# Full wwPDB EM Validation Report ⓘ

Nov 12, 2025 – 01:34 PM EST

| | | |
|---|---|---|
| PDB ID | : | 9NMP / pdb_00009nmp |
| EMDB ID | : | EMD-49536 |
| Title | : | Structure of mouse RyR1 with simvastatin (Ca2+/CFF/ATP dataset; open pore) |
| Authors | : | Weninger, G.; Marks, A.R. |
| Deposited on | : | 2025-03-04 |
| Resolution | : | 3.09 Å(reported) |

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

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

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

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

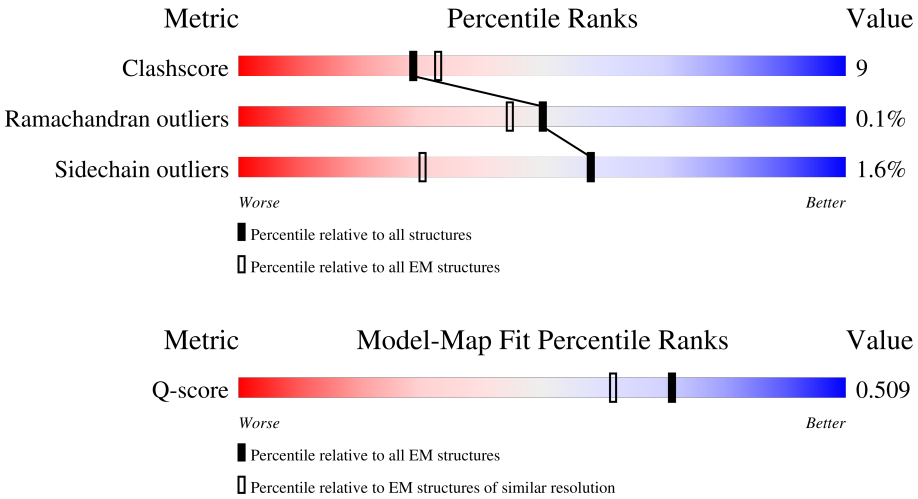
| | | |
|---|---|---|
| EMDB validation analysis | : | 0.0.1.dev129 |
| Mogul | : | 2022.3.0, CSD as543be (2022) |
| MolProbity | : | 4-5-2 with Phenix2.0 |
| buster-report | : | 1.1.7 (2018) |
| Percentile statistics | : | 20231227.v01 (using entries in the PDB archive December 27th 2023) |
| EM percentile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

# 1 Overall quality at a glance

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

The reported resolution of this entry is 3.09 Å.

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







| Metric | Whole archive (#Entries) | EM structures (#Entries) | Similar EM resolution (#Entries, resolution range(Å)) |
|---|---|---|---|
| Clashscore | 210492 | 15764 | - |
| Ramachandran outliers | 207382 | 16835 | - |
| Sidechain outliers | 206894 | 16415 | - |
| Q-score | - | 25397 | 14003 ( 2.59 - 3.59 ) |

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 | E | 108 | 81% 18% |
| 1 | F | 108 | 81% 19% |
| 1 | G | 108 | 81% 19% |
| 1 | H | 108 | 81% 19% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 2 | A | 5035 | 10% 72% 14% • 13% |
| 2 | B | 5035 | 10% 72% 14% • 13% |
| 2 | C | 5035 | 10% 72% 14% • 13% |
| 2 | D | 5035 | 10% 72% 14% • 13% |

# 2 Entry composition

There are 8 unique types of molecules in this entry. The entry contains 143492 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1A.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E | 107 | Total | C | N | O | S | 0 | 0 |
| | | | 830 | 526 | 146 | 155 | 3 | | |
| 1 | F | 107 | Total | C | N | O | S | 0 | 0 |
| | | | 830 | 526 | 146 | 155 | 3 | | |
| 1 | G | 107 | Total | C | N | O | S | 0 | 0 |
| | | | 830 | 526 | 146 | 155 | 3 | | |
| 1 | H | 107 | Total | C | N | O | S | 0 | 0 |
| | | | 830 | 526 | 146 | 155 | 3 | | |

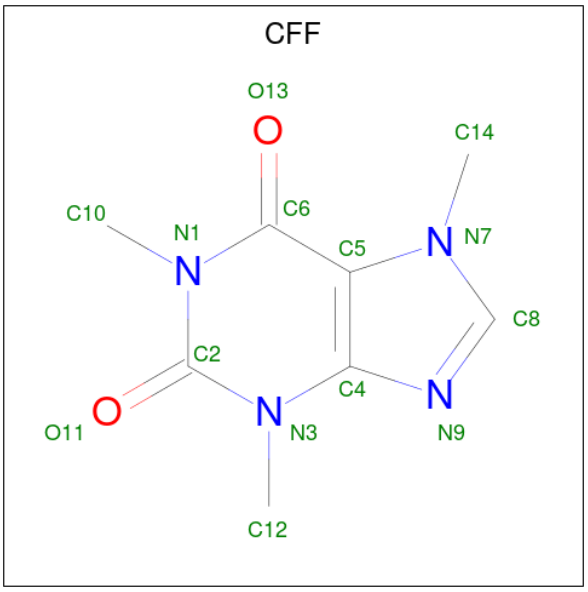
- Molecule 2 is a protein called Ryanodine receptor 1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 2 | D | 4373 | Total | C | N | O | S | 0 | 0 |
| | | | 34797 | 22132 | 5983 | 6445 | 237 | | |
| 2 | A | 4373 | Total | C | N | O | S | 0 | 0 |
| | | | 34797 | 22132 | 5983 | 6445 | 237 | | |
| 2 | B | 4373 | Total | C | N | O | S | 0 | 0 |
| | | | 34797 | 22132 | 5983 | 6445 | 237 | | |
| 2 | C | 4373 | Total | C | N | O | S | 0 | 0 |
| | | | 34797 | 22132 | 5983 | 6445 | 237 | | |

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

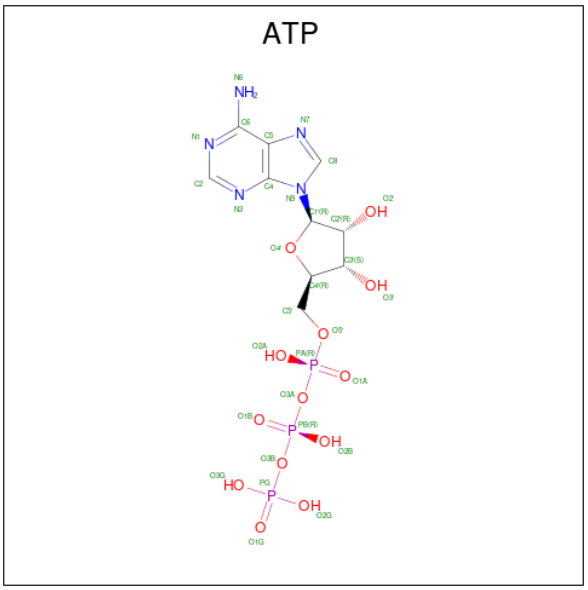
| Mol | Chain | Residues | Atoms | | AltConf |
|---|---|---|---|---|---|
| 3 | D | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 3 | A | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 3 | B | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |
| 3 | C | 1 | Total | Zn | 0 |
| | | | 1 | 1 | |

- Molecule 4 is CAFFEINE (CCD ID: CFF) (formula: $C_8H_{10}N_4O_2$).




| Mol | Chain | Residues | Atoms | AltConf |
|---|---|---|---|---|
| 4 | D | 1 | Total C N O<br>14 8 4 2 | 0 |
| 4 | A | 1 | Total C N O<br>14 8 4 2 | 0 |
| 4 | B | 1 | Total C N O<br>14 8 4 2 | 0 |
| 4 | C | 1 | Total C N O<br>14 8 4 2 | 0 |

- Molecule 5 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).

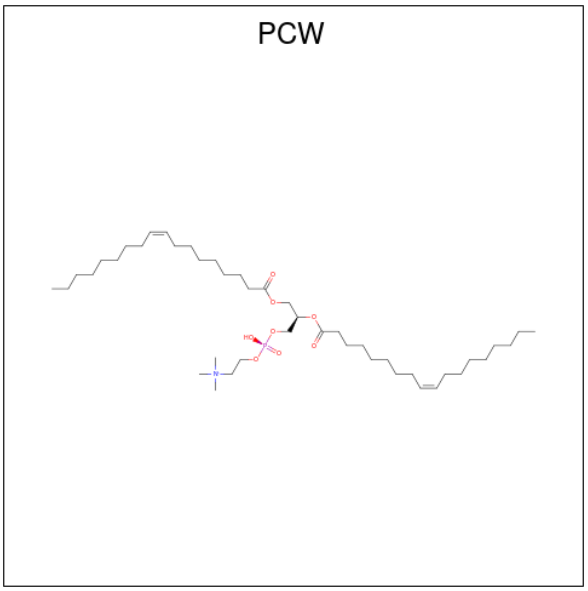


| Mol | Chain | Residues | Atoms | | | | | AltConf |
|---|---|---|---|---|---|---|---|---|
| 5 | D | 1 | Total | C | N | O | P | 0 |
| | | | 31 | 10 | 5 | 13 | 3 | |
| 5 | D | 1 | Total | C | N | O | P | 0 |
| | | | 31 | 10 | 5 | 13 | 3 | |
| 5 | A | 1 | Total | C | N | O | P | 0 |
| | | | 31 | 10 |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

- Molecule 6 is CALCIUM ION (CCD ID: CA) (formula: Ca).

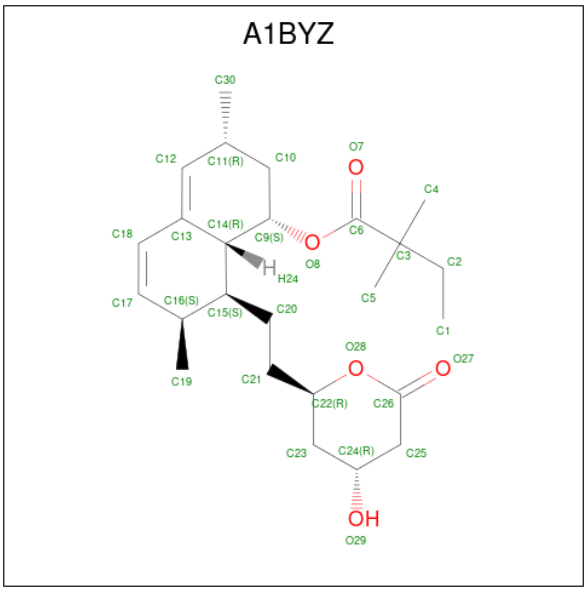
| Mol | Chain | Residues | Atoms | | AltConf |
|---|---|---|---|---|---|
| 6 | D | 1 | Total | Ca | 0 |
| | | | 1 | 1 | |
| 6 | A | 1 | Total | Ca | 0 |
| | | | 1 | 1 | |
| 6 | B | 1 | Total | Ca | 0 |
| | | | 1 | 1 | |
| 6 | C | 1 | Total | Ca | 0 |
| | | | 1 | 1 | |

- Molecule 7 is 1,2-DIOLEOYL-SN-GLYCERO-3-PHOSPHOCHOLINE (CCD ID: PCW) (formula: $C_{44}H_{85}NO_8P$).




| Mol | Chain | Residues | Atoms | | | | | AltConf |
|---|---|---|---|---|---|---|---|---|
| 7 | D | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |
| 7 | D | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |
| 7 | A | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |
| 7 | A | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |
| 7 | B | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |
| 7 | B | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |
| 7 | C | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |
| 7 | C | 1 | Total | C | N | O | P | 0 |
| | | | 54 | 44 | 1 | 8 | 1 | |

- Molecule 8 is Simvastatin (CCD ID: A1BYZ) (formula: $C_{25}H_{38}O_5$) (labeled as "Ligand of Interest" by depositor).



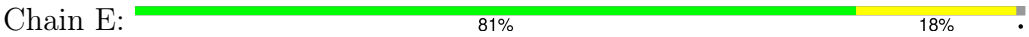

| Mol | Chain | Residues | Atoms | | | AltConf |
|---|---|---|---|---|---|---|
| 8 | D | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |
| 8 | D | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |
| 8 | A | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |
| 8 | A | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |
| 8 | B | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |
| 8 | B | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |
| 8 | C | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |
| 8 | C | 1 | Total | C | O | 0 |
| | | | 30 | 25 | 5 | |

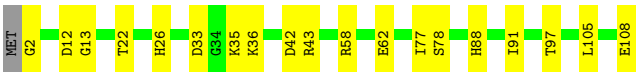
# 3 Residue-property plots (i)

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

• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1A

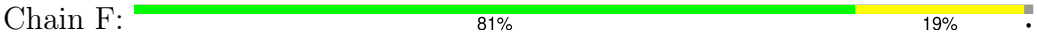
Chain E:




• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1A

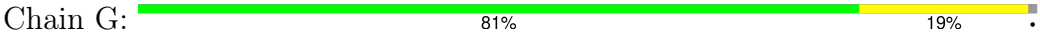
Chain F:





• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1A

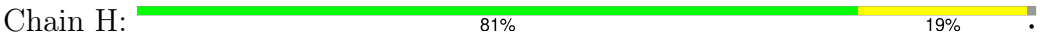
Chain G:





• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1A

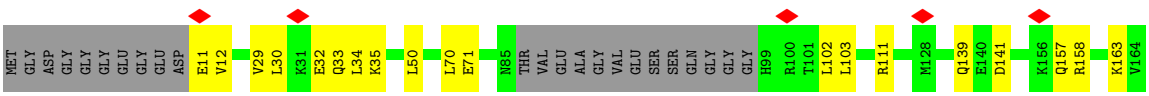
Chain H:

