	0.47
1:D:887:ILE:HG12	1:D:907:LEU:HD11	1.96	0.47
1:D:2858:GLN:HB2	1:D:2859:PRO:HD3	1.96	0.47
1:D:4569:LEU:HD13	1:D:4650:HIS:HA	1.95	0.47
1:D:4932:ILE:O	1:D:4936:ILE:HG12	2.14	0.47
1:C:2998:PHE:CD1	1:C:3002:LEU:HD11	2.49	0.47
1:C:4067:LYS:NZ	1:C:4102:GLN:O	2.37	0.47
1:A:1168:VAL:HG11	1:A:1176:GLU:HG2	1.96	0.47
1:A:2929:PHE:HA	1:A:2932:MET:SD	2.54	0.47
1:A:3414:ARG:HB2	1:A:3414:ARG:HH11	1.78	0.47
1:A:3880:PHE:HA	1:A:3883:ASP:OD2	2.14	0.47
1:A:4754:ASN:HB3	1:A:4756:ARG:HH21	1.79	0.47
1:B:3755:GLU:HA	1:B:3758:MET:HB2	1.94	0.47
1:A:2102:VAL:HG13	1:A:2120:MET:HB2	1.96	0.47
1:A:3166:TYR:CG	1:A:3239:MET:HG2	2.49	0.47
1:A:3731:LYS:HA	1:A:3734:HIS:CE1	2.49	0.47
1:B:1759:ARG:H	1:B:1759:ARG:HD3	1.80	0.47
1:B:3270:ILE:HA	1:B:3274:LEU:HD12	1.96	0.47
1:B:3731:LYS:HA	1:B:3734:HIS:CE1	2.49	0.47
1:D:2625:ARG:HB3	1:D:2625:ARG:CZ	2.45	0.47
1:D:4910:GLU:O	1:D:4914:VAL:HG13	2.15	0.47
1:A:869:ARG:HH22	1:A:941:MET:HE3	1.79	0.47
1:A:2285:GLU:OE2	1:A:3856:LEU:HD12	2.15	0.47
1:A:3723:MET:HE3	1:A:3793:MET:HG2	1.95	0.47
1:A:3959:LYS:NZ	1:A:4022:ASP:OD2	2.42	0.47
1:A:4039:MET:HE2	1:A:4043:GLN:HG3	1.95	0.47
1:B:2538:THR:O	1:B:2542:SER:HB2	2.14	0.47
1:B:2986:VAL:HG22	1:B:2988:LYS:H	1.79	0.47
1:B:3226:GLU:C	1:B:3228:ALA:H	2.18	0.47
1:D:2907:PRO:O	1:D:2910:THR:OG1	2.21	0.47
1:D:3450:ASN:HA	1:D:3453:ARG:NE	2.30	0.47
1:C:2736:ASP:O	1:C:2738:ARG:NH1	2.47	0.47
1:C:3392:LEU:HD13	1:C:3395:ARG:HD2	1.97	0.47
1:C:3623:LEU:HD22	1:C:3624:LEU:HD23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3545:THR:HG22	1:A:3548:GLU:HG3	1.96	0.47
1:A:4818:MET:O	1:A:4824:ARG:NH1	2.47	0.47
1:D:2912:THR:OG1	1:D:2913:ALA:N	2.47	0.47
1:D:3078:ARG:NE	1:D:3155:ASP:OD2	2.48	0.47
1:A:157:ARG:NE	1:A:164:ARG:HE	2.13	0.47
1:A:2736:ASP:O	1:A:2738:ARG:NH1	2.48	0.47
1:A:4172:GLU:OE1	1:A:4175:ARG:NH1	2.48	0.47
1:A:4640:GLU:HB3	1:A:4641:PRO:HD3	1.96	0.47
1:A:4818:MET:N	1:A:4818:MET:SD	2.87	0.47
2:H:3:GLN:OE1	2:H:5:GLU:HG3	2.15	0.47
1:B:571:SER:OG	1:B:573:GLU:OE1	2.22	0.47
1:B:796:ARG:NH1	1:B:1622:GLU:OE2	2.48	0.47
1:B:2815:ALA:HB1	1:B:2881:ASN:ND2	2.30	0.47
1:B:2978:GLU:OE2	1:B:3053:ARG:NH1	2.48	0.47
1:B:3240:CYS:HB3	1:B:3243:ILE:HG12	1.96	0.47
1:B:3539:ARG:NH1	1:B:3544:ASP:OD2	2.47	0.47
1:B:4015:GLU:HA	1:B:4018:ASP:OD2	2.14	0.47
1:D:35:LEU:HD11	1:D:189:LEU:HD13	1.96	0.47
1:D:2892:GLN:NE2	1:D:2895:GLU:OE2	2.47	0.47
1:D:3603:LEU:HA	1:D:3606:LEU:HD23	1.96	0.47
1:C:460:GLN:HB2	1:C:463:GLU:OE1	2.15	0.47
1:C:1156:THR:OG1	1:C:1157:GLU:OE1	2.26	0.47
1:C:3110:LEU:C	1:C:3112:LEU:H	2.18	0.47
1:A:2191:PHE:HD1	1:A:2198:MET:HG2	1.80	0.47
1:A:3564:GLU:HA	1:A:3564:GLU:OE2	2.15	0.47
1:A:4813:LEU:O	1:A:4816:ILE:HG13	2.15	0.47
1:B:2186:MET:O	1:B:2192:TYR:OH	2.17	0.47
1:B:2386:ILE:HG22	1:B:2392:ARG:CZ	2.45	0.47
1:B:3062:PRO:HA	1:B:3065:VAL:HG22	1.97	0.47
1:D:3540:TYR:OH	1:D:3549:VAL:HG21	2.15	0.47
1:C:4849:TYR:HB2	1:C:4883:TYR:CE1	2.50	0.47
1:A:1465:ASP:OD1	1:A:1468:LYS:HG2	2.15	0.47
1:A:3628:ARG:HG3	1:A:3631:ALA:HB3	1.96	0.47
1:B:4016:LEU:O	1:B:4020:GLN:HG3	2.14	0.47
1:D:1690:ASP:OD2	1:D:1693:GLN:NE2	2.45	0.47
1:C:3695:PRO:HB2	1:C:3700:GLN:HG2	1.97	0.47
1:C:4754:ASN:HB3	1:C:4756:ARG:HH21	1.80	0.47
1:A:144:GLU:HG3	1:A:175:SER:HB3	1.97	0.47
1:A:981:GLN:HA	1:A:984:LEU:HD12	1.96	0.47
1:A:2747:ILE:HD13	1:A:2814:LYS:HG2	1.97	0.47
1:A:3354:LEU:HD22	1:A:3423:TRP:CZ2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4016:LEU:O	1:A:4020:GLN:HG3	2.14	0.47
1:B:929:LEU:O	1:B:932:LEU:HD23	2.15	0.47
1:D:4088:ILE:O	1:D:4123:ILE:HB	2.15	0.47
1:D:4860:ARG:NH1	1:C:4630:TYR:OH	2.48	0.47
1:C:648:ILE:HG23	1:C:814:ALA:HB3	1.96	0.47
1:C:1733:GLU:HG2	1:C:2201:LEU:HD23	1.97	0.47
1:A:3264:THR:OG1	1:A:3265:GLU:OE1	2.33	0.46
2:F:85:THR:OG1	2:F:86:GLY:N	2.48	0.46
1:B:1465:ASP:OD1	1:B:1468:LYS:HG2	2.15	0.46
1:B:3445:TRP:NE1	1:B:3455:GLU:OE1	2.43	0.46
1:D:3638:MET:SD	1:D:3639:THR:N	2.88	0.46
1:C:1260:MET:HE1	1:C:1271:ARG:HH21	1.81	0.46
1:C:1962:ALA:O	1:C:1966:VAL:HG22	2.16	0.46
1:C:2020:ASP:OD1	1:C:2020:ASP:N	2.47	0.46
1:C:2758:PHE:HA	1:C:2761:TYR:HB2	1.95	0.46
1:C:2967:MET:SD	1:C:2970:SER:OG	2.73	0.46
1:A:2815:ALA:HB1	1:A:2881:ASN:ND2	2.30	0.46
1:A:3449:HIS:HB2	1:A:3453:ARG:NH1	2.31	0.46
1:D:2522:LEU:HB3	1:D:2527:LEU:HD23	1.97	0.46
1:D:3269:VAL:HA	1:D:3273:THR:HB	1.97	0.46
1:C:758:ARG:HG2	1:C:763:PRO:HA	1.98	0.46
1:C:3180:ASN:HB2	1:C:3183:VAL:HG23	1.96	0.46
1:C:3588:ASP:O	1:C:3592:ILE:HG12	2.15	0.46
1:A:2747:ILE:HD12	1:A:2748:PRO:HD2	1.97	0.46
1:A:3532:LEU:HB3	1:A:3553:LEU:HD21	1.97	0.46
2:F:105:LYS:HB3	2:F:105:LYS:HE2	1.75	0.46
1:B:168:ASP:OD1	1:B:201:ASN:ND2	2.47	0.46
1:B:950:LEU:HD13	1:B:970:LEU:HD22	1.96	0.46
1:B:3233:PRO:HD2	1:B:3239:MET:CE	2.45	0.46
1:B:3343:GLN:O	1:B:3346:VAL:HG12	2.14	0.46
1:B:4177:TYR:CE1	1:B:4199:GLU:HG3	2.50	0.46
1:D:2694:GLU:HA	1:D:2697:ARG:NH1	2.26	0.46
1:C:2626:LEU:O	1:C:2630:VAL:HG12	2.15	0.46
1:C:2963:LEU:HD21	1:C:3006:ILE:HG12	1.97	0.46
1:C:3312:LEU:HD12	1:C:3345:ILE:HB	1.97	0.46
1:C:3844:LEU:HD23	1:C:3844:LEU:HA	1.78	0.46
1:A:1479:GLU:OE1	1:A:1479:GLU:N	2.30	0.46
1:A:2211:MET:HA	1:A:2214:VAL:HG22	1.98	0.46
1:A:3078:ARG:NE	1:A:3155:ASP:OD2	2.49	0.46
1:A:3553:LEU:HD13	1:A:3593:VAL:HA	1.96	0.46
1:B:683:ARG:HG2	1:B:717:ASP:HB3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2123:LEU:O	1:B:2127:GLN:HG2	2.16	0.46
1:D:1469:VAL:HG13	1:D:1492:CYS:HB3	1.98	0.46
1:C:929:LEU:O	1:C:933:LEU:HD12	2.16	0.46
1:C:4932:ILE:O	1:C:4936:ILE:HG12	2.15	0.46
1:B:1024:TYR:CZ	1:B:1032:LYS:HG3	2.51	0.46
1:B:1037:ASP:O	1:B:1041:GLN:HG2	2.16	0.46
1:B:2768:PHE:O	1:B:2771:ILE:HG22	2.16	0.46
1:B:4640:GLU:HB3	1:B:4641:PRO:HD3	1.97	0.46
1:C:1465:ASP:OD1	1:C:1468:LYS:HG2	2.16	0.46
1:C:2991:HIS:O	1:C:2995:ILE:N	2.42	0.46
1:C:3159:ASP:OD1	1:C:3159:ASP:N	2.44	0.46
1:A:924:MET:O	1:A:928:THR:HG23	2.15	0.46
1:A:3003:LEU:HB2	1:A:3004:PRO:HD3	1.98	0.46
1:B:35:LEU:HD11	1:B:189:LEU:HD13	1.97	0.46
1:B:232:THR:HG21	1:B:252:VAL:HG21	1.98	0.46
1:B:2974:ILE:HG13	1:B:2975:ALA:N	2.30	0.46
1:B:3400:VAL:HG23	1:B:3403:ARG:NH2	2.30	0.46
1:C:2716:ASP:OD1	1:C:2716:ASP:N	2.41	0.46
1:C:3324:VAL:HA	1:C:3327:LEU:HB2	1.98	0.46
1:C:3349:ALA:HB1	1:C:3353:LEU:HD23	1.98	0.46
1:A:26:ALA:HB2	1:A:182:LEU:HD21	1.97	0.46
1:A:4555:LEU:HD21	1:A:4656:LEU:HD22	1.97	0.46
1:D:683:ARG:HG2	1:D:717:ASP:HB3	1.97	0.46
1:D:1465:ASP:OD1	1:D:1468:LYS:HG2	2.15	0.46
1:D:2586:VAL:HG13	1:D:2607:LEU:HD13	1.97	0.46
1:D:3962:PHE:CZ	1:D:4023:MET:HG3	2.50	0.46
1:D:4632:LEU:HD13	1:D:4639:MET:HG2	1.98	0.46
1:C:3663:LEU:HD23	1:C:3663:LEU:HA	1.81	0.46
1:A:3159:ASP:OD1	1:A:3159:ASP:N	2.48	0.46
1:A:4000:MET:SD	1:A:4020:GLN:NE2	2.84	0.46
1:B:3212:GLU:HG2	1:B:3213:TYR:CD2	2.51	0.46
1:B:4983:HIS:O	3:B:5301:ATP:N6	2.48	0.46
1:D:2765:LYS:NZ	1:D:2857:PRO:HB2	2.31	0.46
1:D:3226:GLU:C	1:D:3228:ALA:H	2.18	0.46
1:D:3449:HIS:O	1:D:3453:ARG:NE	2.41	0.46
1:C:2669:GLU:OE1	1:C:2669:GLU:O	2.34	0.46
1:A:232:THR:HG21	1:A:252:VAL:HG21	1.98	0.46
1:A:919:ASN:HA	1:A:922:LEU:HD23	1.98	0.46
1:A:1272:LEU:HD22	1:A:1289:LEU:HD11	1.98	0.46
1:A:1559:GLN:H	1:A:1559:GLN:CD	2.19	0.46
1:A:2123:LEU:O	1:A:2127:GLN:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:462:GLU:OE2	1:B:462:GLU:N	2.43	0.46
1:B:893:TYR:HB3	1:B:962:SER:OG	2.16	0.46
1:B:3705:PHE:HA	1:B:3708:THR:HG22	1.98	0.46
1:D:3137:LEU:HD12	1:D:3137:LEU:HA	1.84	0.46
1:C:1469:VAL:HG13	1:C:1492:CYS:HB3	1.98	0.46
1:C:2668:SER:C	1:C:2670:GLU:H	2.18	0.46
1:C:4885:PHE:O	1:C:4889:VAL:HG22	2.16	0.46
1:A:1469:VAL:HG13	1:A:1492:CYS:HB3	1.98	0.46
1:A:1931:LEU:HB3	1:A:1935:VAL:HB	1.98	0.46
1:A:2029:GLN:NE2	1:A:2033:ASP:OD1	2.49	0.46
1:A:2856:ASN:ND2	1:A:2858:GLN:OE1	2.44	0.46
1:A:3316:LEU:HD21	1:A:3346:VAL:HG23	1.98	0.46
1:A:4092:ASP:HA	1:A:4095:LYS:HG2	1.97	0.46
1:B:330:ASP:OD1	1:B:330:ASP:N	2.49	0.46
1:B:913:LEU:HD11	1:B:918:ARG:HE	1.81	0.46
1:B:2757:LYS:O	1:B:2761:TYR:HB2	2.16	0.46
1:D:4678:ALA:HB1	1:D:4720:VAL:HG21	1.98	0.46
1:D:4695:ASP:OD1	1:D:4695:ASP:N	2.45	0.46
1:C:3529:ASP:O	1:C:3533:ILE:HD13	2.16	0.46
1:A:365:LYS:HE3	1:A:365:LYS:HB3	1.81	0.45
1:B:796:ARG:O	1:B:1619:ARG:NH2	2.44	0.45
1:B:2628:PHE:HD1	1:B:2628:PHE:O	1.99	0.45
1:B:3312:LEU:HD22	1:B:3348:ARG:HG3	1.98	0.45
1:D:13:PHE:CE1	1:D:164:ARG:HG2	2.51	0.45
1:D:4813:LEU:O	1:D:4816:ILE:HG13	2.16	0.45
1:D:5033:GLU:O	1:D:5037:SER:OG	2.29	0.45
1:C:499:THR:HG23	1:C:502:HIS:H	1.81	0.45
1:C:893:TYR:O	1:C:903:LEU:HD22	2.16	0.45
1:C:1163:THR:HG22	1:C:1168:VAL:HG22	1.98	0.45
1:C:3343:GLN:O	1:C:3346:VAL:HG12	2.16	0.45
1:C:3628:ARG:HG3	1:C:3631:ALA:HB3	1.99	0.45
1:A:3376:GLU:OE1	1:A:3448:SER:OG	2.32	0.45
2:H:85:THR:OG1	2:H:86:GLY:N	2.48	0.45
1:B:2911:LEU:HB2	1:B:2915:GLU:HG3	1.98	0.45
1:B:3003:LEU:HB2	1:B:3004:PRO:HD3	1.98	0.45
1:D:336:PRO:HA	1:D:337:PRO:HD3	1.89	0.45
1:C:2858:GLN:HB2	1:C:2859:PRO:HD3	1.97	0.45
1:A:683:ARG:HG2	1:A:717:ASP:HB3	1.97	0.45
1:A:1931:LEU:HG	1:A:1935:VAL:HG11	1.99	0.45
1:A:3240:CYS:HB3	1:A:3243:ILE:CG1	2.47	0.45
1:A:3535:LEU:O	1:A:3538:THR:OG1	2.22	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3788:GLY:HA3	1:A:3834:ALA:HB3	1.99	0.45
1:A:4177:TYR:CE1	1:A:4199:GLU:HG3	2.50	0.45
2:G:105:LYS:HE2	2:G:105:LYS:HB3	1.75	0.45
1:D:3579:LEU:HD12	1:D:3582:ARG:HE	1.81	0.45
1:D:3949:ARG:HG3	1:D:3949:ARG:HH11	1.81	0.45
1:C:1168:VAL:HG11	1:C:1176:GLU:HG2	1.98	0.45
1:C:4902:GLU:O	1:C:4913:ARG:NH1	2.42	0.45
1:A:995:VAL:O	1:A:998:ARG:HG3	2.16	0.45
1:A:1115:LEU:HD13	1:A:1123:VAL:HG11	1.99	0.45
1:A:1532:ASN:HB2	1:A:1534:LYS:NZ	2.31	0.45
1:A:2441:HIS:O	1:A:2444:GLN:NE2	2.49	0.45
1:A:2538:THR:O	1:A:2542:SER:HB2	2.16	0.45
1:A:2611:CYS:HB2	1:A:2643:LEU:HD11	1.98	0.45
1:B:947:GLU:HA	1:B:1049:TYR:HD1	1.81	0.45
1:B:4571:PHE:HE2	1:B:4816:ILE:HD13	1.81	0.45
1:D:266:ARG:NH2	1:D:272:SER:OG	2.49	0.45
1:D:938:HIS:HB3	1:D:1054:GLU:HB3	1.98	0.45
1:D:2875:ALA:HB2	1:D:2927:LEU:HD22	1.97	0.45
1:D:3159:ASP:OD1	1:D:3159:ASP:N	2.49	0.45
1:D:4177:TYR:CE1	1:D:4199:GLU:HG3	2.51	0.45
1:C:2630:VAL:HG13	1:C:2631:PRO:HD3	1.99	0.45
1:C:2765:LYS:HA	1:C:2765:LYS:HD3	1.81	0.45
1:C:4569:LEU:HD13	1:C:4650:HIS:HA	1.99	0.45
1:A:788:LYS:HE3	1:A:788:LYS:HB2	1.80	0.45
1:B:1115:LEU:HD13	1:B:1123:VAL:HG11	1.99	0.45
1:B:1272:LEU:HD22	1:B:1289:LEU:HD11	1.99	0.45
1:B:3105:LYS:O	1:B:3108:GLU:HG3	2.17	0.45
1:D:1759:ARG:HA	1:D:1759:ARG:HH11	1.81	0.45
1:D:2218:GLY:HA3	1:D:2224:ARG:NH2	2.31	0.45
1:D:2970:SER:O	1:D:2974:ILE:HG12	2.17	0.45
1:D:4968:PHE:O	1:D:4974:GLY:HA3	2.17	0.45
1:C:1000:ARG:HB3	1:C:1005:TRP:HB2	1.97	0.45
1:C:1815:LEU:O	1:C:1819:VAL:HG12	2.16	0.45
1:C:3104:GLU:OE2	1:C:3167:ARG:HB3	2.16	0.45
1:C:4544:LEU:HD12	1:C:4545:GLU:N	2.31	0.45
1:A:492:ASP:OD1	1:A:546:TRP:NE1	2.49	0.45
1:A:636:ASN:HD21	2:E:35:LYS:HE3	1.80	0.45
1:A:2986:VAL:HG22	1:A:2988:LYS:H	1.81	0.45
1:B:877:ASN:O	1:B:881:LEU:HD22	2.17	0.45
1:C:1985:THR:OG1	1:C:1986:MET:SD	2.65	0.45
1:C:3542:LEU:HD23	1:C:3542:LEU:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2858:GLN:HB2	1:A:2859:PRO:HD3	1.98	0.45
1:A:3296:LEU:HB3	1:A:3297:PRO:HD3	1.99	0.45
1:A:3543:LYS:N	1:A:3543:LYS:HD2	2.32	0.45
1:A:4944:ARG:NH1	1:B:4942:GLU:OE1	2.48	0.45
2:E:85:THR:OG1	2:E:86:GLY:N	2.48	0.45
1:B:1427:ILE:HG23	1:B:1428:LEU:HD23	1.97	0.45
1:B:2531:ARG:HG2	1:B:2585:THR:HG21	1.99	0.45
1:D:1156:THR:OG1	1:D:1157:GLU:OE1	2.24	0.45
1:D:4868:ASP:OD1	1:D:4870:ASP:N	2.49	0.45
1:A:1037:ASP:O	1:A:1041:GLN:HG2	2.16	0.45
1:A:2498:HIS:O	1:A:2502:MET:HG2	2.17	0.45
1:A:2677:LYS:HE2	1:A:2677:LYS:HB3	1.81	0.45
1:A:3556:ASN:HB3	1:A:3559:LEU:HD23	1.99	0.45
2:H:82:TYR:HD1	1:D:1786:LEU:HG	1.81	0.45
2:H:90:ILE:HD11	1:D:1684:ALA:HA	1.99	0.45
1:B:876:GLU:OE2	1:B:918:ARG:NH1	2.50	0.45
1:B:887:ILE:HG12	1:B:907:LEU:HD11	1.97	0.45
1:B:2970:SER:HA	1:B:2973:PHE:CE2	2.52	0.45
1:B:3532:LEU:HA	1:B:3535:LEU:HG	1.98	0.45
1:B:3844:LEU:HD23	1:B:3844:LEU:HA	1.78	0.45
1:B:4678:ALA:HB1	1:B:4720:VAL:HG21	1.97	0.45
1:D:947:GLU:HA	1:D:1049:TYR:HD1	1.80	0.45
1:D:3459:VAL:HG11	1:D:3503:TYR:HD1	1.82	0.45
1:D:3751:VAL:HG13	1:D:3755:GLU:HG2	1.98	0.45
1:D:3755:GLU:HA	1:D:3758:MET:HB2	1.99	0.45
1:D:3788:GLY:HA3	1:D:3834:ALA:HB3	1.99	0.45
1:C:1272:LEU:HD22	1:C:1289:LEU:HD11	1.99	0.45
1:C:1559:GLN:H	1:C:1559:GLN:CD	2.18	0.45
1:C:1847:THR:O	1:C:1851:MET:HG3	2.17	0.45
1:C:2965:ARG:O	1:C:2969:ILE:HD12	2.17	0.45
1:C:3362:ILE:HG13	1:C:3412:LEU:HD21	1.99	0.45
1:A:35:LEU:HD11	1:A:189:LEU:HD13	1.97	0.45
1:A:618:GLN:OE1	1:A:1678:ASN:ND2	2.43	0.45
1:A:3705:PHE:HA	1:A:3708:THR:HG22	1.99	0.45
1:B:233:ILE:HD12	1:B:242:ARG:HB3	1.99	0.45
1:B:1773:PRO:HA	1:B:2153:MET:HE1	1.98	0.45
1:B:2225:PHE:N	1:B:2226:PRO:HD3	2.32	0.45
1:B:3213:TYR:CD1	1:B:3302:PRO:HB2	2.52	0.45
1:B:4885:PHE:O	1:B:4889:VAL:HG22	2.17	0.45
1:D:1023:PRO:HB3	1:D:1025:ARG:HH22	1.81	0.45
1:D:1272:LEU:HD22	1:D:1289:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:530:ILE:HG22	1:C:536:ASN:HB3	1.98	0.45
1:C:2765:LYS:NZ	1:C:2857:PRO:HB2	2.28	0.45
1:C:3751:VAL:HG12	1:C:3756:LYS:HE2	1.98	0.45
1:A:451:TYR:CZ	1:A:474:ARG:HD2	2.52	0.45
1:A:3566:SER:HB3	1:A:3569:LEU:HB3	1.98	0.45
1:A:3752:SER:OG	1:A:3755:GLU:OE1	2.35	0.45
1:A:4927:ILE:O	1:A:4931:ILE:HG13	2.16	0.45
1:B:3114:LYS:HE3	1:B:3123:LYS:HD2	1.97	0.45
1:D:328:LYS:HE3	1:D:328:LYS:HB3	1.68	0.45
1:D:1847:THR:O	1:D:1851:MET:HG3	2.17	0.45
1:D:3466:ASN:ND2	1:D:3507:THR:O	2.50	0.45
1:D:3531:ASP:OD2	1:D:3532:LEU:N	2.50	0.45
1:C:2881:ASN:HA	1:C:2884:ASN:ND2	2.32	0.45
1:C:3391:GLU:HG3	1:C:3395:ARG:HE	1.82	0.45
1:C:3759:GLU:HA	1:C:3759:GLU:OE2	2.16	0.45
1:C:4910:GLU:O	1:C:4914:VAL:HG13	2.17	0.45
1:C:5034:ASP:OD2	1:C:5035:GLN:NE2	2.50	0.45
1:A:2228:MET:HG3	1:A:2229:VAL:N	2.32	0.44
1:A:2977:LEU:HA	1:A:2980:VAL:HG22	1.98	0.44
1:A:4015:GLU:HA	1:A:4018:ASP:OD2	2.17	0.44
1:B:41:GLY:HA2	1:B:137:LEU:HD12	1.99	0.44
1:B:1943:LEU:HD13	1:B:2098:VAL:HG22	1.99	0.44
1:B:4944:ARG:NH1	1:C:4942:GLU:OE1	2.50	0.44
1:D:1820:ARG:HB3	1:D:1820:ARG:HH11	1.82	0.44
1:D:3686:GLU:N	1:D:3686:GLU:OE2	2.50	0.44
1:C:1019:PRO:HD2	1:C:1020:ARG:HH21	1.82	0.44
1:C:1066:GLN:HB2	1:C:1071:ARG:NH2	2.32	0.44
1:C:2640:PRO:O	1:C:2644:LEU:HG	2.16	0.44
1:C:3159:ASP:HA	1:C:3218:VAL:HG12	2.00	0.44
1:A:904:HIS:CE1	1:A:906:CYS:HB3	2.52	0.44
1:A:2599:GLN:O	1:A:2603:ILE:HG13	2.18	0.44
1:A:3062:PRO:HA	1:A:3065:VAL:HG22	1.99	0.44
1:A:3182:TYR:HA	1:A:3185:LYS:HE3	1.98	0.44
1:B:2417:HIS:CG	1:B:2492:ALA:HB2	2.52	0.44
1:B:4867:GLU:OE2	1:B:4867:GLU:N	2.38	0.44
1:C:2438:PRO:HB2	1:C:2443:ILE:HD11	1.99	0.44
1:C:3123:LYS:HG3	1:C:3125:VAL:H	1.82	0.44
1:C:3245:VAL:HG23	1:C:3248:ARG:H	1.82	0.44
1:C:3436:ARG:NH1	1:C:3598:GLU:OE1	2.51	0.44
1:C:4849:TYR:HB2	1:C:4883:TYR:HE1	1.82	0.44
1:A:2310:CYS:SG	1:A:2313:LEU:HB2	2.57	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4112:LEU:O	1:A:4115:SER:OG	2.28	0.44
1:A:4928:LEU:HD23	1:A:4931:ILE:HD12	1.98	0.44
1:B:451:TYR:CZ	1:B:474:ARG:HD2	2.52	0.44
1:B:501:ALA:O	1:B:505:GLU:HG3	2.17	0.44
1:B:924:MET:O	1:B:928:THR:HG23	2.18	0.44
1:B:2189:LYS:HA	1:B:2192:TYR:CE1	2.51	0.44
1:B:2514:ASN:OD1	1:B:2514:ASN:N	2.51	0.44
1:B:2862:LEU:HD22	1:B:2863:SER:H	1.82	0.44
1:B:4719:PHE:O	1:B:4723:LYS:HG3	2.18	0.44
1:D:208:CYS:O	1:D:334:MET:HG3	2.17	0.44
1:D:2881:ASN:HA	1:D:2884:ASN:ND2	2.32	0.44
1:C:913:LEU:HD11	1:C:918:ARG:HE	1.83	0.44
1:C:931:THR:HG21	1:C:991:ASN:OD1	2.16	0.44
1:C:3296:LEU:HB2	1:C:3297:PRO:HD3	2.00	0.44
1:C:4161:ARG:H	1:C:4161:ARG:NE	2.08	0.44
1:C:4928:LEU:HD23	1:C:4931:ILE:HD12	1.98	0.44
1:A:297:GLN:OE1	1:A:297:GLN:N	2.48	0.44
1:A:648:ILE:HD13	1:A:811:CYS:HB3	2.00	0.44
1:A:1527:MET:HE2	1:A:1540:PHE:HB2	1.98	0.44
1:A:2234:ARG:HB3	1:A:2234:ARG:CZ	2.47	0.44
1:A:3199:ALA:HB2	1:A:3279:SER:OG	2.17	0.44
2:H:2:VAL:HG22	2:H:58:GLY:HA2	1.99	0.44
1:B:2234:ARG:HB3	1:B:2234:ARG:CZ	2.48	0.44
1:B:2310:CYS:HB3	1:B:2313:LEU:HB2	1.98	0.44
1:B:4710:SER:O	1:B:4713:SER:OG	2.35	0.44
1:D:1808:ARG:HD3	1:D:1853:ILE:HG22	1.99	0.44
1:D:2884:ASN:OD1	1:D:2885:THR:N	2.50	0.44
1:D:3199:ALA:HB2	1:D:3279:SER:OG	2.17	0.44
1:D:3556:ASN:HB3	1:D:3559:LEU:HD23	2.00	0.44
1:D:4148:THR:HG21	1:D:4180:ARG:HH21	1.83	0.44
1:C:208:CYS:O	1:C:334:MET:HG3	2.18	0.44
1:C:935:LEU:HG	1:C:987:ARG:HH12	1.82	0.44
1:A:41:GLY:HA2	1:A:137:LEU:HD12	2.00	0.44
1:A:345:LEU:HB3	1:A:387:ALA:HB1	2.00	0.44
1:A:892:THR:HB	1:A:962:SER:OG	2.17	0.44
1:A:2464:ASP:OD1	1:A:2465:ASP:N	2.51	0.44
1:A:2495:VAL:HG22	1:A:2498:HIS:CE1	2.51	0.44
1:A:3183:VAL:O	1:A:3187:ARG:HG3	2.18	0.44
1:A:4056:GLU:HG2	1:A:4166:LEU:HD13	1.99	0.44
2:F:58:GLY:HA3	2:F:76:ILE:HD12	1.99	0.44
1:B:2599:GLN:O	1:B:2603:ILE:HG13	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2912:THR:HG23	1:B:2914:LYS:HG3	2.00	0.44
1:B:3296:LEU:HB2	1:B:3297:PRO:HD3	2.00	0.44
1:B:3577:ARG:NE	1:B:3577:ARG:HA	2.32	0.44
1:B:4927:ILE:O	1:B:4931:ILE:HG13	2.18	0.44
1:D:913:LEU:HD11	1:D:918:ARG:HB2	1.98	0.44
1:D:2986:VAL:HG22	1:D:2988:LYS:H	1.82	0.44
1:C:793:LEU:HD12	1:C:821:LEU:HD21	1.99	0.44
1:C:1716:ILE:O	1:C:1721:GLU:N	2.50	0.44
1:C:2185:ILE:HG21	1:C:2203:MET:HE1	2.00	0.44
1:C:2644:LEU:HD13	1:C:2678:LEU:HD21	1.99	0.44
1:C:3390:GLY:HA2	1:C:3393:LEU:HB2	2.00	0.44
1:A:2768:PHE:O	1:A:2771:ILE:HG22	2.18	0.44
1:A:3346:VAL:HG11	1:A:3414:ARG:HB3	2.00	0.44
1:A:3400:VAL:HG23	1:A:3403:ARG:NH2	2.33	0.44
2:F:32:ASP:OD2	2:F:32:ASP:N	2.42	0.44
1:B:176:SER:OG	1:B:178:ARG:NH1	2.46	0.44
1:B:923:GLN:O	1:B:927:GLU:HG2	2.17	0.44
1:B:1469:VAL:HG13	1:B:1492:CYS:HB3	1.99	0.44
1:B:3240:CYS:HB3	1:B:3243:ILE:CG1	2.48	0.44
1:D:156:GLN:NE2	1:C:385:ASP:OD2	2.51	0.44
1:D:3514:LEU:O	1:D:3518:LEU:N	2.50	0.44
1:C:157:ARG:NH2	1:C:164:ARG:HD2	2.33	0.44
1:C:1115:LEU:HD13	1:C:1123:VAL:HG11	1.99	0.44
1:C:2031:LEU:HD11	1:C:3657:TYR:CE1	2.53	0.44
1:C:2912:THR:OG1	1:C:2913:ALA:N	2.51	0.44
1:C:2952:GLU:HA	1:C:2957:PHE:CD1	2.52	0.44
1:C:3021:PRO:HD3	1:C:3030:HIS:CD2	2.52	0.44
1:C:3183:VAL:O	1:C:3187:ARG:HG3	2.18	0.44
1:C:4247:ILE:HD11	1:C:4667:PRO:HB2	1.99	0.44
1:A:1172:ASP:OD2	1:A:1172:ASP:N	2.41	0.44
1:A:2412:GLU:HG3	1:A:2415:ARG:HG2	1.99	0.44