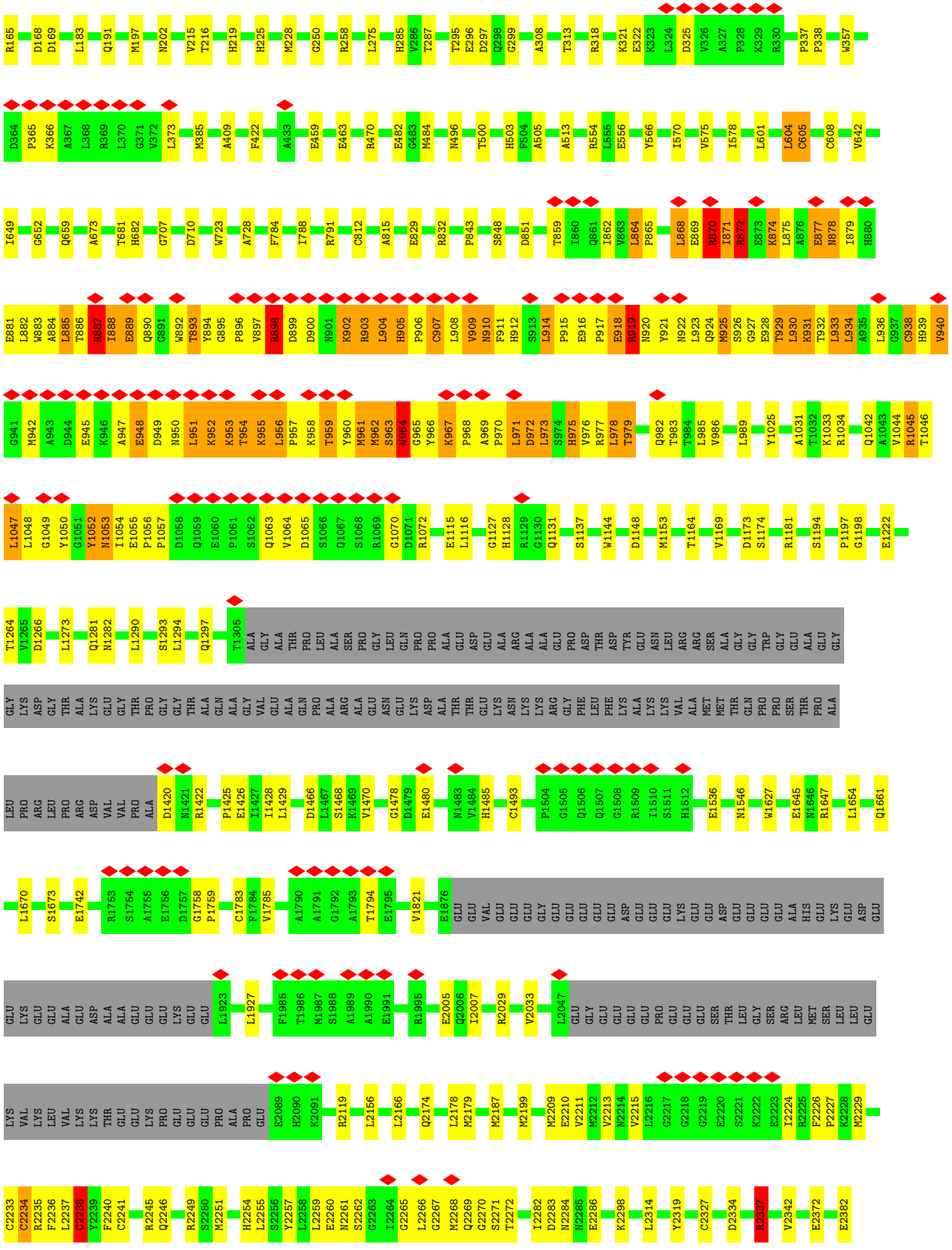


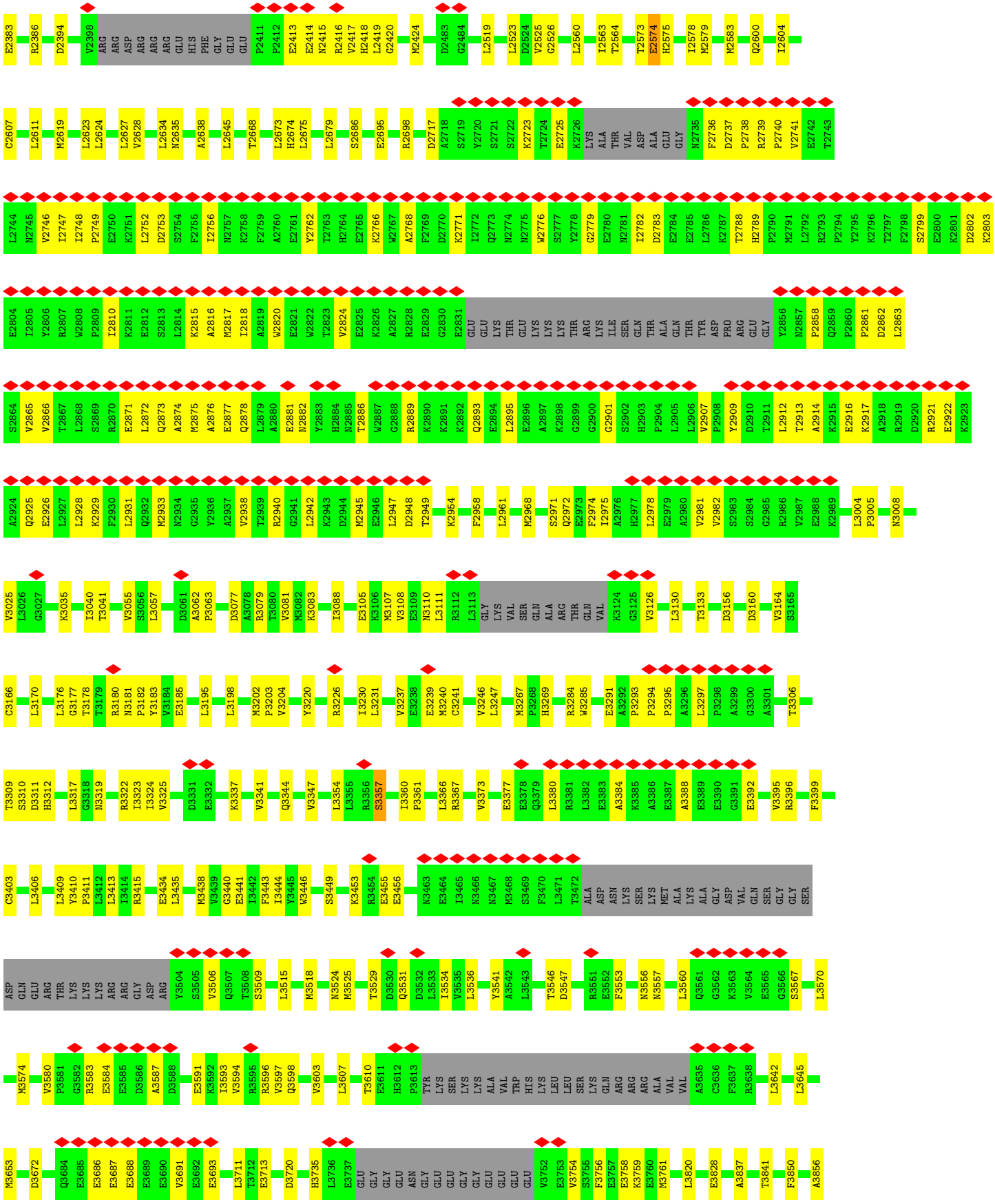


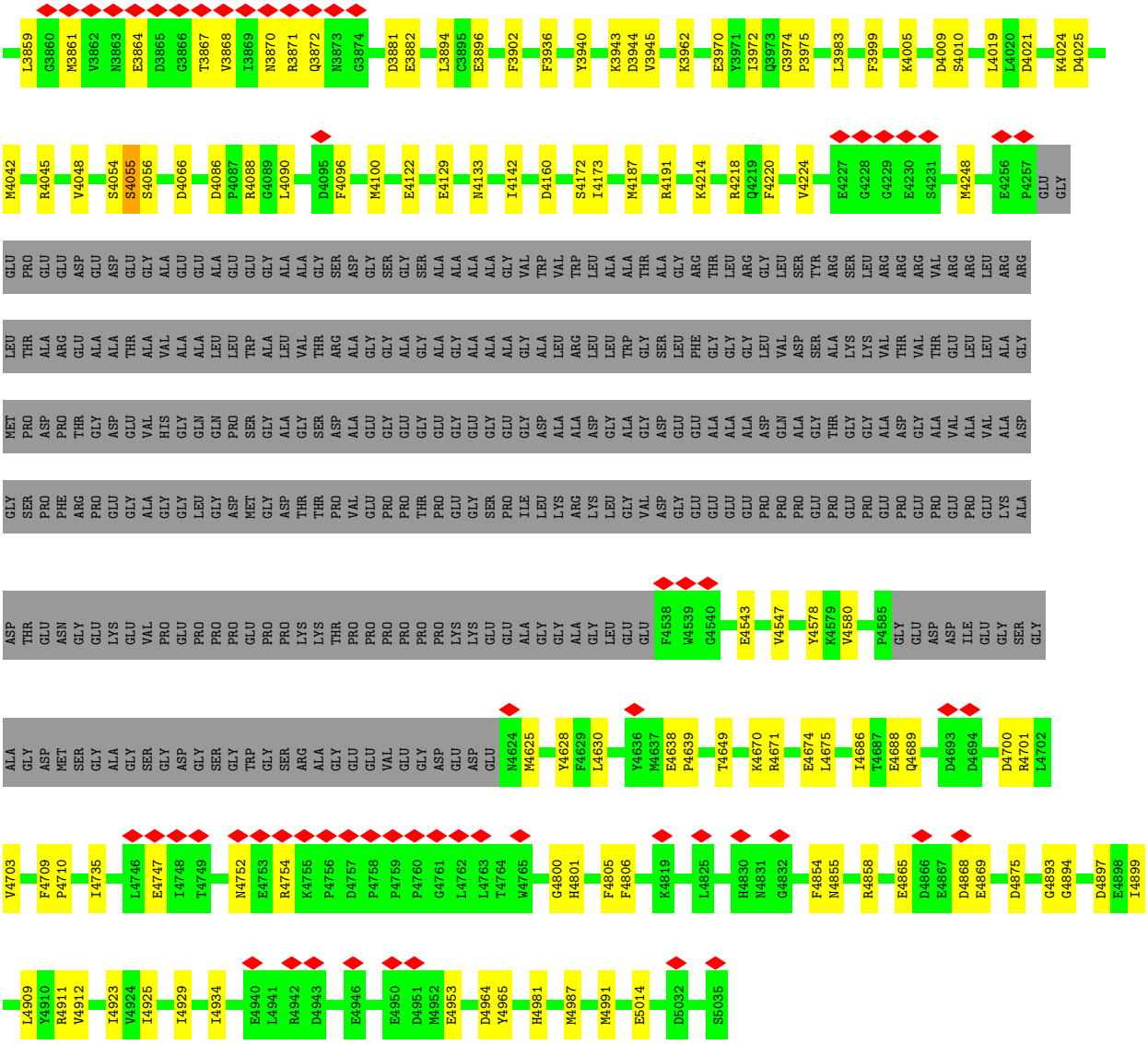
• Molecule 2: Ryanodine receptor 1

Chain D:

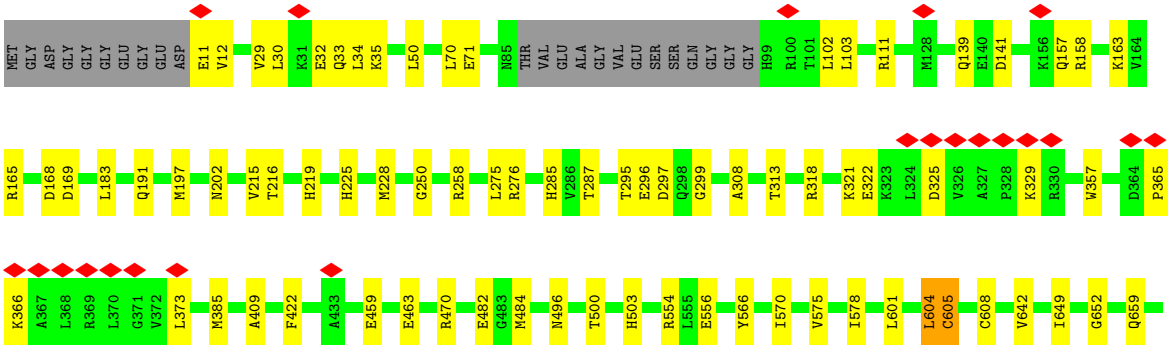

R165 D168 D169 L183 Q191 M197 N202 V215 T216 H219 H225 M228 G250 R258 L275 H285 V286 T287 T295 E296 D297 Q298 G299 A308 T313 R318 K321 E322 K323 L324 D325 V326 A327 P328 K329 R330 P337 P338 W357
D364 P365 K366 A367 L368 R369 L370 G371 V372 L373 M385 A409 F422 A433 E459 E463 R470 E482 G483 M484 N496 T500 H503 F504 A505 A513 R554 L555 E556 Y566 I570 V575 I578 L601 L604 C605 C608 V642
I649 G652 Q659 A673 T681 H682 G707 D710 W723 A728 F784 I788 R791 C812 A815 E829 R832 P843 S848 D851 T859 I860 Q861 I862 V863 L864 P865 L868 E869 R870 I871 R872 E873 K874 L875 A876 E877 N878 I879 H880
E881 L882 W883 A884 L885 T886 R887 I888 E889 Q890 G891 W892 T893 Y894 G895 P896 V897 R898 D899 D900 N901 K902 R903 L904 H905 P906 C907 L908 V909 N910 F911 H912 S913 L914 P915 E916 P917 E918 R919 N920 Y921 N922 L923 Q924 M925 S926 G927 E928 T929 L930 K931 T932 L933 L934 A935 L936 G937 C938 H939 V940
G941 M942 A943 D944 E945 K946 A947 E948 D949 N950 L951 K952 K953 T954 K955 L956 P957 K958 T959 Y960 M961 M962 S963 N964 G965 Y966 K967 P968 A969 P970 L971 D972 L973 S974 H975 V976 R977 L978 T979 Q982 T983 T984 L985 V986 L989 Y1025 A1031 T1032 K1033 R1034 Q1042 A1043 V1044 R1045 T1046
L1047 L1048 G1049 Y1050 G1051 Y1052 N1053 I1054 E1055 P1056 P1057 D1058 Q1059 E1060 P1061 S1062 Q1063 V1064 D1065 S1066 Q1067 S1068 R1069 G1070 D1071 R1072 E1115 L1116 G1127 H1128 R1129 G1130 Q1131 S1137 W1144 D1148 M1153 T1164 V1169 D1173 S1174 R1181 S1194 P1197 G1198 E1222
T1264 V1265 D1266 L1273 Q1281 N1282 L1290 S1293 L1294 Q1297 T1305 ALA GLY ALA THR PRO LEU ALA SER PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP THR ASP TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY
GLY LYS ASP GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR ALA GLN ALA GLY VAL GLU ALA GLN PRO ALA ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS VAL ALA MET MET THR GLN PRO PRO GLY SER THR PRO ALA
LEU PRO ARG LEU PRO ARG ASP VAL VAL PRO ALA D1420 N1421 R1422 P1425 E1426 I1427 I1428 L1429 D1466 L1467 S1468 K1469 V1470 G1478 D1479 E1480 N1483 V1484 H1485 C1493 P1504 G1505 Q1506 Q1507 G1508 R1509 I1510 S1511 H1512 E1536 N1546 W1627 E1645 N1646 R1647 L1654 Q1661
L1670 S1673 E1742 R1753 S1754 A1755 E1756 D1757 G1758 P1759 C1783 F1784 V1785 A1790 A1791 G1792 A1793 T1794 E1795 V1821 E1876 GLU GLU VAL GLU GLU GLU GLY GLU GLU GLU GLU ASP GLU GLU LYS GLU GLU ASP GLU GLU GLU GLU ALA HIS GLU LYS GLU ASP GLU
GLU LYS GLU GLU ALA GLU ASP ALA ALA GLU GLU GLU LYS GLU GLU L1923 L1927 F1985 T1986 M1987 S1988 A1989 A1990 E1991 R1995 E2005 Q2006 I2007 R2029 V2033 L2047 GLU GLY GLU GLU GLU PRO GLU GLU GLU SER THR LEU GLY SER ARG LEU MET SER LEU LEU GLU
LYS VAL LYS LEU VAL LYS LYS THR GLU GLU LYS PRO GLU GLU GLU PRO ALA PRO GLU E2089 H2090 K2091 R2119 L2156 L2166 Q2174 L2178 M2179 M2187 M2199 M2209 E2210 V2211 M2212 V2213 M2214 V2215 L2216 G2217 G2218 G2219 E2220 S2221 K2222 E2223 I2224 R2225 F2226 P2227 K2228 M2229
C2233 C2234 R2235 F2236 L2237 C2238 Y2239 F2240 C2241 R2245 Q2246 R2249 S2250 M2251 H2254 L2255 S2256 Y2257 L2258 L2259 E2260 N2261 S2262 G2263 I2264 G2265 L2266 G2267 M2268 Q2269 G2270 S2271 T2272 I2282 D2283 N2284 N2285 E2286 K2298 L2314 Y2319 C2327 D2334 R2337 V2342 E2372 E2382

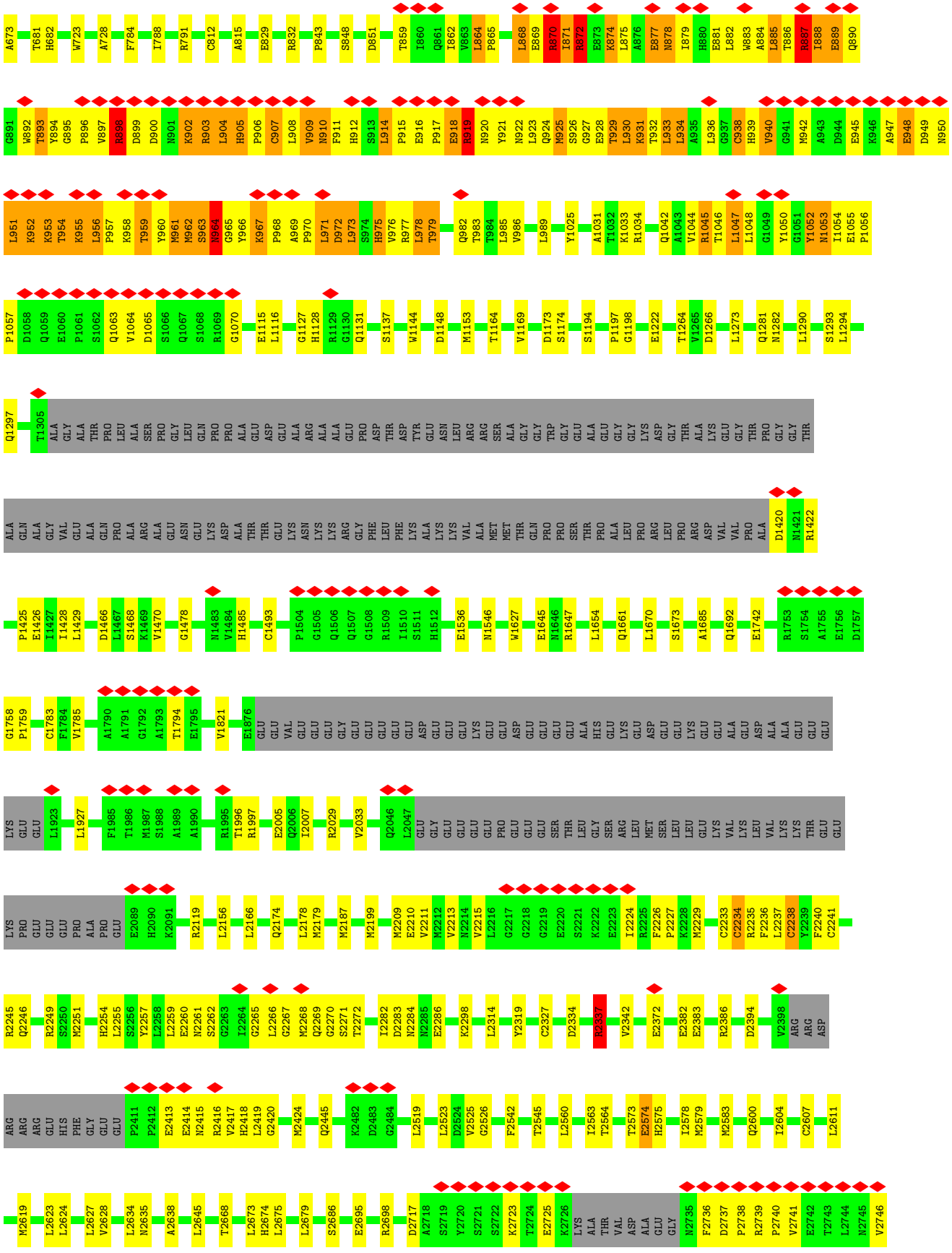

E2383 R2386 D2394 V2398 ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU P2411 P2412 E2413 E2414 N2415 R2416 V2417 H2418 L2419 G2420 M2424 D2483 G2484 L2519 L2523 D2524 V2525 G2526 L2560 I2563 T2564 T2573 E2574 H2575 I2578 M2579 M2583 Q2600 I2604
C2607 L2611 M2619 L2623 L2624 L2627 V2628 L2634 N2635 A2638 L2645 T2668 L2673 H2674 L2675 L2679 S2686 E2695 R2698 D2717 A2718 S2719 Y2720 S2721 S2722 K2723 T2724 E2725 K2726 LYS ALA THR VAL ASP ALA GLU GLY N2735 F2736 D2737 P2738 R2739 P2740 V2741 E2742 T2743
L2744 N2745 V2746 I2747 I2748 P2749 E2750 K2751 L2752 D2753 S2754 F2755 I2756 N2757 K2758 F2759 A2760 E2761 Y2762 T2763 H2764 E2765 K2766 W2767 A2768 F2769 D2770 K2771 I2772 Q2773 N2774 N2775 W2776 S2777 Y2778 G2779 E2780 N2781 I2782 D2783 E2784 E2785 L2786 K2787 T2788 H2789 P2790 M2791 L2792 R2793 P2794 Y2795 K2796 T2797 F2798 S2799 E2800 K2801 D2802 K2803
E2804 I2805 Y2806 R2807 W2808 P2809 I2810 K2811 E2812 S2813 L2814 K2815 A2816 M2817 I2818 A2819 W2820 E2821 W2822 T2823 V2824 E2825 K2826 A2827 R2828 E2829 G2830 E2831 GLU GLU LYS THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2856 N2857 P2858 Q2859 P2860 P2861 D2862 L2863
S2864 V2865 V2866 T2867 L2868 S2869 R2870 E2871 L2872 Q2873 A2874 M2875 A2876 E2877 Q2878 L2879 A2880 E2881 N2882 Y2883 H2884 N2885 T2886 W2887 G2888 R2889 K2890 K2891 K2892 Q2893 E2894 L2895 E2896 A2897 K2898 G2899 G2900 G2901 S2902 H2903 P2904 L2905 L2906 V2907 P2908 Y2909 D2910 T2911 L2912 T2913 A2914 K2915 E2916 K2917 A2918 R2919 D2920 R2921 E2922 K2923
A2924 Q2925 E2926 L2927 L2928 K2929 F2930 L2931 Q2932 M2933 N2934 G2935 Y2936 A2937 V2938 T2939 R2940 G2941 L2942 K2943 D2944 M2945 E2946 L2947 D2948 T2949 K2954 F2958 L2961 M2968 S2971 Q2972 E2973 F2974 I2975 A2976 H2977 L2978 E2979 A2980 V2981 V2982 S2983 S2984 G2985 R2986 V2987 E2988 K2989 L3004 P3005 N3008
V3025 L3026 G3027 K3035 I3040 T3041 V3055 S3056 L3057 D3061 A3062 P3063 D3077 A3078 R3079 T3080 V3081 M3082 K3083 I3088 E3105 K3106 M3107 V3108 E3109 N3110 L3111 R3112 L3113 GLY LYS VAL SER GLN ALA ARG THR GLN VAL K3124 G3125 V3126 L3130 T3133 D3156 D3160 V3164 S3165
C3166 L3170 L3176 G3177 T3178 T3179 R3180 N3181 P3182 Y3183 V3184 E3185 L3195 L3198 M3202 P3203 V3204 Y3220 R3226 I3230 L3231 V3237 E3238 E3239 M3240 C3241 V3246 L3247 M3267 P3268 H3269 R3284 W3285 E3291 A3292 P3293 P3294 P3295 A3296 L3297 P3298 A3299 G3300 A3301 T3306
T3309 S3310 D3311 H3312 L3317 G3318 N3319 R3322 I3323 I3324 V3325 D3331 E3332 K3337 V3341 Q3344 V3347 L3354 L3355 R3356 S3357 I3360 P3361 L3366 R3367 V3373 E3377 E3378 Q3379 L3380 R3381 L3382 E3383 A3384 K3385 A3386 E3387 A3388 E3389 E3390 G3391 E3392 V3395 R3396 F3399
C3403 L3406 L3409 Y3410 P3411 L3412 L3413 I3414 R3415 E3434 L3435 M3438 V3439 G3440 E3441 I3442 F3443 I3444 Y3445 W3446 S3449 K3453 R3454 E3455 E3456 N3463 E3464 I3465 N3466 N3467 M3468 S3469 F3470 L3471 T3472 ALA ASP ASN LYS SER LYS MET ALA LYS ALA GLY ASP VAL GLN SER GLY GLY SER
ASP GLN GLU ARG THR LYS LYS LYS ARG ARG GLY ASP ARG Y3504 S3505 V3506 Q3507 T3508 S3509 L3515 M3518 N3524 M3525 T3529 D3530 Q3531 D3532 L3533 I3534 V3535 L3536 Y3541 A3542 L3543 T3546 D3547 R3551 E3552 F3553 N3556 N3557 L3560 Q3561 G3562 K3563 V3564 E3565 G3566 S3567 L3570
M3574 V3580 P3581 G3582 R3583 E3584 E3585 D3586 A3587 D3588 E3591 K3592 I3593 V3594 R3595 R3596 V3597 Q3598 V3603 L3607 T3610 E3611 H3612 P3613 TYR LYS SER LYS LYS ALA VAL TRP HIS LYS LEU LEU SER LYS GLN ARG ARG ARG ALA VAL VAL A3635 C3636 F3637 R3638 L3642 L3645
M3653 D3672 Q3684 E3685 E3686 E3687 E3688 E3689 E3690 V3691 E3692 E3693 L3711 T3712 E3713 D3720 H3735 L3736 E3737 GLU GLY GLY GLU ASN GLY GLU GLU GLY GLY GLU GLU GLU GLU V3752 E3753 V3754 S3755 F3756 E3757 E3758 K3759 E3760 M3761 L3820 E3828 A3837 T3841 F3850 A3856



• Molecule 2: Ryanodine receptor 1

Chain A: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G891 W892 T893 Y894 G895 P896 V897 R898 D899 D900 N901 K902 R903 L904 H905 P906 C907 L908 V909 N910 F911 H912 S913 L914 P915 E916 P917 E918 R919 N920 Y921 N922 L923 Q924 M925 S926 G927 E928 T929 L930 K931 T932 L933 L934 A935 L936 G937 C938 H939 V940 G941 M942 A943 D944 E945 K946 A947 E948 D949 N950
L951 K952 K953 T954 K955 L956 P957 K958 T959 Y960 M961 M962 S963 N964 G965 Y966 K967 P968 A969 P970 L971 D972 L973 S974 H975 V976 R977 L978 T979 Q982 T983 T984 L985 V986 L989 Y1025 A1031 T1032 K1033 R1034 Q1042 A1043 V1044 R1045 T1046 L1047 L1048 G1049 Y1050 G1051 Y1052 N1053 I1054 E1055 P1056
P1057 D1058 Q1059 E1060 P1061 S1062 Q1063 V1064 D1065 S1066 Q1067 S1068 R1069 G1070 E1115 L1116 G1127 H1128 R1129 G1130 Q1131 S1137 W1144 D1148 M1153 T1164 V1169 D1173 S1174 S1194 P1197 G1198 E1222 T1264 V1265 D1266 L1273 Q1281 N1282 L1290 S1293 L1294
Q1297 T1305 ALA GLY ALA THR PRO LEU ALA SER PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP THR ASP TYR GLU ASN LEU ARG ARG SER ALA ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS ASP GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR
ALA GLN ALA GLY VAL GLU ALA GLN PRO ALA ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE LYS ALA LYS LYS VAL ALA MET MET THR GLN PRO PRO SER THR PRO ALA LEU PRO ARG LEU PRO ARG ASP VAL VAL PRO ALA D1420 N1421 R1422
P1425 E1426 I1427 I1428 L1429 D1466 L1467 S1468 K1469 V1470 G1478 N1483 Y1484 H1485 C1493 P1504 G1505 Q1506 Q1507 G1508 R1509 I1510 S1511 H1512 E1536 N1546 W1627 E1645 N1646 R1647 L1654 Q1661 L1670 S1673 A1685 Q1692 E1742 R1753 S1754 A1755 E1756 D1757
G1758 P1759 C1783 F1784 V1785 A1790 A1791 G1792 A1793 T1794 E1795 V1821 E1876 GLU GLU VAL GLU GLU GLU GLY GLU GLU GLU GLU GLU ASP GLU GLU LYS GLU GLU ASP GLU GLU GLU ALA HIS GLU LYS GLU ASP GLU LYS GLU GLU ALA GLU ASP ALA ALA GLU GLU GLU
LYS GLU GLU L1923 L1927 F1985 T1986 M1987 S1988 A1989 A1990 R1995 T1996 R1997 E2005 Q2006 I2007 R2029 V2033 Q2046 L2047 GLU GLY GLU GLU GLU GLU PRO GLU GLU GLU SER THR LEU LEU GLY SER ARG LEU MET SER LEU LEU LEU LYS VAL VAL LYS LEU VAL LYS LYS THR GLU GLU
LYS PRO GLU GLU GLU PRO ALA PRO GLU E2089 H2090 K2091 R2119 L2156 L2166 Q2174 L2178 M2179 M2187 M2199 M2209 E2210 V2211 M2212 V2213 N2214 V2215 L2216 G2217 G2218 G2219 E2220 S2221 K2222 E2223 I2224 R2225 F2226 P2227 K2228 M2229 C2233 C2234 R2235 F2236 L2237 C2238 Y2239 F2240 C2241
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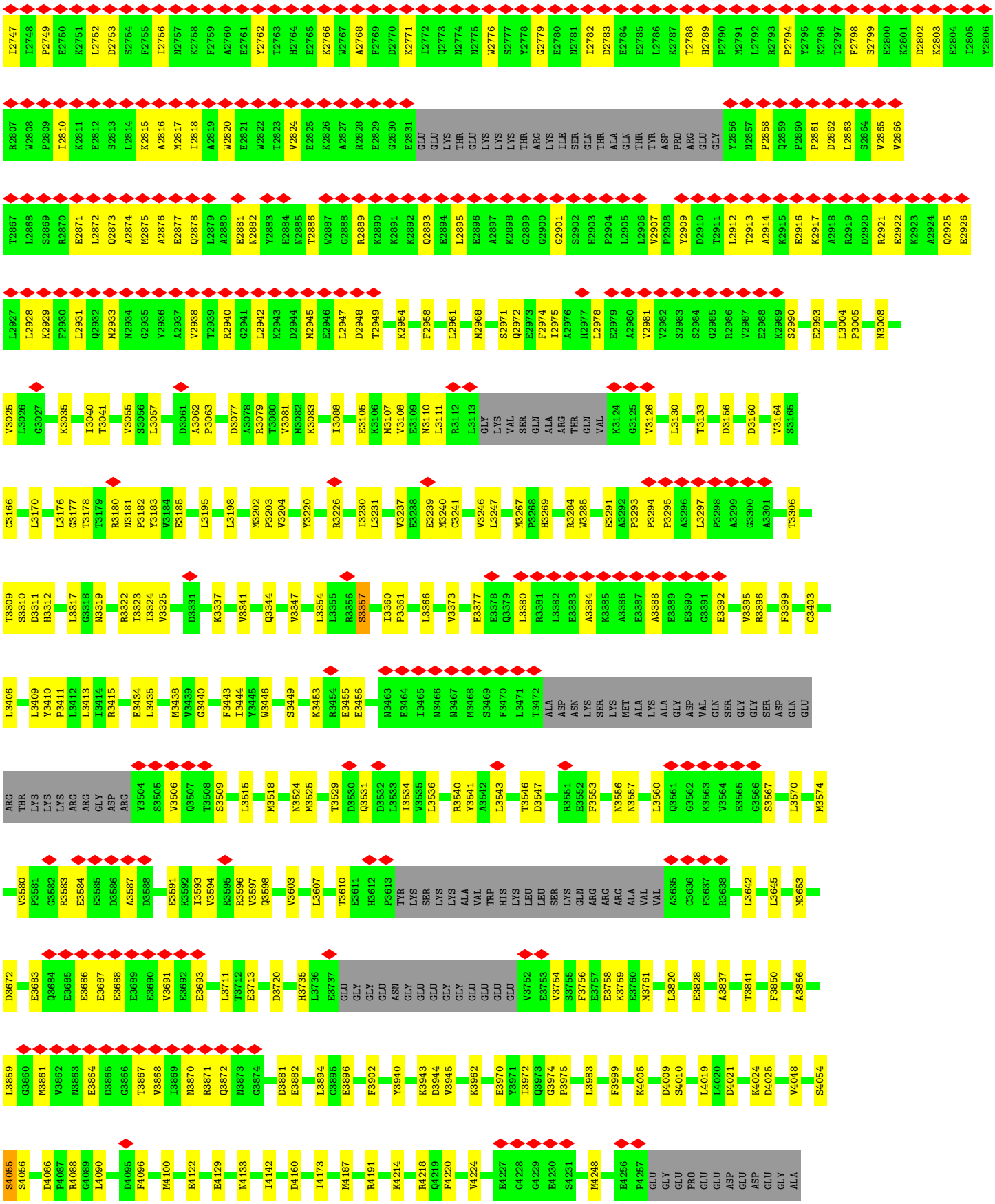
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C3166 L3170 L3176 G3177 T3178 T3179 R3180 N3181 P3182 Y3183 V3184 E3185 L3195 L3198 M3202 P3203 V3204 Y3220 R3226 I3230 L3231 V3237 E3238 E3239 M3240 C3241 V3246 L3247 M3267 P3268 H3269 R3284 W3285 E3291 A3292 P3293 P3294 P3295 A3296 L3297 P3298 A3299 G3300 A3301 T3306
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D3672 E3683 Q3684 E3685 E3686 E3687 E3688 E3689 E3690 V3691 E3692 E3693 L3711 T3712 E3713 D3720 H3735 L3736 E3737 GLU GLY GLY GLU ASN GLY GLU GLU GLY GLY GLU GLU GLU GLU V3752 E3753 V3754 S3755 F3756 E3757 E3758 K3759 E3760 M3761 L3820 E3828 A3837 T3841 F3850 A3856
L3859 G3860 M3861 V3862 N3863 E3864 D3865 G3866 T3867 V3868 I3869 N3870 R3871 Q3872 N3873 G3874 D3881 E3882 L3894 G3895 E3896 F3902 Y3940 K3943 D3944 V3945 K3962 E3970 Y3971 I3972 Q3973 G3974 P3975 L3983 F3999 K4005 D4009 S4010 L4019 L4020 D4021 K4024 D4025 V4048 S4054
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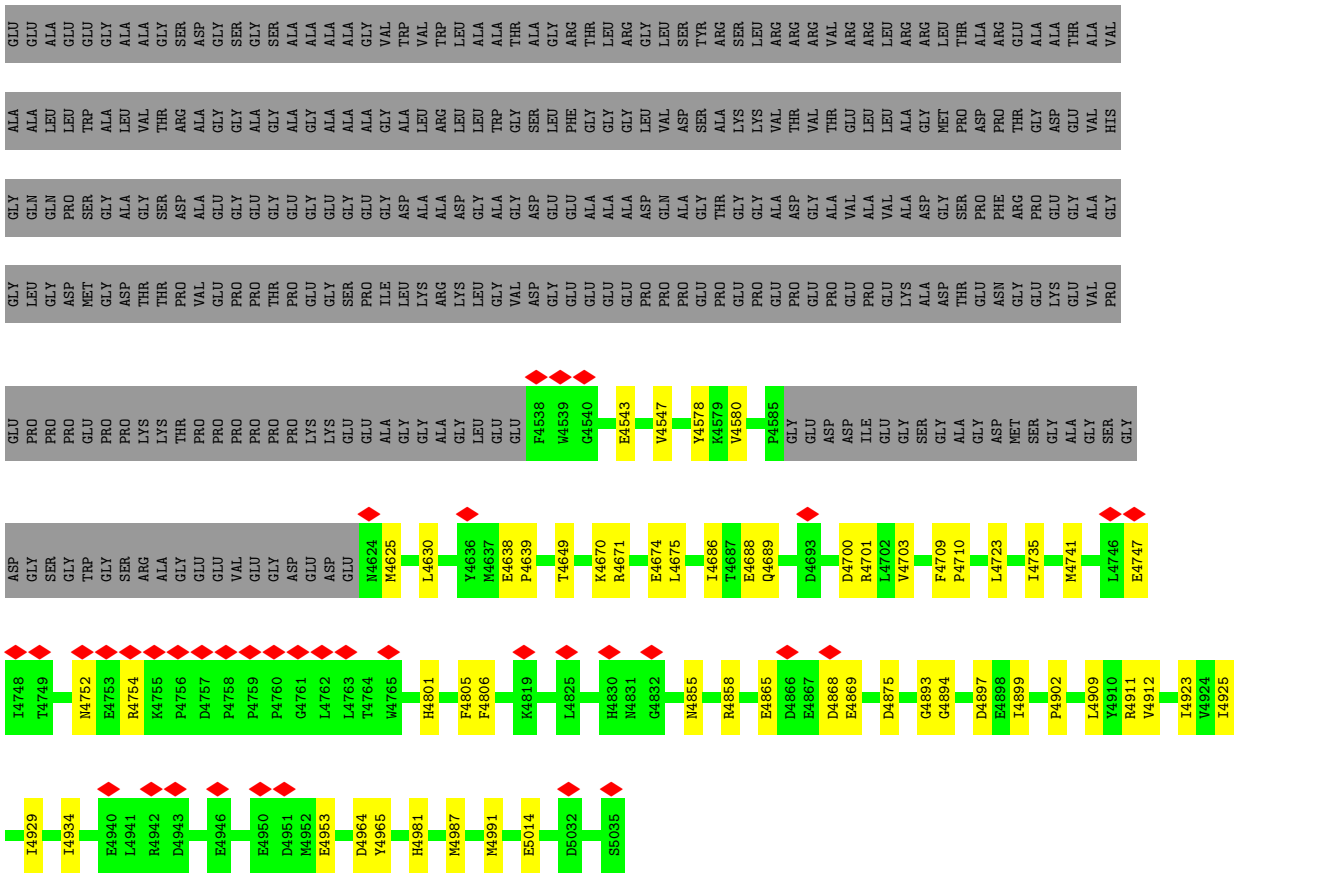
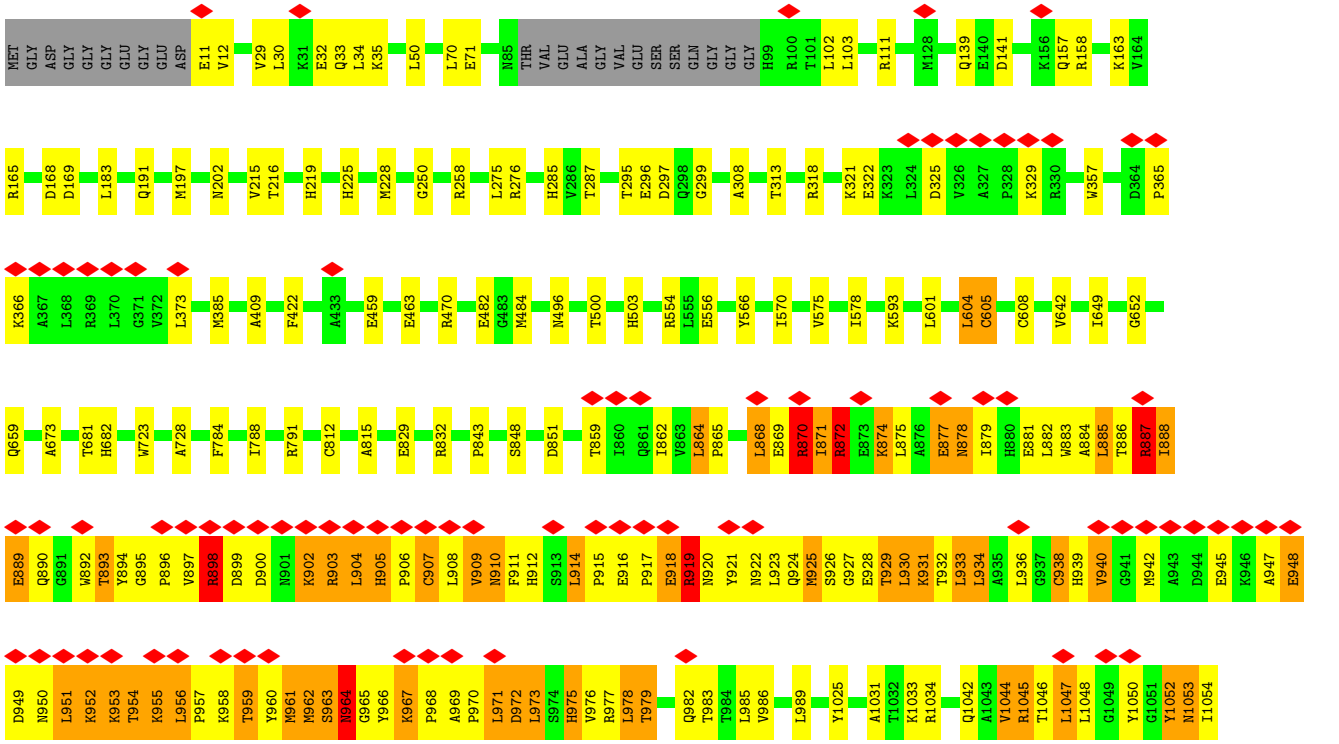
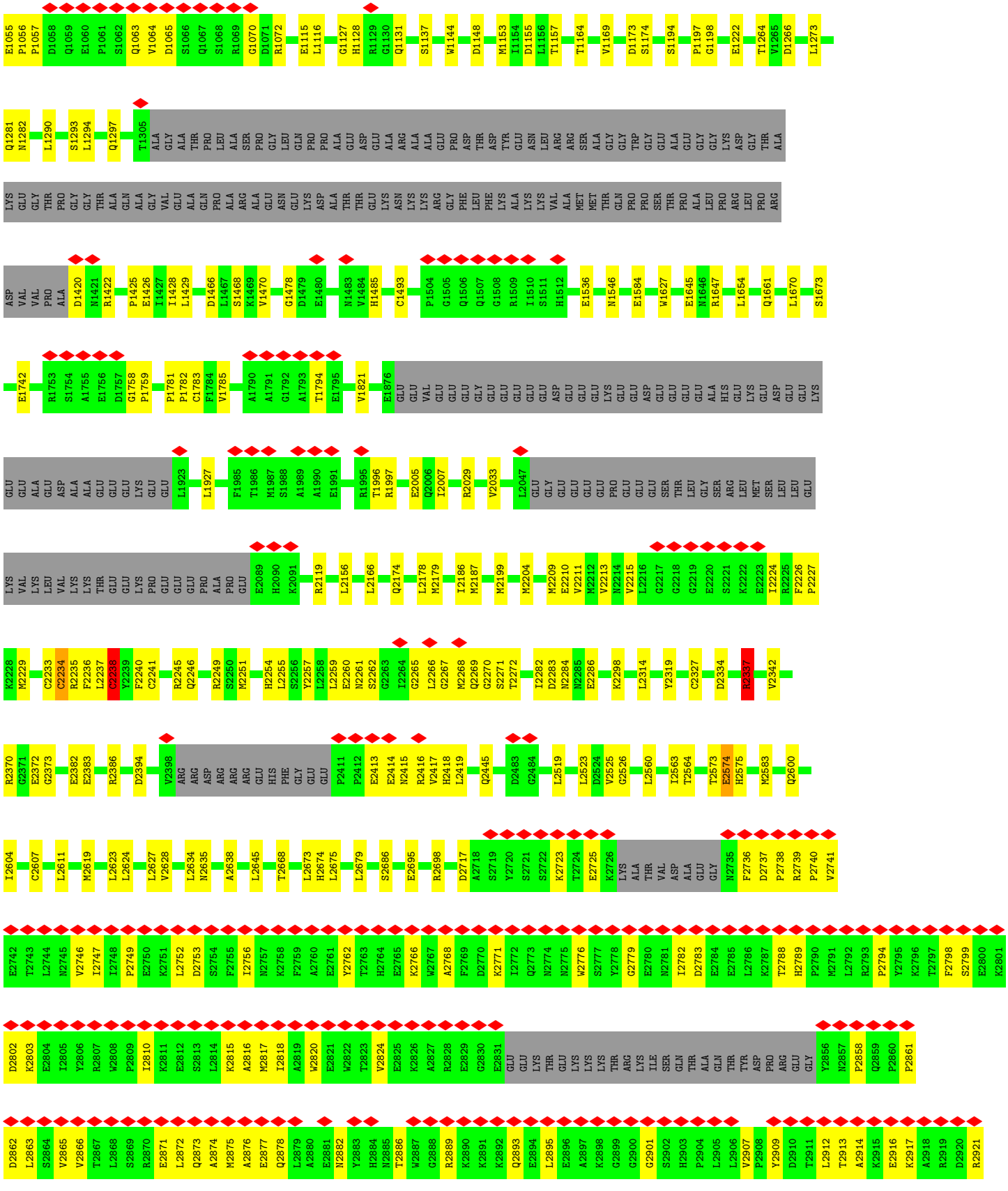