1:A:3680:ALA:HB1	1:A:3683:GLN:NE2	2.32	0.44
1:A:4911:LEU:HA	1:A:4914:VAL:HG22	2.00	0.44
1:B:568:LEU:HD12	1:B:602:VAL:HG13	1.99	0.44
1:B:2912:THR:OG1	1:B:2913:ALA:N	2.51	0.44
1:B:3268:HIS:CD2	1:B:3272:ILE:HD12	2.53	0.44
1:B:4112:LEU:O	1:B:4115:SER:OG	2.29	0.44
1:D:530:ILE:HG22	1:D:536:ASN:HB3	1.98	0.44
1:D:1127:HIS:CE1	1:D:1128:ARG:HH21	2.35	0.44
1:D:2238:TYR:HB2	1:D:2241:ARG:HH21	1.81	0.44
1:D:2801:ASP:HA	1:D:2804:ILE:HG12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4154:VAL:HG12	1:D:4157:ASP:HB2	2.00	0.44
1:C:2974:ILE:HG13	1:C:2975:ALA:N	2.33	0.44
1:C:3420:ARG:HD3	1:C:3516:LYS:O	2.18	0.44
1:C:4827:LEU:HD23	1:C:4827:LEU:HA	1.85	0.44
1:A:921:ASN:HA	1:A:924:MET:SD	2.58	0.44
1:A:3270:ILE:HA	1:A:3274:LEU:HD12	2.00	0.44
1:B:872:GLU:O	1:B:876:GLU:HG3	2.18	0.44
1:B:1131:ARG:NH1	1:B:1178:ALA:O	2.50	0.44
1:B:2856:ASN:ND2	1:B:2858:GLN:OE1	2.47	0.44
1:B:4837:LEU:HD22	1:B:4932:ILE:HG23	1.98	0.44
1:D:232:THR:HG21	1:D:252:VAL:HG21	1.99	0.44
1:D:1115:LEU:HD13	1:D:1123:VAL:HG11	1.99	0.44
1:D:2023:LEU:HD22	1:D:2027:ILE:HG21	1.99	0.44
1:D:3812:VAL:O	1:D:3816:MET:HG3	2.17	0.44
1:C:35:LEU:HD11	1:C:189:LEU:HD13	1.98	0.44
1:C:127:MET:CE	1:C:127:MET:H	2.31	0.44
1:C:232:THR:HG21	1:C:252:VAL:HG21	2.00	0.44
1:C:901:LYS:HA	1:C:901:LYS:HD2	1.85	0.44
1:A:1087:ARG:HB3	1:A:1223:PHE:CD2	2.52	0.44
1:A:1229:ASN:HB2	1:A:1827:ARG:HG3	1.99	0.44
1:A:1992:ALA:HA	1:A:1995:THR:HG22	2.00	0.44
1:A:2308:GLN:OE1	1:A:2309:SER:N	2.50	0.44
1:A:3562:LYS:HE2	1:A:3562:LYS:HB2	1.89	0.44
1:A:3847:PHE:HZ	1:A:3937:TYR:HH	1.65	0.44
1:B:1992:ALA:HA	1:B:1995:THR:HG22	1.99	0.44
1:B:4091:LYS:HD2	1:B:4092:ASP:H	1.83	0.44
1:B:4172:GLU:OE1	1:B:4175:ARG:NH1	2.51	0.44
1:B:4928:LEU:HD23	1:B:4931:ILE:HD12	1.99	0.44
1:D:803:LEU:HD12	1:D:803:LEU:HA	1.83	0.44
1:D:1716:ILE:O	1:D:1721:GLU:N	2.50	0.44
1:D:4885:PHE:O	1:D:4889:VAL:HG22	2.17	0.44
1:C:1986:MET:SD	1:C:1986:MET:N	2.91	0.44
1:C:3771:HIS:O	1:C:3815:LYS:NZ	2.45	0.44
1:A:501:ALA:O	1:A:505:GLU:HG3	2.18	0.43
1:A:3194:LEU:HD12	1:A:3194:LEU:HA	1.86	0.43
1:A:3248:ARG:NH1	1:A:3248:ARG:HB3	2.33	0.43
1:A:3734:HIS:O	1:A:3736:GLU:HG3	2.18	0.43
1:A:4091:LYS:HD2	1:A:4092:ASP:H	1.83	0.43
1:A:4983:HIS:O	3:A:5301:ATP:N6	2.49	0.43
1:D:499:THR:HG23	1:D:502:HIS:H	1.82	0.43
1:D:1981:MET:SD	1:D:1981:MET:N	2.91	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3332:ALA:HB3	1:D:3403:ARG:NH1	2.33	0.43
1:D:4754:ASN:HB3	1:D:4756:ARG:HH21	1.82	0.43
1:C:1808:ARG:HD3	1:C:1853:ILE:HG22	2.00	0.43
1:C:3532:LEU:HA	1:C:3535:LEU:HB3	2.00	0.43
1:C:3727:ASP:OD1	1:C:3728:ILE:N	2.51	0.43
1:A:938:HIS:HB3	1:A:1054:GLU:HB3	1.99	0.43
1:A:2208:MET:HE2	1:A:2208:MET:HB2	1.75	0.43
1:A:2758:PHE:HA	1:A:2761:TYR:HB2	1.99	0.43
1:A:2907:PRO:O	1:A:2910:THR:OG1	2.23	0.43
1:A:3203:VAL:HG12	1:A:3214:ASN:ND2	2.33	0.43
1:A:4668:LEU:HD13	1:A:4672:LYS:HD2	2.01	0.43
2:G:3:GLN:OE1	2:G:5:GLU:HG3	2.18	0.43
1:B:144:GLU:HG3	1:B:175:SER:HB3	1.99	0.43
1:B:2586:VAL:HG13	1:B:2607:LEU:HD13	2.00	0.43
1:B:2677:LYS:HE2	1:B:2677:LYS:HB3	1.82	0.43
1:B:3159:ASP:OD1	1:B:3159:ASP:N	2.41	0.43
1:B:3459:VAL:HG11	1:B:3503:TYR:HD1	1.82	0.43
1:D:2661:TRP:HB3	1:D:2664:PHE:HB2	2.00	0.43
1:C:1127:HIS:CE1	1:C:1128:ARG:HH21	2.36	0.43
1:C:2902:HIS:CE1	1:C:2904:LEU:HB2	2.53	0.43
1:C:3147:ILE:HB	1:C:3152:PHE:HB2	1.98	0.43
1:C:3206:LEU:HD12	1:C:3280:TYR:CD2	2.52	0.43
1:A:1773:PRO:HA	1:A:1774:PRO:HD3	1.89	0.43
1:A:1930:LYS:HE2	1:A:1930:LYS:HB2	1.88	0.43
1:A:4904:PRO:HB3	1:A:4913:ARG:HG2	2.00	0.43
1:B:492:ASP:OD1	1:B:546:TRP:NE1	2.47	0.43
1:B:1229:ASN:HB2	1:B:1827:ARG:HG3	2.01	0.43
1:D:3123:LYS:HG3	1:D:3125:VAL:H	1.83	0.43
1:C:614:VAL:HG22	1:C:2169:GLN:HG3	2.00	0.43
1:C:1044:ARG:CZ	1:C:1044:ARG:HA	2.47	0.43
1:A:1753:LYS:HB3	1:A:1758:ARG:HA	2.01	0.43
1:A:1943:LEU:HD13	1:A:2098:VAL:HG22	1.99	0.43
1:A:2520:HIS:O	1:A:2524:VAL:HG22	2.19	0.43
1:A:3955:MET:HG2	1:A:4019:LEU:HD22	2.00	0.43
2:H:73:LYS:NZ	2:H:75:THR:OG1	2.51	0.43
1:B:19:GLU:HG2	1:B:68:THR:HG22	1.99	0.43
1:B:2520:HIS:O	1:B:2524:VAL:HG22	2.18	0.43
1:B:3332:ALA:HB3	1:B:3403:ARG:NH1	2.33	0.43
1:B:3840:SER:OG	1:B:3877:ASP:OD1	2.30	0.43
1:D:1992:ALA:HA	1:D:1995:THR:HG22	2.00	0.43
1:D:2513:GLU:OE1	1:D:2513:GLU:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2590:SER:O	1:D:2600:ARG:NH1	2.52	0.43
1:D:3346:VAL:HG11	1:D:3414:ARG:HB2	2.01	0.43
1:D:4902:GLU:O	1:D:4913:ARG:NH1	2.47	0.43
1:C:707:VAL:HG23	1:C:782:SER:HB3	2.00	0.43
1:C:1101:ARG:NH1	1:C:1115:LEU:O	2.48	0.43
1:C:1753:LYS:HB3	1:C:1758:ARG:HG2	1.99	0.43
1:C:4834:GLY:O	1:C:4838:VAL:HG12	2.18	0.43
1:A:984:LEU:HD11	1:A:1055:PRO:HA	2.00	0.43
1:A:1668:ARG:HG3	1:A:1671:ARG:NH2	2.33	0.43
1:A:2514:ASN:N	1:A:2514:ASN:OD1	2.51	0.43
1:A:2871:LEU:HG	1:A:2927:LEU:HD21	1.99	0.43
1:A:4942:GLU:OE1	1:D:4944:ARG:NH1	2.50	0.43
2:H:79:ASP:OD1	2:H:80:TYR:HD2	2.02	0.43
1:B:977:LEU:HD22	1:B:981:GLN:HB3	2.01	0.43
1:B:2679:PHE:HB2	1:B:2706:ILE:CG2	2.46	0.43
1:B:2812:SER:OG	1:B:2882:TYR:OH	2.13	0.43
1:D:886:ARG:HB3	1:D:891:TRP:CG	2.52	0.43
1:D:1024:TYR:HB3	1:D:1025:ARG:HH11	1.83	0.43
1:C:2382:GLU:OE1	1:C:2385:ARG:NH1	2.51	0.43
1:C:3075:LEU:O	1:C:3146:HIS:NE2	2.33	0.43
1:B:975:VAL:HG12	1:B:1044:ARG:NH1	2.34	0.43
1:B:982:THR:HA	1:B:985:VAL:HG12	2.00	0.43
1:B:1127:HIS:CE1	1:B:1128:ARG:HH21	2.35	0.43
1:B:1427:ILE:HD13	1:B:1571:ASN:HA	1.99	0.43
1:B:1931:LEU:HG	1:B:1935:VAL:HG11	2.01	0.43
1:B:3628:ARG:HG3	1:B:3631:ALA:HB3	2.01	0.43
1:B:3771:HIS:O	1:B:3815:LYS:NZ	2.44	0.43
1:B:4749:GLU:O	1:B:4753:HIS:ND1	2.51	0.43
1:D:492:ASP:OD1	1:D:546:TRP:NE1	2.47	0.43
1:D:707:VAL:HG23	1:D:782:SER:HB3	2.01	0.43
1:D:1141:ARG:HD3	1:C:3477:LYS:HB3	1.99	0.43
1:D:1506:GLN:OE1	1:D:1507:GLY:N	2.51	0.43
1:D:1929:MET:HE2	1:D:1929:MET:HB3	1.89	0.43
1:D:2212:VAL:O	1:D:2216:GLY:N	2.49	0.43
1:D:2355:ARG:HG3	1:D:2355:ARG:NH1	2.33	0.43
1:D:2867:LEU:HD21	1:D:2871:LEU:HB3	2.01	0.43
1:D:3144:PHE:CE2	1:D:3197:LEU:HD12	2.53	0.43
1:C:4816:ILE:H	1:C:4816:ILE:HG13	1.64	0.43
1:C:4924:VAL:HG12	1:C:4925:ILE:HD13	2.01	0.43
1:A:749:ASP:O	1:A:753:PRO:HA	2.19	0.43
1:A:820:ARG:HD3	1:A:820:ARG:HA	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1995:THR:HG23	1:A:1999:ARG:CZ	2.49	0.43
1:A:3260:GLY:HA2	1:A:3325:ASN:ND2	2.33	0.43
1:A:3633:VAL:HG12	1:A:3637:ARG:HE	1.82	0.43
1:A:3758:MET:HA	1:A:3758:MET:CE	2.49	0.43
1:B:2012:PHE:CZ	1:B:2031:LEU:HD23	2.54	0.43
1:D:788:LYS:HB2	1:D:788:LYS:HE3	1.80	0.43
1:D:1820:ARG:HB3	1:D:1820:ARG:NH1	2.34	0.43
1:D:2531:ARG:HG2	1:D:2585:THR:HG21	2.01	0.43
1:D:2782:ASP:N	1:D:2782:ASP:OD1	2.51	0.43
1:D:3230:LEU:HD23	1:D:3230:LEU:H	1.84	0.43
1:C:910:PHE:HA	1:C:913:LEU:HD23	2.01	0.43
1:C:923:GLN:O	1:C:927:GLU:HG2	2.19	0.43
1:C:1022:VAL:CG1	1:C:1026:LEU:HB2	2.48	0.43
1:C:1943:LEU:HD13	1:C:2098:VAL:HG22	1.99	0.43
1:C:2212:VAL:HG21	1:C:2256:TYR:OH	2.19	0.43
1:C:4154:VAL:HG12	1:C:4157:ASP:HB2	1.99	0.43
1:A:803:LEU:HD12	1:A:803:LEU:HA	1.79	0.43
1:A:1127:HIS:CE1	1:A:1128:ARG:HH21	2.36	0.43
1:A:1820:ARG:O	1:A:1824:GLN:HG2	2.19	0.43
1:A:1992:ALA:O	1:A:1999:ARG:NH2	2.52	0.43
1:A:2175:GLU:OE2	1:A:2227:LYS:HB2	2.18	0.43
1:A:2198:MET:HG3	1:A:2203:MET:CE	2.49	0.43
1:B:320:LYS:HA	1:B:356:TRP:CH2	2.53	0.43
1:B:2749:GLU:HG3	1:B:2752:ASP:HB2	2.00	0.43
1:B:3067:CYS:O	1:B:3071:LEU:HG	2.19	0.43
1:B:3233:PRO:HD2	1:B:3239:MET:HE1	2.00	0.43
1:B:3260:GLY:HA2	1:B:3325:ASN:ND2	2.33	0.43
1:B:3539:ARG:HA	1:B:3539:ARG:HH11	1.84	0.43
1:D:296:ASP:HB2	1:D:297:GLN:OE1	2.18	0.43
1:D:3805:LEU:HB3	1:D:3890:LEU:HB3	2.00	0.43
1:D:4823:LEU:HD23	1:D:4823:LEU:HA	1.83	0.43
1:C:683:ARG:HG2	1:C:717:ASP:HB3	2.01	0.43
1:C:866:HIS:CG	1:C:941:MET:HG2	2.54	0.43
1:C:3717:ASP:N	1:C:3717:ASP:OD1	2.52	0.43
1:A:1424:PRO:HA	1:A:1427:ILE:HG22	2.00	0.43
1:A:1808:ARG:HB2	1:A:1854:PHE:CE1	2.53	0.43
1:A:2782:ASP:N	1:A:2782:ASP:OD1	2.51	0.43
1:A:2867:LEU:HD21	1:A:2871:LEU:HB3	2.00	0.43
1:A:3414:ARG:NH2	1:A:3469:PHE:O	2.51	0.43
1:B:664:PHE:HB3	1:B:811:CYS:SG	2.59	0.43
1:B:954:LYS:HB3	1:B:966:LYS:HE3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3316:LEU:HD21	1:B:3346:VAL:HG23	2.00	0.43
1:D:274:LEU:HD23	1:D:274:LEU:HA	1.84	0.43
1:D:935:LEU:HG	1:D:987:ARG:HH12	1.83	0.43
1:D:3137:LEU:HD21	1:D:3190:LEU:HD23	2.00	0.43
1:C:41:GLY:HA2	1:C:137:LEU:HD12	2.00	0.43
1:C:176:SER:OG	1:C:178:ARG:NH1	2.47	0.43
1:C:330:ASP:N	1:C:330:ASP:OD1	2.52	0.43
1:C:460:GLN:N	1:C:463:GLU:OE2	2.50	0.43
1:C:1036:ARG:HG2	1:C:1036:ARG:HH11	1.83	0.43
1:C:1206:GLN:HA	1:C:1227:ALA:O	2.19	0.43
1:A:19:GLU:HG2	1:A:68:THR:HG22	2.01	0.43
1:A:985:VAL:HG22	1:A:1043:VAL:HG21	2.00	0.43
1:A:2309:SER:OG	1:A:2320:ASP:OD1	2.35	0.43
1:A:2639:MET:HE3	1:A:2640:PRO:HD3	2.00	0.43
2:E:2:VAL:HG21	2:E:61:GLU:HB2	2.01	0.43
2:H:58:GLY:HA3	2:H:76:ILE:HD12	2.00	0.43
1:B:3723:MET:HE2	1:B:3793:MET:HG2	2.01	0.43
1:D:41:GLY:HA2	1:D:137:LEU:HD12	2.00	0.43
1:D:81:MET:HE3	1:D:82:LEU:HG	2.01	0.43
1:D:451:TYR:CZ	1:D:474:ARG:HD2	2.54	0.43
1:D:2815:ALA:HB1	1:D:2881:ASN:ND2	2.34	0.43
1:D:4044:MET:HE2	1:D:4044:MET:HB2	1.92	0.43
1:C:323:LEU:HB3	1:C:325:THR:HG23	2.01	0.43
1:C:986:ASP:OD2	1:C:986:ASP:N	2.51	0.43
1:C:2099:SER:O	1:C:2103:VAL:HG12	2.19	0.43
1:C:3256:LEU:HD23	1:C:3256:LEU:HA	1.79	0.43
1:C:3648:ARG:O	1:C:3652:MET:HG3	2.19	0.43
1:A:1575:LEU:HD23	1:A:1575:LEU:HA	1.87	0.42
1:A:2462:PRO:HB2	1:A:2464:ASP:OD1	2.19	0.42
1:A:2629:ASP:O	1:A:2632:ILE:HD12	2.19	0.42
1:A:3514:LEU:HD11	1:A:3602:VAL:HG13	2.00	0.42
1:A:3969:ILE:HG21	1:A:3980:LEU:HD12	2.01	0.42
1:A:4885:PHE:O	1:A:4889:VAL:HG22	2.18	0.42
1:B:749:ASP:O	1:B:753:PRO:HA	2.19	0.42
1:B:3734:HIS:O	1:B:3736:GLU:HG3	2.18	0.42
1:D:793:LEU:HD12	1:D:821:LEU:HD21	2.00	0.42
1:D:878:ILE:HA	1:D:881:LEU:HD23	2.00	0.42
1:D:893:TYR:CG	1:D:894:GLY:N	2.86	0.42
1:D:1023:PRO:HB3	1:D:1025:ARG:NH2	2.34	0.42
1:D:3601:ALA:O	1:D:3605:HIS:HD2	2.01	0.42
1:D:3695:PRO:HB3	1:D:3699:HIS:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3872:GLU:HG3	1:D:3874:VAL:H	1.84	0.42
1:C:275:ARG:HG2	1:C:275:ARG:HH11	1.84	0.42
1:C:451:TYR:CZ	1:C:474:ARG:HD2	2.54	0.42
1:C:1128:ARG:HG2	1:C:1130:GLN:HG3	2.01	0.42
1:C:3002:LEU:O	1:C:3006:ILE:N	2.37	0.42
1:C:3003:LEU:HB2	1:C:3004:PRO:HD3	2.01	0.42
1:C:4177:TYR:CE1	1:C:4199:GLU:HG3	2.54	0.42
1:C:4821:LYS:H	1:C:4821:LYS:HD3	1.84	0.42
1:A:568:LEU:HD12	1:A:602:VAL:HG13	2.01	0.42
1:A:883:ALA:HB1	1:A:907:LEU:HD12	2.01	0.42
1:A:897:ARG:NH2	1:A:899:ASP:OD1	2.52	0.42
1:A:2586:VAL:HG13	1:A:2607:LEU:HD13	2.00	0.42
1:A:4067:LYS:NZ	1:A:4102:GLN:O	2.38	0.42
1:A:4090:LYS:HG2	1:A:4123:ILE:HD11	2.02	0.42
2:E:73:LYS:NZ	2:E:75:THR:OG1	2.52	0.42
2:F:73:LYS:NZ	2:F:75:THR:OG1	2.53	0.42
1:B:321:GLU:OE2	1:B:323:LEU:HD22	2.19	0.42
1:B:491:ILE:O	1:B:495:ASN:HB2	2.19	0.42
1:B:1668:ARG:HE	1:B:1668:ARG:HB2	1.63	0.42
1:D:1739:THR:HG22	1:D:2146:PRO:HB3	2.00	0.42
1:D:2191:PHE:HE1	1:D:2238:TYR:HE2	1.66	0.42
1:D:2912:THR:HG23	1:D:2914:LYS:HG3	2.00	0.42
1:D:3250:MET:HE1	1:D:3315:LEU:HB2	2.01	0.42
1:D:3717:ASP:OD1	1:D:3717:ASP:N	2.52	0.42
1:C:233:ILE:HD12	1:C:242:ARG:HB3	2.01	0.42
1:C:1008:SER:HB3	1:C:1017:ARG:HB3	2.01	0.42
1:C:1451:GLY:CA	1:C:1494:MET:HG2	2.48	0.42
1:C:1965:TYR:HE2	1:C:2030:ASP:HB3	1.84	0.42
1:C:2224:ARG:H	1:C:2224:ARG:CD	2.31	0.42
1:C:2412:GLU:C	1:C:2414:ASN:H	2.23	0.42
1:C:3266:MET:HB2	1:C:3269:VAL:HB	1.99	0.42
1:C:3414:ARG:HB2	1:C:3414:ARG:HH11	1.84	0.42
1:C:3573:MET:O	1:C:3577:ARG:HG2	2.20	0.42
1:C:4088:ILE:C	1:C:4122:MET:HE3	2.40	0.42
1:A:2801:ASP:HA	1:A:2804:ILE:HG12	2.00	0.42
1:A:3011:THR:OG1	1:A:3070:ILE:HD13	2.20	0.42
1:A:3765:TYR:CD2	1:A:4753:HIS:HA	2.54	0.42
1:A:4546:VAL:HA	1:A:4549:VAL:HG22	2.01	0.42
1:B:722:TRP:CZ2	1:B:727:ALA:HB2	2.55	0.42
1:B:2189:LYS:HA	1:B:2192:TYR:CD1	2.54	0.42
1:B:3556:ASN:HB3	1:B:3559:LEU:HD23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4056:GLU:HG2	1:B:4166:LEU:HD13	2.01	0.42
1:B:4686:LEU:HD12	1:B:4690:GLU:HG3	2.01	0.42
1:D:877:ASN:O	1:D:881:LEU:HD22	2.20	0.42
1:D:1018:ASN:HB3	1:D:1021:LEU:HB2	2.01	0.42
1:D:1733:GLU:HG2	1:D:2201:LEU:HD23	2.01	0.42
1:D:2186:MET:CE	1:D:2234:ARG:HH12	2.31	0.42
1:D:3527:PRO:CA	1:D:3530:GLN:HE22	2.33	0.42
1:D:3695:PRO:HB2	1:D:3700:GLN:HG2	2.01	0.42
1:D:3823:LYS:HD3	1:D:3823:LYS:HA	1.86	0.42
1:C:328:LYS:HB3	1:C:328:LYS:HE3	1.78	0.42
1:C:975:VAL:HG11	1:C:1047:LEU:HB3	2.01	0.42
1:C:2191:PHE:CD2	1:C:2198:MET:HG3	2.54	0.42
1:C:2668:SER:O	1:C:2669:GLU:HB3	2.19	0.42
1:C:3715:LYS:O	1:C:3715:LYS:HD2	2.20	0.42
1:C:3962:PHE:CZ	1:C:4023:MET:HG3	2.54	0.42
1:A:590:LEU:HG	1:A:599:VAL:HG11	2.01	0.42
1:A:664:PHE:HB3	1:A:811:CYS:SG	2.59	0.42
1:A:707:VAL:HG23	1:A:782:SER:HB3	2.02	0.42
1:A:3105:LYS:O	1:A:3108:GLU:HG3	2.19	0.42
1:A:4217:PHE:O	1:A:4221:VAL:HG22	2.20	0.42
2:F:2:VAL:HG22	2:F:58:GLY:HA2	2.00	0.42
1:B:1232:ARG:NH2	1:B:1828:ASP:O	2.51	0.42
1:B:1808:ARG:HB2	1:B:1854:PHE:CE1	2.55	0.42
1:B:2534:ALA:HA	1:B:2588:ARG:HH21	1.84	0.42
1:D:140:ASP:OD1	1:D:142:THR:HG22	2.19	0.42
1:D:3648:ARG:O	1:D:3652:MET:HG3	2.19	0.42
1:D:4918:ILE:HD12	1:D:4919:THR:HG23	2.02	0.42
1:C:856:VAL:HG12	1:C:991:ASN:ND2	2.35	0.42
1:C:1072:VAL:HG13	1:C:1193:SER:HB2	2.00	0.42
1:C:2884:ASN:OD1	1:C:2885:THR:N	2.52	0.42
1:C:3501:ASP:OD1	1:C:3501:ASP:N	2.51	0.42
1:A:2012:PHE:CZ	1:A:2031:LEU:HD23	2.55	0.42
1:A:2974:ILE:HG13	1:A:2975:ALA:N	2.35	0.42
1:A:3230:LEU:HD23	1:A:3230:LEU:H	1.84	0.42
1:A:3391:GLU:HG3	1:A:3395:ARG:HE	1.84	0.42
1:A:4778:TRP:O	1:A:4782:VAL:HG23	2.19	0.42
2:H:84:ALA:O	2:H:93:PRO:HB3	2.20	0.42
1:B:618:GLN:OE1	1:B:1678:ASN:ND2	2.43	0.42
1:B:869:ARG:HH22	1:B:941:MET:HE1	1.83	0.42
1:B:3780:LEU:HD11	1:B:3816:MET:HG2	2.00	0.42
1:D:56:GLN:O	1:D:309:THR:OG1	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3734:HIS:CG	1:D:3735:LEU:N	2.88	0.42
1:C:19:GLU:HG2	1:C:68:THR:HG22	2.01	0.42
1:C:2135:LEU:HD22	1:C:3658:LYS:HE3	2.01	0.42
1:C:2516:ASP:OD1	1:C:2516:ASP:N	2.52	0.42
1:C:2875:ALA:HB2	1:C:2927:LEU:HD22	2.01	0.42
1:C:4090:LYS:HD3	1:C:4121:GLU:HG2	2.00	0.42
1:C:4732:PHE:CD1	1:C:4732:PHE:N	2.88	0.42
1:A:330:ASP:OD1	1:A:330:ASP:N	2.53	0.42
1:A:1694:LEU:O	1:A:1698:LEU:HG	2.20	0.42
1:A:1947:CYS:SG	1:A:2127:GLN:NE2	2.83	0.42
1:A:2967:MET:HE1	1:A:3049:LEU:HD22	2.01	0.42
1:A:3591:LYS:HA	1:A:3594:ARG:HH11	1.84	0.42
1:A:3751:VAL:HG13	1:A:3755:GLU:HG2	2.02	0.42
1:A:4823:LEU:HD23	1:A:4823:LEU:HA	1.79	0.42
2:H:54:GLU:H	2:H:54:GLU:HG3	1.69	0.42
1:B:2584[B]:HIS:CE1	1:B:2625:ARG:HG3	2.55	0.42
1:B:3321:ARG:HA	1:B:3324:VAL:HG12	2.02	0.42
1:B:4953:ASP:OD1	1:B:4957:LYS:NZ	2.53	0.42
1:D:2031:LEU:HD11	1:D:3657:TYR:CE1	2.55	0.42
1:D:3186:LEU:O	1:D:3190:LEU:HG	2.20	0.42
1:D:4827:LEU:HD23	1:D:4827:LEU:HA	1.83	0.42
1:C:892:THR:O	1:C:904:HIS:N	2.51	0.42
1:C:1623:ARG:NH1	1:C:1623:ARG:HB2	2.35	0.42
1:C:2962:GLN:HE22	1:C:2965:ARG:HH11	1.66	0.42
1:C:3291:ALA:O	1:C:3293:PRO:HD3	2.19	0.42
1:C:3959:LYS:NZ	1:C:4022:ASP:OD2	2.42	0.42
1:C:4779:LYS:O	1:C:4783:ILE:HG12	2.19	0.42
1:A:208:CYS:O	1:A:334:MET:HG3	2.19	0.42
1:A:1559:GLN:OE1	1:A:1559:GLN:N	2.38	0.42
1:A:2021:CYS:O	1:A:2028:ARG:NH2	2.52	0.42
1:A:3996:PHE:CD2	1:A:4020:GLN:HG2	2.55	0.42
2:E:18:ARG:HB2	2:E:18:ARG:HH11	1.85	0.42
1:B:590:LEU:HG	1:B:599:VAL:HG11	2.02	0.42
1:B:1943:LEU:HB2	1:B:2123:LEU:HD21	2.01	0.42
1:B:2230:THR:HB	1:B:2267:MET:CE	2.50	0.42
1:B:2423:MET:HG3	1:B:2498:HIS:CD2	2.55	0.42
1:B:2957:PHE:HE2	1:B:3034:LYS:HG3	1.85	0.42
1:B:2973:PHE:CD1	1:B:2995:ILE:HG12	2.54	0.42
1:B:3996:PHE:CD2	1:B:4020:GLN:HG2	2.55	0.42
1:D:664:PHE:HB3	1:D:811:CYS:SG	2.60	0.42
1:D:878:ILE:O	1:D:882:TRP:HD1	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:893:TYR:CD1	1:D:905:PRO:HA	2.55	0.42
1:D:2754:PHE:HE2	1:D:2813:LEU:HD11	1.83	0.42
1:D:3003:LEU:HB2	1:D:3004:PRO:HD3	2.02	0.42
1:D:3296:LEU:HB3	1:D:3297:PRO:HD3	2.01	0.42
1:C:867:LEU:HB3	1:C:929:LEU:HD12	2.02	0.42
1:C:879:HIS:CE1	1:C:918:ARG:HA	2.55	0.42
1:C:2537:ASP:OD2	1:C:2588:ARG:NH1	2.52	0.42
1:C:3320:LEU:HD12	1:C:3320:LEU:HA	1.87	0.42
1:A:879:HIS:NE2	1:A:921:ASN:HB2	2.35	0.42
1:A:2001:PRO:HA	1:A:3638:MET:HE1	2.02	0.42
1:A:3570:ARG:HB2	1:A:3570:ARG:HH11	1.84	0.42
1:A:3577:ARG:HA	1:A:3577:ARG:NE	2.35	0.42
1:B:1753:LYS:HD3	1:B:1759:ARG:N	2.35	0.42
1:B:2498:HIS:O	1:B:2502:MET:HG2	2.19	0.42
1:B:2611:CYS:HA	1:B:2614:ILE:HG22	2.02	0.42
1:B:3346:VAL:HG11	1:B:3414:ARG:HB3	2.01	0.42
1:B:4092:ASP:HA	1:B:4095:LYS:HG2	2.02	0.42
1:B:4571:PHE:CE2	1:B:4816:ILE:HD13	2.55	0.42
1:B:4853:VAL:O	1:B:4857:ASN:ND2	2.52	0.42
1:D:1297:PHE:CE2	1:D:1525:GLY:HA2	2.55	0.42
1:D:3416:VAL:O	1:D:3420:ARG:N	2.50	0.42
1:D:4158:PRO:HA	1:D:4161:ARG:CZ	2.49	0.42
1:D:4247:ILE:HD11	1:D:4667:PRO:HB2	2.01	0.42
1:D:4570:ALA:O	1:D:4574:ASN:ND2	2.42	0.42
1:C:947:GLU:HA	1:C:1049:TYR:HD1	1.85	0.42
1:C:976:ARG:N	1:C:976:ARG:HD2	2.34	0.42
1:C:2218:GLY:HA3	1:C:2224:ARG:NH1	2.35	0.42
1:C:2588:ARG:NH2	1:C:2589:LEU:HD23	2.34	0.42
1:C:2615:ARG:HG2	1:C:2664:PHE:CE2	2.55	0.42
1:C:3044:CYS:SG	1:C:3092:LEU:HA	2.60	0.42
1:C:3532:LEU:HD23	1:C:3535:LEU:HD13	2.02	0.42
1:C:3805:LEU:HB3	1:C:3890:LEU:HB3	2.00	0.42
1:C:4686:LEU:O	1:C:4690:GLU:HG2	2.19	0.42
1:A:426:ARG:NH2	1:A:509:GLU:OE2	2.53	0.42
1:A:793:LEU:HD12	1:A:821:LEU:HD21	2.01	0.42
1:A:1948:ASP:OD1	1:A:2126:ARG:NH2	2.47	0.42
1:B:208:CYS:O	1:B:334:MET:HG3	2.19	0.42
1:B:707:VAL:HG23	1:B:782:SER:HB3	2.01	0.42
1:B:2386:ILE:O	1:B:2393:ASP:HB2	2.20	0.42
1:B:2518:LEU:O	1:B:2521:VAL:HG12	2.19	0.42
1:B:2991:HIS:O	1:B:2995:ILE:HG13	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3391:GLU:HG3	1:B:3395:ARG:HE	1.85	0.42
1:B:3400:VAL:HG23	1:B:3403:ARG:HH21	1.85	0.42
1:D:3158:LEU:HD23	1:D:3158:LEU:HA	1.84	0.42
1:D:3226:GLU:O	1:D:3227:ARG:HB3	2.20	0.42
1:D:3529:ASP:O	1:D:3533:ILE:HG12	2.20	0.42
1:C:938:HIS:HB3	1:C:1054:GLU:HB3	2.02	0.42
1:C:1043:VAL:HG12	1:C:1044:ARG:HH12	1.84	0.42
1:C:1860:LYS:O	1:C:1864:LYS:HG2	2.20	0.42
1:C:3171:SER:O	1:C:3174:SER:OG	2.28	0.42
1:A:2912:THR:HG23	1:A:2914:LYS:HG3	2.02	0.42
1:A:3332:ALA:HB3	1:A:3403:ARG:NH1	2.35	0.42
1:B:19:GLU:CD	1:B:66:CYS:HB3	2.41	0.42
1:B:2490:MET:HE3	1:B:2545:GLU:CB	2.50	0.42