• Molecule 2: Ryanodine receptor 1

Chain B: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E1742 R1753 S1754 A1755 E1756 D1757 G1758 P1759 P1781 P1782 C1783 F1784 V1785 A1790 A1791 G1792 A1793 T1794 E1795 V1821 E1876 GLU GLU VAL GLU GLU GLU GLY GLU GLU GLU GLU GLU ASP GLU GLU GLU LYS GLU GLU ASP GLU GLU GLU ALA HIS GLU LYS GLU ASP GLU GLU LYS
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R2370 G2371 E2372 G2373 E2382 E2383 R2386 D2394 V2398 ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU P2411 P2412 E2413 E2414 N2415 R2416 V2417 H2418 L2419 Q2445 D2483 G2484 L2519 L2523 D2524 V2525 G2526 L2560 I2563 T2564 T2573 E2574 H2575 M2583 Q2600
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D2802 K2803 E2804 I2805 Y2806 R2807 W2808 P2809 I2810 K2811 E2812 S2813 L2814 K2815 A2816 M2817 I2818 A2819 W2820 E2821 W2822 T2823 V2824 E2825 K2826 A2827 R2828 E2829 G2830 E2831 GLU GLU LYS THR GLU LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2856 N2857 P2858 Q2859 P2860 P2861
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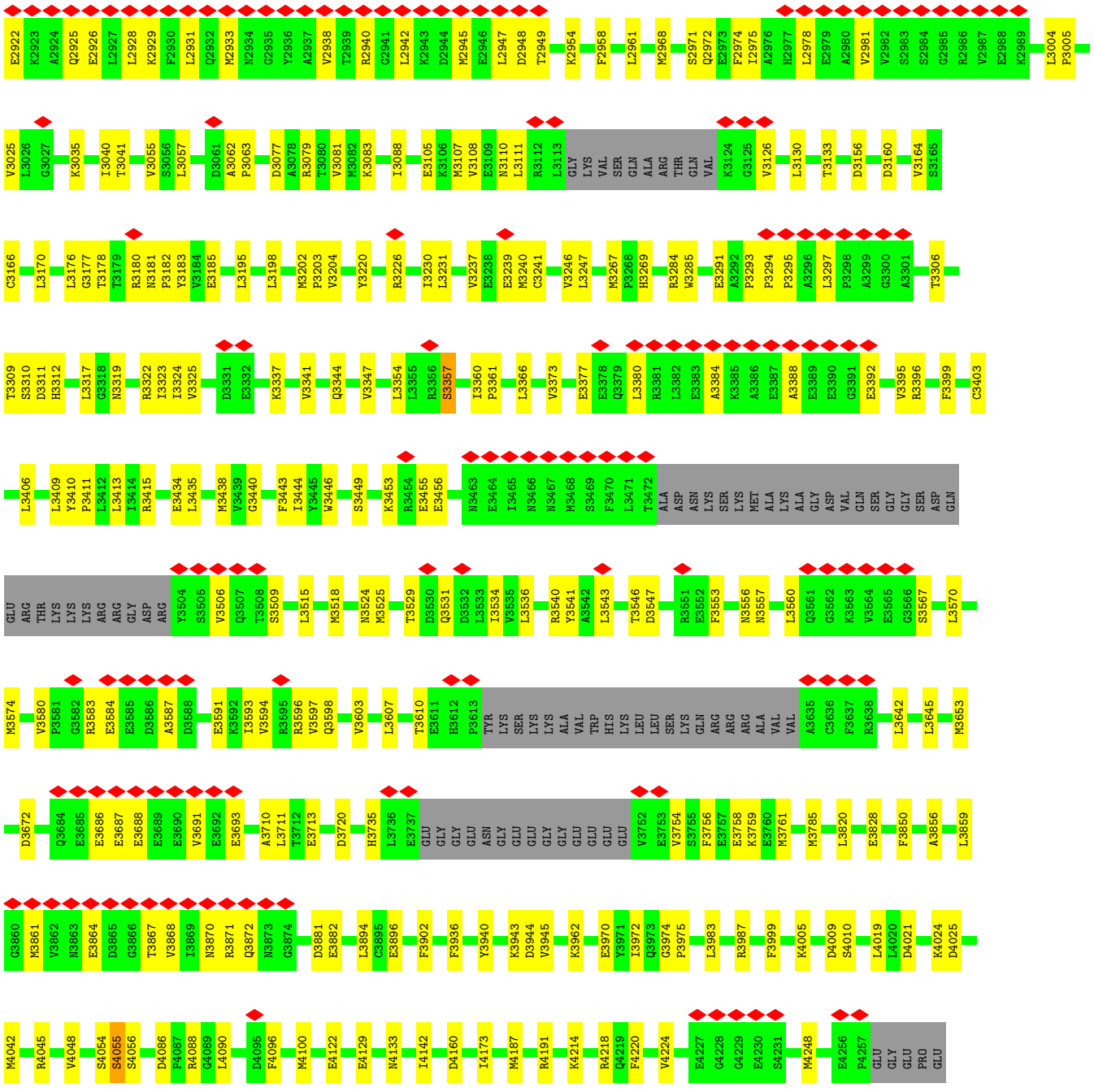
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C3166 L3170 L3176 G3177 T3178 T3179 R3180 N3181 P3182 Y3183 V3184 E3185 L3195 L3198 M3202 P3203 V3204 Y3220 R3226 I3230 L3231 V3237 E3238 E3239 M3240 C3241 V3246 L3247 M3267 P3268 H3269 R3284 W3285 E3291 A3292 P3293 P3294 P3295 A3296 L3297 P3298 A3299 G3300 A3301 T3306
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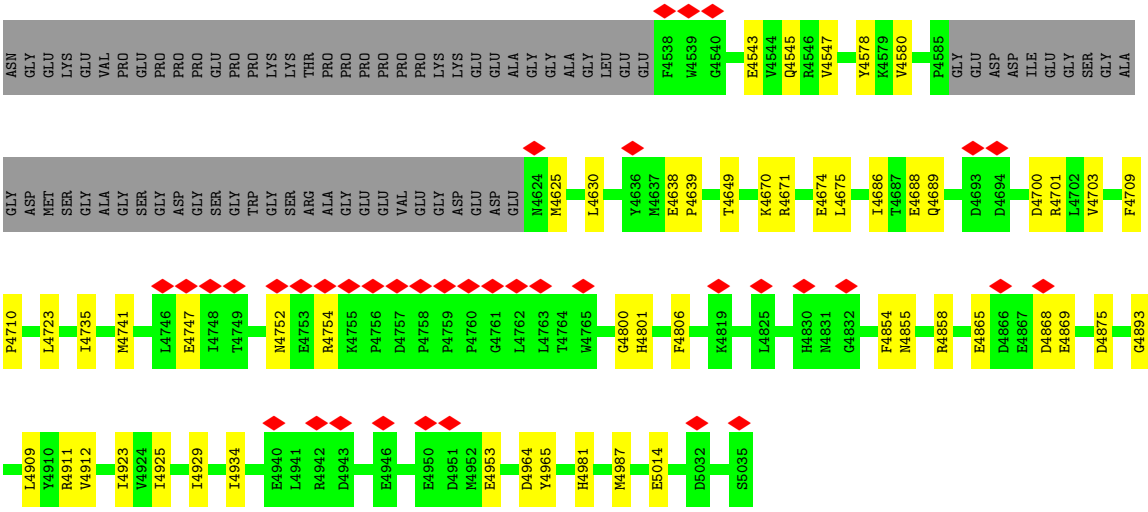
GLU ARG THR LYS LYS LYS ARG ARG GLY ASP ARG Y3504 S3505 V3506 Q3507 T3508 S3509 L3515 M3518 N3524 M3525 T3529 D3530 Q3531 D3532 L3533 I3534 V3535 L3536 R3540 Y3541 A3542 L3543 T3546 D3547 R3551 E3552 F3553 N3556 N3557 L3560 Q3561 G3562 K3563 V3564 E3565 G3566 S3567 L3570
M3574 V3580 P3581 G3582 R3583 E3584 E3585 D3586 A3587 D3588 E3591 K3592 I3593 V3594 R3595 R3596 V3597 Q3598 V3603 L3607 T3610 E3611 H3612 P3613 TYR LYS SER LYS ALA VAL TRP HIS LYS LEU LEU SER LYS GLN ARG ARG ARG ALA VAL VAL A3635 C3636 F3637 R3638 L3642 L3645 M3653
D3672 Q3684 E3685 E3686 E3687 E3688 E3689 E3690 V3691 E3692 E3693 A3710 L3711 T3712 E3713 D3720 H3735 L3736 E3737 GLU GLY GLY GLU ASN GLY GLU GLU GLU GLY GLY GLU GLU GLU GLU V3752 E3753 V3754 S3755 F3756 E3757 E3758 K3759 E3760 M3761 M3785 L3820 E3828 F3850 A3856 L3859
G3860 M3861 V3862 N3863 E3864 D3865 G3866 T3867 V3868 I3869 N3870 R3871 Q3872 N3873 G3874 D3881 E3882 L3894 C3895 E3896 F3902 F3936 Y3940 K3943 D3944 V3945 K3962 E3970 Y3971 I3972 Q3973 G3974 P3975 L3983 R3987 F3999 K4005 D4009 S4010 L4019 L4020 D4021 K4024 D4025
M4042 R4045 V4048 S4054 S4055 S4056 D4086 P4087 R4088 G4089 L4090 D4095 F4096 M4100 E4122 E4129 N4133 I4142 D4160 I4173 M4187 R4191 K4214 R4218 Q4219 F4220 V4224 E4227 G4228 G4229 E4230 S4231 M4248 E4256 P4257 GLU GLY GLU PRO GLU
GLU ASP GLU ASP GLU GLY ALA GLU GLU ALA GLU GLU GLY SER ASP GLY SER GLY SER ALA ALA ALA ALA GLY VAL TRP VAL TRP LEU ALA ALA THR ALA GLY ARG THR LEU ARG GLY ALA ALA LEU SER TYR ARG SER ALA LYS LYS VAL THR ARG LEU ARG ARG ARG VAL THR VAL ARG ARG LEU LEU LEU VAL ALA GLY ARG
ARG GLU ALA ALA THR ALA VAL ALA ALA LEU LEU LEU TRP ALA LEU VAL THR ARG ALA ALA GLY GLY ALA ALA ALA LEU ARG LEU LEU TRP GLY SER LEU PHE GLY GLY GLY LEU VAL ASP SER ALA LYS LYS VAL THR VAL THR GLU LEU LEU LEU ALA GLY MET PRO ASP
PRO THR GLY ASP GLU VAL HIS GLY GLN GLN PRO SER GLY ALA GLY SER ASP ALA GLU GLY GLU GLY GLU GLY GLU GLY GLU GLY GLU ALA ASP GLN ALA GLY THR GLY GLY ALA ASP GLY ALA VAL VAL ALA ASP GLY SER PRO
PHE ARG PRO GLU GLY ALA GLY GLY LEU LEU GLY ASP MET GLY ASP THR THR PRO VAL GLU PRO PRO THR PRO GLU GLY SER PRO ILE LEU LYS ARG LYS LEU GLY VAL ASP GLY GLU GLU GLU PRO PRO GLU PRO GLU PRO GLU PRO GLU PRO VAL LYS ALA ASP GLY SER PRO



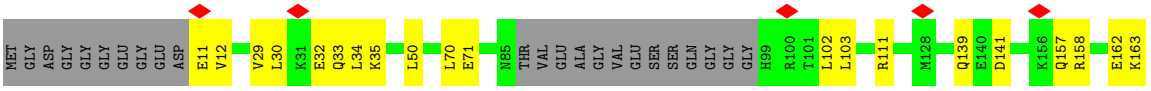


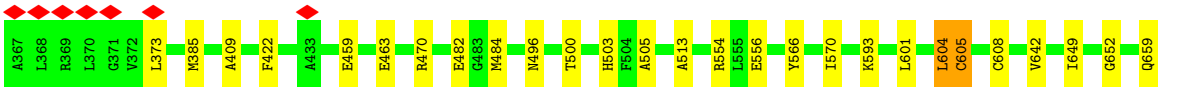


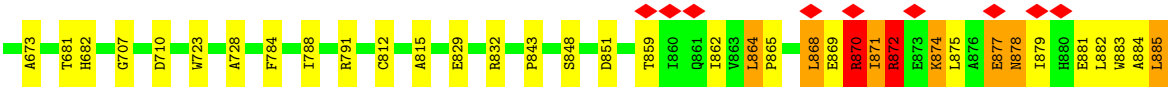


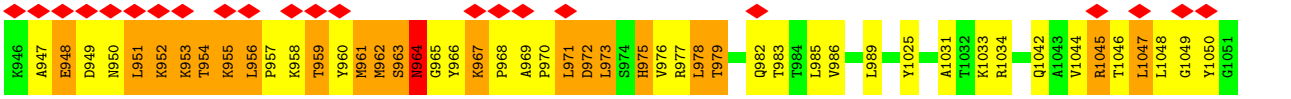
• Molecule 2: Ryanodine receptor 1

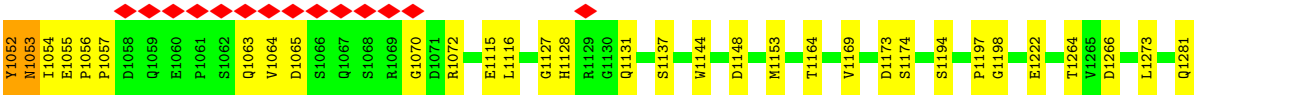
Chain C:

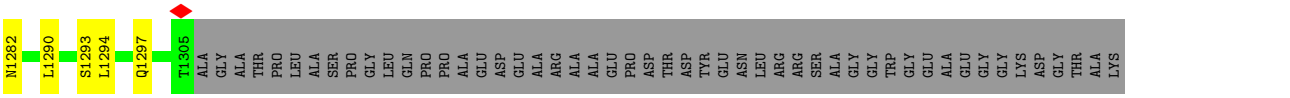



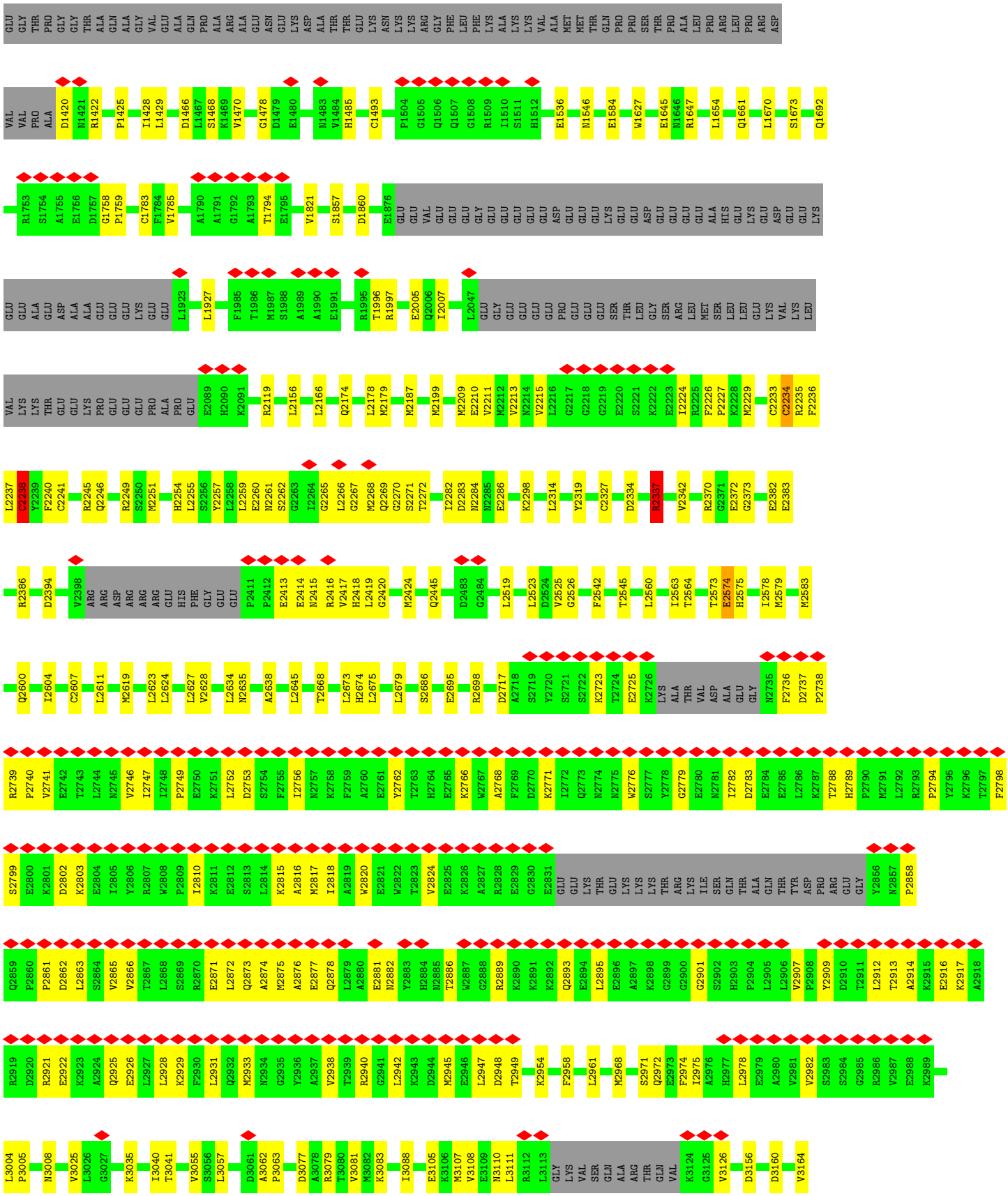


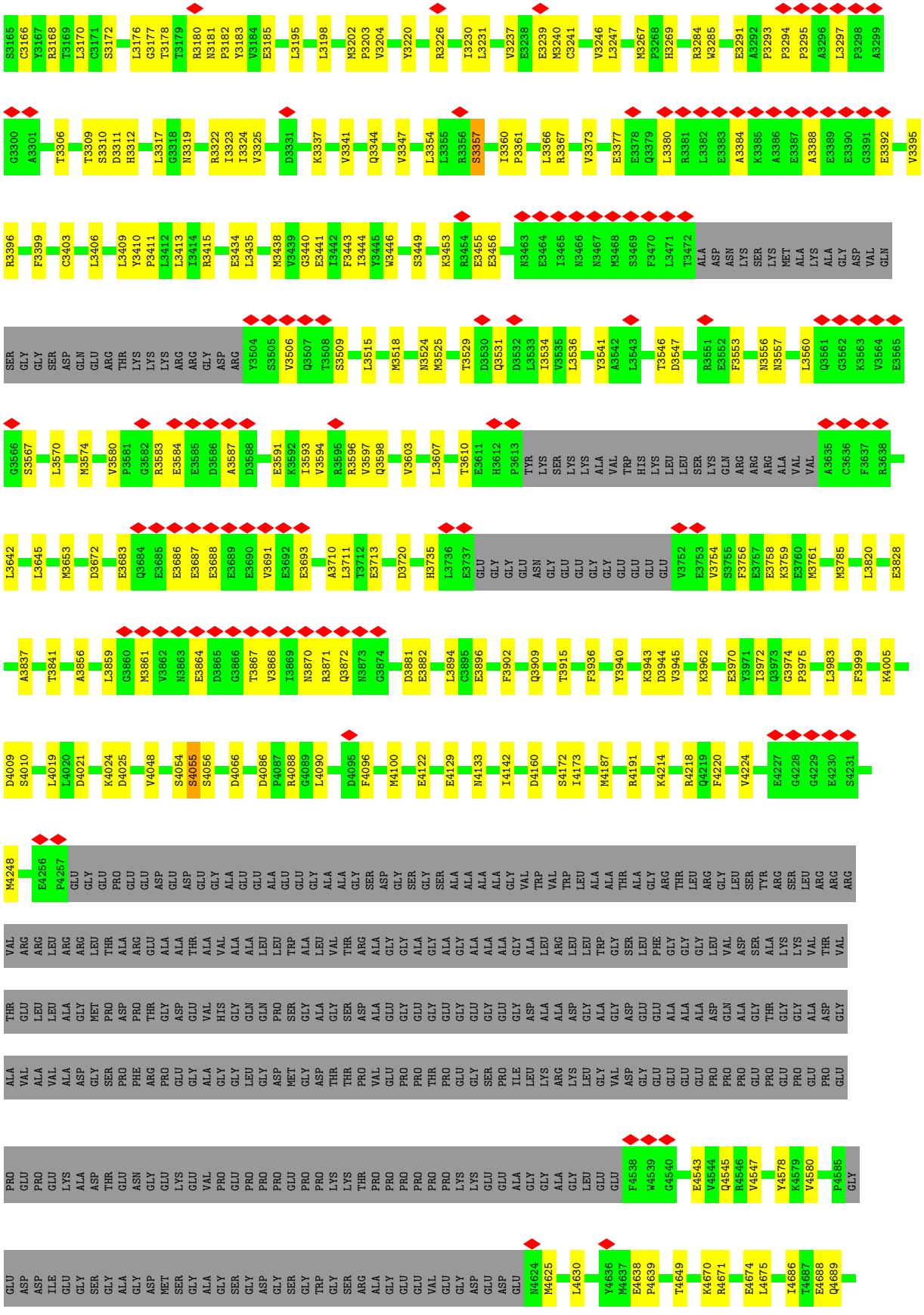


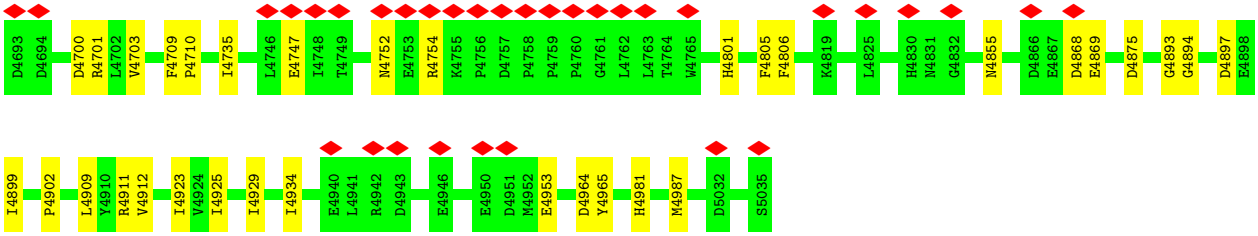











D4693
D4694
D4700
R4701
L4702
V4703
F4709
P4710
I4735
L4746
E4747
I4748
T4749
N4752
E4753
R4754
K4755
P4756
D4757
P4758
P4759
P4760
G4761
L4762
L4763
T4764
W4765
H4801
F4805
F4806
K4819
L4825
H4830
N4831
G4832
N4855
D4866
E4867
D4868
E4869
D4875
G4893
G4894
D4897
E4898


I4899
P4902
L4909
Y4910
R4911
V4912
I4923
V4924
I4925
I4929
I4934
E4940
L4941
R4942
D4943
E4946
E4950
D4951
M4952
E4953
D4964
Y4965
H4981
M4987
D5032
S5035

# 4 Experimental information (i)

| Property | Value | Source |
|---|---|---|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | |
| Number of particles used | 25791 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope | TFS KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/Å^2$) | 58 | Depositor |
| Minimum defocus (nm) | 500 | Depositor |
| Maximum defocus (nm) | 1200 | Depositor |
| Magnification | Not provided | |
| Image detector | GATAN K3 BIOQUANTUM (6k x 4k) | Depositor |
| Maximum map value | 0.628 | Depositor |
| Minimum map value | 0.000 | Depositor |
| Average map value | 0.003 | Depositor |
| Map value standard deviation | 0.023 | Depositor |
| Recommended contour level | 0.1 | Depositor |
| Map size (Å) | 424.448, 424.448, 424.448 | wwPDB |
| Map dimensions | 512, 512, 512 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 0.829, 0.829, 0.829 | 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, PCW, CFF, ATP, A1BYZ, 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 | E | 0.24 | 0/848 | 0.40 | 0/1143 |
| 1 | F | 0.25 | 0/848 | 0.40 | 0/1143 |
| 1 | G | 0.25 | 0/848 | 0.41 | 0/1143 |
| 1 | H | 0.24 | 0/848 | 0.40 | 0/1143 |
| 2 | A | 0.29 | 0/35586 | 0.47 | 13/48203 (0.0%) |
| 2 | B | 0.29 | 0/35586 | 0.47 | 14/48203 (0.0%) |
| 2 | C | 0.29 | 0/35586 | 0.47 | 13/48203 (0.0%) |
| 2 | D | 0.29 | 0/35586 | 0.47 | 13/48203 (0.0%) |
| All | All | 0.29 | 0/145736 | 0.47 | 53/197384 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 2 | A | 0 | 10 |
| 2 | B | 0 | 10 |
| 2 | C | 0 | 10 |
| 2 | D | 0 | 10 |
| All | All | 0 | 40 |

There are no bond length outliers.

All (53) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | D | 2238 | CYS | CA-CB-SG | 9.57 | 136.40 | 114.40 |
| 2 | B | 2238 | CYS | CA-CB-SG | 9.57 | 136.40 | 114.40 |
| 2 | C | 2238 | CYS | CA-CB-SG | 9.57 | 136.40 | 114.40 |
| 2 | A | 2238 | CYS | CA-CB-SG | 9.55 | 136.37 | 114.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | D | 3241 | CYS | CA-CB-SG | 7.71 | 132.13 | 114.40 |
| 2 | B | 3241 | CYS | CA-CB-SG | 7.71 | 132.13 | 114.40 |
| 2 | C | 3241 | CYS | CA-CB-SG | 7.71 | 132.13 | 114.40 |
| 2 | A | 3241 | CYS | CA-CB-SG | 7.71 | 132.12 | 114.40 |
| 2 | A | 1052 | TYR | N-CA-CB | 7.00 | 120.27 | 109.85 |
| 2 | B | 1052 | TYR | N-CA-CB | 6.97 | 120.24 | 109.85 |
| 2 | D | 1052 | TYR | N-CA-CB | 6.96 | 120.22 | 109.85 |
| 2 | C | 1052 | TYR | N-CA-CB | 6.96 | 120.22 | 109.85 |
| 2 | A | 2233 | CYS | CA-C-N | -6.61 | 108.92 | 121.54 |
| 2 | A | 2233 | CYS | C-N-CA | -6.61 | 108.92 | 121.54 |
| 2 | C | 2233 | CYS | CA-C-N | -6.60 | 108.93 | 121.54 |
| 2 | C | 2233 | CYS | C-N-CA | -6.60 | 108.93 | 121.54 |
| 2 | D | 2233 | CYS | CA-C-N | -6.60 | 108.93 | 121.54 |
| 2 | D | 2233 | CYS | C-N-CA | -6.60 | 108.93 | 121.54 |
| 2 | B | 2233 | CYS | CA-C-N | -6.60 | 108.93 | 121.54 |
| 2 | B | 2233 | CYS | C-N-CA | -6.60 | 108.93 | 121.54 |
| 2 | D | 604 | LEU | CA-C-N | -6.49 | 113.13 | 122.67 |
| 2 | D | 604 | LEU | C-N-CA | -6.49 | 113.13 | 122.67 |
| 2 | B | 604 | LEU | CA-C-N | -6.49 | 113.13 | 122.67 |
| 2 | B | 604 | LEU | C-N-CA | -6.49 | 113.13 | 122.67 |
| 2 | C | 604 | LEU | CA-C-N | -6.49 | 113.13 | 122.67 |
| 2 | C | 604 | LEU | C-N-CA | -6.49 | 113.13 | 122.67 |
| 2 | A | 604 | LEU | CA-C-N | -6.47 | 113.16 | 122.67 |
| 2 | A | 604 | LEU | C-N-CA | -6.47 | 113.16 | 122.67 |
| 2 | D | 2234 | CYS | N-CA-CB | 6.40 | 121.31 | 110.49 |
| 2 | C | 2234 | CYS | N-CA-CB | 6.40 | 121.31 | 110.49 |
| 2 | B | 2234 | CYS | N-CA-CB | 6.39 | 121.28 | 110.49 |
| 2 | A | 2234 | CYS | N-CA-CB | 6.38 | 121.27 | 110.49 |
| 2 | D | 2238 | CYS | CB-CA-C | 6.11 | 119.82 | 109.55 |
| 2 | B | 2238 | CYS | CB-CA-C | 6.11 | 119.82 | 109.55 |
| 2 | C | 2238 | CYS | CB-CA-C | 6.11 | 119.82 | 109.55 |
| 2 | A | 2238 | CYS | CB-CA-C | 6.11 | 119.81 | 109.55 |
| 2 | D | 2234 | CYS | CA-CB-SG | 5.84 | 127.82 | 114.40 |
| 2 | C | 2234 | CYS | CA-CB-SG | 5.84 | 127.82 | 114.40 |
| 2 | A | 2234 | CYS | CA-CB-SG | 5.83 | 127.81 | 114.40 |
| 2 | B | 2234 | CYS | CA-CB-SG | 5.83 | 127.82 | 114.40 |
| 2 | C | 964 | ASN | N-CA-C | -5.82 | 105.02 | 111.71 |
| 2 | D | 964 | ASN | N-CA-C | -5.79 | 105.06 | 111.71 |
| 2 | B | 964 | ASN | N-CA-C | -5.79 | 105.06 | 111.71 |
| 2 | A | 964 | ASN | N-CA-C | -5.78 | 105.07 | 111.71 |
| 2 | A | 2238 | CYS | N-CA-CB | -5.55 | 102.49 | 110.65 |
| 2 | D | 2238 | CYS | N-CA-CB | -5.53 | 102.53 | 110.65 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | C | 2238 | CYS | N-CA-CB | -5.53 | 102.53 | 110.65 |
| 2 | B | 2238 | CYS | N-CA-CB | -5.50 | 102.56 | 110.65 |
| 2 | B | 2238 | CYS | N-CA-C | -5.13 | 107.05 | 113.72 |
| 2 | D | 2238 | CYS | N-CA-C | -5.12 | 107.06 | 113.72 |
| 2 | A | 2238 | CYS | N-CA-C | -5.12 | 107.06 | 113.72 |
| 2 | C | 2238 | CYS | N-CA-C | -5.12 | 107.06 | 113.72 |
| 2 | B | 1044 | VAL | N-CA-C | -5.01 | 105.66 | 110.72 |

There are no chirality outliers.

All (40) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | A | 1045 | ARG | Sidechain |
| 2 | A | 2238 | CYS | Peptide |
| 2 | A | 2337 | ARG | Sidechain |
| 2 | A | 605 | CYS | Peptide |
| 2 | A | 870 | ARG | Sidechain |
| 2 | A | 872 | ARG | Sidechain |
| 2 | A | 887 | ARG | Sidechain |
| 2 | A | 898 | ARG | Sidechain |
| 2 | A | 903 | ARG | Sidechain |
| 2 | A | 919 | ARG | Sidechain |
| 2 | B | 1045 | ARG | Sidechain |
| 2 | B | 2238 | CYS | Peptide |
| 2 | B | 2337 | ARG | Sidechain |
| 2 | B | 605 | CYS | Peptide |
| 2 | B | 870 | ARG | Sidechain |
| 2 | B | 872 | ARG | Sidechain |
| 2 | B | 887 | ARG | Sidechain |
| 2 | B | 898 | ARG | Sidechain |
| 2 | B | 903 | ARG | Sidechain |
| 2 | B | 919 | ARG | Sidechain |
| 2 | C | 1045 | ARG | Sidechain |
| 2 | C | 2238 | CYS | Peptide |
| 2 | C | 2337 | ARG | Sidechain |
| 2 | C | 605 | CYS | Peptide |
| 2 | C | 870 | ARG | Sidechain |
| 2 | C | 872 | ARG | Sidechain |
| 2 | C | 887 | ARG | Sidechain |
| 2 | C | 898 | ARG | Sidechain |
| 2 | C | 903 | ARG | Sidechain |
| 2 | C | 919 | ARG | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | D | 1045 | ARG | Sidechain |
| 2 | D | 2238 | CYS | Peptide |
| 2 | D | 2337 | ARG | Sidechain |
| 2 | D | 605 | CYS | Peptide |
| 2 | D | 870 | ARG | Sidechain |
| 2 | D | 872 | ARG | Sidechain |
| 2 | D | 887 | ARG | Sidechain |
| 2 | D | 898 | ARG | Sidechain |
| 2 | D | 903 | ARG | Sidechain |
| 2 | D | 919 | ARG | Sidechain |

## 5.2 Too-close contacts (i)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | E | 830 | 0 | 828 | 16 | 0 |
| 1 | F | 830 | 0 | 828 | 15 | 0 |
| 1 | G | 830 | 0 | 828 | 16 | 0 |
| 1 | H | 830 | 0 | 828 | 16 | 0 |
| 2 | A | 34797 | 0 | 34382 | 638 | 0 |
| 2 | B | 34797 | 0 | 34382 | 643 | 0 |
| 2 | C | 34797 | 0 | 34382 | 644 | 0 |
| 2 | D | 34797 | 0 | 34382 | 642 | 0 |
| 3 | A | 1 | 0 | 0 | 0 | 0 |
| 3 | B | 1 | 0 | 0 | 0 | 0 |
| 3 | C | 1 | 0 | 0 | 0 | 0 |
| 3 | D | 1 | 0 | 0 | 0 | 0 |
| 4 | A | 14 | 0 | 10 | 0 | 0 |
| 4 | B | 14 | 0 | 10 | 0 | 0 |
| 4 | C | 14 | 0 | 10 | 0 | 0 |
| 4 | D | 14 | 0 | 10 | 0 | 0 |
| 5 | A | 62 | 0 | 24 | 1 | 0 |
| 5 | B | 62 | 0 | 24 | 1 | 0 |
| 5 | C | 62 | 0 | 24 | 1 | 0 |
| 5 | D | 62 | 0 | 24 | 1 | 0 |
| 6 | A | 1 | 0 | 0 | 0 | 0 |
| 6 | B | 1 | 0 | 0 | 0 | 0 |
| 6 | C | 1 | 0 | 0 | 0 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 6 | D | 1 | 0 | 0 | 0 | 0 |
| 7 | A | 108 | 0 | 168 | 5 | 0 |
| 7 | B | 108 | 0 | 168 | 5 | 0 |
| 7 | C | 108 | 0 | 168 | 5 | 0 |
| 7 | D | 108 | 0 | 168 | 5 | 0 |
| 8 | A | 60 | 0 | 0 | 2 | 0 |
| 8 | B | 60 | 0 | 0 | 3 | 0 |
| 8 | C | 60 | 0 | 0 | 3 | 0 |
| 8 | D | 60 | 0 | 0 | 2 | 0 |
| All | All | 143492 | 0 | 141648 | 2626 | 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 9.