1:B:3209:GLN:HG2	1:B:3210:LEU:HG	2.01	0.42
1:B:4820:VAL:HB	1:B:4823:LEU:HB2	2.02	0.42
1:D:2697:ARG:NH1	1:D:2697:ARG:HB3	2.34	0.42
1:D:3412:LEU:HD11	1:D:3434:LEU:HD21	2.02	0.42
1:D:4816:ILE:HD12	1:D:4817:ALA:N	2.35	0.42
1:C:365:LYS:HB3	1:C:365:LYS:HE3	1.85	0.42
1:C:492:ASP:OD1	1:C:546:TRP:NE1	2.47	0.42
1:C:3695:PRO:HB3	1:C:3699:HIS:HB3	2.01	0.42
1:A:2123:LEU:HD12	1:A:2123:LEU:HA	1.94	0.41
1:A:2177:LEU:HA	1:A:2180:GLN:HG2	2.02	0.41
1:A:3527:PRO:HB2	1:A:3573:MET:HE2	2.02	0.41
1:B:893:TYR:N	1:B:961:MET:HE2	2.35	0.41
1:B:1206:GLN:HA	1:B:1227:ALA:O	2.20	0.41
1:B:2355:ARG:NH2	1:B:2449:GLU:OE2	2.51	0.41
1:B:2600:ARG:O	1:B:2604:GLU:HG3	2.20	0.41
1:B:2754:PHE:HB2	1:B:2935:TYR:OH	2.20	0.41
1:B:3633:VAL:HG13	1:B:3637:ARG:HH21	1.85	0.41
1:B:3648:ARG:HG3	1:B:3648:ARG:NH1	2.35	0.41
1:D:722:TRP:CZ2	1:D:727:ALA:HB2	2.55	0.41
1:D:2309:SER:OG	1:D:2320:ASP:OD1	2.38	0.41
1:D:2630:VAL:HG22	1:D:2640:PRO:HB2	2.02	0.41
1:D:2819:TRP:O	1:D:2820:GLU:HG3	2.20	0.41
1:D:3562:LYS:HE2	1:D:3562:LYS:HB2	1.87	0.41
1:D:3596:VAL:O	1:D:3600:SER:OG	2.31	0.41
1:D:3715:LYS:HD2	1:D:3715:LYS:O	2.20	0.41
1:C:893:TYR:HB2	1:C:961:MET:HE1	2.01	0.41
1:C:908:VAL:HG22	1:C:961:MET:HE3	2.02	0.41
1:C:3270:ILE:HG23	1:C:3338:LEU:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3557:LEU:HD22	1:C:3592:ILE:HD12	2.02	0.41
1:C:3734:HIS:CG	1:C:3735:LEU:N	2.88	0.41
1:C:4000:MET:SD	1:C:4020:GLN:NE2	2.76	0.41
1:C:4632:LEU:HD13	1:C:4639:MET:HG2	2.02	0.41
1:A:571:SER:OG	1:A:573:GLU:OE1	2.24	0.41
1:A:647:ASN:ND2	1:A:820:ARG:O	2.39	0.41
1:A:722:TRP:CZ2	1:A:727:ALA:HB2	2.55	0.41
1:A:887:ILE:HG13	1:A:955:LEU:HD11	2.02	0.41
1:A:2231:SER:HA	1:A:2234:ARG:NH2	2.35	0.41
1:A:4772:ASP:O	1:A:4776:GLN:HG2	2.20	0.41
2:E:79:ASP:OD1	2:E:80:TYR:HD2	2.02	0.41
2:G:79:ASP:OD1	2:G:80:TYR:HD1	2.02	0.41
2:F:3:GLN:OE1	2:F:5:GLU:HG3	2.19	0.41
1:B:3534:MET:HE2	1:B:3534:MET:N	2.35	0.41
1:B:3765:TYR:CD2	1:B:4753:HIS:HA	2.55	0.41
1:B:4675:LYS:O	1:B:4679:ARG:HG3	2.20	0.41
1:D:1786:LEU:HD23	1:D:1786:LEU:HA	1.84	0.41
1:D:2639:MET:HB3	1:D:2639:MET:HE2	1.86	0.41
1:C:182:LEU:HB3	1:C:198:THR:HG21	2.03	0.41
1:C:889:GLN:HB3	1:C:902:ARG:HH21	1.86	0.41
1:C:1634:LEU:HD23	1:C:1634:LEU:HA	1.88	0.41
1:C:2527:LEU:HD12	1:C:2527:LEU:HA	1.80	0.41
1:C:3604:TYR:O	1:C:3608:GLN:HG2	2.21	0.41
1:A:156:GLN:HE21	1:D:385:ASP:HB3	1.85	0.41
1:A:2588:ARG:HH21	1:A:2589:LEU:HD23	1.85	0.41
1:A:3717:ASP:N	1:A:3717:ASP:OD1	2.54	0.41
1:A:3734:HIS:CG	1:A:3735:LEU:N	2.89	0.41
2:E:57:ARG:HE	2:E:57:ARG:HB3	1.55	0.41
1:B:938:HIS:HB3	1:B:1054:GLU:HB3	2.01	0.41
1:B:945:LYS:HD2	1:B:946:ALA:N	2.36	0.41
1:B:1694:LEU:O	1:B:1698:LEU:HG	2.20	0.41
1:B:1867:GLU:OE2	1:B:1928:GLN:NE2	2.53	0.41
1:B:4567:LEU:HD21	1:B:4816:ILE:HD12	2.01	0.41
1:D:2185:ILE:HG21	1:D:2203:MET:HE1	2.02	0.41
1:D:2677:LYS:HE2	1:D:2677:LYS:HB3	1.82	0.41
1:D:3147:ILE:HG23	1:D:3152:PHE:HB2	2.01	0.41
1:C:1231[B]:GLN:H	1:C:1231[B]:GLN:HG3	1.61	0.41
1:C:2475:GLN:HG3	1:C:2488:PRO:HG3	2.02	0.41
1:A:550:LYS:HB3	1:A:560:ILE:HD13	2.03	0.41
1:A:829:TYR:CE1	1:A:1608:MET:HG2	2.55	0.41
1:A:2534:ALA:HA	1:A:2588:ARG:NH2	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2881:ASN:HA	1:A:2884:ASN:HD21	1.85	0.41
1:A:3445:TRP:NE1	1:A:3455:GLU:OE1	2.45	0.41
1:A:4749:GLU:O	1:A:4753:HIS:ND1	2.53	0.41
2:H:13:ARG:HB2	2:H:13:ARG:NH1	2.36	0.41
1:B:1996:ARG:NH2	1:B:1999:ARG:HE	2.10	0.41
1:B:2175:GLU:OE2	1:B:2227:LYS:HB2	2.19	0.41
1:B:2527:LEU:O	1:B:2531:ARG:HG3	2.20	0.41
1:B:2765:LYS:NZ	1:B:2860:PRO:HA	2.35	0.41
1:D:1992:ALA:O	1:D:1996:ARG:HG2	2.20	0.41
1:D:2214:VAL:HG21	1:D:2228:MET:SD	2.61	0.41
1:D:3508:SER:OG	1:D:3510:ILE:HG22	2.19	0.41
1:D:4186:ALA:C	1:D:4188:ARG:HH12	2.16	0.41
1:C:722:TRP:CZ2	1:C:727:ALA:HB2	2.55	0.41
1:C:1291:LEU:HD12	1:C:1550:PRO:HG2	2.02	0.41
1:C:3060:ASP:O	1:C:3064:VAL:HG23	2.20	0.41
1:C:3062:PRO:HA	1:C:3065:VAL:HG22	2.02	0.41
1:C:3209:GLN:HG2	1:C:3210:LEU:HG	2.02	0.41
1:C:3780:LEU:HD11	1:C:3816:MET:HG2	2.01	0.41
1:C:3946:GLN:HE22	1:C:3949:ARG:NH1	2.18	0.41
1:A:157:ARG:CZ	1:A:164:ARG:HE	2.34	0.41
1:A:929:LEU:O	1:A:932:LEU:HD23	2.20	0.41
1:A:3157:ILE:HG22	1:A:3162:GLN:HG2	2.01	0.41
1:A:3266:MET:HG3	1:A:3266:MET:O	2.20	0.41
1:A:3362:ILE:HG22	1:A:3437:MET:HB3	2.03	0.41
1:A:3528:THR:HG23	1:A:3573:MET:CE	2.50	0.41
1:A:4868:ASP:OD1	1:A:4871:GLU:HG3	2.19	0.41
2:E:84:ALA:O	2:E:93:PRO:HB3	2.21	0.41
2:G:18:ARG:HB2	2:G:18:ARG:HH11	1.85	0.41
1:B:788:LYS:HB2	1:B:788:LYS:HE3	1.80	0.41
1:B:1101:ARG:NH1	1:B:1115:LEU:O	2.52	0.41
1:B:1297:PHE:CE2	1:B:1525:GLY:HA2	2.55	0.41
1:B:2607:LEU:HD23	1:B:2639:MET:SD	2.60	0.41
1:B:3535:LEU:O	1:B:3538:THR:OG1	2.30	0.41
1:B:3788:GLY:HA3	1:B:3834:ALA:HB3	2.02	0.41
1:B:4769:MET:SD	1:B:4769:MET:N	2.78	0.41
1:B:4772:ASP:O	1:B:4776:GLN:HG2	2.20	0.41
1:D:648:ILE:HD13	1:D:811:CYS:HB3	2.02	0.41
1:D:3233:PRO:C	1:D:3234:ASN:HD22	2.15	0.41
1:D:3240:CYS:HB3	1:D:3243:ILE:HG12	2.01	0.41
1:D:3533:ILE:HD13	1:D:3596:VAL:HG13	2.01	0.41
1:D:3554:GLN:O	1:D:3557:LEU:HD22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3715:LYS:HD2	1:D:3715:LYS:C	2.41	0.41
1:D:4821:LYS:H	1:D:4821:LYS:CD	2.29	0.41
1:C:3035:GLU:O	1:C:3039:ILE:HG22	2.21	0.41
1:C:3154:ASP:O	1:C:3158:LEU:HD21	2.19	0.41
1:C:3227:ARG:HB3	1:C:3232:LEU:HD12	2.02	0.41
1:C:3346:VAL:HG11	1:C:3414:ARG:HB3	2.02	0.41
1:C:4695:ASP:OD1	1:C:4695:ASP:N	2.47	0.41
1:A:70:GLU:OE2	1:A:110:ARG:NE	2.45	0.41
1:A:663:TYR:CD2	1:A:804:PRO:HB3	2.55	0.41
1:A:1147:ASP:HB3	1:A:1164:LEU:HD11	2.03	0.41
1:A:1867:GLU:OE2	1:A:1928:GLN:NE2	2.51	0.41
1:A:2413:GLU:N	1:A:2413:GLU:OE2	2.54	0.41
1:A:3823:LYS:HA	1:A:3823:LYS:HD3	1.82	0.41
1:B:33:LEU:HD12	1:B:53:SER:HB2	2.02	0.41
1:B:70:GLU:OE2	1:B:110:ARG:NE	2.45	0.41
1:B:2212:VAL:HG21	1:B:2256:TYR:OH	2.21	0.41
1:B:2222:GLU:O	1:B:2224:ARG:NH2	2.54	0.41
1:B:4911:LEU:HA	1:B:4914:VAL:HG22	2.03	0.41
1:D:365:LYS:HE3	1:D:365:LYS:HB3	1.80	0.41
1:D:3546:ASP:O	1:D:3550:ARG:HG3	2.21	0.41
1:C:955:LEU:HD12	1:C:967:PRO:HD2	2.02	0.41
1:C:1229:ASN:HB2	1:C:1827:ARG:HG3	2.02	0.41
1:A:99:ARG:H	1:A:99:ARG:NE	2.19	0.41
1:A:866:HIS:O	1:A:869:ARG:NH1	2.54	0.41
1:A:1206:GLN:HA	1:A:1227:ALA:O	2.21	0.41
1:A:1782:PHE:CD1	2:E:90:ILE:HD13	2.55	0.41
1:A:2170:MET:SD	1:A:2228:MET:HE3	2.60	0.41
1:A:2516:ASP:N	1:A:2516:ASP:OD1	2.54	0.41
1:A:2633:LEU:O	1:A:2689:LYS:NZ	2.53	0.41
1:A:3529:ASP:O	1:A:3533:ILE:HG13	2.20	0.41
1:A:4989:MET:HE2	1:A:4989:MET:HB3	1.93	0.41
1:B:884:LEU:HG	1:B:955:LEU:HD21	2.03	0.41
1:B:2001:PRO:O	1:B:2005:GLN:HG3	2.21	0.41
1:B:2149:VAL:O	1:B:2153:MET:HG2	2.20	0.41
1:B:2371:GLU:OE1	1:C:128:THR:HB	2.20	0.41
1:B:2881:ASN:HA	1:B:2884:ASN:HD21	1.85	0.41
1:B:3183:VAL:O	1:B:3187:ARG:HG3	2.21	0.41
1:B:3277:LEU:HD23	1:B:3277:LEU:HA	1.90	0.41
1:B:3731:LYS:HA	1:B:3734:HIS:HE1	1.86	0.41
1:B:3752:SER:OG	1:B:3755:GLU:OE1	2.38	0.41
1:B:3847:PHE:HZ	1:B:3937:TYR:HH	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3969:ILE:HG21	1:B:3980:LEU:HD12	2.01	0.41
1:B:4217:PHE:O	1:B:4221:VAL:HG22	2.20	0.41
1:D:749:ASP:O	1:D:753:PRO:HA	2.20	0.41
1:D:1759:ARG:HD3	1:D:1760:HIS:H	1.85	0.41
1:D:3527:PRO:HA	1:D:3530:GLN:HE22	1.84	0.41
1:D:4772:ASP:O	1:D:4776:GLN:HG2	2.21	0.41
1:C:957:LYS:HD3	1:C:957:LYS:H	1.86	0.41
1:C:4207:MET:HG2	1:C:4209:GLN:HE22	1.85	0.41
1:C:4722:ARG:HH11	1:C:4722:ARG:HG2	1.85	0.41
1:C:4878:ASP:OD1	1:C:4879:MET:N	2.54	0.41
1:A:866:HIS:HB2	1:A:941:MET:HE2	2.03	0.41
1:A:1506:GLN:CG	1:A:1507:GLY:H	2.33	0.41
1:A:4968:PHE:O	1:A:4974:GLY:HA3	2.21	0.41
2:G:13:ARG:NH1	2:G:13:ARG:HB2	2.36	0.41
2:F:79:ASP:OD1	2:F:80:TYR:HD2	2.02	0.41
1:B:13:PHE:CE1	1:B:164:ARG:HG2	2.55	0.41
1:B:273:HIS:O	1:B:275:ARG:NH1	2.53	0.41
1:B:1008:SER:HB3	1:B:1017:ARG:HB3	2.02	0.41
1:B:1534:LYS:H	1:B:1534:LYS:HG2	1.70	0.41
1:B:2263:ILE:HD12	1:B:2263:ILE:HA	1.95	0.41
1:B:2431:ASP:O	1:B:2435:ARG:HG3	2.21	0.41
1:B:2697:ARG:NH1	1:B:2697:ARG:HB3	2.36	0.41
1:B:2801:ASP:HA	1:B:2804:ILE:HG12	2.01	0.41
1:B:3158:LEU:HD23	1:B:3158:LEU:HA	1.78	0.41
1:B:3539:ARG:HB2	1:B:3549:VAL:HG12	2.02	0.41
1:D:663:TYR:CD2	1:D:804:PRO:HB3	2.56	0.41
1:D:774:ASP:OD1	1:D:774:ASP:N	2.51	0.41
1:D:2020:ASP:OD1	1:D:2020:ASP:N	2.47	0.41
1:D:2277:ALA:O	1:D:2281:ILE:HG13	2.20	0.41
1:D:2538:THR:O	1:D:2542:SER:HB2	2.21	0.41
1:D:2580:ASP:OD1	1:D:2621:HIS:HB2	2.21	0.41
1:D:3263:TYR:HD1	1:D:3270:ILE:HD12	1.86	0.41
1:D:3971:GLY:N	1:D:3972:PRO:HA	2.36	0.41
1:D:4930:ALA:HB2	1:C:4933:GLN:HG3	2.03	0.41
1:C:887:ILE:HD12	1:C:887:ILE:HA	1.85	0.41
1:C:2782:ASP:OD1	1:C:2782:ASP:N	2.51	0.41
1:C:3106:MET:SD	1:C:3110:LEU:HD13	2.61	0.41
1:C:4060:LYS:HD2	1:C:4060:LYS:HA	1.93	0.41
1:A:293:LEU:HD13	1:A:378:LEU:HD12	2.02	0.41
1:A:977:LEU:HG	1:A:1044:ARG:HH11	1.85	0.41
1:A:1008:SER:HB3	1:A:1017:ARG:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1049:TYR:HB3	1:A:1051:TYR:CZ	2.56	0.41
1:A:3180:ASN:HB2	1:A:3183:VAL:HG23	2.03	0.41
1:A:3277:LEU:HD23	1:A:3277:LEU:HA	1.92	0.41
1:A:3343:GLN:O	1:A:3346:VAL:HG12	2.21	0.41
1:A:3459:VAL:HG11	1:A:3503:TYR:HD1	1.86	0.41
2:H:18:ARG:HH11	2:H:18:ARG:HB2	1.85	0.41
2:F:18:ARG:HB2	2:F:18:ARG:HH11	1.85	0.41
1:B:350:HIS:CE1	1:B:352:ALA:HB3	2.55	0.41
1:B:516:LYS:O	1:B:520:ASN:ND2	2.38	0.41
1:B:1447:CYS:HB3	1:B:1555:LEU:HB3	2.03	0.41
1:B:1805:GLU:H	1:B:1805:GLU:CD	2.24	0.41
1:B:1860:LYS:O	1:B:1864:LYS:HG2	2.21	0.41
1:B:2499:LYS:O	1:B:2503:VAL:HG23	2.21	0.41
1:B:2633:LEU:O	1:B:2689:LYS:NZ	2.54	0.41
1:B:2773:ASN:OD1	1:B:2786:LYS:NZ	2.36	0.41
1:B:2782:ASP:OD1	1:B:2782:ASP:N	2.54	0.41
1:B:3962:PHE:CZ	1:B:4023:MET:HG3	2.55	0.41
1:B:4868:ASP:OD1	1:B:4871:GLU:HG3	2.20	0.41
1:D:871:ARG:HB2	1:D:929:LEU:HD12	2.03	0.41
1:D:884:LEU:HG	1:D:955:LEU:HD21	2.02	0.41
1:D:897:ARG:NH2	1:D:899:ASP:OD1	2.52	0.41
1:D:1087:ARG:HB3	1:D:1223:PHE:CD2	2.55	0.41
1:D:1286:MET:HB2	1:D:1462:MET:HE2	2.02	0.41
1:D:2587:TYR:O	1:D:2590:SER:OG	2.32	0.41
1:D:3166:TYR:CG	1:D:3239:MET:HG2	2.56	0.41
1:D:3180:ASN:HB2	1:D:3183:VAL:HG23	2.03	0.41
1:D:3234:ASN:ND2	1:D:3234:ASN:C	2.74	0.41
1:D:3501:ASP:N	1:D:3501:ASP:OD1	2.54	0.41
1:D:3531:ASP:OD1	1:D:3561:GLY:N	2.54	0.41
1:D:3621:HIS:O	1:D:3622:LYS:HG3	2.20	0.41
1:C:275:ARG:HD2	1:C:328:LYS:NZ	2.36	0.41
1:C:345:LEU:HB3	1:C:387:ALA:HB1	2.01	0.41
1:C:664:PHE:HB3	1:C:811:CYS:SG	2.61	0.41
1:C:884:LEU:HG	1:C:955:LEU:HD21	2.03	0.41
1:C:1992:ALA:HA	1:C:1995:THR:HG22	2.02	0.41
1:C:2417:HIS:CG	1:C:2492:ALA:HB2	2.56	0.41
1:C:2587:TYR:O	1:C:2590:SER:OG	2.30	0.41
1:C:2815:ALA:HB1	1:C:2881:ASN:HD22	1.86	0.41
1:C:2881:ASN:HA	1:C:2884:ASN:HD21	1.85	0.41
1:C:2917:ALA:HA	1:C:2920:ARG:HB3	2.02	0.41
1:C:3440:GLU:O	1:C:3443:ILE:HG13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3971:GLY:N	1:C:3972:PRO:HA	2.36	0.41
1:A:1163:THR:HG22	1:A:1168:VAL:HA	2.03	0.41
1:A:1658:ASP:N	1:A:1658:ASP:OD1	2.54	0.41
1:A:3453:ARG:HD2	1:A:3453:ARG:H	1.86	0.41
1:A:3944:GLU:H	1:A:3944:GLU:HG3	1.76	0.41
1:B:860:GLN:HE21	1:B:934:ALA:HB2	1.85	0.41
1:B:995:VAL:O	1:B:998:ARG:HG3	2.20	0.41
1:B:1087:ARG:HB3	1:B:1223:PHE:CD2	2.56	0.41
1:B:2029:GLN:NE2	1:B:2033:ASP:OD1	2.54	0.41
1:B:2977:LEU:HA	1:B:2980:VAL:HG22	2.03	0.41
1:B:4778:TRP:O	1:B:4782:VAL:HG23	2.21	0.41
1:D:61:ASP:OD2	1:D:402:ARG:NH2	2.40	0.41
1:D:345:LEU:HB3	1:D:387:ALA:HB1	2.03	0.41
1:D:1206:GLN:HA	1:D:1227:ALA:O	2.20	0.41
1:D:1447:CYS:HB3	1:D:1555:LEU:HB3	2.02	0.41
1:D:1996:ARG:HH11	1:D:1996:ARG:HA	1.86	0.41
1:D:2668:SER:C	1:D:2670:GLU:H	2.24	0.41
1:D:2759:ALA:HB1	1:D:2806:ARG:HB2	2.03	0.41
1:C:906:CYS:SG	1:C:913:LEU:HD22	2.61	0.41
1:C:1773:PRO:HA	1:C:1774:PRO:HD3	1.90	0.41
1:C:2625:ARG:O	1:C:2625:ARG:HD3	2.20	0.41
1:C:2963:LEU:HD12	1:C:2963:LEU:HA	1.85	0.41
1:C:3329:ILE:HG22	1:C:3330:ASP:H	1.85	0.41
1:C:4968:PHE:O	1:C:4974:GLY:HA3	2.21	0.41
1:A:872:GLU:O	1:A:876:GLU:HG3	2.21	0.40
1:A:1748:PHE:HB2	1:A:1758:ARG:NH2	2.36	0.40
1:A:1851:MET:HE2	1:A:1853:ILE:HD11	2.03	0.40
1:A:3543:LYS:NZ	1:A:3604:TYR:OH	2.46	0.40
1:A:4675:LYS:O	1:A:4679:ARG:HG3	2.22	0.40
2:F:2:VAL:HG21	2:F:61:GLU:HB2	2.02	0.40
1:B:883:ALA:HB1	1:B:907:LEU:CD1	2.51	0.40
1:B:3039:ILE:CD1	1:B:3071:LEU:HD22	2.48	0.40
1:B:3442:PHE:CG	1:B:3514:LEU:HD22	2.55	0.40
1:D:2186:MET:HE3	1:D:2234:ARG:NH2	2.30	0.40
1:D:2713:ASP:OD1	1:D:2713:ASP:N	2.47	0.40
1:D:2902:HIS:CE1	1:D:2904:LEU:HB2	2.56	0.40
1:D:3528:THR:HG23	1:D:3573:MET:CE	2.50	0.40
1:D:3959:LYS:NZ	1:D:4022:ASP:OD2	2.47	0.40
1:C:1018:ASN:HB3	1:C:1021:LEU:HB2	2.03	0.40
1:C:1781:CYS:SG	1:C:1783:VAL:HG22	2.62	0.40
1:C:2135:LEU:HA	1:C:2135:LEU:HD23	1.80	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2574:HIS:CD2	1:C:2574:HIS:H	2.39	0.40
1:C:2588:ARG:HH21	1:C:2589:LEU:HD23	1.86	0.40
1:C:2977:LEU:HG	1:C:3056:LEU:HD23	2.02	0.40
1:C:3059:THR:O	1:C:3062:PRO:HD2	2.21	0.40
1:A:1078:GLU:OE2	1:A:1654:SER:OG	2.32	0.40
1:A:2037:ASP:OD2	1:A:2038:LEU:N	2.53	0.40
1:A:2912:THR:OG1	1:A:2913:ALA:N	2.54	0.40
1:B:157:ARG:NH2	1:B:164:ARG:HD2	2.36	0.40
1:B:937:CYS:N	1:B:1056:PRO:HG3	2.36	0.40
1:B:2534:ALA:HA	1:B:2588:ARG:NH2	2.36	0.40
1:B:2765:LYS:HD3	1:B:2765:LYS:HA	1.77	0.40
1:B:3320:LEU:O	1:B:3324:VAL:HG12	2.21	0.40
1:B:3384:LYS:HD2	1:B:3386:GLU:HB3	2.04	0.40
1:D:882:TRP:O	1:D:886:ARG:HG2	2.22	0.40
1:D:1488:LYS:HE3	1:D:1488:LYS:HB2	1.87	0.40
1:D:1867:GLU:OE2	1:D:1928:GLN:NE2	2.54	0.40
1:D:2974:ILE:HG13	1:D:2975:ALA:N	2.37	0.40
1:D:4069:LYS:NZ	1:D:4133:GLN:OE1	2.50	0.40
1:D:4244:GLU:OE2	1:D:4668:LEU:HB2	2.21	0.40
1:D:4686:LEU:O	1:D:4690:GLU:HG2	2.21	0.40
1:C:2813:LEU:HD13	1:C:2813:LEU:HA	1.87	0.40
1:C:3169:LEU:HD21	1:C:3205:PHE:CE2	2.56	0.40
1:C:3536:ALA:HB2	1:C:3553:LEU:HD21	2.03	0.40
1:A:19:GLU:CD	1:A:66:CYS:HB3	2.41	0.40
1:A:1447:CYS:HB3	1:A:1555:LEU:HB3	2.02	0.40
1:A:1943:LEU:HB2	1:A:2123:LEU:HD21	2.03	0.40
1:A:3263:TYR:HD1	1:A:3270:ILE:HD12	1.87	0.40
1:A:3623:LEU:HD12	1:A:3624:LEU:N	2.37	0.40
1:A:3762:ARG:NH1	1:A:4755:GLU:HB2	2.37	0.40
1:A:4586:PRO:HG3	1:A:4629:TYR:CZ	2.57	0.40
1:A:4639:MET:HB3	1:A:4639:MET:HE2	1.72	0.40
1:A:4897:ILE:O	1:A:4901:ILE:HG12	2.21	0.40
1:A:4929:LEU:O	1:A:4933:GLN:HG3	2.21	0.40
2:H:2:VAL:HG21	2:H:61:GLU:HB2	2.02	0.40
1:B:612:VAL:HG12	1:B:2169:GLN:HG2	2.04	0.40
1:B:2002:PRO:HD3	1:B:3638:MET:CE	2.52	0.40
1:B:2240:CYS:SG	1:B:2250:MET:HG3	2.61	0.40
1:B:2577:ILE:H	1:B:2577:ILE:CD1	2.32	0.40
1:B:3535:LEU:HD12	1:B:3536:ALA:N	2.36	0.40
1:B:3753:PHE:O	1:B:3757:GLU:HG2	2.21	0.40
1:B:4090:LYS:HD3	1:B:4121:GLU:HG3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:330:ASP:N	1:D:330:ASP:OD1	2.54	0.40
1:D:931:THR:O	1:D:935:LEU:N	2.35	0.40
1:D:2881:ASN:HA	1:D:2884:ASN:HD21	1.86	0.40
1:D:4844:LEU:HD21	1:D:4924:VAL:HG13	2.03	0.40
1:C:882:TRP:O	1:C:885:THR:OG1	2.34	0.40
1:C:1044:ARG:HG2	1:C:1044:ARG:HH11	1.86	0.40
1:C:1055:PRO:HA	1:C:1056:PRO:HD3	1.98	0.40
1:C:3354:LEU:HD22	1:C:3423:TRP:CZ2	2.56	0.40
1:C:4092:ASP:HA	1:C:4095:LYS:HG2	2.03	0.40
1:A:484:LEU:O	1:A:488:LEU:HG	2.21	0.40
1:A:869:ARG:HH12	1:A:941:MET:HE3	1.87	0.40
1:A:2203:MET:HE2	1:A:2203:MET:HB2	1.88	0.40
1:A:2527:LEU:HA	1:A:2527:LEU:HD12	1.82	0.40
1:A:3019:SER:HA	1:A:3025:LEU:HD12	2.04	0.40
1:A:3226:GLU:C	1:A:3228:ALA:H	2.25	0.40
1:A:3300:ALA:HB3	1:A:3301:PRO:HD3	2.04	0.40
1:A:3753:PHE:O	1:A:3757:GLU:HG2	2.21	0.40
1:A:4972:PRO:HB3	1:B:5024:ALA:HB3	2.01	0.40
1:B:2576:ALA:HA	1:B:2579:VAL:HG12	2.03	0.40
1:B:4148:THR:HG21	1:B:4180:ARG:HH21	1.87	0.40
1:B:4821:LYS:HD3	1:B:4821:LYS:N	2.28	0.40
1:D:950:LEU:HD13	1:D:970:LEU:HD22	2.02	0.40
1:D:1249:PRO:HA	1:D:1250:PRO:HD3	1.98	0.40
1:D:1773:PRO:HA	1:D:1774:PRO:HD3	1.89	0.40
1:D:2690:LYS:HG3	1:D:2691:TYR:N	2.36	0.40
1:D:2773:ASN:OD1	1:D:2786:LYS:NZ	2.35	0.40
1:D:3052:HIS:HA	1:D:3127:GLN:OE1	2.21	0.40
1:D:3232:LEU:HD23	1:D:3232:LEU:HA	1.91	0.40
1:D:3400:VAL:HG23	1:D:3403:ARG:HH21	1.86	0.40
1:D:3633:VAL:HG12	1:D:3637:ARG:HE	1.87	0.40
1:D:4115:SER:HB2	1:D:4123:ILE:HG13	2.03	0.40
1:C:1494:MET:HE3	1:C:1494:MET:HB3	1.79	0.40
1:C:2534:ALA:HA	1:C:2588:ARG:NH2	2.33	0.40
1:C:2719:TYR:CD2	1:C:2953:LYS:HE2	2.56	0.40
1:C:2977:LEU:HA	1:C:2980:VAL:HG22	2.03	0.40
1:C:3163:VAL:O	1:C:3167:ARG:HG3	2.21	0.40
1:C:3868:ARG:NH1	1:C:3870:ASN:HB3	2.37	0.40
1:C:4134:GLU:HB3	1:C:4135:PRO:HD3	2.02	0.40
1:C:4822:THR:O	1:C:4825:THR:OG1	2.34	0.40
1:A:2420:HIS:HA	1:A:2423:MET:CE	2.51	0.40
2:F:84:ALA:O	2:F:93:PRO:HB3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:866:HIS:HA	1:B:869:ARG:HG3	2.04	0.40
1:B:893:TYR:O	1:B:903:LEU:HD22	2.22	0.40
1:B:1739:THR:O	1:B:1743[B]:ARG:HG3	2.21	0.40
1:B:2680:TRP:CE3	1:B:2680:TRP:HA	2.57	0.40
1:B:3110:LEU:C	1:B:3112:LEU:H	2.24	0.40
1:B:3734:HIS:CG	1:B:3735:LEU:N	2.89	0.40
1:B:4796:MET:HA	1:B:4796:MET:HE3	2.03	0.40
1:B:4823:LEU:HD11	1:C:4843:LEU:HB2	2.03	0.40
1:B:4897:ILE:HD12	1:B:4897:ILE:HA	1.96	0.40
1:D:3566:SER:HB3	1:D:3569:LEU:HB3	2.02	0.40
1:D:3924:LEU:HD23	1:D:3924:LEU:HA	1.96	0.40
1:C:416:LYS:HE3	1:C:416:LYS:HB2	1.91	0.40
1:C:2538:THR:OG1	1:C:2539:ALA:N	2.55	0.40
1:C:3131:TYR:O	1:C:3136:LEU:N	2.54	0.40
1:C:3582:ARG:HD3	1:C:3582:ARG:HA	1.90	0.40
1:C:4836:GLN:O	1:C:4840:THR:HG22	2.21	0.40
1:C:4861:LYS:H	1:C:4861:LYS:HG3	1.65	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	4385/5037 (87%)	4260 (97%)	125 (3%)	0	100	100
1	B	4385/5037 (87%)	4251 (97%)	134 (3%)	0	100	100
1	C	4385/5037 (87%)	4264 (97%)	121 (3%)	0	100	100
1	D	4385/5037 (87%)	4272 (97%)	113 (3%)	0	100	100
2	E	105/108 (97%)	100 (95%)	5 (5%)	0	100	100
2	F	105/108 (97%)	100 (95%)	5 (5%)	0	100	100
2	G	105/108 (97%)	100 (95%)	5 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	H	105/108 (97%)	100 (95%)	5 (5%)	0	100 100
All	All	17960/20580 (87%)	17447 (97%)	513 (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	3836/4276 (90%)	3719 (97%)	117 (3%)	35 68
1	B	3836/4276 (90%)	3714 (97%)	122 (3%)	34 67
1	C	3836/4276 (90%)	3716 (97%)	120 (3%)	35 68
1	D	3836/4276 (90%)	3720 (97%)	116 (3%)	36 69
2	E	89/90 (99%)	84 (94%)	5 (6%)	17 46
2	F	89/90 (99%)	79 (89%)	10 (11%)	5 15
2	G	89/90 (99%)	82 (92%)	7 (8%)	10 29
2	H	89/90 (99%)	80 (90%)	9 (10%)	6 19
All	All	15700/17464 (90%)	15194 (97%)	506 (3%)	37 67