All (2626) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:899:ASP:HB3 | 2:B:902:LYS:HB2 | 1.30 | 1.10 |
| 2:A:899:ASP:HB3 | 2:A:902:LYS:HB2 | 1.30 | 1.09 |
| 2:D:899:ASP:HB3 | 2:D:902:LYS:HB2 | 1.30 | 1.08 |
| 2:C:899:ASP:HB3 | 2:C:902:LYS:HB2 | 1.30 | 1.08 |
| 1:H:2:GLY:N | 1:H:78:SER:HG | 1.55 | 1.03 |
| 1:F:2:GLY:N | 1:F:78:SER:HG | 1.53 | 1.03 |
| 2:C:2156:LEU:HD21 | 2:C:2199:MET:HE1 | 1.42 | 1.01 |
| 2:A:2156:LEU:HD21 | 2:A:2199:MET:HE1 | 1.42 | 0.99 |
| 2:B:879:ILE:HA | 2:B:882:LEU:HD12 | 1.44 | 0.99 |
| 2:B:902:LYS:HB3 | 2:B:904:LEU:HG | 1.45 | 0.99 |
| 2:C:879:ILE:HA | 2:C:882:LEU:HD12 | 1.45 | 0.99 |
| 2:A:902:LYS:HB3 | 2:A:904:LEU:HG | 1.45 | 0.98 |
| 2:B:2156:LEU:HD21 | 2:B:2199:MET:HE1 | 1.42 | 0.97 |
| 2:A:879:ILE:HA | 2:A:882:LEU:HD12 | 1.45 | 0.97 |
| 2:C:902:LYS:HB3 | 2:C:904:LEU:HG | 1.45 | 0.97 |
| 2:D:902:LYS:HB3 | 2:D:904:LEU:HG | 1.45 | 0.97 |
| 2:D:2156:LEU:HD21 | 2:D:2199:MET:HE1 | 1.42 | 0.97 |
| 2:D:879:ILE:HA | 2:D:882:LEU:HD12 | 1.44 | 0.97 |
| 2:D:3529:THR:HG23 | 2:D:3574:MET:HE3 | 1.47 | 0.97 |
| 2:B:2215:VAL:HG11 | 2:B:2229:MET:HE1 | 1.48 | 0.96 |
| 2:C:3529:THR:HG23 | 2:C:3574:MET:HE3 | 1.47 | 0.95 |
| 2:C:2215:VAL:HG11 | 2:C:2229:MET:HE1 | 1.48 | 0.95 |
| 2:A:3529:THR:HG23 | 2:A:3574:MET:HE3 | 1.47 | 0.95 |
| 2:A:2215:VAL:HG11 | 2:A:2229:MET:HE1 | 1.48 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:G:2:GLY:N | 1:G:78:SER:HG | 1.64 | 0.94 |
| 2:B:3529:THR:HG23 | 2:B:3574:MET:HE3 | 1.47 | 0.93 |
| 2:D:2215:VAL:HG11 | 2:D:2229:MET:HE1 | 1.48 | 0.93 |
| 2:B:887:ARG:HG2 | 2:B:908:LEU:HD11 | 1.52 | 0.92 |
| 1:E:2:GLY:N | 1:E:78:SER:HG | 1.68 | 0.91 |
| 2:D:887:ARG:HG2 | 2:D:908:LEU:HD11 | 1.52 | 0.91 |
| 2:A:887:ARG:HG2 | 2:A:908:LEU:HD11 | 1.52 | 0.91 |
| 2:C:2766:LYS:NZ | 2:C:2861:PRO:O | 2.04 | 0.91 |
| 2:D:2912:LEU:O | 2:D:2917:LYS:NZ | 2.04 | 0.91 |
| 2:A:2766:LYS:NZ | 2:A:2861:PRO:O | 2.04 | 0.90 |
| 2:B:942:MET:HA | 2:B:1052:TYR:HA | 1.53 | 0.90 |
| 2:B:2766:LYS:NZ | 2:B:2861:PRO:O | 2.04 | 0.90 |
| 2:C:2912:LEU:O | 2:C:2917:LYS:NZ | 2.04 | 0.90 |
| 2:C:894:TYR:CG | 2:C:964:ASN:HB3 | 2.07 | 0.90 |
| 2:C:887:ARG:HG2 | 2:C:908:LEU:HD11 | 1.52 | 0.90 |
| 2:D:2766:LYS:NZ | 2:D:2861:PRO:O | 2.04 | 0.89 |
| 2:A:2912:LEU:O | 2:A:2917:LYS:NZ | 2.04 | 0.89 |
| 2:B:902:LYS:HE3 | 2:B:904:LEU:HD21 | 1.55 | 0.89 |
| 2:A:942:MET:HA | 2:A:1052:TYR:HA | 1.53 | 0.89 |
| 2:B:2912:LEU:O | 2:B:2917:LYS:NZ | 2.04 | 0.89 |
| 2:D:894:TYR:CG | 2:D:964:ASN:HB3 | 2.07 | 0.89 |
| 2:A:902:LYS:HE3 | 2:A:904:LEU:HD21 | 1.55 | 0.89 |
| 2:C:902:LYS:HE3 | 2:C:904:LEU:HD21 | 1.55 | 0.89 |
| 2:A:894:TYR:CG | 2:A:964:ASN:HB3 | 2.07 | 0.88 |
| 2:B:894:TYR:CG | 2:B:964:ASN:HB3 | 2.07 | 0.88 |
| 2:C:942:MET:HA | 2:C:1052:TYR:HA | 1.53 | 0.88 |
| 2:D:902:LYS:HE3 | 2:D:904:LEU:HD21 | 1.55 | 0.88 |
| 2:C:1131:GLN:NE2 | 2:C:1137:SER:OG | 2.07 | 0.88 |
| 2:A:894:TYR:HB3 | 2:A:964:ASN:H | 1.38 | 0.87 |
| 2:B:894:TYR:HB3 | 2:B:964:ASN:H | 1.38 | 0.87 |
| 2:A:1131:GLN:NE2 | 2:A:1137:SER:OG | 2.07 | 0.87 |
| 2:B:1131:GLN:NE2 | 2:B:1137:SER:OG | 2.07 | 0.87 |
| 2:D:942:MET:HA | 2:D:1052:TYR:HA | 1.53 | 0.87 |
| 2:D:1131:GLN:NE2 | 2:D:1137:SER:OG | 2.07 | 0.87 |
| 2:B:3525:MET:O | 2:B:3596:ARG:NH2 | 2.09 | 0.86 |
| 2:C:3525:MET:O | 2:C:3596:ARG:NH2 | 2.08 | 0.86 |
| 2:D:3525:MET:O | 2:D:3596:ARG:NH2 | 2.09 | 0.85 |
| 2:A:956:LEU:HB2 | 2:A:967:LYS:HE2 | 1.59 | 0.85 |
| 2:C:894:TYR:HB3 | 2:C:964:ASN:H | 1.38 | 0.85 |
| 2:D:894:TYR:HB3 | 2:D:964:ASN:H | 1.38 | 0.85 |
| 2:B:956:LEU:HB2 | 2:B:967:LYS:HE2 | 1.59 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:3525:MET:O | 2:A:3596:ARG:NH2 | 2.09 | 0.85 |
| 2:D:829:GLU:OE2 | 2:D:832:ARG:NH1 | 2.11 | 0.84 |
| 2:B:3962:LYS:NZ | 2:B:4021:ASP:OD2 | 2.11 | 0.84 |
| 2:D:956:LEU:HB2 | 2:D:967:LYS:HE2 | 1.59 | 0.84 |
| 2:C:956:LEU:HB2 | 2:C:967:LYS:HE2 | 1.59 | 0.84 |
| 2:D:2573:THR:O | 2:D:2575:HIS:N | 2.11 | 0.84 |
| 2:D:3962:LYS:NZ | 2:D:4021:ASP:OD2 | 2.11 | 0.83 |
| 2:A:3962:LYS:NZ | 2:A:4021:ASP:OD2 | 2.11 | 0.83 |
| 2:C:829:GLU:OE2 | 2:C:832:ARG:NH1 | 2.11 | 0.83 |
| 2:D:894:TYR:H | 2:D:963:SER:H | 1.26 | 0.83 |
| 2:A:2573:THR:O | 2:A:2575:HIS:N | 2.11 | 0.83 |
| 2:B:829:GLU:OE2 | 2:B:832:ARG:NH1 | 2.11 | 0.83 |
| 2:D:605:CYS:SG | 2:D:1673:SER:OG | 2.37 | 0.83 |
| 2:A:829:GLU:OE2 | 2:A:832:ARG:NH1 | 2.11 | 0.83 |
| 2:B:2573:THR:O | 2:B:2575:HIS:N | 2.11 | 0.83 |
| 2:C:2573:THR:O | 2:C:2575:HIS:N | 2.11 | 0.83 |
| 2:C:894:TYR:H | 2:C:963:SER:H | 1.26 | 0.83 |
| 2:C:3962:LYS:NZ | 2:C:4021:ASP:OD2 | 2.11 | 0.83 |
| 2:A:605:CYS:SG | 2:A:1673:SER:OG | 2.37 | 0.83 |
| 2:C:3178:THR:O | 2:C:3180:ARG:NH1 | 2.12 | 0.83 |
| 2:D:888:ILE:HD13 | 2:D:960:TYR:HA | 1.60 | 0.83 |
| 2:D:1025:TYR:O | 2:D:1033:LYS:NZ | 2.12 | 0.83 |
| 2:A:888:ILE:HD13 | 2:A:960:TYR:HA | 1.60 | 0.83 |
| 2:D:2209:MET:HE2 | 2:D:2251:MET:HE1 | 1.61 | 0.82 |
| 2:A:1025:TYR:O | 2:A:1033:LYS:NZ | 2.12 | 0.82 |
| 2:C:2209:MET:HE2 | 2:C:2251:MET:HE1 | 1.61 | 0.82 |
| 2:B:3178:THR:O | 2:B:3180:ARG:NH1 | 2.12 | 0.82 |
| 2:A:2209:MET:HE2 | 2:A:2251:MET:HE1 | 1.61 | 0.82 |
| 2:C:605:CYS:SG | 2:C:1673:SER:OG | 2.37 | 0.82 |
| 2:A:3178:THR:O | 2:A:3180:ARG:NH1 | 2.12 | 0.82 |
| 2:C:888:ILE:HD13 | 2:C:960:TYR:HA | 1.60 | 0.82 |
| 2:B:605:CYS:SG | 2:B:1673:SER:OG | 2.37 | 0.82 |
| 2:C:2723:LYS:NZ | 2:C:2725:GLU:OE1 | 2.13 | 0.82 |
| 2:D:3178:THR:O | 2:D:3180:ARG:NH1 | 2.12 | 0.81 |
| 2:B:888:ILE:HD13 | 2:B:960:TYR:HA | 1.60 | 0.81 |
| 2:D:2723:LYS:NZ | 2:D:2725:GLU:OE1 | 2.13 | 0.81 |
| 2:C:1025:TYR:O | 2:C:1033:LYS:NZ | 2.12 | 0.81 |
| 2:A:2234:CYS:O | 2:A:2235:ARG:C | 2.23 | 0.81 |
| 2:B:894:TYR:H | 2:B:963:SER:H | 1.26 | 0.81 |
| 2:A:894:TYR:H | 2:A:963:SER:H | 1.26 | 0.81 |
| 2:B:1025:TYR:O | 2:B:1033:LYS:NZ | 2.12 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:2209:MET:HE2 | 2:B:2251:MET:HE1 | 1.61 | 0.81 |
| 2:D:2234:CYS:O | 2:D:2235:ARG:C | 2.23 | 0.81 |
| 2:B:2723:LYS:NZ | 2:B:2725:GLU:OE1 | 2.13 | 0.81 |
| 2:A:2723:LYS:NZ | 2:A:2725:GLU:OE1 | 2.13 | 0.81 |
| 2:A:496:ASN:OD1 | 2:A:554:ARG:NH1 | 2.15 | 0.80 |
| 2:C:496:ASN:OD1 | 2:C:554:ARG:NH1 | 2.15 | 0.80 |
| 2:C:956:LEU:HD13 | 2:C:960:TYR:HB3 | 1.64 | 0.80 |
| 2:D:496:ASN:OD1 | 2:D:554:ARG:NH1 | 2.15 | 0.80 |
| 2:C:2234:CYS:O | 2:C:2235:ARG:C | 2.23 | 0.80 |
| 2:D:956:LEU:HD13 | 2:D:960:TYR:HB3 | 1.64 | 0.80 |
| 2:A:956:LEU:HD13 | 2:A:960:TYR:HB3 | 1.64 | 0.80 |
| 2:B:496:ASN:OD1 | 2:B:554:ARG:NH1 | 2.15 | 0.79 |
| 2:D:899:ASP:HB3 | 2:D:902:LYS:CB | 2.12 | 0.79 |
| 2:B:956:LEU:HD13 | 2:B:960:TYR:HB3 | 1.64 | 0.79 |
| 2:B:2234:CYS:O | 2:B:2235:ARG:C | 2.23 | 0.79 |
| 2:C:899:ASP:HB3 | 2:C:902:LYS:CB | 2.12 | 0.79 |
| 2:C:961:MET:HG3 | 2:C:965:GLY:HA2 | 1.65 | 0.79 |
| 2:D:961:MET:HG3 | 2:D:965:GLY:HA2 | 1.65 | 0.79 |
| 2:A:903:ARG:HH21 | 2:A:903:ARG:HA | 1.47 | 0.79 |
| 2:B:961:MET:HG3 | 2:B:965:GLY:HA2 | 1.65 | 0.79 |
| 2:B:903:ARG:HA | 2:B:903:ARG:HH21 | 1.47 | 0.79 |
| 2:B:894:TYR:HB2 | 2:B:962:MET:HB3 | 1.65 | 0.79 |
| 2:A:961:MET:HG3 | 2:A:965:GLY:HA2 | 1.65 | 0.78 |
| 2:A:899:ASP:HB3 | 2:A:902:LYS:CB | 2.12 | 0.78 |
| 2:C:894:TYR:HB2 | 2:C:962:MET:HB3 | 1.65 | 0.78 |
| 2:A:894:TYR:HB2 | 2:A:962:MET:HB3 | 1.65 | 0.78 |
| 2:D:903:ARG:HA | 2:D:903:ARG:HH21 | 1.47 | 0.78 |
| 2:A:2372:GLU:HG2 | 2:B:197:MET:HE1 | 1.66 | 0.78 |
| 2:A:2234:CYS:O | 2:A:2236:PHE:N | 2.17 | 0.78 |
| 2:C:903:ARG:HH21 | 2:C:903:ARG:HA | 1.47 | 0.77 |
| 2:D:2234:CYS:O | 2:D:2236:PHE:N | 2.17 | 0.77 |
| 2:D:2372:GLU:HG2 | 2:A:197:MET:HE1 | 1.67 | 0.77 |
| 2:D:894:TYR:HB2 | 2:D:962:MET:HB3 | 1.65 | 0.77 |
| 2:B:899:ASP:HB3 | 2:B:902:LYS:CB | 2.12 | 0.77 |
| 2:B:2234:CYS:O | 2:B:2236:PHE:N | 2.17 | 0.77 |
| 2:D:197:MET:HE1 | 2:C:2372:GLU:HG2 | 1.67 | 0.76 |
| 2:B:2372:GLU:HG2 | 2:C:197:MET:HE1 | 1.67 | 0.76 |
| 2:B:865:PRO:HD2 | 2:B:868:LEU:HB2 | 1.68 | 0.76 |
| 2:A:951:LEU:HD23 | 2:A:975:HIS:CE1 | 2.21 | 0.76 |
| 2:B:871:ILE:HG13 | 2:B:1050:TYR:CD2 | 2.21 | 0.76 |
| 2:A:865:PRO:HD2 | 2:A:868:LEU:HB2 | 1.68 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:871:ILE:HG13 | 2:C:1050:TYR:CD2 | 2.21 | 0.76 |
| 2:C:2234:CYS:O | 2:C:2236:PHE:N | 2.17 | 0.76 |
| 2:D:865:PRO:HD2 | 2:D:868:LEU:HB2 | 1.68 | 0.75 |
| 2:D:951:LEU:HD23 | 2:D:975:HIS:CE1 | 2.21 | 0.75 |
| 2:A:871:ILE:HG13 | 2:A:1050:TYR:CD2 | 2.21 | 0.75 |
| 2:B:951:LEU:HD23 | 2:B:975:HIS:CE1 | 2.21 | 0.75 |
| 2:B:951:LEU:HD23 | 2:B:975:HIS:HE1 | 1.51 | 0.75 |
| 2:C:865:PRO:HD2 | 2:C:868:LEU:HB2 | 1.68 | 0.75 |
| 2:D:871:ILE:HG13 | 2:D:1050:TYR:CD2 | 2.21 | 0.75 |
| 2:A:951:LEU:HD23 | 2:A:975:HIS:HE1 | 1.51 | 0.74 |
| 2:B:859:THR:HA | 2:B:862:ILE:HD12 | 1.69 | 0.74 |
| 2:C:951:LEU:HD23 | 2:C:975:HIS:CE1 | 2.21 | 0.74 |
| 2:B:3309:THR:OG1 | 2:B:3311:ASP:OD1 | 2.06 | 0.74 |
| 2:D:888:ILE:HG12 | 2:D:960:TYR:CG | 2.23 | 0.74 |
| 2:B:956:LEU:HD12 | 2:B:968:PRO:HD2 | 1.70 | 0.74 |
| 2:A:859:THR:HA | 2:A:862:ILE:HD12 | 1.69 | 0.74 |
| 7:D:8006:PCW:H482 | 7:A:8005:PCW:H271 | 1.70 | 0.74 |
| 2:C:859:THR:HA | 2:C:862:ILE:HD12 | 1.69 | 0.74 |
| 2:A:888:ILE:HG12 | 2:A:960:TYR:CG | 2.23 | 0.73 |
| 2:A:3309:THR:OG1 | 2:A:3311:ASP:OD1 | 2.06 | 0.73 |
| 2:A:3859:LEU:HD11 | 2:A:3871:ARG:HH22 | 1.52 | 0.73 |
| 2:D:956:LEU:HD12 | 2:D:968:PRO:HD2 | 1.70 | 0.73 |
| 2:C:888:ILE:HG12 | 2:C:960:TYR:CG | 2.23 | 0.73 |
| 2:C:3309:THR:OG1 | 2:C:3311:ASP:OD1 | 2.06 | 0.73 |
| 2:B:3859:LEU:HD11 | 2:B:3871:ARG:HH22 | 1.53 | 0.73 |
| 2:C:951:LEU:HD23 | 2:C:975:HIS:HE1 | 1.51 | 0.73 |
| 2:D:864:LEU:HD11 | 2:D:930:LEU:HB2 | 1.70 | 0.73 |
| 2:C:3859:LEU:HD11 | 2:C:3871:ARG:HH22 | 1.52 | 0.73 |
| 2:C:956:LEU:HD12 | 2:C:968:PRO:HD2 | 1.70 | 0.73 |
| 2:D:898:ARG:HB3 | 2:D:906:PRO:HD2 | 1.71 | 0.73 |
| 2:C:898:ARG:HB3 | 2:C:906:PRO:HD2 | 1.71 | 0.73 |
| 2:D:951:LEU:HD23 | 2:D:975:HIS:HE1 | 1.51 | 0.72 |
| 2:B:864:LEU:HD11 | 2:B:930:LEU:HB2 | 1.70 | 0.72 |
| 2:D:859:THR:HA | 2:D:862:ILE:HD12 | 1.69 | 0.72 |
| 2:D:3309:THR:OG1 | 2:D:3311:ASP:OD1 | 2.06 | 0.72 |
| 2:D:3859:LEU:HD11 | 2:D:3871:ARG:HH22 | 1.52 | 0.72 |
| 2:B:888:ILE:HG12 | 2:B:960:TYR:CG | 2.23 | 0.72 |
| 2:B:3881:ASP:OD2 | 2:B:3882:GLU:N | 2.23 | 0.72 |
| 2:A:3881:ASP:OD2 | 2:A:3882:GLU:N | 2.23 | 0.72 |
| 7:B:8006:PCW:H482 | 7:C:8005:PCW:H271 | 1.72 | 0.72 |
| 7:D:8005:PCW:H271 | 7:C:8006:PCW:H482 | 1.71 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:956:LEU:HD12 | 2:A:968:PRO:HD2 | 1.70 | 0.72 |
| 2:C:864:LEU:HD11 | 2:C:930:LEU:HB2 | 1.70 | 0.72 |
| 2:C:2824:VAL:HG22 | 2:C:2938:VAL:HG23 | 1.72 | 0.72 |
| 2:D:3881:ASP:OD2 | 2:D:3882:GLU:N | 2.23 | 0.71 |
| 2:B:898:ARG:HB3 | 2:B:906:PRO:HD2 | 1.71 | 0.71 |
| 2:D:953:LYS:HA | 2:D:971:LEU:HA | 1.72 | 0.71 |
| 2:A:898:ARG:HB3 | 2:A:906:PRO:HD2 | 1.71 | 0.71 |
| 2:C:953:LYS:HA | 2:C:971:LEU:HA | 1.72 | 0.71 |
| 2:C:3881:ASP:OD2 | 2:C:3882:GLU:N | 2.23 | 0.71 |
| 2:A:864:LEU:HD11 | 2:A:930:LEU:HB2 | 1.70 | 0.71 |
| 2:A:914:LEU:HD21 | 2:A:919:ARG:HA | 1.73 | 0.71 |
| 2:C:3107:MET:O | 2:C:3111:LEU:HD23 | 1.91 | 0.71 |
| 2:C:2949:THR:O | 2:C:2954:LYS:NZ | 2.25 | 0.70 |
| 2:D:2824:VAL:HG22 | 2:D:2938:VAL:HG23 | 1.72 | 0.70 |
| 2:A:953:LYS:HA | 2:A:971:LEU:HA | 1.72 | 0.70 |
| 2:B:2949:THR:O | 2:B:2954:LYS:NZ | 2.25 | 0.70 |
| 2:D:2949:THR:O | 2:D:2954:LYS:NZ | 2.25 | 0.70 |
| 2:A:2824:VAL:HG22 | 2:A:2938:VAL:HG23 | 1.72 | 0.70 |
| 2:B:953:LYS:HA | 2:B:971:LEU:HA | 1.72 | 0.70 |
| 2:B:3870:ASN:O | 2:B:3872:GLN:NE2 | 2.25 | 0.70 |
| 2:D:973:LEU:HB2 | 2:D:976:VAL:HG23 | 1.74 | 0.70 |
| 2:A:3870:ASN:O | 2:A:3872:GLN:NE2 | 2.25 | 0.70 |
| 2:B:973:LEU:HB2 | 2:B:976:VAL:HG23 | 1.74 | 0.70 |
| 2:D:3107:MET:O | 2:D:3111:LEU:HD23 | 1.91 | 0.69 |
| 2:A:973:LEU:HB2 | 2:A:976:VAL:HG23 | 1.74 | 0.69 |
| 2:A:3107:MET:O | 2:A:3111:LEU:HD23 | 1.91 | 0.69 |
| 2:C:973:LEU:HB2 | 2:C:976:VAL:HG23 | 1.74 | 0.69 |
| 1:H:88:HIS:ND1 | 1:H:91:ILE:HD13 | 2.08 | 0.69 |
| 2:B:914:LEU:HD21 | 2:B:919:ARG:HA | 1.73 | 0.69 |
| 2:B:3107:MET:O | 2:B:3111:LEU:HD23 | 1.91 | 0.69 |
| 2:C:914:LEU:HD21 | 2:C:919:ARG:HA | 1.73 | 0.69 |
| 1:E:88:HIS:ND1 | 1:E:91:ILE:HD13 | 2.08 | 0.69 |
| 1:G:88:HIS:ND1 | 1:G:91:ILE:HD13 | 2.08 | 0.69 |
| 2:A:2949:THR:O | 2:A:2954:LYS:NZ | 2.25 | 0.69 |
| 2:B:885:LEU:O | 2:B:888:ILE:HG23 | 1.93 | 0.69 |
| 2:B:2824:VAL:HG22 | 2:B:2938:VAL:HG23 | 1.72 | 0.69 |
| 1:F:88:HIS:ND1 | 1:F:91:ILE:HD13 | 2.08 | 0.69 |
| 2:A:1466:ASP:OD2 | 2:A:1468:SER:OG | 2.11 | 0.69 |
| 2:C:2414:GLU:O | 2:C:2418:HIS:NE2 | 2.26 | 0.69 |
| 2:A:894:TYR:CB | 2:A:964:ASN:H | 2.06 | 0.68 |
| 2:B:894:TYR:CB | 2:B:964:ASN:H | 2.07 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:885:LEU:O | 2:C:888:ILE:HG23 | 1.93 | 0.68 |
| 2:B:2414:GLU:O | 2:B:2418:HIS:NE2 | 2.26 | 0.68 |
| 2:C:3870:ASN:O | 2:C:3872:GLN:NE2 | 2.25 | 0.68 |
| 2:B:2948:ASP:O | 2:B:2949:THR:OG1 | 2.10 | 0.68 |
| 2:C:250:GLY:H | 2:C:373:LEU:HD11 | 1.58 | 0.68 |
| 2:D:894:TYR:CB | 2:D:964:ASN:H | 2.07 | 0.68 |
| 2:D:914:LEU:HD21 | 2:D:919:ARG:HA | 1.73 | 0.68 |
| 2:A:2414:GLU:O | 2:A:2418:HIS:NE2 | 2.26 | 0.68 |
| 2:B:911:PHE:CZ | 2:B:922:ASN:HB2 | 2.29 | 0.68 |
| 2:C:894:TYR:CB | 2:C:964:ASN:H | 2.07 | 0.68 |
| 2:A:885:LEU:O | 2:A:888:ILE:HG23 | 1.93 | 0.68 |
| 2:D:914:LEU:HD12 | 2:D:915:PRO:HD2 | 1.75 | 0.68 |
| 2:A:911:PHE:CZ | 2:A:922:ASN:HB2 | 2.29 | 0.68 |
| 2:B:1222:GLU:N | 2:B:1222:GLU:OE1 | 2.27 | 0.68 |
| 2:C:914:LEU:HD12 | 2:C:915:PRO:HD2 | 1.75 | 0.68 |
| 1:G:12:ASP:OD1 | 1:G:13:GLY:N | 2.26 | 0.68 |
| 1:H:12:ASP:OD1 | 1:H:13:GLY:N | 2.27 | 0.68 |
| 2:D:250:GLY:H | 2:D:373:LEU:HD11 | 1.58 | 0.68 |
| 2:D:885:LEU:O | 2:D:888:ILE:HG23 | 1.93 | 0.68 |
| 2:D:3870:ASN:O | 2:D:3872:GLN:NE2 | 2.25 | 0.68 |
| 2:D:872:ARG:HG3 | 2:D:927:GLY:HA2 | 1.76 | 0.68 |
| 2:A:1222:GLU:OE1 | 2:A:1222:GLU:N | 2.27 | 0.68 |
| 2:B:911:PHE:HA | 2:B:914:LEU:HD23 | 1.76 | 0.67 |
| 2:C:911:PHE:CZ | 2:C:922:ASN:HB2 | 2.29 | 0.67 |
| 2:D:2414:GLU:O | 2:D:2418:HIS:NE2 | 2.26 | 0.67 |
| 2:A:914:LEU:HD12 | 2:A:915:PRO:HD2 | 1.75 | 0.67 |
| 2:B:914:LEU:HD12 | 2:B:915:PRO:HD2 | 1.74 | 0.67 |
| 2:C:911:PHE:HA | 2:C:914:LEU:HD23 | 1.76 | 0.67 |
| 2:D:898:ARG:CB | 2:D:906:PRO:HD2 | 2.24 | 0.67 |
| 2:D:911:PHE:HZ | 2:D:922:ASN:HB2 | 1.59 | 0.67 |
| 2:A:250:GLY:H | 2:A:373:LEU:HD11 | 1.58 | 0.67 |
| 2:B:872:ARG:HG3 | 2:B:927:GLY:HA2 | 1.76 | 0.67 |
| 2:A:898:ARG:CB | 2:A:906:PRO:HD2 | 2.24 | 0.67 |
| 2:C:865:PRO:HD2 | 2:C:868:LEU:CB | 2.25 | 0.67 |
| 2:C:982:GLN:HA | 2:C:985:LEU:HD12 | 1.76 | 0.67 |
| 2:D:911:PHE:CZ | 2:D:922:ASN:HB2 | 2.29 | 0.67 |
| 2:D:1222:GLU:OE1 | 2:D:1222:GLU:N | 2.27 | 0.67 |
| 2:A:911:PHE:HA | 2:A:914:LEU:HD23 | 1.76 | 0.67 |
| 2:B:250:GLY:H | 2:B:373:LEU:HD11 | 1.58 | 0.67 |
| 2:B:871:ILE:HA | 2:B:874:LYS:HD3 | 1.77 | 0.67 |
| 2:C:898:ARG:CB | 2:C:906:PRO:HD2 | 2.24 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:E:12:ASP:OD1 | 1:E:13:GLY:N | 2.28 | 0.67 |
| 2:D:911:PHE:HA | 2:D:914:LEU:HD23 | 1.76 | 0.67 |
| 2:B:1466:ASP:OD2 | 2:B:1468:SER:OG | 2.11 | 0.67 |
| 2:A:2749:PRO:HD2 | 2:A:2752:LEU:HD12 | 1.77 | 0.67 |
| 2:C:872:ARG:HG3 | 2:C:927:GLY:HA2 | 1.76 | 0.67 |
| 1:F:12:ASP:OD1 | 1:F:13:GLY:N | 2.28 | 0.67 |
| 2:D:865:PRO:HD2 | 2:D:868:LEU:CB | 2.25 | 0.67 |
| 2:C:1466:ASP:OD2 | 2:C:1468:SER:OG | 2.11 | 0.67 |
| 2:C:911:PHE:HZ | 2:C:922:ASN:HB2 | 1.59 | 0.66 |
| 2:D:2948:ASP:O | 2:D:2949:THR:OG1 | 2.10 | 0.66 |
| 2:A:3377:GLU:OE1 | 2:A:3449:SER:OG | 2.12 | 0.66 |
| 2:A:872:ARG:HG3 | 2:A:927:GLY:HA2 | 1.76 | 0.66 |
| 2:B:982:GLN:HA | 2:B:985:LEU:HD12 | 1.76 | 0.66 |
| 2:C:1222:GLU:OE1 | 2:C:1222:GLU:N | 2.27 | 0.66 |
| 2:D:3377:GLU:OE1 | 2:D:3449:SER:OG | 2.12 | 0.66 |
| 2:A:911:PHE:HZ | 2:A:922:ASN:HB2 | 1.59 | 0.66 |
| 2:B:898:ARG:CB | 2:B:906:PRO:HD2 | 2.24 | 0.66 |
| 2:D:871:ILE:HA | 2:D:874:LYS:HD3 | 1.77 | 0.66 |
| 2:B:2564:THR:HG22 | 2:B:2607:CYS:HA | 1.78 | 0.66 |
| 2:D:982:GLN:HA | 2:D:985:LEU:HD12 | 1.76 | 0.66 |
| 2:C:2749:PRO:HD2 | 2:C:2752:LEU:HD12 | 1.77 | 0.66 |
| 2:A:859:THR:HB | 2:A:931:LYS:HB3 | 1.78 | 0.66 |
| 2:A:865:PRO:HD2 | 2:A:868:LEU:CB | 2.25 | 0.66 |
| 2:B:865:PRO:HD2 | 2:B:868:LEU:CB | 2.25 | 0.66 |
| 2:C:2564:THR:HG22 | 2:C:2607:CYS:HA | 1.78 | 0.66 |
| 2:B:859:THR:HB | 2:B:931:LYS:HB3 | 1.78 | 0.66 |
| 2:D:986:VAL:HG22 | 2:D:1044:VAL:HG21 | 1.78 | 0.66 |
| 2:A:871:ILE:HA | 2:A:874:LYS:HD3 | 1.77 | 0.66 |
| 2:B:2749:PRO:HD2 | 2:B:2752:LEU:HD12 | 1.77 | 0.66 |
| 2:C:4048:VAL:HG11 | 2:C:4160:ASP:OD2 | 1.96 | 0.66 |
| 2:A:887:ARG:HG3 | 2:A:892:TRP:CD1 | 2.32 | 0.65 |
| 2:B:911:PHE:HZ | 2:B:922:ASN:HB2 | 1.59 | 0.65 |
| 2:D:887:ARG:HG3 | 2:D:892:TRP:CD1 | 2.32 | 0.65 |
| 2:B:4048:VAL:HG11 | 2:B:4160:ASP:OD2 | 1.96 | 0.65 |
| 2:C:887:ARG:HG3 | 2:C:892:TRP:CD1 | 2.32 | 0.65 |
| 1:F:62:GLU:N | 1:F:62:GLU:OE1 | 2.29 | 0.65 |
| 1:H:62:GLU:OE1 | 1:H:62:GLU:N | 2.30 | 0.65 |
| 2:D:868:LEU:HD13 | 2:D:930:LEU:HB3 | 1.79 | 0.65 |
| 2:B:894:TYR:CD2 | 2:B:964:ASN:HB3 | 2.31 | 0.65 |
| 2:C:940:VAL:HA | 2:C:1053:ASN:O | 1.96 | 0.65 |
| 1:E:36:LYS:NZ | 1:E:42:ASP:OD2 | 2.30 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:982:GLN:HA | 2:A:985:LEU:HD12 | 1.76 | 0.65 |
| 2:B:887:ARG:HG3 | 2:B:892:TRP:CD1 | 2.32 | 0.65 |
| 2:B:940:VAL:HA | 2:B:1053:ASN:O | 1.96 | 0.65 |
| 2:B:1420:ASP:OD1 | 2:B:1422:ARG:NH1 | 2.30 | 0.65 |
| 2:A:2564:THR:HG22 | 2:A:2607:CYS:HA | 1.78 | 0.65 |
| 2:D:1420:ASP:OD1 | 2:D:1422:ARG:NH1 | 2.30 | 0.65 |
| 2:D:1466:ASP:OD2 | 2:D:1468:SER:OG | 2.11 | 0.65 |
| 2:D:4048:VAL:HG11 | 2:D:4160:ASP:OD2 | 1.96 | 0.65 |
| 2:B:2560:LEU:O | 2:B:2564:THR:HG23 | 1.97 | 0.65 |
| 2:C:1420:ASP:OD1 | 2:C:1422:ARG:NH1 | 2.30 | 0.65 |
| 2:A:940:VAL:HA | 2:A:1053:ASN:O | 1.96 | 0.65 |
| 2:C:986:VAL:HG22 | 2:C:1044:VAL:HG21 | 1.78 | 0.65 |
| 1:H:36:LYS:NZ | 1:H:42:ASP:OD2 | 2.29 | 0.65 |
| 2:D:914:LEU:HD21 | 2:D:919:ARG:HB2 | 1.79 | 0.65 |
| 2:C:894:TYR:CD2 | 2:C:964:ASN:HB3 | 2.31 | 0.65 |
| 2:A:894:TYR:CD2 | 2:A:964:ASN:HB3 | 2.31 | 0.65 |
| 2:D:2564:THR:HG22 | 2:D:2607:CYS:HA | 1.78 | 0.65 |
| 2:D:2749:PRO:HD2 | 2:D:2752:LEU:HD12 | 1.77 | 0.65 |
| 2:A:919:ARG:HA | 2:A:922:ASN:ND2 | 2.12 | 0.65 |
| 2:C:871:ILE:HA | 2:C:874:LYS:HD3 | 1.77 | 0.65 |
| 2:B:4925:ILE:O | 2:B:4929:ILE:HD12 | 1.97 | 0.64 |
| 2:C:914:LEU:HD21 | 2:C:919:ARG:HB2 | 1.79 | 0.64 |
| 2:D:859:THR:HB | 2:D:931:LYS:HB3 | 1.78 | 0.64 |
| 2:A:2560:LEU:O | 2:A:2564:THR:HG23 | 1.97 | 0.64 |
| 1:F:36:LYS:NZ | 1:F:42:ASP:OD2 | 2.30 | 0.64 |
| 2:D:894:TYR:CD2 | 2:D:964:ASN:HB3 | 2.31 | 0.64 |
| 2:D:919:ARG:HA | 2:D:922:ASN:ND2 | 2.12 | 0.64 |
| 2:D:2866:VAL:HG12 | 2:D:2933:MET:HE3 | 1.79 | 0.64 |
| 2:A:986:VAL:HG22 | 2:A:1044:VAL:HG21 | 1.78 | 0.64 |
| 2:B:986:VAL:HG22 | 2:B:1044:VAL:HG21 | 1.78 | 0.64 |
| 2:C:859:THR:HB | 2:C:931:LYS:HB3 | 1.78 | 0.64 |
| 2:C:868:LEU:HD13 | 2:C:930:LEU:HB3 | 1.79 | 0.64 |
| 2:C:2245:ARG:NH2 | 2:C:2284:ASN:OD1 | 2.31 | 0.64 |
| 1:G:36:LYS:NZ | 1:G:42:ASP:OD1 | 2.30 | 0.64 |
| 2:D:940:VAL:HA | 2:D:1053:ASN:O | 1.96 | 0.64 |
| 2:D:4925:ILE:O | 2:D:4929:ILE:HD12 | 1.97 | 0.64 |
| 2:A:868:LEU:HD13 | 2:A:930:LEU:HB3 | 1.79 | 0.64 |
| 2:D:2245:ARG:NH2 | 2:D:2284:ASN:OD1 | 2.31 | 0.64 |
| 2:A:914:LEU:HD21 | 2:A:919:ARG:HB2 | 1.79 | 0.64 |
| 2:A:2245:ARG:NH2 | 2:A:2284:ASN:OD1 | 2.31 | 0.64 |
| 7:A:8006:PCW:H482 | 7:B:8005:PCW:H271 | 1.80 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:E:62:GLU:OE1 | 1:E:62:GLU:N | 2.31 | 0.64 |
| 2:D:2560:LEU:O | 2:D:2564:THR:HG23 | 1.97 | 0.64 |
| 2:D:3529:THR:HG23 | 2:D:3574:MET:CE | 2.25 | 0.64 |
| 2:A:1042:GLN:O | 2:A:1046:THR:HG23 | 1.98 | 0.64 |
| 2:B:3972:ILE:HG21 | 2:B:3983:LEU:HD12 | 1.80 | 0.64 |
| 2:A:3392:GLU:OE2 | 2:A:3396:ARG:NE | 2.30 | 0.64 |
| 2:A:4925:ILE:O | 2:A:4929:ILE:HD12 | 1.97 | 0.64 |
| 1:G:62:GLU:OE1 | 1:G:62:GLU:N | 2.30 | 0.64 |
| 2:C:919:ARG:HA | 2:C:922:ASN:ND2 | 2.12 | 0.64 |
| 2:C:2866:VAL:HG12 | 2:C:2933:MET:HE3 | 1.79 | 0.64 |
| 2:A:4048:VAL:HG11 | 2:A:4160:ASP:OD2 | 1.96 | 0.64 |
| 2:B:1042:GLN:O | 2:B:1046:THR:HG23 | 1.98 | 0.64 |
| 2:B:919:ARG:HA | 2:B:922:ASN:ND2 | 2.12 | 0.64 |
| 2:C:3377:GLU:OE1 | 2:C:3449:SER:OG | 2.12 | 0.64 |
| 2:C:3392:GLU:OE2 | 2:C:3396:ARG:NE | 2.30 | 0.64 |
| 2:D:3392:GLU:OE2 | 2:D:3396:ARG:NE | 2.30 | 0.63 |
| 2:A:3506:VAL:O | 2:A:3509:SER:OG | 2.13 | 0.63 |
| 2:A:4752:ASN:OD1 | 2:A:4754:ARG:NH2 | 2.31 | 0.63 |
| 2:B:1070:GLY:N | 2:B:1115:GLU:OE1 | 2.32 | 0.63 |
| 2:C:2560:LEU:O | 2:C:2564:THR:HG23 | 1.97 | 0.63 |
| 2:C:4752:ASN:OD1 | 2:C:4754:ARG:NH2 | 2.31 | 0.63 |
| 2:A:1420:ASP:OD1 | 2:A:1422:ARG:NH1 | 2.30 | 0.63 |
| 2:B:2245:ARG:NH2 | 2:B:2284:ASN:OD1 | 2.31 | 0.63 |
| 2:B:3392:GLU:OE2 | 2:B:3396:ARG:NE | 2.30 | 0.63 |
| 2:D:1042:GLN:O | 2:D:1046:THR:HG23 | 1.98 | 0.63 |
| 2:A:2779:GLY:N | 2:A:2789:HIS:O | 2.31 | 0.63 |
| 2:A:3972:ILE:HG21 | 2:A:3983:LEU:HD12 | 1.80 | 0.63 |
| 2:B:318:ARG:NH2 | 2:B:322:GLU:O | 2.32 | 0.63 |
| 2:B:868:LEU:HD13 | 2:B:930:LEU:HB3 | 1.79 | 0.63 |
| 2:A:2866:VAL:HG12 | 2:A:2933:MET:HE3 | 1.79 | 0.63 |
| 2:B:914:LEU:HD21 | 2:B:919:ARG:HB2 | 1.79 | 0.63 |
| 2:B:4752:ASN:OD1 | 2:B:4754:ARG:NH2 | 2.31 | 0.63 |
| 2:C:1042:GLN:O | 2:C:1046:THR:HG23 | 1.98 | 0.63 |
| 2:D:1070:GLY:N | 2:D:1115:GLU:OE1 | 2.32 | 0.63 |
| 2:D:4752:ASN:OD1 | 2:D:4754:ARG:NH2 | 2.31 | 0.63 |
| 2:B:2866:VAL:HG12 | 2:B:2933:MET:HE3 | 1.79 | 0.63 |
| 2:C:952:LYS:HZ2 | 2:C:952:LYS:H | 1.47 | 0.63 |
| 2:C:4925:ILE:O | 2:C:4929:ILE:HD12 | 1.97 | 0.63 |
| 2:A:3529:THR:HG23 | 2:A:3574:MET:CE | 2.25 | 0.63 |
| 2:C:882:LEU:HG | 2:C:970:PRO:HB3 | 1.81 | 0.63 |
| 2:D:894:TYR:HB3 | 2:D:964:ASN:N | 2.13 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:3972:ILE:HG21 | 2:D:3983:LEU:HD12 | 1.80 | 0.62 |
| 2:C:2259:LEU:O | 2:C:2262:SER:OG | 2.16 | 0.62 |
| 2:C:3972:ILE:HG21 | 2:C:3983:LEU:HD12 | 1.80 | 0.62 |
| 2:A:2259:LEU:O | 2:A:2262:SER:OG | 2.16 | 0.62 |
| 2:C:1070:GLY:N | 2:C:1115:GLU:OE1 | 2.32 | 0.62 |
| 2:B:952:LYS:HZ2 | 2:B:952:LYS:H | 1.47 | 0.62 |
| 2:B:3529:THR:HG23 | 2:B:3574:MET:CE | 2.25 | 0.62 |
| 2:A:894:TYR:HB3 | 2:A:964:ASN:N | 2.13 | 0.62 |
| 2:B:882:LEU:HG | 2:B:970:PRO:HB3 | 1.81 | 0.62 |
| 2:C:2779:GLY:N | 2:C:2789:HIS:O | 2.31 | 0.62 |
| 2:A:1070:GLY:N | 2:A:1115:GLU:OE1 | 2.32 | 0.62 |
| 2:D:318:ARG:NH2 | 2:D:322:GLU:O | 2.32 | 0.62 |
| 2:A:882:LEU:HG | 2:A:970:PRO:HB3 | 1.81 | 0.62 |
| 2:A:1794:THR:HG22 | 2:A:2174:GLN:OE1 | 2.00 | 0.62 |
| 2:B:1794:THR:HG22 | 2:B:2174:GLN:OE1 | 2.00 | 0.62 |
| 2:C:940:VAL:HB | 2:C:1054:ILE:HG13 | 1.81 | 0.62 |
| 2:A:318:ARG:NH2 | 2:A:322:GLU:O | 2.32 | 0.62 |
| 2:A:952:LYS:HZ2 | 2:A:952:LYS:H | 1.47 | 0.62 |
| 2:C:3529:THR:HG23 | 2:C:3574:MET:CE | 2.25 | 0.62 |
| 2:A:2156:LEU:CD2 | 2:A:2199:MET:HE1 | 2.24 | 0.62 |
| 2:C:3541:TYR:OH | 2:C:3598:GLN:NE2 | 2.31 | 0.62 |
| 2:D:882:LEU:HG | 2:D:970:PRO:HB3 | 1.81 | 0.61 |
| 2:D:2259:LEU:O | 2:D:2262:SER:OG | 2.16 | 0.61 |
| 2:D:1794:THR:HG22 | 2:D:2174:GLN:OE1 | 2.00 | 0.61 |
| 2:A:940:VAL:HB | 2:A:1054:ILE:HG13 | 1.81 | 0.61 |
| 2:C:2817:MET:HE1 | 2:C:2931:LEU:HD11 | 1.82 | 0.61 |
| 2:B:169:ASP:OD1 | 2:B:202:ASN:ND2 | 2.32 | 0.61 |
| 2:B:973:LEU:HA | 2:B:975:HIS:CE1 | 2.36 | 0.61 |
| 2:B:2740:PRO:HG3 | 2:B:2886:THR:HG22 | 1.83 | 0.61 |
| 2:C:894:TYR:HB3 | 2:C:964:ASN:N | 2.13 | 0.61 |
| 2:C:973:LEU:HB2 | 2:C:976:VAL:CG2 | 2.31 | 0.61 |
| 2:C:1794:THR:HG22 | 2:C:2174:GLN:OE1 | 2.00 | 0.61 |
| 2:A:2674:HIS:ND1 | 2:A:2717:ASP:OD2 | 2.34 | 0.61 |
| 2:A:2817:MET:HE1 | 2:A:2931:LEU:HD11 | 1.82 | 0.61 |
| 2:B:940:VAL:HB | 2:B:1054:ILE:HG13 | 1.81 | 0.61 |
| 2:C:3435:LEU:HD23 | 2:C:3518:MET:HE2 | 1.82 | 0.61 |
| 2:A:932:THR:O | 2:A:936:LEU:HG | 2.01 | 0.61 |
| 2:A:3435:LEU:HD23 | 2:A:3518:MET:HE2 | 1.82 | 0.61 |
| 2:D:2740:PRO:HG3 | 2:D:2886:THR:HG22 | 1.83 | 0.61 |
| 2:B:318:ARG:NH1 | 2:B:325:ASP:OD2 | 2.34 | 0.61 |
| 2:B:973:LEU:HB2 | 2:B:976:VAL:CG2 | 2.31 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:2779:GLY:N | 2:B:2789:HIS:O | 2.31 | 0.61 |
| 2:D:2968:MET:O | 2:D:2971:SER:OG | 2.17 | 0.61 |
| 2:A:169:ASP:OD1 | 2:A:202:ASN:ND2 | 2.32 | 0.61 |
| 2:B:2674:HIS:ND1 | 2:B:2717:ASP:OD2 | 2.34 | 0.61 |
| 2:C:318:ARG:NH1 | 2:C:325:ASP:OD2 | 2.34 | 0.61 |
| 2:D:318:ARG:NH1 | 2:D:325:ASP:OD2 | 2.34 | 0.61 |
| 2:D:928:GLU:O | 2:D:932:THR:HG22 | 2.01 | 0.61 |
| 2:C:870:ARG:HH21 | 2:C:874:LYS:HD3 | 1.66 | 0.61 |
| 2:D:2674:HIS:ND1 | 2:D:2717:ASP:OD2 | 2.34 | 0.61 |
| 2:D:2817:MET:HE1 | 2:D:2931:LEU:HD11 | 1.82 | 0.61 |
| 2:A:2740:PRO:HG3 | 2:A:2886:THR:HG22 | 1.83 | 0.61 |
| 2:B:898:ARG:HA | 2:B:904:LEU:O | 2.01 | 0.61 |
| 2:B:902:LYS:HB3 | 2:B:904:LEU:CG | 2.28 | 0.61 |
| 2:C:318:ARG:NH2 | 2:C:322:GLU:O | 2.32 | 0.61 |
| 2:B:932:THR:O | 2:B:936:LEU:HG | 2.01 | 0.60 |
| 2:B:3435:LEU:HD23 | 2:B:3518:MET:HE2 | 1.82 | 0.60 |
| 2:C:936:LEU:HB2 | 2:C:938:CYS:SG | 2.41 | 0.60 |
| 2:C:2674:HIS:ND1 | 2:C:2717:ASP:OD2 | 2.34 | 0.60 |
| 2:D:898:ARG:HA | 2:D:904:LEU:O | 2.01 | 0.60 |
| 2:D:1264:THR:OG1 | 2:D:1266:ASP:OD1 | 2.20 | 0.60 |
| 2:A:973:LEU:HA | 2:A:975:HIS:CE1 | 2.36 | 0.60 |
| 2:C:898:ARG:HA | 2:C:904:LEU:O | 2.01 | 0.60 |
| 2:D:169:ASP:OD1 | 2:D:202:ASN:ND2 | 2.32 | 0.60 |
| 2:D:936:LEU:HB2 | 2:D:938:CYS:SG | 2.41 | 0.60 |
| 2:D:2779:GLY:N | 2:D:2789:HIS:O | 2.31 | 0.60 |
| 2:A:895:GLY:CA | 2:A:904:LEU:HB2 | 2.31 | 0.60 |
| 2:C:2156:LEU:CD2 | 2:C:2199:MET:HE1 | 2.24 | 0.60 |
| 2:D:932:THR:O | 2:D:936:LEU:HG | 2.01 | 0.60 |
| 2:A:649:ILE:HG23 | 2:A:815:ALA:HB3 | 1.84 | 0.60 |
| 2:A:898:ARG:HA | 2:A:904:LEU:O | 2.01 | 0.60 |
| 2:A:936:LEU:HB2 | 2:A:938:CYS:SG | 2.41 | 0.60 |
| 2:B:2817:MET:HE1 | 2:B:2931:LEU:HD11 | 1.82 | 0.60 |
| 2:B:4129:GLU:OE2 | 2:B:4133:ASN:ND2 | 2.35 | 0.60 |
| 2:C:169:ASP:OD1 | 2:C:202:ASN:ND2 | 2.32 | 0.60 |
| 2:C:884:ALA:HB1 | 2:C:968:PRO:HG3 | 1.83 | 0.60 |
| 2:C:1264:THR:OG1 | 2:C:1266:ASP:OD1 | 2.20 | 0.60 |
| 2:C:2740:PRO:HG3 | 2:C:2886:THR:HG22 | 1.83 | 0.60 |
| 2:D:870:ARG:HH21 | 2:D:874:LYS:HD3 | 1.66 | 0.60 |
| 2:D:973:LEU:HA | 2:D:975:HIS:CE1 | 2.36 | 0.60 |