All (506) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	19	GLU
1	A	32	GLN
1	A	99	ARG
1	A	125	ARG
1	A	127	MET
1	A	208	CYS
1	A	220	LEU
1	A	380	GLN
1	A	820	ARG
1	A	869	ARG

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Mol	Chain	Res	Type
1	A	898	ASP
1	A	911	HIS
1	A	924	MET
1	A	932	LEU
1	A	945	LYS
1	A	957	LYS
1	A	959	TYR
1	A	961	MET
1	A	963	ASN
1	A	987	ARG
1	A	998	ARG
1	A	1021	LEU
1	A	1128	ARG
1	A	1143	TRP
1	A	1152	MET
1	A	1170	MET
1	A	1280	GLN
1	A	1281	ASN
1	A	1462	MET
1	A	1506	GLN
1	A	1511	HIS
1	A	1534	LYS
1	A	1538	THR
1	A	1743[A]	ARG
1	A	1743[B]	ARG
1	A	1752	ARG
1	A	1758	ARG
1	A	1759	ARG
1	A	1929	MET
1	A	1979	LEU
1	A	1986	MET
1	A	1999	ARG
1	A	2100[A]	HIS
1	A	2100[B]	HIS
1	A	2120	MET
1	A	2161	GLN
1	A	2173	GLN
1	A	2189	LYS
1	A	2203	MET
1	A	2208	MET
1	A	2211	MET
1	A	2221	LYS

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Mol	Chain	Res	Type
1	A	2224	ARG
1	A	2234	ARG
1	A	2248	ARG
1	A	2267	MET
1	A	2296	GLU
1	A	2312	MET
1	A	2330	ARG
1	A	2336	ARG
1	A	2369[A]	ARG
1	A	2369[B]	ARG
1	A	2415	ARG
1	A	2440	MET
1	A	2582	MET
1	A	2588	ARG
1	A	2608	MET
1	A	2628	PHE
1	A	2639	MET
1	A	2698	MET
1	A	2738	ARG
1	A	2761	TYR
1	A	2786	LYS
1	A	2797	PHE
1	A	2806	ARG
1	A	2816	MET
1	A	2827	ARG
1	A	2914	LYS
1	A	2932	MET
1	A	2937	VAL
1	A	2971	GLN
1	A	3053	ARG
1	A	3111	ARG
1	A	3182	TYR
1	A	3213	TYR
1	A	3382	GLU
1	A	3449	HIS
1	A	3451	PHE
1	A	3453	ARG
1	A	3457	ASN
1	A	3534	MET
1	A	3614	LYS
1	A	3619	VAL
1	A	3622	LYS

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Mol	Chain	Res	Type
1	A	3639	THR
1	A	3667	HIS
1	A	3693	LYS
1	A	3715	LYS
1	A	3752	SER
1	A	3836	MET
1	A	3858	MET
1	A	3899	PHE
1	A	3933	PHE
1	A	4091	LYS
1	A	4122	MET
1	A	4188	ARG
1	A	4544	LEU
1	A	4580	TYR
1	A	4584	ASP
1	A	4627	MET
1	A	4629	TYR
1	A	4716	TRP
1	A	4769	MET
1	A	4818	MET
1	A	4821	LYS
1	A	4871	GLU
1	A	5034	ASP
2	E	13	ARG
2	E	25	HIS
2	E	29	MET
2	E	38	SER
2	E	79	ASP
2	H	25	HIS
2	H	29	MET
2	H	38	SER
2	H	50	LEU
2	H	57	ARG
2	H	59	TRP
2	H	71	ARG
2	H	79	ASP
2	H	87	HIS
2	G	25	HIS
2	G	29	MET
2	G	38	SER
2	G	50	LEU
2	G	71	ARG

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Mol	Chain	Res	Type
2	G	79	ASP
2	G	87	HIS
2	F	13	ARG
2	F	25	HIS
2	F	29	MET
2	F	38	SER
2	F	50	LEU
2	F	57	ARG
2	F	59	TRP
2	F	71	ARG
2	F	79	ASP
2	F	87	HIS
1	B	10	GLU
1	B	19	GLU
1	B	56	GLN
1	B	99	ARG
1	B	125	ARG
1	B	127	MET
1	B	208	CYS
1	B	220	LEU
1	B	310	LYS
1	B	328	LYS
1	B	367	LEU
1	B	384	MET
1	B	869	ARG
1	B	897	ARG
1	B	932	LEU
1	B	945	LYS
1	B	957	LYS
1	B	959	TYR
1	B	960	MET
1	B	998	ARG
1	B	1021	LEU
1	B	1025	ARG
1	B	1035	ASN
1	B	1128	ARG
1	B	1143	TRP
1	B	1152	MET
1	B	1280	GLN
1	B	1281	ASN
1	B	1421	ARG
1	B	1425	GLU

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Mol	Chain	Res	Type
1	B	1476	MET
1	B	1506	GLN
1	B	1511	HIS
1	B	1538	THR
1	B	1743[A]	ARG
1	B	1743[B]	ARG
1	B	1752	ARG
1	B	1758	ARG
1	B	1759	ARG
1	B	1872	THR
1	B	1944	GLU
1	B	1979	LEU
1	B	1990	GLU
1	B	2011	HIS
1	B	2100[A]	HIS
1	B	2100[B]	HIS
1	B	2101	MET
1	B	2192	TYR
1	B	2203	MET
1	B	2221	LYS
1	B	2224	ARG
1	B	2228	MET
1	B	2234	ARG
1	B	2256	TYR
1	B	2267	MET
1	B	2290	LEU
1	B	2296	GLU
1	B	2297	LYS
1	B	2312	MET
1	B	2336	ARG
1	B	2369[A]	ARG
1	B	2369[B]	ARG
1	B	2415	ARG
1	B	2440	MET
1	B	2444	GLN
1	B	2482	ASP
1	B	2588	ARG
1	B	2608	MET
1	B	2628	PHE
1	B	2738	ARG
1	B	2761	TYR
1	B	2786	LYS

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Mol	Chain	Res	Type
1	B	2797	PHE
1	B	2806	ARG
1	B	2827	ARG
1	B	2911	LEU
1	B	2914	LYS
1	B	2932	MET
1	B	2973	PHE
1	B	3053	ARG
1	B	3059	THR
1	B	3078	ARG
1	B	3166	TYR
1	B	3185	LYS
1	B	3216	CYS
1	B	3230	LEU
1	B	3239	MET
1	B	3348	ARG
1	B	3382	GLU
1	B	3392	LEU
1	B	3449	HIS
1	B	3451	PHE
1	B	3570	ARG
1	B	3577	ARG
1	B	3614	LYS
1	B	3622	LYS
1	B	3667	HIS
1	B	3693	LYS
1	B	3715	LYS
1	B	3727	ASP
1	B	3753	PHE
1	B	3858	MET
1	B	3899	PHE
1	B	3927	GLN
1	B	3933	PHE
1	B	4006	ASP
1	B	4039	MET
1	B	4091	LYS
1	B	4122	MET
1	B	4188	ARG
1	B	4227	GLU
1	B	4580	TYR
1	B	4584	ASP
1	B	4627	MET

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Mol	Chain	Res	Type
1	B	4629	TYR
1	B	4639	MET
1	B	4716	TRP
1	B	4769	MET
1	B	4818	MET
1	B	4821	LYS
1	B	4871	GLU
1	B	4945	ASP
1	D	81	MET
1	D	99	ARG
1	D	125	ARG
1	D	127	MET
1	D	140	ASP
1	D	150	MET
1	D	220	LEU
1	D	383	HIS
1	D	384	MET
1	D	820	ARG
1	D	844	ARG
1	D	869	ARG
1	D	898	ASP
1	D	911	HIS
1	D	924	MET
1	D	945	LYS
1	D	957	LYS
1	D	959	TYR
1	D	987	ARG
1	D	998	ARG
1	D	1021	LEU
1	D	1025	ARG
1	D	1044	ARG
1	D	1128	ARG
1	D	1143	TRP
1	D	1152	MET
1	D	1170	MET
1	D	1280	GLN
1	D	1281	ASN
1	D	1421	ARG
1	D	1506	GLN
1	D	1511	HIS
1	D	1538	THR
1	D	1743[A]	ARG

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Mol	Chain	Res	Type
1	D	1743[B]	ARG
1	D	1752	ARG
1	D	1758	ARG
1	D	1759	ARG
1	D	1986	MET
1	D	1999	ARG
1	D	2011	HIS
1	D	2100[A]	HIS
1	D	2100[B]	HIS
1	D	2173	GLN
1	D	2176	ASN
1	D	2198	MET
1	D	2211	MET
1	D	2221	LYS
1	D	2224	ARG
1	D	2225	PHE
1	D	2267	MET
1	D	2268[A]	GLN
1	D	2268[B]	GLN
1	D	2282	ASP
1	D	2296	GLU
1	D	2310	CYS
1	D	2312	MET
1	D	2336	ARG
1	D	2369[A]	ARG
1	D	2369[B]	ARG
1	D	2440	MET
1	D	2444	GLN
1	D	2588	ARG
1	D	2608	MET
1	D	2624	ARG
1	D	2628	PHE
1	D	2738	ARG
1	D	2761	TYR
1	D	2786	LYS
1	D	2797	PHE
1	D	2806	ARG
1	D	2816	MET
1	D	2827	ARG
1	D	2862	LEU
1	D	2867	LEU
1	D	2911	LEU

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Mol	Chain	Res	Type
1	D	2914	LYS
1	D	2932	MET
1	D	2965	ARG
1	D	2967	MET
1	D	3030	HIS
1	D	3034	LYS
1	D	3053	ARG
1	D	3127	GLN
1	D	3234	ASN
1	D	3337	ARG
1	D	3353	LEU
1	D	3449	HIS
1	D	3451	PHE
1	D	3453	ARG
1	D	3594	ARG
1	D	3614	LYS
1	D	3622	LYS
1	D	3624	LEU
1	D	3639	THR
1	D	3693	LYS
1	D	3715	LYS
1	D	3720	TYR
1	D	3753	PHE
1	D	3757	GLU
1	D	3899	PHE
1	D	3933	PHE
1	D	4039	MET
1	D	4044	MET
1	D	4091	LYS
1	D	4161	ARG
1	D	4580	TYR
1	D	4627	MET
1	D	4716	TRP
1	D	4769	MET
1	D	4796	MET
1	D	4818	MET
1	D	4821	LYS
1	D	4823	LEU
1	D	4951	LYS
1	D	4973	HIS
1	C	19	GLU
1	C	56	GLN

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Mol	Chain	Res	Type
1	C	99	ARG
1	C	125	ARG
1	C	127	MET
1	C	208	CYS
1	C	220	LEU
1	C	310	LYS
1	C	367	LEU
1	C	384	MET
1	C	428	SER
1	C	869	ARG
1	C	898	ASP
1	C	945	LYS
1	C	951	LYS
1	C	959	TYR
1	C	976	ARG
1	C	986	ASP
1	C	998	ARG
1	C	1016	ARG
1	C	1021	LEU
1	C	1025	ARG
1	C	1029	GLU
1	C	1036	ARG
1	C	1071	ARG
1	C	1128	ARG
1	C	1143	TRP
1	C	1280	GLN
1	C	1462	MET
1	C	1476	MET
1	C	1511	HIS
1	C	1538	THR
1	C	1730	MET
1	C	1743[A]	ARG
1	C	1743[B]	ARG
1	C	1752	ARG
1	C	1759	ARG
1	C	1986	MET
1	C	1996	ARG
1	C	2037	ASP
1	C	2100[A]	HIS
1	C	2100[B]	HIS
1	C	2208	MET
1	C	2221	LYS

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Mol	Chain	Res	Type
1	C	2224	ARG
1	C	2234	ARG
1	C	2244	ARG
1	C	2248	ARG
1	C	2267	MET
1	C	2290	LEU
1	C	2297	LYS
1	C	2312	MET
1	C	2330	ARG
1	C	2336	ARG
1	C	2369[A]	ARG
1	C	2369[B]	ARG
1	C	2444	GLN
1	C	2482	ASP
1	C	2502	MET
1	C	2541	PHE
1	C	2588	ARG
1	C	2606	CYS
1	C	2624	ARG
1	C	2625	ARG
1	C	2680	TRP
1	C	2738	ARG
1	C	2761	TYR
1	C	2786	LYS
1	C	2790	MET
1	C	2797	PHE
1	C	2806	ARG
1	C	2827	ARG
1	C	2914	LYS
1	C	2957	PHE
1	C	2971	GLN
1	C	3038	MET
1	C	3053	ARG
1	C	3162	GLN
1	C	3166	TYR
1	C	3256	LEU
1	C	3263	TYR
1	C	3285	TRP
1	C	3287	ARG
1	C	3348	ARG
1	C	3350	ARG
1	C	3358	PHE

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Mol	Chain	Res	Type
1	C	3382	GLU
1	C	3449	HIS
1	C	3451	PHE
1	C	3453	ARG
1	C	3517	MET
1	C	3534	MET
1	C	3570	ARG
1	C	3573	MET
1	C	3577	ARG
1	C	3614	LYS
1	C	3622	LYS
1	C	3639	THR
1	C	3652	MET
1	C	3715	LYS
1	C	3753	PHE
1	C	3757	GLU
1	C	3875	MET
1	C	3899	PHE
1	C	3933	PHE
1	C	3949	ARG
1	C	3999	MET
1	C	4006	ASP
1	C	4039	MET
1	C	4091	LYS
1	C	4133	GLN
1	C	4161	ARG
1	C	4207	MET
1	C	4580	TYR
1	C	4627	MET
1	C	4716	TRP
1	C	4769	MET
1	C	4818	MET
1	C	4821	LYS
1	C	5034	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1280	GLN
1	A	2444	GLN
1	A	4223	ASN
1	B	54	ASN

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Mol	Chain	Res	Type
1	B	56	GLN
1	B	57	ASN
1	D	57	ASN
1	D	1558	HIS
1	C	56	GLN
1	C	3268	HIS
1	C	3318	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 16 ligands modelled in this entry, 8 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
6	URA	D	5304	-	8,8,8	0.61	0	10,10,10	1.05	1 (10%)
3	ATP	C	5301	-	28,33,33	0.63	0	34,52,52	0.94	2 (5%)
6	URA	A	5304	-	8,8,8	0.59	0	10,10,10	1.08	1 (10%)
6	URA	C	5304	-	8,8,8	0.62	0	10,10,10	1.06	1 (10%)
3	ATP	B	5301	-	28,33,33	0.63	0	34,52,52	0.94	2 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
6	URA	B	5304	-	8,8,8	0.60	0	10,10,10	1.12	1 (10%)
3	ATP	A	5301	-	28,33,33	0.63	0	34,52,52	0.94	2 (5%)
3	ATP	D	5301	-	28,33,33	0.63	0	34,52,52	0.94	2 (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
6	URA	D	5304	-	-	-	0/1/1/1
3	ATP	C	5301	-	-	6/18/38/38	0/3/3/3
6	URA	A	5304	-	-	-	0/1/1/1
6	URA	C	5304	-	-	-	0/1/1/1
3	ATP	B	5301	-	-	8/18/38/38	0/3/3/3
6	URA	B	5304	-	-	-	0/1/1/1
3	ATP	A	5301	-	-	6/18/38/38	0/3/3/3
3	ATP	D	5301	-	-	6/18/38/38	0/3/3/3

There are no bond length outliers.

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	5301	ATP	C4'-O4'-C1'	-4.28	106.00	109.92
3	D	5301	ATP	C4'-O4'-C1'	-4.27	106.02	109.92
3	C	5301	ATP	C4'-O4'-C1'	-4.27	106.02	109.92
3	A	5301	ATP	C4'-O4'-C1'	-4.23	106.05	109.92
6	B	5304	URA	C4-N3-C2	2.41	127.88	125.55
3	D	5301	ATP	C5-C6-N6	2.32	123.84	120.31
6	A	5304	URA	C4-N3-C2	2.32	127.79	125.55
3	C	5301	ATP	C5-C6-N6	2.31	123.83	120.31
3	B	5301	ATP	C5-C6-N6	2.30	123.82	120.31
3	A	5301	ATP	C5-C6-N6	2.30	123.82	120.31
6	C	5304	URA	C4-N3-C2	2.24	127.72	125.55
6	D	5304	URA	C4-N3-C2	2.21	127.69	125.55

There are no chirality outliers.

All (26) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	5301	ATP	C5'-O5'-PA-O1A
3	A	5301	ATP	C5'-O5'-PA-O3A
3	B	5301	ATP	C5'-O5'-PA-O1A
3	B	5301	ATP	C5'-O5'-PA-O2A
3	B	5301	ATP	C5'-O5'-PA-O3A
3	D	5301	ATP	C5'-O5'-PA-O1A
3	D	5301	ATP	C5'-O5'-PA-O3A
3	C	5301	ATP	C5'-O5'-PA-O1A
3	C	5301	ATP	C5'-O5'-PA-O3A
3	A	5301	ATP	C5'-O5'-PA-O2A
3	D	5301	ATP	C5'-O5'-PA-O2A
3	C	5301	ATP	C5'-O5'-PA-O2A
3	B	5301	ATP	C4'-C5'-O5'-PA
3	A	5301	ATP	C4'-C5'-O5'-PA
3	A	5301	ATP	PG-O3B-PB-O1B
3	D	5301	ATP	C4'-C5'-O5'-PA
3	C	5301	ATP	C4'-C5'-O5'-PA
3	B	5301	ATP	O4'-C4'-C5'-O5'
3	B	5301	ATP	C3'-C4'-C5'-O5'
3	B	5301	ATP	PG-O3B-PB-O3A
3	D	5301	ATP	PG-O3B-PB-O3A
3	C	5301	ATP	PG-O3B-PB-O3A
3	D	5301	ATP	PG-O3B-PB-O1B
3	A	5301	ATP	PG-O3B-PB-O3A
3	B	5301	ATP	PG-O3B-PB-O1B
3	C	5301	ATP	PG-O3B-PB-O1B

There are no ring outliers.

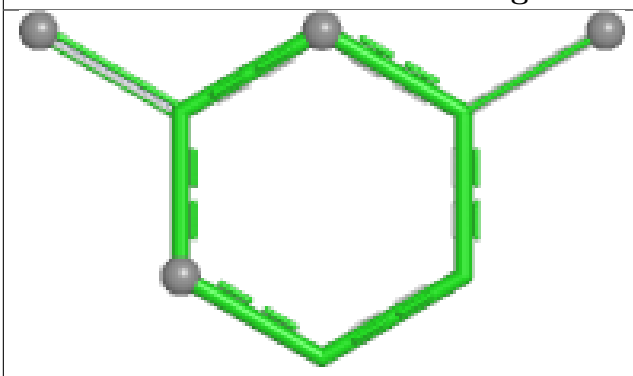
2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	5301	ATP	1	0
3	A	5301	ATP	1	0

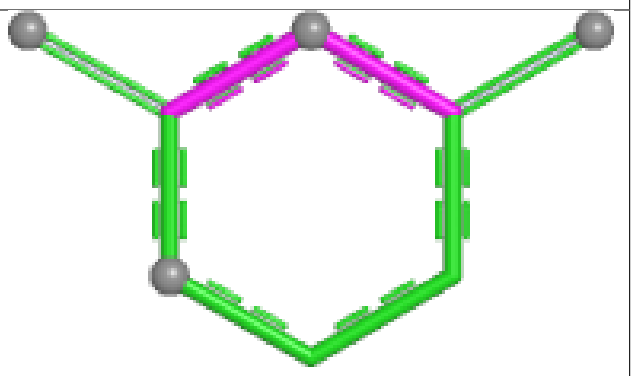
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

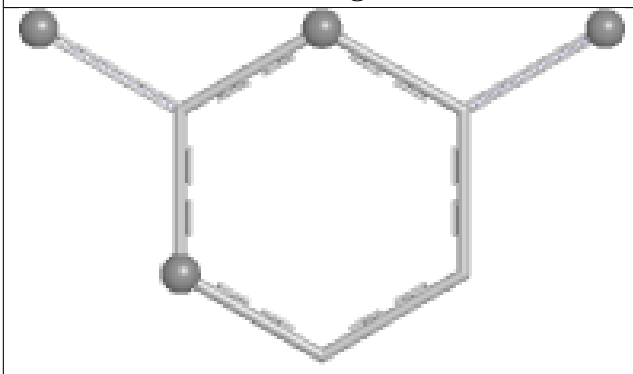
Ligand URA D 5304



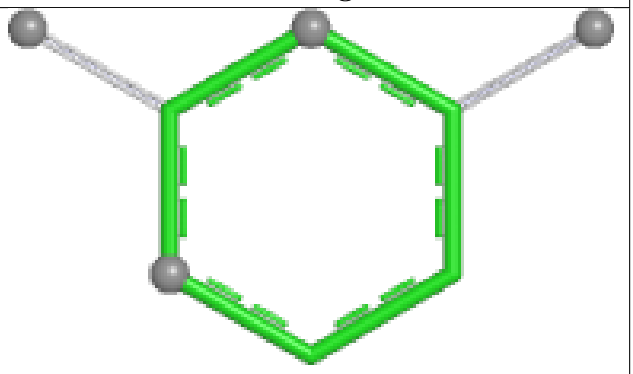
Bond lengths



Bond angles

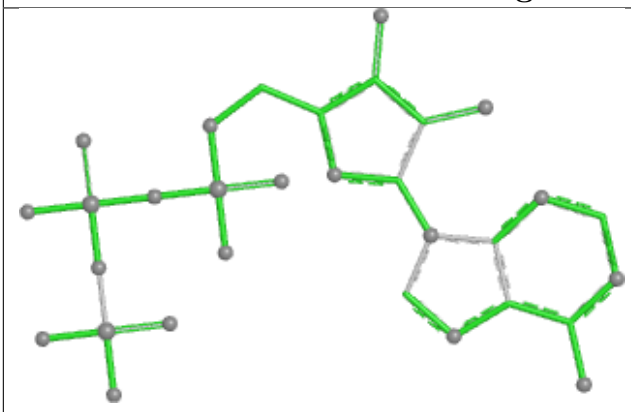


Torsions

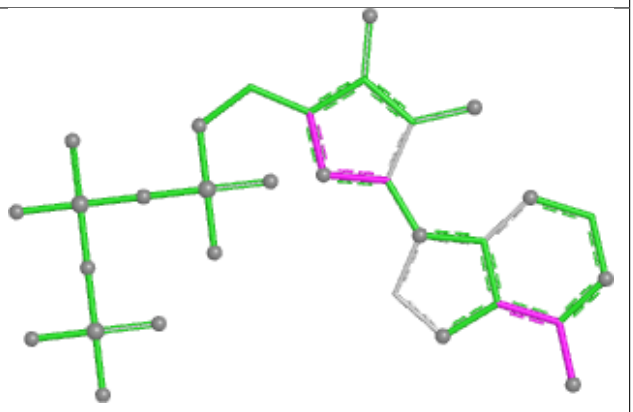


Rings

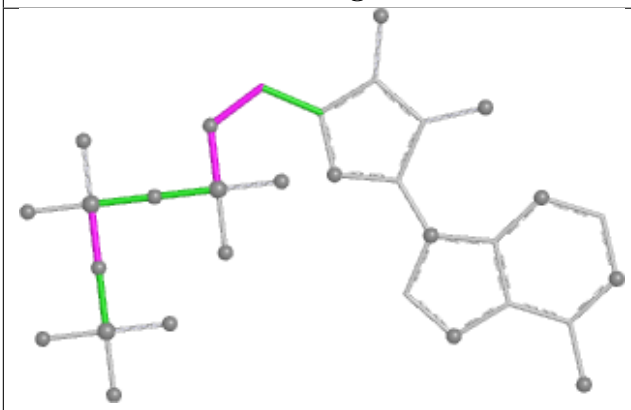
Ligand ATP C 5301



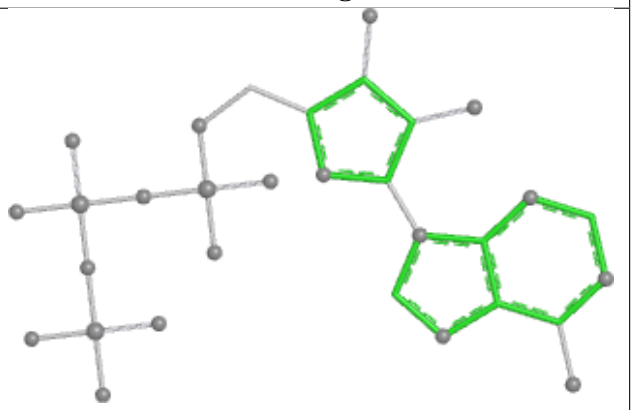
Bond lengths



Bond angles

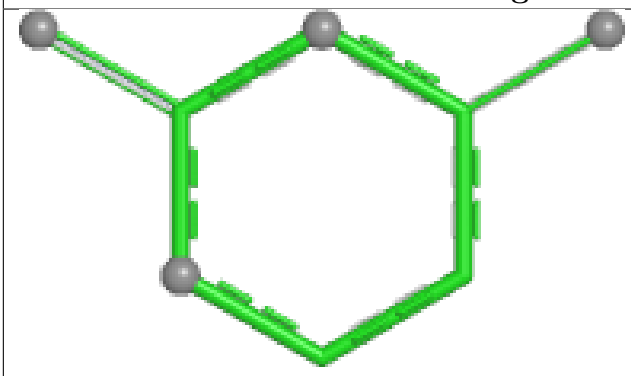


Torsions

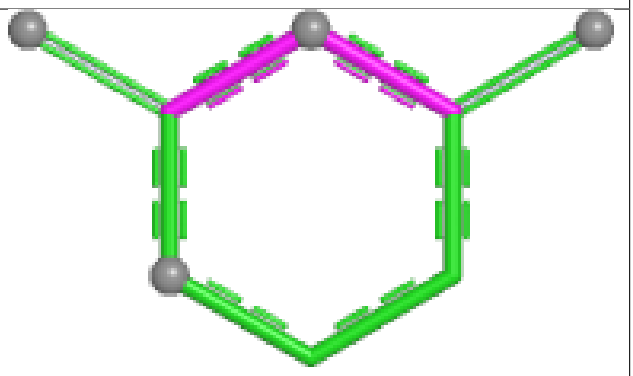


Rings

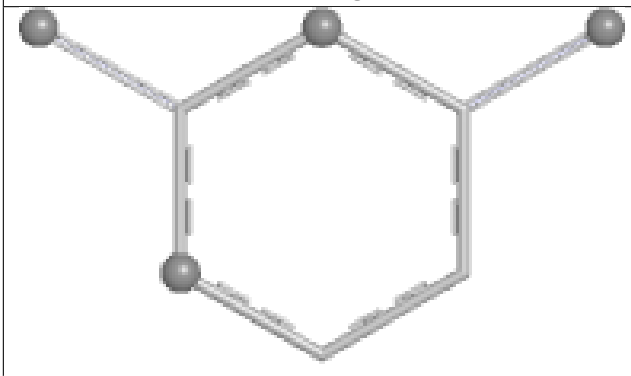
Ligand URA A 5304



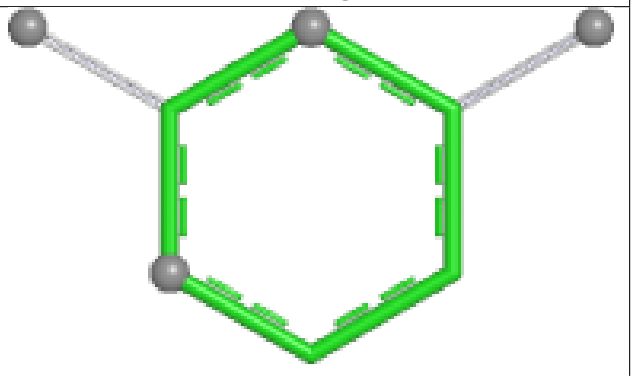
Bond lengths



Bond angles

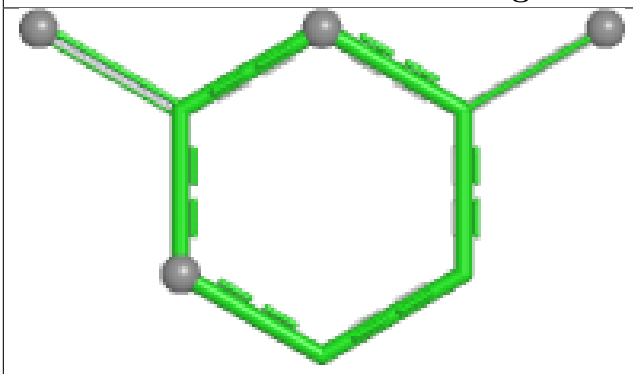


Torsions

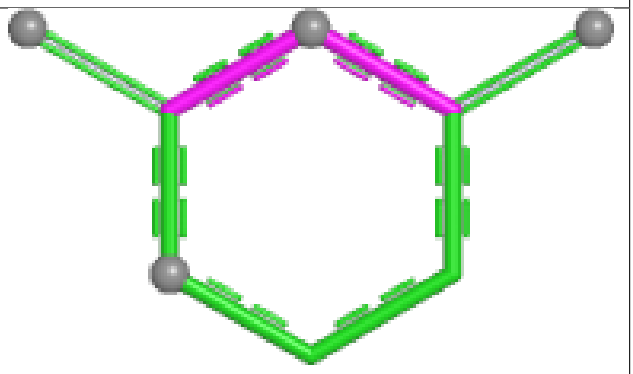


Rings

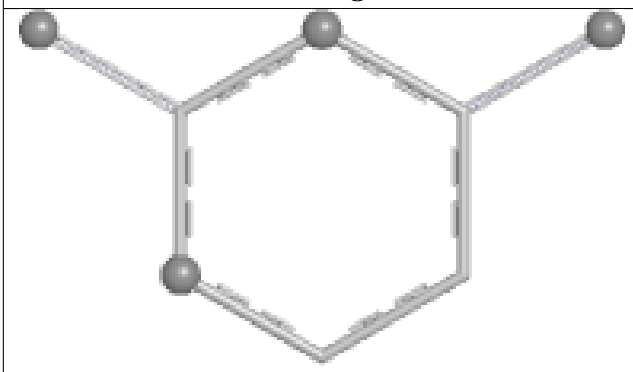
Ligand URA C 5304



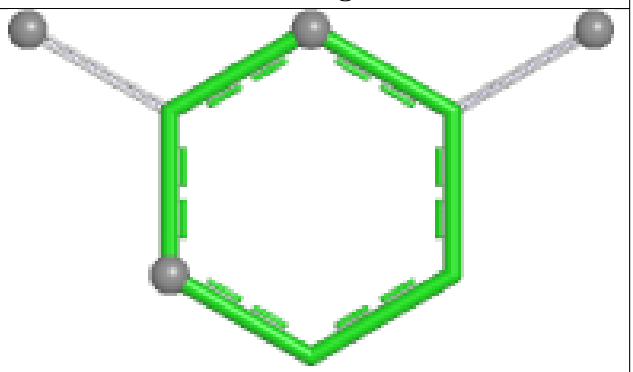
Bond lengths



Bond angles

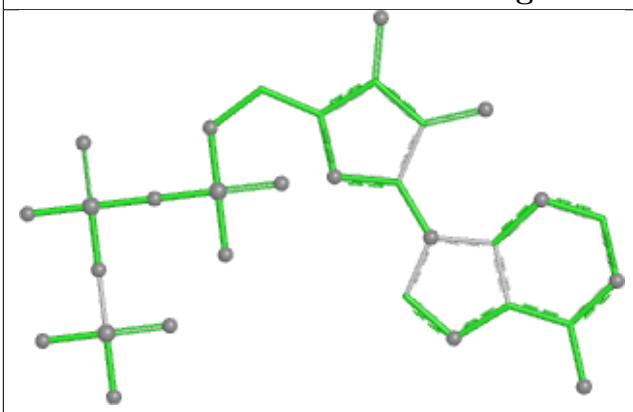


Torsions

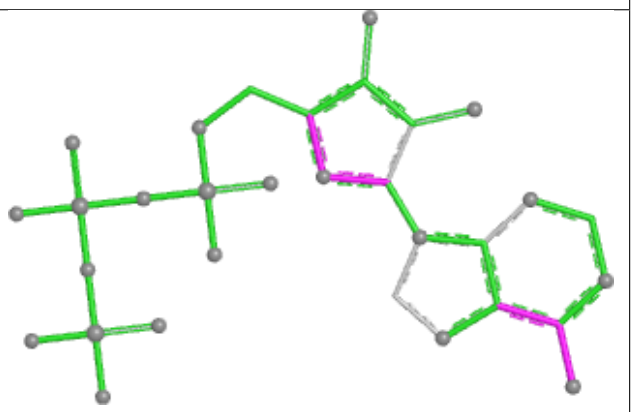


Rings

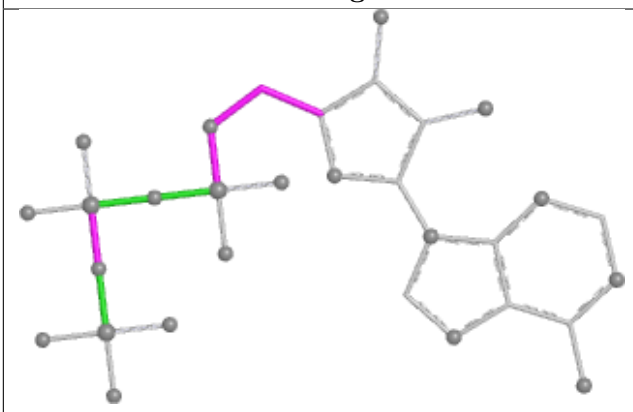
Ligand ATP B 5301



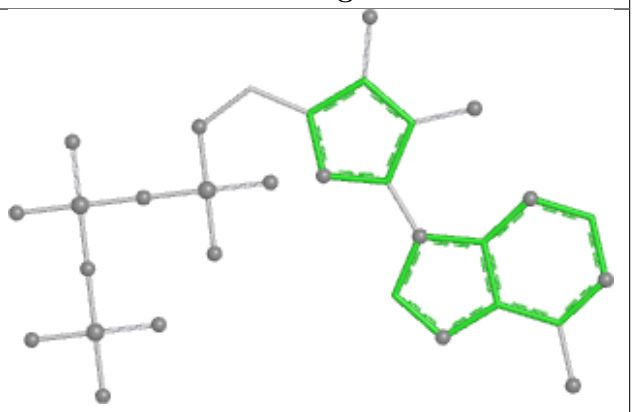
Bond lengths



Bond angles

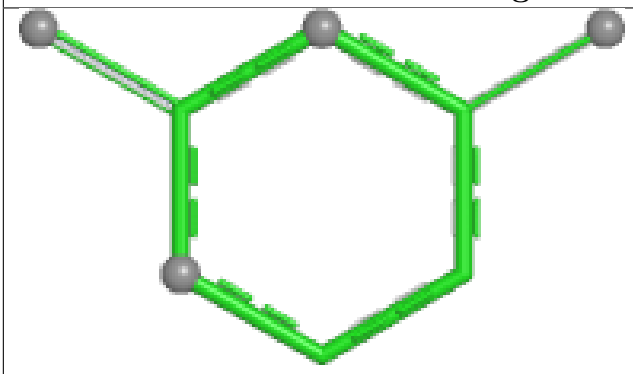


Torsions

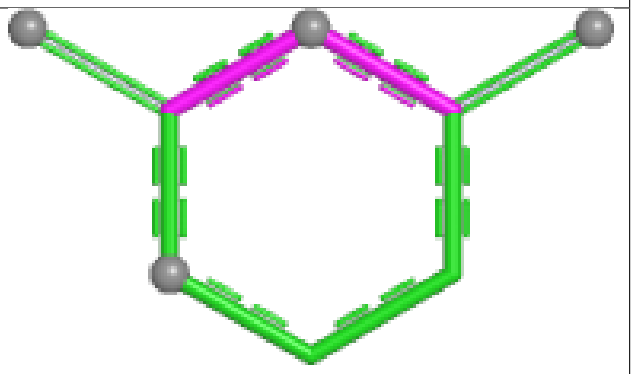


Rings

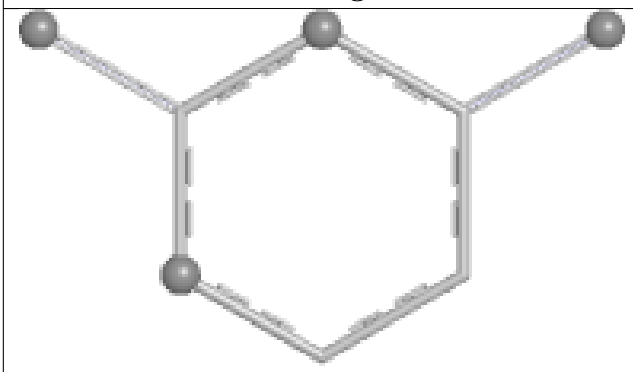
Ligand URA B 5304



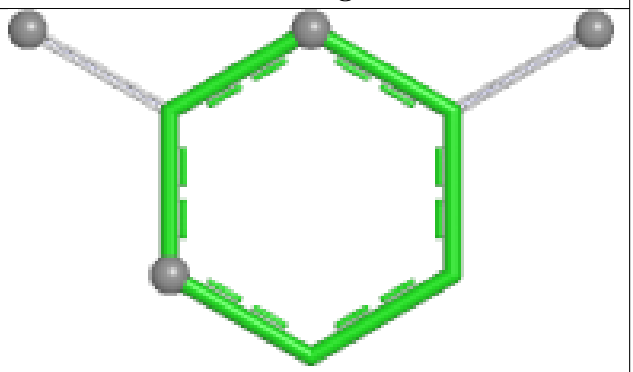
Bond lengths



Bond angles

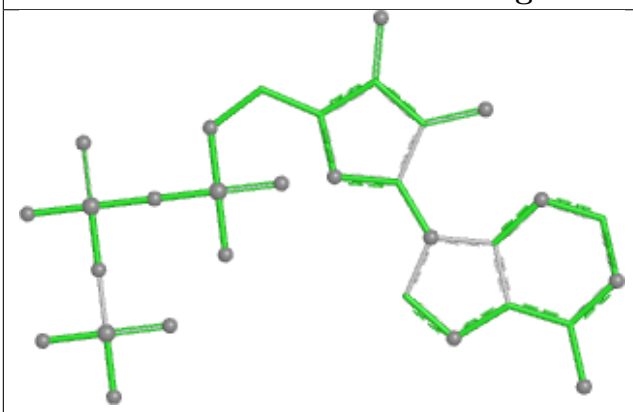


Torsions

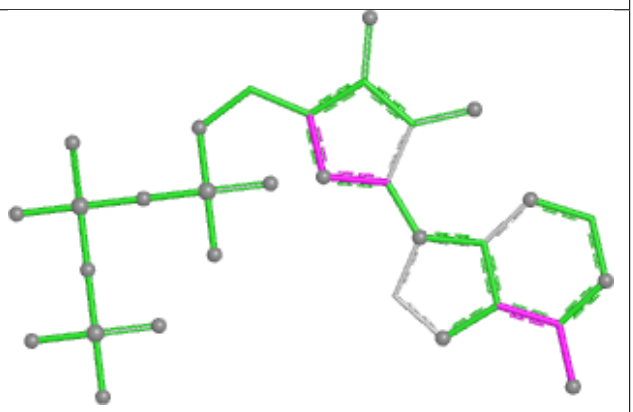


Rings

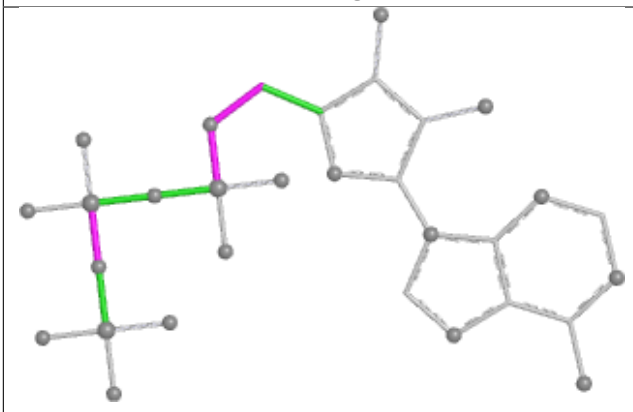
Ligand ATP A 5301



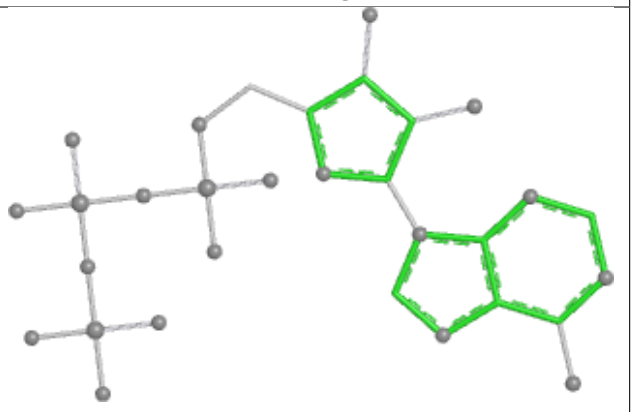
Bond lengths



Bond angles

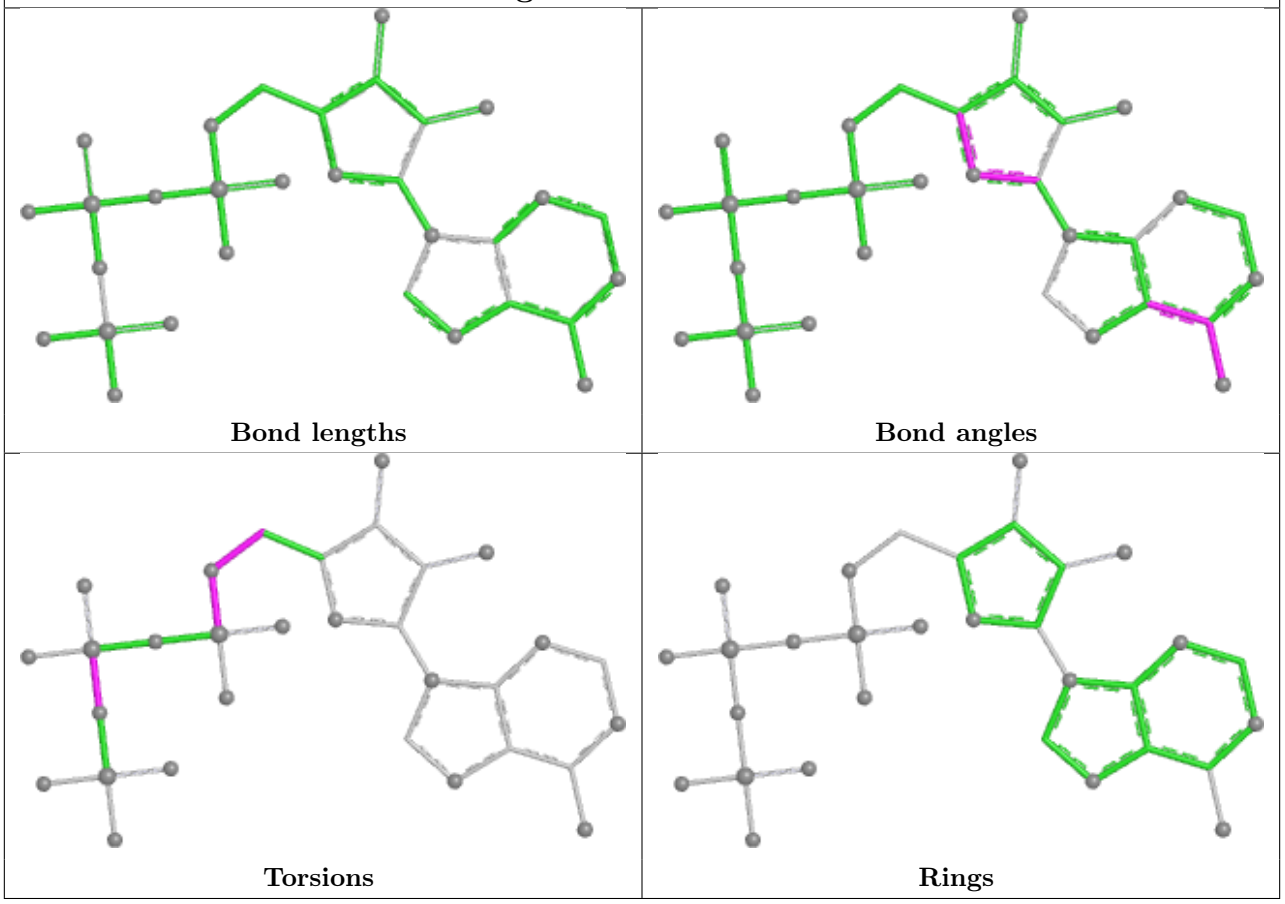


Torsions



Rings

Ligand ATP D 5301



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.

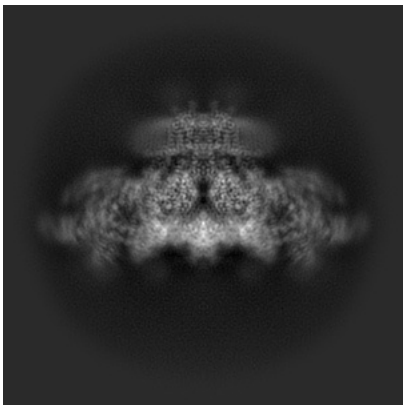
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-47391. These allow visual inspection of the internal detail of the map and identification of artifacts.

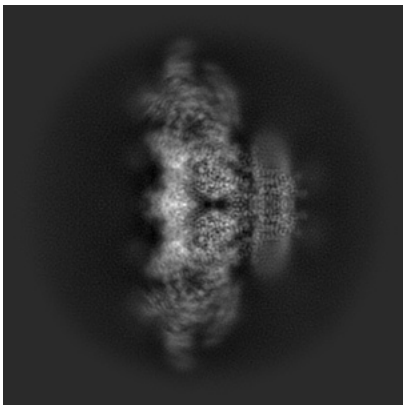
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

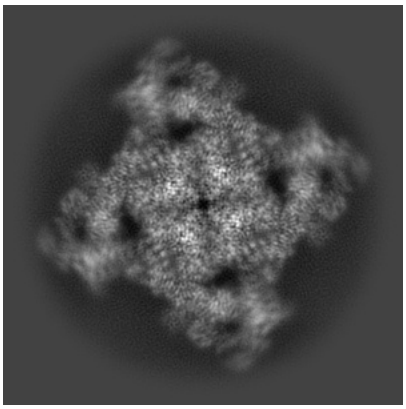
6.1.1 Primary map



X

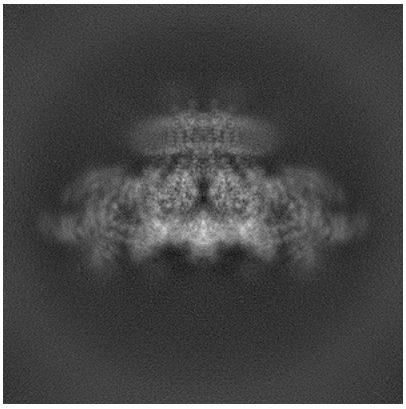


Y

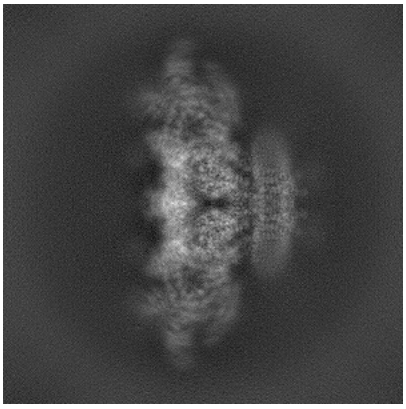


Z

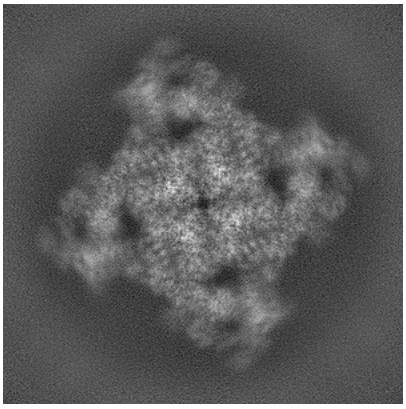
6.1.2 Raw map



X



Y

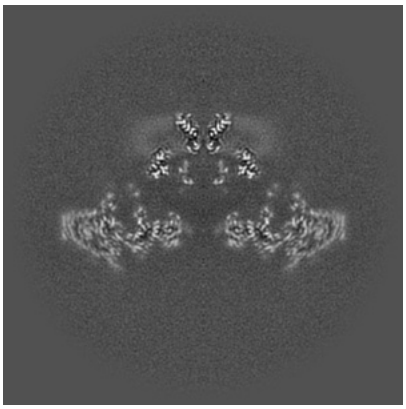


Z

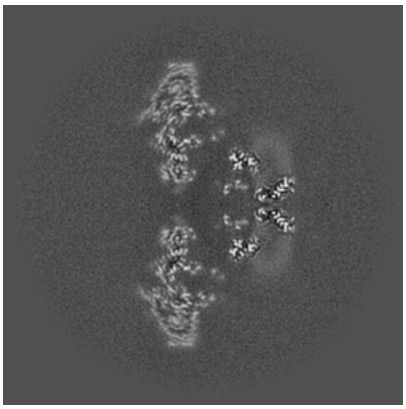
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

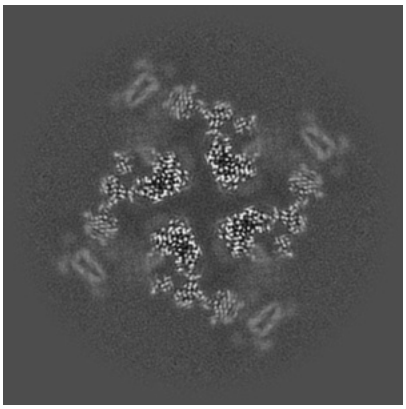
6.2.1 Primary map



X Index: 256

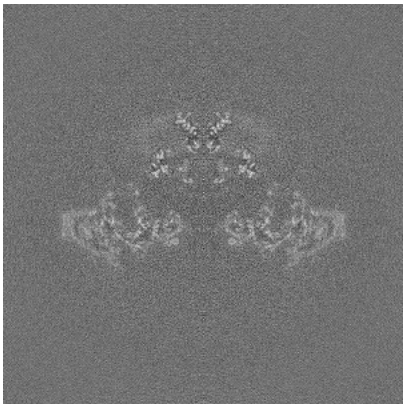


Y Index: 256

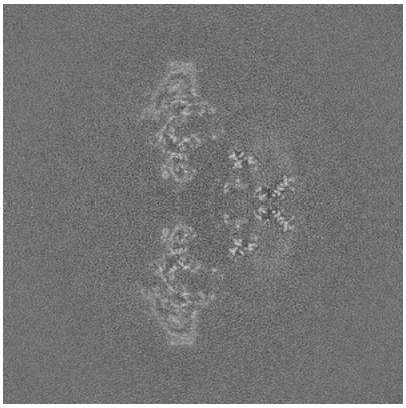


Z Index: 256

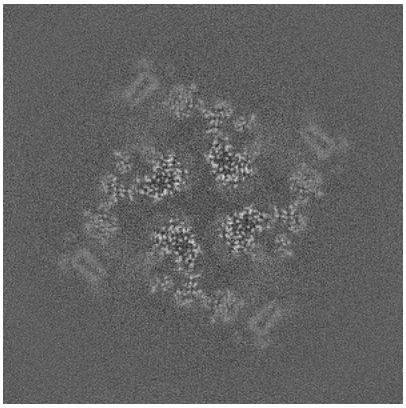
6.2.2 Raw map



X Index: 256



Y Index: 256

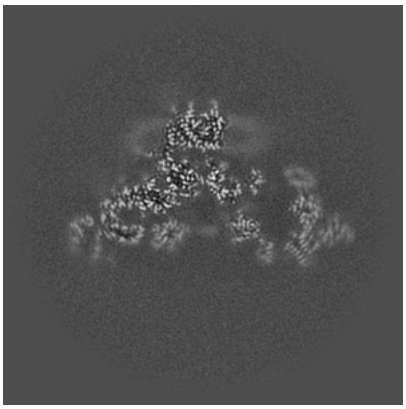


Z Index: 256

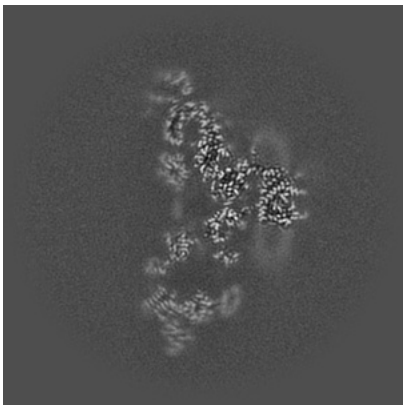
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

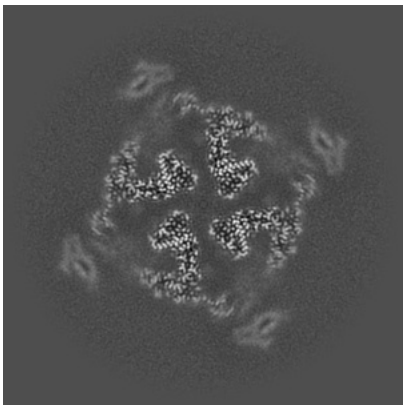
6.3.1 Primary map



X Index: 239

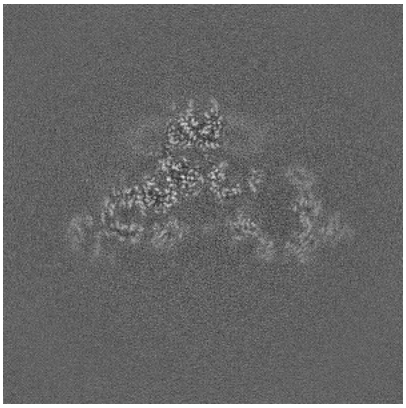


Y Index: 239

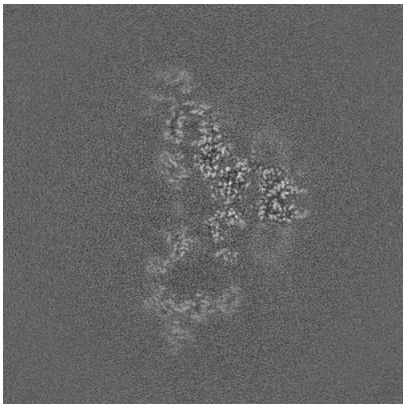


Z Index: 265

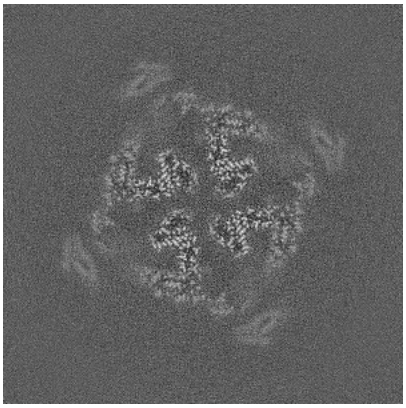
6.3.2 Raw map



X Index: 240



Y Index: 240

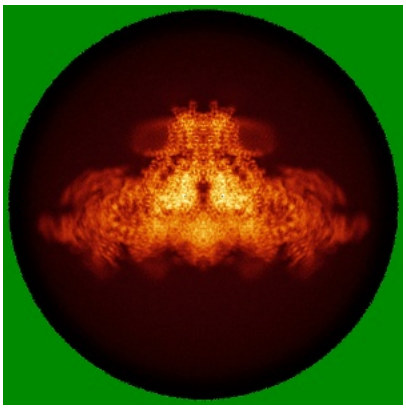


Z Index: 266

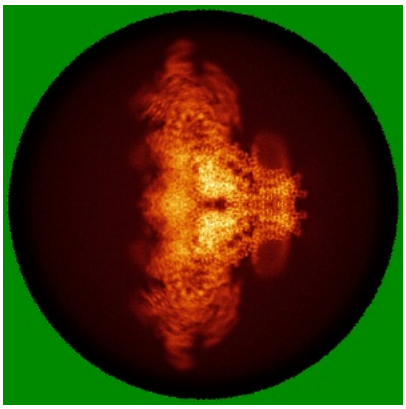
The images above show the largest variance slices of the map in three orthogonal directions.

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

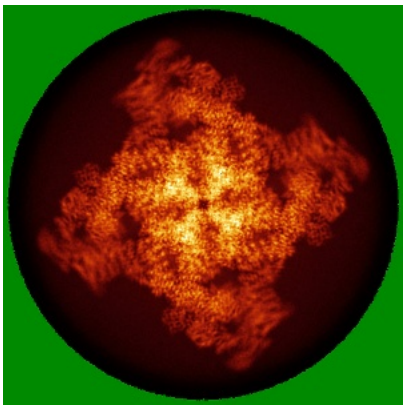
6.4.1 Primary map



X

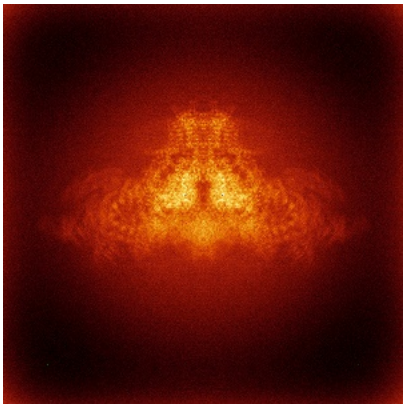


Y

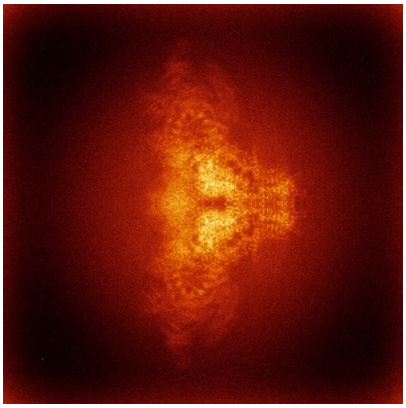


Z

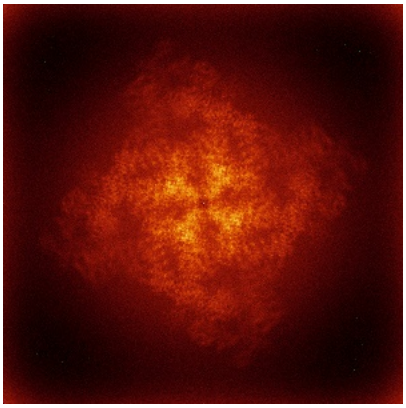
6.4.2 Raw map



X



Y

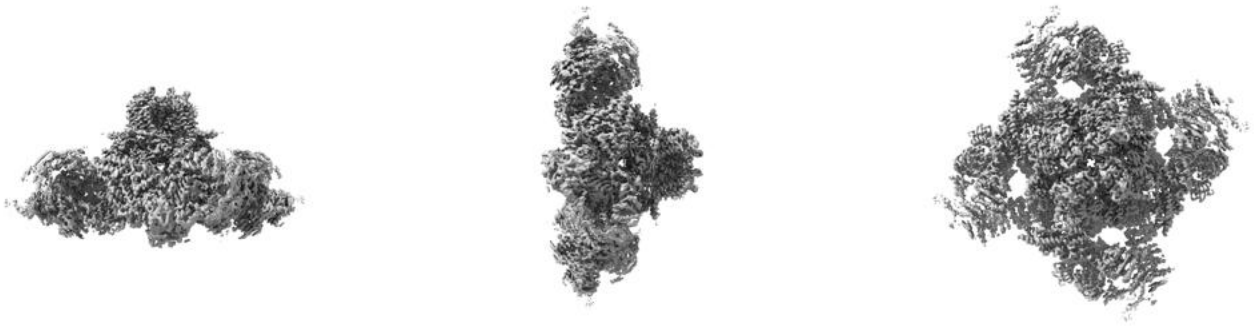


Z

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)

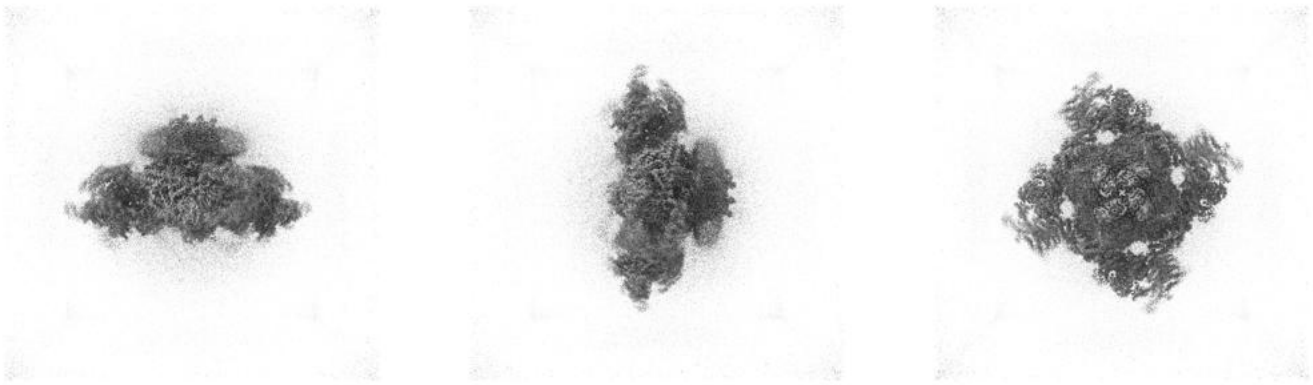
6.5.1 Primary map



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.

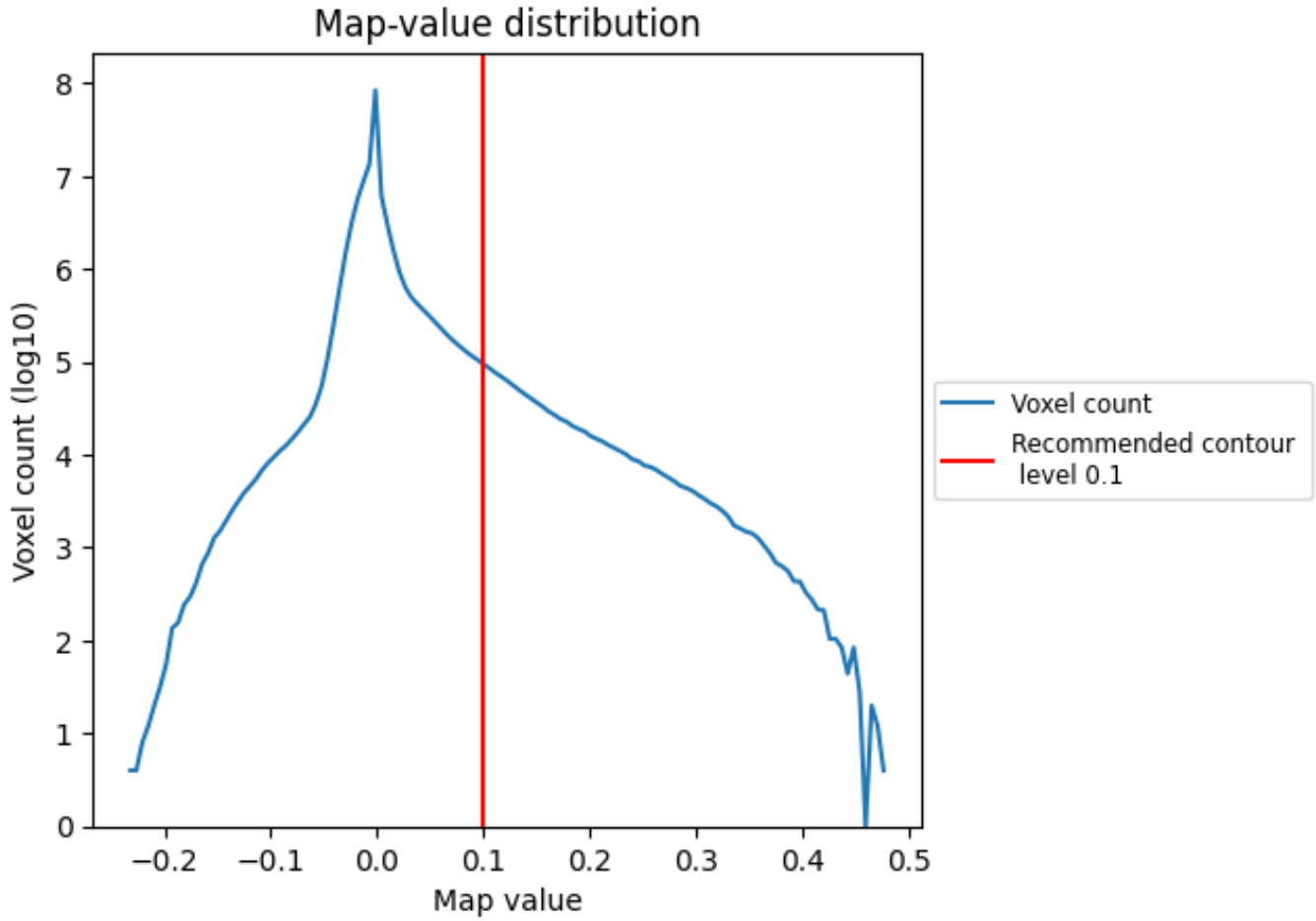
6.6 Mask visualisation (i)

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

7 Map analysis

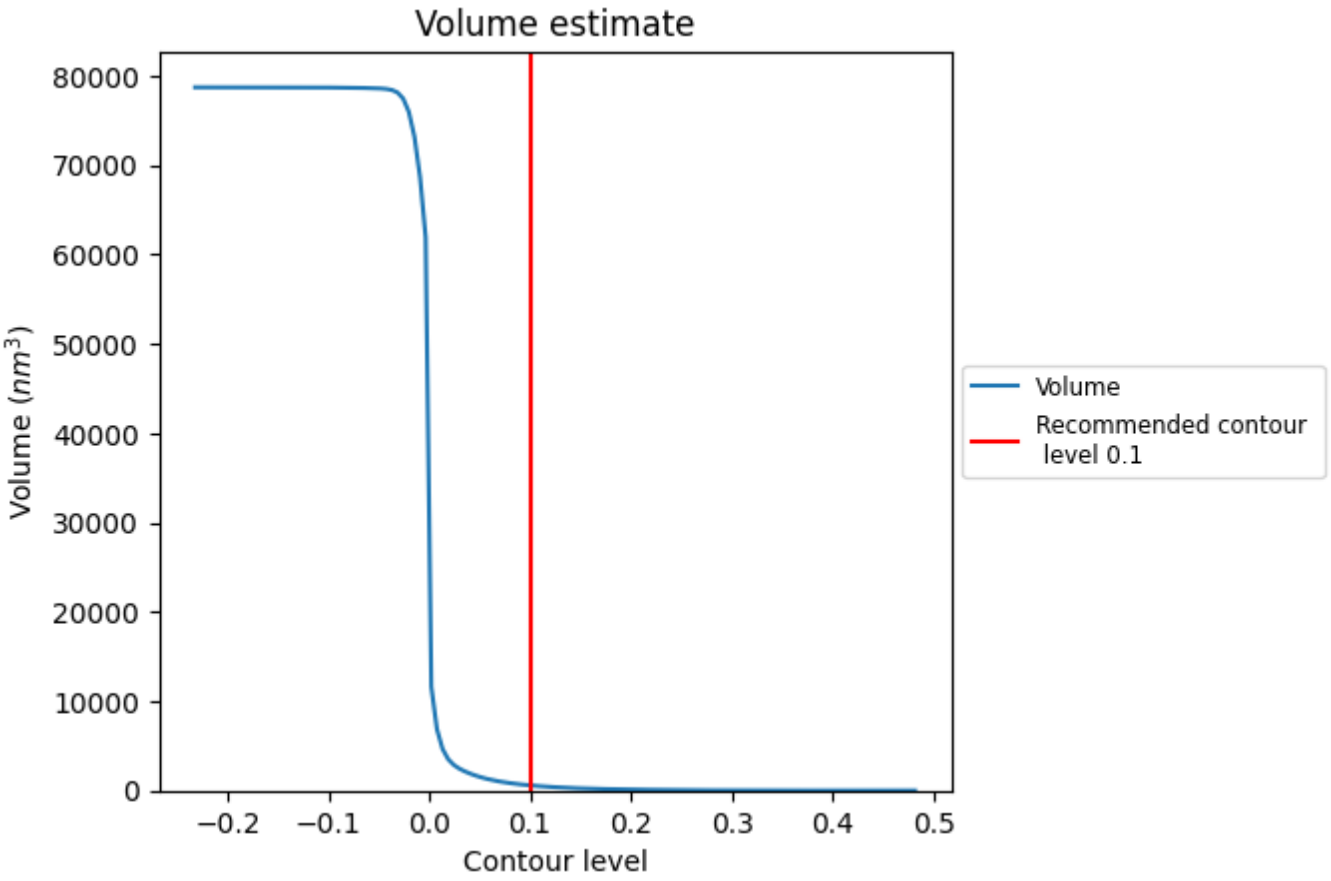
This section contains the results of statistical analysis of the map.

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.

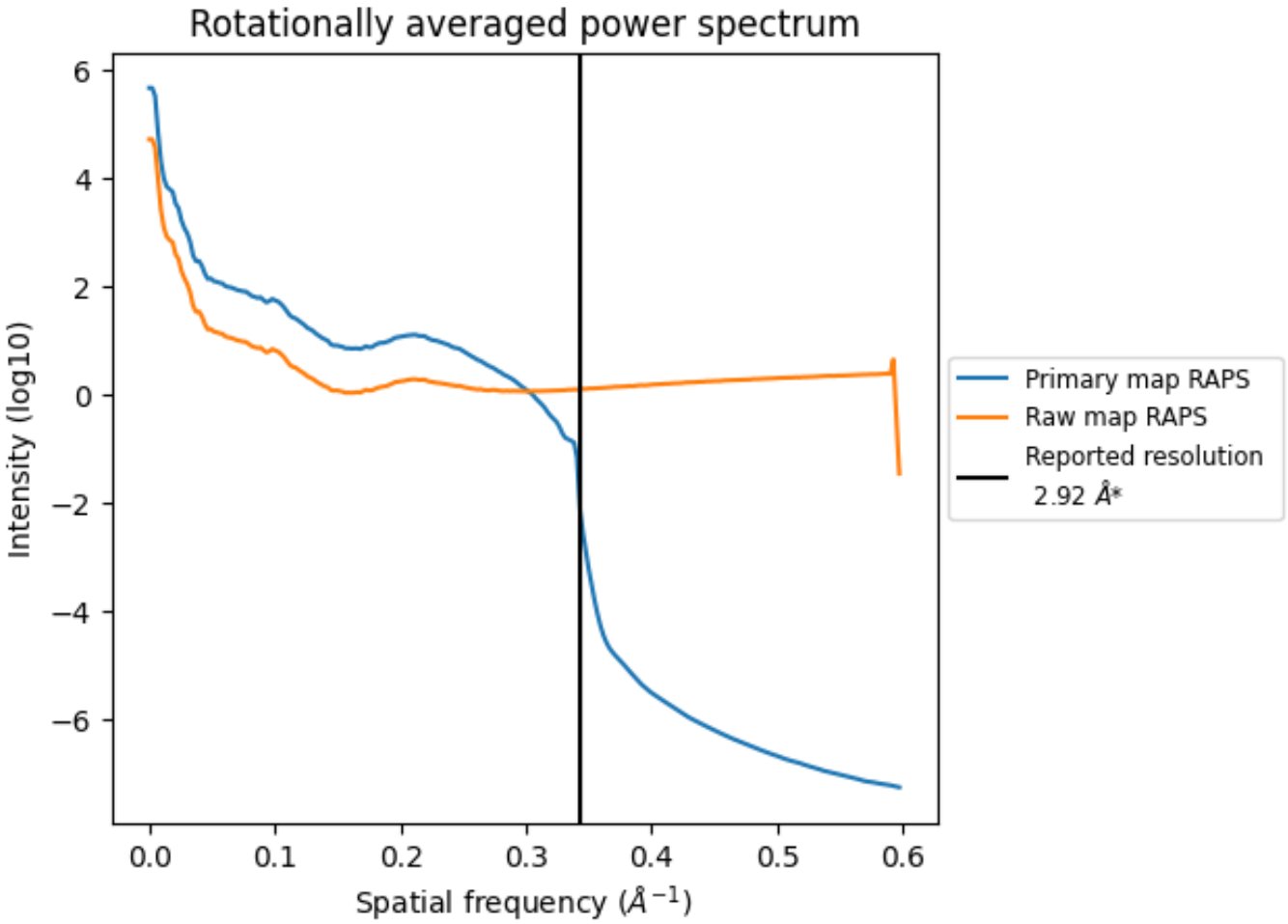
7.2 Volume estimate



The volume at the recommended contour level is 584 nm^3; this corresponds to an approximate mass of 528 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)

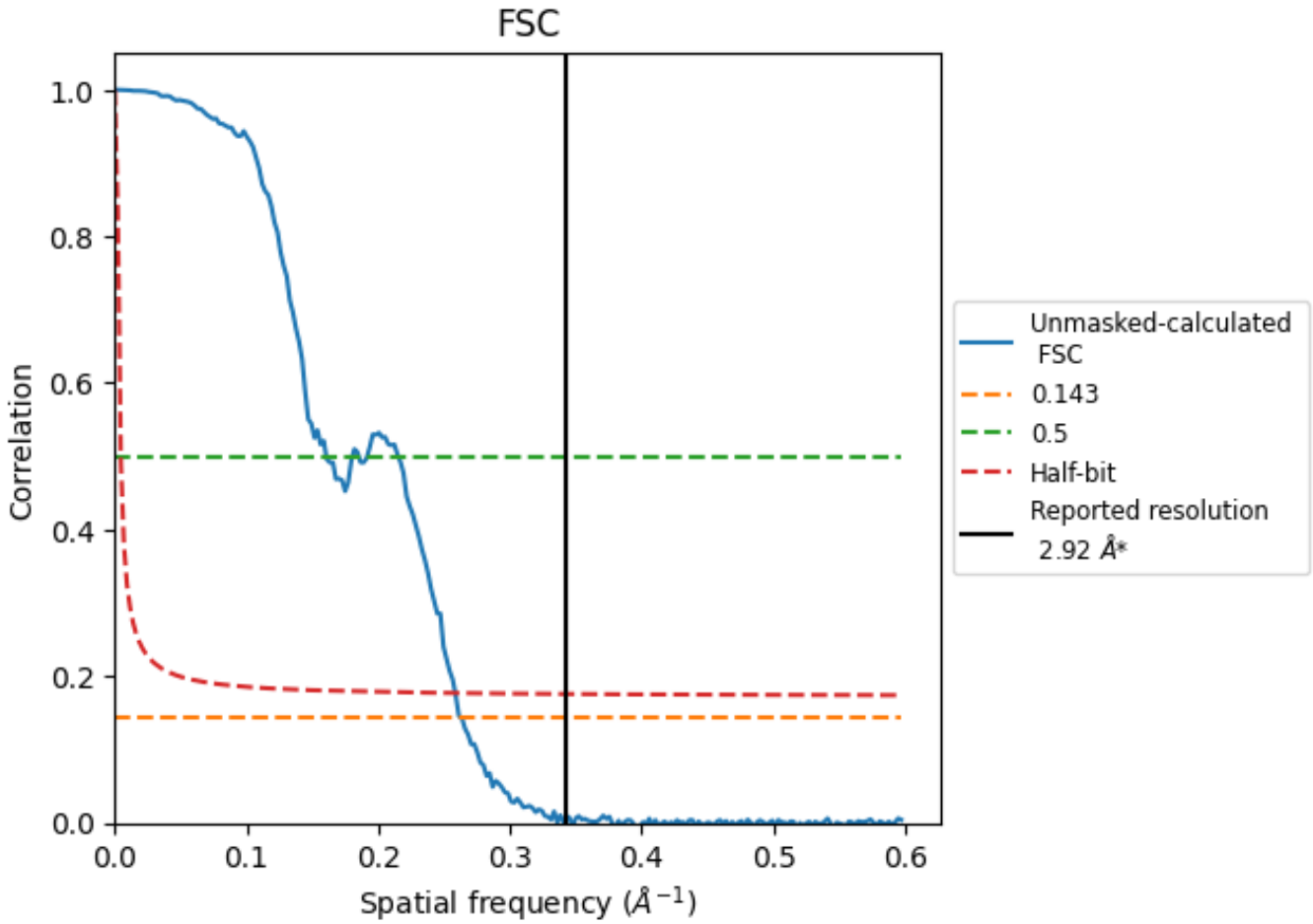


*Reported resolution corresponds to spatial frequency of 0.342 Å^{-1}

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 0.342 Å^{-1}

8.2 Resolution estimates (i)

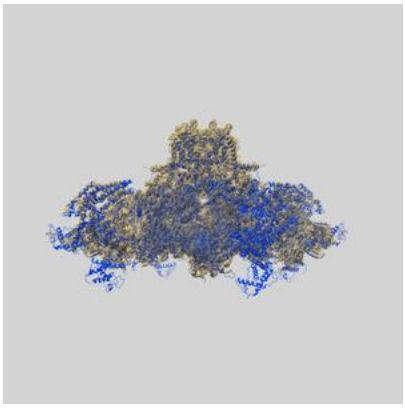
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.92	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.80	6.23	3.87

*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 3.80 differs from the reported value 2.92 by more than 10 %

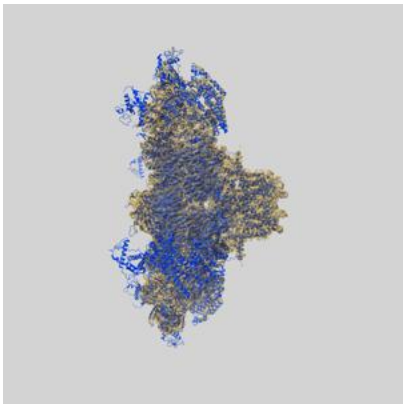
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-47391 and PDB model 9E1E. Per-residue inclusion information can be found in section 3 on page 6.

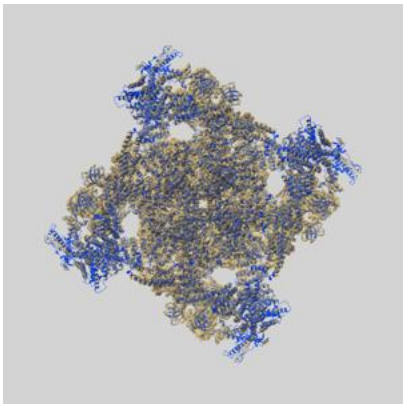
9.1 Map-model overlay



X



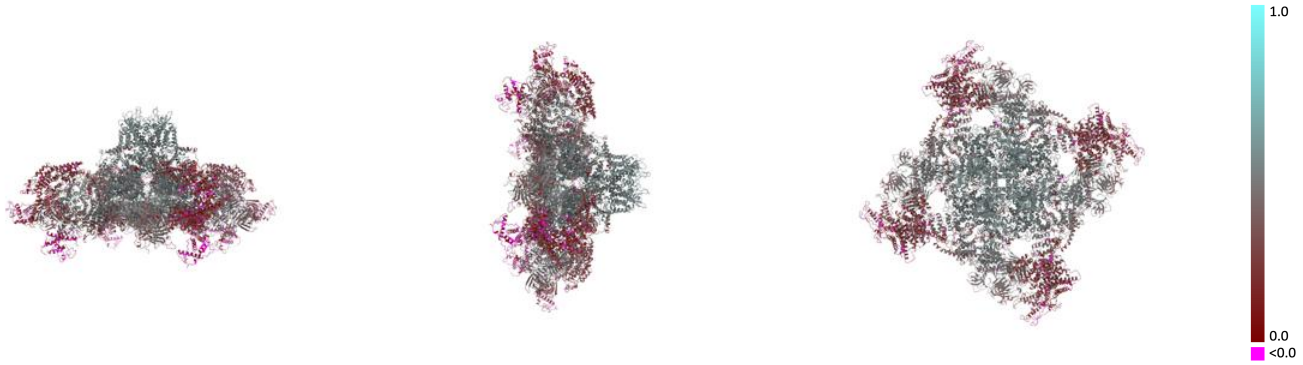
Y



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.

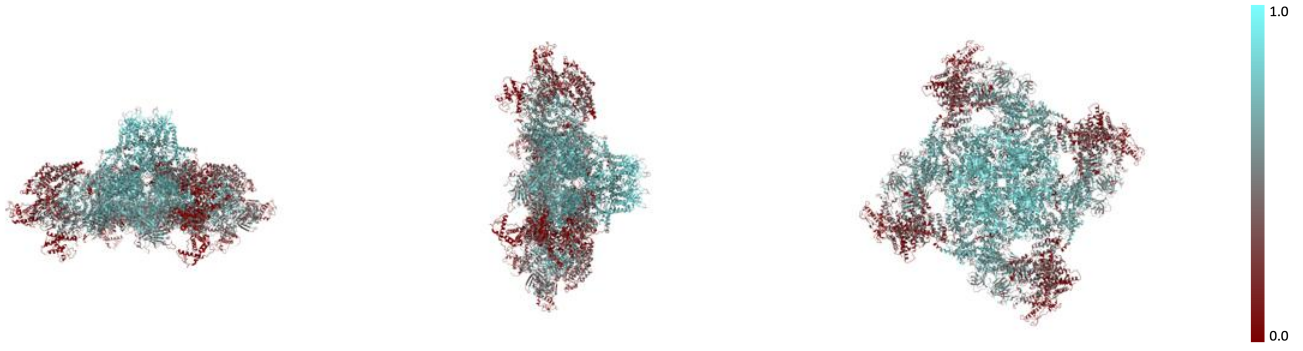
9.2 Q-score mapped to coordinate model



X Y Z

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

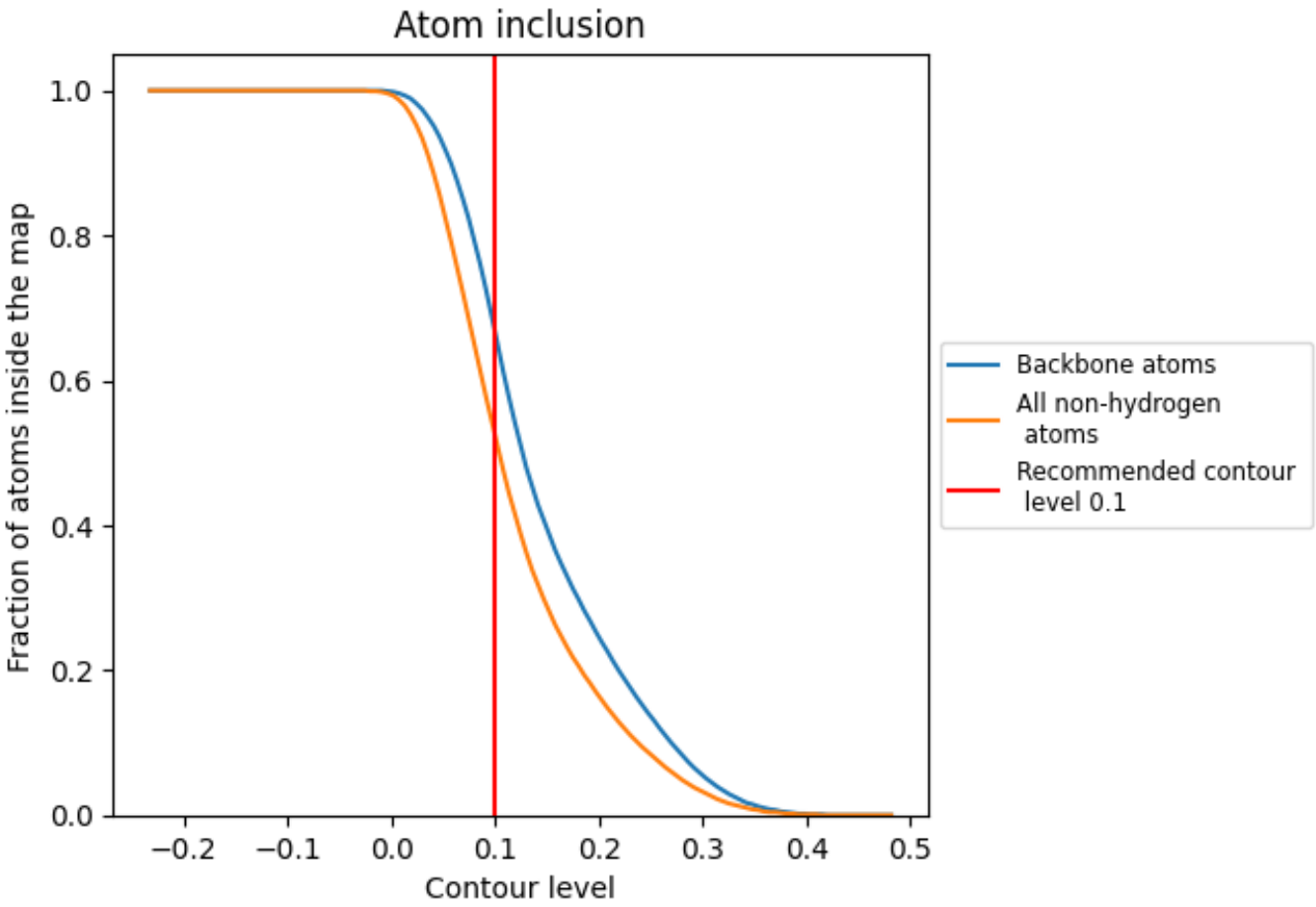
9.3 Atom inclusion mapped to coordinate model



X Y Z

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

9.4 Atom inclusion (i)



At the recommended contour level, 67% of all backbone atoms, 52% 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	0.5250	0.3760
A	0.5260	0.3740
B	0.5260	0.3740
C	0.5240	0.3730
D	0.5270	0.3750
E	0.4910	0.4340
F	0.4930	0.4290
G	0.4920	0.4280
H	0.4930	0.4300