| 2:A:928:GLU:O | 2:A:932:THR:HG22 | 2.01 | 0.60 |
| 2:B:928:GLU:O | 2:B:932:THR:HG22 | 2.01 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:2156:LEU:CD2 | 2:B:2199:MET:HE1 | 2.24 | 0.60 |
| 2:B:2259:LEU:O | 2:B:2262:SER:OG | 2.16 | 0.60 |
| 2:C:932:THR:O | 2:C:936:LEU:HG | 2.01 | 0.60 |
| 2:A:884:ALA:HB1 | 2:A:968:PRO:HG3 | 1.83 | 0.60 |
| 2:B:2246:GLN:N | 2:B:2246:GLN:OE1 | 2.35 | 0.60 |
| 2:D:2383:GLU:HA | 2:D:2386:ARG:NH2 | 2.17 | 0.60 |
| 2:A:318:ARG:NH1 | 2:A:325:ASP:OD2 | 2.34 | 0.60 |
| 2:A:4129:GLU:OE2 | 2:A:4133:ASN:ND2 | 2.35 | 0.60 |
| 2:C:928:GLU:O | 2:C:932:THR:HG22 | 2.01 | 0.60 |
| 2:C:2948:ASP:O | 2:C:2949:THR:OG1 | 2.10 | 0.60 |
| 2:D:884:ALA:HB1 | 2:D:968:PRO:HG3 | 1.83 | 0.60 |
| 2:D:895:GLY:CA | 2:D:904:LEU:HB2 | 2.31 | 0.60 |
| 2:D:940:VAL:HB | 2:D:1054:ILE:HG13 | 1.81 | 0.60 |
| 2:D:973:LEU:HB2 | 2:D:976:VAL:CG2 | 2.31 | 0.60 |
| 2:D:3435:LEU:HD23 | 2:D:3518:MET:HE2 | 1.82 | 0.60 |
| 2:A:3541:TYR:OH | 2:A:3598:GLN:NE2 | 2.31 | 0.60 |
| 2:C:973:LEU:HA | 2:C:975:HIS:CE1 | 2.36 | 0.60 |
| 2:B:883:TRP:HH2 | 2:B:907:CYS:HB3 | 1.67 | 0.60 |
| 2:B:3506:VAL:O | 2:B:3509:SER:OG | 2.13 | 0.60 |
| 2:A:973:LEU:HB2 | 2:A:976:VAL:CG2 | 2.31 | 0.59 |
| 2:B:2383:GLU:HA | 2:B:2386:ARG:NH2 | 2.17 | 0.59 |
| 2:C:881:GLU:HB3 | 2:C:969:ALA:H | 1.67 | 0.59 |
| 2:C:985:LEU:HD21 | 2:C:1057:PRO:HD2 | 1.84 | 0.59 |
| 2:A:3754:VAL:HG13 | 2:A:3758:GLU:OE2 | 2.02 | 0.59 |
| 2:B:936:LEU:HB2 | 2:B:938:CYS:SG | 2.41 | 0.59 |
| 2:B:2968:MET:O | 2:B:2971:SER:OG | 2.17 | 0.59 |
| 2:B:3754:VAL:HG13 | 2:B:3758:GLU:OE2 | 2.02 | 0.59 |
| 2:B:3856:ALA:HB1 | 2:B:3871:ARG:NE | 2.17 | 0.59 |
| 2:C:895:GLY:CA | 2:C:904:LEU:HB2 | 2.31 | 0.59 |
| 2:C:3506:VAL:O | 2:C:3509:SER:OG | 2.13 | 0.59 |
| 2:C:3962:LYS:NZ | 2:C:4025:ASP:OD1 | 2.36 | 0.59 |
| 2:D:2156:LEU:CD2 | 2:D:2199:MET:HE1 | 2.24 | 0.59 |
| 2:B:884:ALA:HB1 | 2:B:968:PRO:HG3 | 1.83 | 0.59 |
| 2:B:3962:LYS:NZ | 2:B:4025:ASP:OD1 | 2.36 | 0.59 |
| 2:A:881:GLU:HB3 | 2:A:969:ALA:H | 1.67 | 0.59 |
| 2:B:895:GLY:CA | 2:B:904:LEU:HB2 | 2.31 | 0.59 |
| 2:B:919:ARG:HA | 2:B:922:ASN:HD22 | 1.67 | 0.59 |
| 2:B:985:LEU:HD21 | 2:B:1057:PRO:HD2 | 1.84 | 0.59 |
| 2:D:3524:ASN:O | 2:D:3583:ARG:NH2 | 2.36 | 0.59 |
| 2:D:3541:TYR:OH | 2:D:3598:GLN:NE2 | 2.31 | 0.59 |
| 2:B:3524:ASN:O | 2:B:3583:ARG:NH2 | 2.36 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:649:ILE:HG23 | 2:C:815:ALA:HB3 | 1.84 | 0.59 |
| 2:C:3828:GLU:OE1 | 2:C:3828:GLU:N | 2.33 | 0.59 |
| 2:D:3440:GLY:O | 2:D:3444:ILE:HG13 | 2.02 | 0.59 |
| 2:B:870:ARG:HH21 | 2:B:874:LYS:HD3 | 1.66 | 0.59 |
| 2:B:929:THR:HA | 2:B:932:THR:HG22 | 1.85 | 0.59 |
| 2:C:3856:ALA:HB1 | 2:C:3871:ARG:NE | 2.17 | 0.59 |
| 2:D:3856:ALA:HB1 | 2:D:3871:ARG:NE | 2.17 | 0.59 |
| 2:A:912:HIS:HA | 2:A:919:ARG:NH1 | 2.17 | 0.59 |
| 2:A:2383:GLU:HA | 2:A:2386:ARG:NH2 | 2.17 | 0.59 |
| 2:B:649:ILE:HG23 | 2:B:815:ALA:HB3 | 1.84 | 0.59 |
| 2:B:3440:GLY:O | 2:B:3444:ILE:HG13 | 2.02 | 0.59 |
| 2:C:929:THR:HA | 2:C:932:THR:HG22 | 1.85 | 0.59 |
| 2:C:4129:GLU:OE2 | 2:C:4133:ASN:ND2 | 2.35 | 0.59 |
| 2:D:3754:VAL:HG13 | 2:D:3758:GLU:OE2 | 2.02 | 0.59 |
| 2:A:870:ARG:HH21 | 2:A:874:LYS:HD3 | 1.66 | 0.59 |
| 2:A:3524:ASN:O | 2:A:3583:ARG:NH2 | 2.36 | 0.59 |
| 2:C:883:TRP:HH2 | 2:C:907:CYS:HB3 | 1.67 | 0.59 |
| 2:C:2246:GLN:OE1 | 2:C:2246:GLN:N | 2.35 | 0.59 |
| 2:C:2383:GLU:HA | 2:C:2386:ARG:NH2 | 2.17 | 0.59 |
| 2:C:3344:GLN:OE1 | 2:C:3415:ARG:NH2 | 2.36 | 0.59 |
| 2:D:912:HIS:HA | 2:D:919:ARG:NH1 | 2.18 | 0.59 |
| 2:A:1173:ASP:OD1 | 2:A:1174:SER:N | 2.36 | 0.59 |
| 2:A:3856:ALA:HB1 | 2:A:3871:ARG:NE | 2.17 | 0.59 |
| 2:B:912:HIS:HA | 2:B:919:ARG:NH1 | 2.18 | 0.59 |
| 2:C:1173:ASP:OD1 | 2:C:1174:SER:N | 2.36 | 0.59 |
| 2:C:2249:ARG:NH2 | 2:C:2286:GLU:OE2 | 2.36 | 0.59 |
| 2:D:649:ILE:HG23 | 2:D:815:ALA:HB3 | 1.84 | 0.59 |
| 2:D:929:THR:HA | 2:D:932:THR:HG22 | 1.85 | 0.59 |
| 2:D:4129:GLU:OE2 | 2:D:4133:ASN:ND2 | 2.35 | 0.59 |
| 2:A:902:LYS:HB3 | 2:A:904:LEU:CG | 2.28 | 0.59 |
| 2:A:985:LEU:HD21 | 2:A:1057:PRO:HD2 | 1.84 | 0.59 |
| 2:B:1173:ASP:OD1 | 2:B:1174:SER:N | 2.36 | 0.59 |
| 2:C:912:HIS:HA | 2:C:919:ARG:NH1 | 2.18 | 0.59 |
| 2:C:2863:LEU:HD12 | 2:C:2926:GLU:OE1 | 2.03 | 0.59 |
| 2:D:895:GLY:HA3 | 2:D:904:LEU:HB2 | 1.84 | 0.58 |
| 2:D:898:ARG:HH12 | 2:D:907:CYS:HB2 | 1.68 | 0.58 |
| 2:D:985:LEU:HD21 | 2:D:1057:PRO:HD2 | 1.84 | 0.58 |
| 2:B:1264:THR:OG1 | 2:B:1266:ASP:OD1 | 2.20 | 0.58 |
| 2:C:3754:VAL:HG13 | 2:C:3758:GLU:OE2 | 2.02 | 0.58 |
| 2:A:919:ARG:HA | 2:A:922:ASN:HD22 | 1.67 | 0.58 |
| 2:A:3344:GLN:OE1 | 2:A:3415:ARG:NH2 | 2.36 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:163:LYS:O | 2:C:165:ARG:NH1 | 2.36 | 0.58 |
| 2:C:877:GLU:HA | 2:C:911:PHE:CD2 | 2.39 | 0.58 |
| 2:C:3440:GLY:O | 2:C:3444:ILE:HG13 | 2.02 | 0.58 |
| 2:D:883:TRP:HH2 | 2:D:907:CYS:HB3 | 1.67 | 0.58 |
| 2:D:2863:LEU:HD12 | 2:D:2926:GLU:OE1 | 2.03 | 0.58 |
| 2:A:895:GLY:HA3 | 2:A:904:LEU:HB2 | 1.84 | 0.58 |
| 2:A:929:THR:HA | 2:A:932:THR:HG22 | 1.85 | 0.58 |
| 2:A:2863:LEU:HD12 | 2:A:2926:GLU:OE1 | 2.03 | 0.58 |
| 2:C:914:LEU:HD21 | 2:C:919:ARG:CA | 2.33 | 0.58 |
| 2:C:3761:MET:HE3 | 2:C:3761:MET:HA | 1.85 | 0.58 |
| 2:D:3962:LYS:NZ | 2:D:4025:ASP:OD1 | 2.36 | 0.58 |
| 2:A:888:ILE:CD1 | 2:A:960:TYR:HA | 2.32 | 0.58 |
| 2:A:3962:LYS:NZ | 2:A:4025:ASP:OD1 | 2.36 | 0.58 |
| 2:A:4868:ASP:OD1 | 2:A:4869:GLU:N | 2.36 | 0.58 |
| 2:B:881:GLU:HB3 | 2:B:969:ALA:H | 1.67 | 0.58 |
| 2:B:2249:ARG:NH2 | 2:B:2286:GLU:OE2 | 2.36 | 0.58 |
| 2:C:2695:GLU:OE1 | 2:C:2698:ARG:NH2 | 2.37 | 0.58 |
| 2:A:898:ARG:HH12 | 2:A:907:CYS:HB2 | 1.69 | 0.58 |
| 2:A:2249:ARG:NH2 | 2:A:2286:GLU:OE2 | 2.36 | 0.58 |
| 2:D:287:THR:HG21 | 2:D:482:GLU:OE2 | 2.04 | 0.58 |
| 2:D:877:GLU:HA | 2:D:911:PHE:CD2 | 2.39 | 0.58 |
| 2:D:1173:ASP:OD1 | 2:D:1174:SER:N | 2.36 | 0.58 |
| 2:D:2249:ARG:NH2 | 2:D:2286:GLU:OE2 | 2.36 | 0.58 |
| 2:D:3761:MET:HA | 2:D:3761:MET:HE3 | 1.85 | 0.58 |
| 2:A:3440:GLY:O | 2:A:3444:ILE:HG13 | 2.02 | 0.58 |
| 2:B:163:LYS:O | 2:B:165:ARG:NH1 | 2.36 | 0.58 |
| 2:B:877:GLU:HA | 2:B:911:PHE:CD2 | 2.39 | 0.58 |
| 2:B:3943:LYS:O | 2:B:4005:LYS:NZ | 2.36 | 0.58 |
| 2:B:4868:ASP:OD1 | 2:B:4869:GLU:N | 2.37 | 0.58 |
| 2:C:914:LEU:CD2 | 2:C:919:ARG:HB2 | 2.34 | 0.58 |
| 2:C:919:ARG:HA | 2:C:922:ASN:HD22 | 1.67 | 0.58 |
| 2:C:919:ARG:HG2 | 2:C:920:ASN:N | 2.18 | 0.58 |
| 2:D:881:GLU:HB3 | 2:D:969:ALA:H | 1.67 | 0.58 |
| 2:B:2863:LEU:HD12 | 2:B:2926:GLU:OE1 | 2.03 | 0.58 |
| 2:C:888:ILE:CD1 | 2:C:960:TYR:HA | 2.32 | 0.58 |
| 2:D:4868:ASP:OD1 | 2:D:4869:GLU:N | 2.37 | 0.58 |
| 2:A:877:GLU:HA | 2:A:911:PHE:CD2 | 2.39 | 0.58 |
| 2:A:1264:THR:OG1 | 2:A:1266:ASP:OD1 | 2.20 | 0.58 |
| 2:A:2265:GLY:HA2 | 2:A:2268:MET:HE1 | 1.86 | 0.58 |
| 2:B:895:GLY:HA3 | 2:B:904:LEU:HB2 | 1.84 | 0.58 |
| 2:B:914:LEU:CD2 | 2:B:919:ARG:HB2 | 2.34 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:3170:LEU:HD12 | 2:B:3195:LEU:HD11 | 1.86 | 0.58 |
| 2:C:225:HIS:O | 2:C:228:MET:HE2 | 2.04 | 0.58 |
| 2:D:2695:GLU:OE1 | 2:D:2698:ARG:NH2 | 2.37 | 0.58 |
| 2:D:3344:GLN:OE1 | 2:D:3415:ARG:NH2 | 2.36 | 0.58 |
| 2:A:50:LEU:HD11 | 2:A:183:LEU:HD13 | 1.86 | 0.58 |
| 2:A:287:THR:HG21 | 2:A:482:GLU:OE2 | 2.04 | 0.58 |
| 2:A:914:LEU:CD2 | 2:A:919:ARG:HB2 | 2.34 | 0.58 |
| 2:A:2948:ASP:O | 2:A:2949:THR:OG1 | 2.10 | 0.58 |
| 2:B:914:LEU:HD21 | 2:B:919:ARG:CA | 2.33 | 0.58 |
| 2:B:3344:GLN:OE1 | 2:B:3415:ARG:NH2 | 2.36 | 0.58 |
| 2:D:888:ILE:HG12 | 2:D:960:TYR:CD2 | 2.39 | 0.58 |
| 2:D:914:LEU:HD21 | 2:D:919:ARG:CA | 2.33 | 0.58 |
| 2:A:914:LEU:HD21 | 2:A:919:ARG:CA | 2.33 | 0.58 |
| 2:A:1654:LEU:O | 2:A:1661:GLN:NE2 | 2.36 | 0.58 |
| 2:B:225:HIS:O | 2:B:228:MET:HE2 | 2.04 | 0.58 |
| 2:C:895:GLY:HA3 | 2:C:904:LEU:HB2 | 1.84 | 0.58 |
| 2:C:898:ARG:HH12 | 2:C:907:CYS:HB2 | 1.68 | 0.58 |
| 2:C:2265:GLY:HA2 | 2:C:2268:MET:HE1 | 1.86 | 0.58 |
| 2:D:225:HIS:O | 2:D:228:MET:HE2 | 2.04 | 0.57 |
| 2:D:905:HIS:CE1 | 2:D:907:CYS:HB2 | 2.39 | 0.57 |
| 2:A:2246:GLN:OE1 | 2:A:2246:GLN:N | 2.35 | 0.57 |
| 2:A:2695:GLU:OE1 | 2:A:2698:ARG:NH2 | 2.36 | 0.57 |
| 2:B:894:TYR:HB3 | 2:B:964:ASN:N | 2.13 | 0.57 |
| 2:D:919:ARG:HA | 2:D:922:ASN:HD22 | 1.67 | 0.57 |
| 2:D:3111:LEU:HD13 | 2:D:3183:TYR:CE2 | 2.40 | 0.57 |
| 2:A:883:TRP:HH2 | 2:A:907:CYS:HB3 | 1.67 | 0.57 |
| 2:C:3111:LEU:HD13 | 2:C:3183:TYR:CE2 | 2.40 | 0.57 |
| 2:C:3524:ASN:O | 2:C:3583:ARG:NH2 | 2.36 | 0.57 |
| 2:C:3524:ASN:O | 2:C:3583:ARG:NH1 | 2.37 | 0.57 |
| 2:D:163:LYS:O | 2:D:165:ARG:NH1 | 2.36 | 0.57 |
| 2:A:29:VAL:HG12 | 2:A:30:LEU:HG | 1.86 | 0.57 |
| 2:C:888:ILE:HG12 | 2:C:960:TYR:CD2 | 2.39 | 0.57 |
| 2:C:2968:MET:O | 2:C:2971:SER:OG | 2.17 | 0.57 |
| 2:C:3170:LEU:HD12 | 2:C:3195:LEU:HD11 | 1.86 | 0.57 |
| 2:D:50:LEU:HD11 | 2:D:183:LEU:HD13 | 1.86 | 0.57 |
| 2:A:919:ARG:HG2 | 2:A:920:ASN:N | 2.18 | 0.57 |
| 2:B:3366:LEU:HD11 | 2:B:3409:LEU:HD12 | 1.87 | 0.57 |
| 2:B:3384:ALA:O | 2:B:3388:ALA:N | 2.36 | 0.57 |
| 2:C:905:HIS:CE1 | 2:C:907:CYS:HB2 | 2.39 | 0.57 |
| 2:C:2209:MET:HE1 | 2:C:2254:HIS:ND1 | 2.20 | 0.57 |
| 2:C:3366:LEU:HD11 | 2:C:3409:LEU:HD12 | 1.87 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:4868:ASP:OD1 | 2:C:4869:GLU:N | 2.37 | 0.57 |
| 2:D:3943:LYS:O | 2:D:4005:LYS:NZ | 2.36 | 0.57 |
| 2:A:163:LYS:O | 2:A:165:ARG:NH1 | 2.36 | 0.57 |
| 2:B:898:ARG:HH12 | 2:B:907:CYS:HB2 | 1.68 | 0.57 |
| 2:B:2265:GLY:HA2 | 2:B:2268:MET:HE1 | 1.86 | 0.57 |
| 2:B:3828:GLU:OE1 | 2:B:3828:GLU:N | 2.33 | 0.57 |
| 2:C:29:VAL:HG12 | 2:C:30:LEU:HG | 1.86 | 0.57 |
| 2:D:919:ARG:HG2 | 2:D:920:ASN:N | 2.18 | 0.57 |
| 2:D:2246:GLN:OE1 | 2:D:2246:GLN:N | 2.35 | 0.57 |
| 2:D:3170:LEU:HD12 | 2:D:3195:LEU:HD11 | 1.86 | 0.57 |
| 2:A:929:THR:HA | 2:A:932:THR:CG2 | 2.35 | 0.57 |
| 2:A:957:PRO:HG2 | 2:A:960:TYR:CD1 | 2.40 | 0.57 |
| 2:C:50:LEU:HD11 | 2:C:183:LEU:HD13 | 1.86 | 0.57 |
| 2:D:2209:MET:HE1 | 2:D:2254:HIS:ND1 | 2.20 | 0.57 |
| 2:A:225:HIS:O | 2:A:228:MET:HE2 | 2.04 | 0.57 |
| 2:A:3111:LEU:HD13 | 2:A:3183:TYR:CE2 | 2.40 | 0.57 |
| 2:B:892:TRP:HA | 2:B:903:ARG:HE | 1.70 | 0.57 |
| 2:C:3943:LYS:O | 2:C:4005:LYS:NZ | 2.36 | 0.57 |
| 2:D:29:VAL:HG12 | 2:D:30:LEU:HG | 1.86 | 0.57 |
| 2:D:914:LEU:CD2 | 2:D:919:ARG:HB2 | 2.34 | 0.57 |
| 2:A:1281:GLN:O | 2:A:1282:ASN:OD1 | 2.23 | 0.57 |
| 2:B:50:LEU:HD11 | 2:B:183:LEU:HD13 | 1.86 | 0.57 |
| 2:B:287:THR:HG21 | 2:B:482:GLU:OE2 | 2.04 | 0.57 |
| 2:B:2695:GLU:OE1 | 2:B:2698:ARG:NH2 | 2.37 | 0.57 |
| 2:C:287:THR:HG21 | 2:C:482:GLU:OE2 | 2.04 | 0.57 |
| 2:C:892:TRP:HA | 2:C:903:ARG:HE | 1.70 | 0.57 |
| 2:A:892:TRP:HA | 2:A:903:ARG:HE | 1.70 | 0.57 |
| 2:A:2968:MET:O | 2:A:2971:SER:OG | 2.17 | 0.57 |
| 2:A:3170:LEU:HD12 | 2:A:3195:LEU:HD11 | 1.86 | 0.57 |
| 2:A:3761:MET:HA | 2:A:3761:MET:HE3 | 1.85 | 0.57 |
| 1:H:22:THR:N | 1:H:108:GLU:O | 2.37 | 0.57 |
| 2:D:2768:ALA:HB3 | 2:D:2858:PRO:HB3 | 1.87 | 0.57 |
| 2:B:3856:ALA:HB1 | 2:B:3871:ARG:HE | 1.70 | 0.57 |
| 2:C:1281:GLN:O | 2:C:1282:ASN:OD1 | 2.23 | 0.57 |
| 2:C:4675:LEU:HD23 | 2:C:4709:PHE:HE1 | 1.70 | 0.57 |
| 1:E:22:THR:N | 1:E:108:GLU:O | 2.38 | 0.56 |
| 2:D:929:THR:HA | 2:D:932:THR:CG2 | 2.35 | 0.56 |
| 2:D:2166:LEU:HD21 | 2:D:2178:LEU:HD23 | 1.87 | 0.56 |
| 8:D:8009:A1BYZ:C5 | 8:D:8009:A1BYZ:C9 | 2.83 | 0.56 |
| 2:A:3524:ASN:O | 2:A:3583:ARG:NH1 | 2.37 | 0.56 |
| 2:B:2209:MET:HE1 | 2:B:2254:HIS:ND1 | 2.20 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:4675:LEU:HD23 | 2:B:4709:PHE:HE1 | 1.70 | 0.56 |
| 2:C:3856:ALA:HB1 | 2:C:3871:ARG:HE | 1.70 | 0.56 |
| 2:D:902:LYS:HB3 | 2:D:904:LEU:CG | 2.28 | 0.56 |
| 2:D:2265:GLY:HA2 | 2:D:2268:MET:HE1 | 1.86 | 0.56 |
| 2:D:2877:GLU:OE2 | 2:D:2921:ARG:NE | 2.38 | 0.56 |
| 2:D:3366:LEU:HD11 | 2:D:3409:LEU:HD12 | 1.87 | 0.56 |
| 2:D:3894:LEU:HB3 | 2:D:3902:PHE:CE2 | 2.41 | 0.56 |
| 2:A:3943:LYS:O | 2:A:4005:LYS:NZ | 2.36 | 0.56 |
| 2:B:2166:LEU:HD21 | 2:B:2178:LEU:HD23 | 1.87 | 0.56 |
| 2:B:3761:MET:HA | 2:B:3761:MET:HE3 | 1.85 | 0.56 |
| 8:B:8009:A1BYZ:C5 | 8:B:8009:A1BYZ:C9 | 2.83 | 0.56 |
| 1:G:22:THR:N | 1:G:108:GLU:O | 2.38 | 0.56 |
| 2:D:3856:ALA:HB1 | 2:D:3871:ARG:HE | 1.70 | 0.56 |
| 2:A:888:ILE:HG12 | 2:A:960:TYR:CD2 | 2.39 | 0.56 |
| 2:A:2166:LEU:HD21 | 2:A:2178:LEU:HD23 | 1.87 | 0.56 |
| 2:A:2209:MET:HE1 | 2:A:2254:HIS:ND1 | 2.20 | 0.56 |
| 2:A:2746:VAL:HG21 | 2:A:2818:ILE:HG22 | 1.87 | 0.56 |
| 2:A:3366:LEU:HD11 | 2:A:3409:LEU:HD12 | 1.87 | 0.56 |
| 2:A:3894:LEU:HB3 | 2:A:3902:PHE:CE2 | 2.41 | 0.56 |
| 2:B:888:ILE:HG12 | 2:B:960:TYR:CD2 | 2.39 | 0.56 |
| 2:B:888:ILE:CD1 | 2:B:960:TYR:HA | 2.32 | 0.56 |
| 2:C:250:GLY:N | 2:C:373:LEU:HD11 | 2.21 | 0.56 |
| 1:G:60:TRP:CZ2 | 2:C:1785:VAL:HG11 | 2.41 | 0.56 |
| 2:D:957:PRO:HG2 | 2:D:960:TYR:CD1 | 2.40 | 0.56 |
| 2:D:3384:ALA:O | 2:D:3388:ALA:N | 2.36 | 0.56 |
| 2:A:905:HIS:CE1 | 2:A:907:CYS:HB2 | 2.39 | 0.56 |
| 2:A:3384:ALA:O | 2:A:3388:ALA:N | 2.36 | 0.56 |
| 2:A:3856:ALA:HB1 | 2:A:3871:ARG:HE | 1.70 | 0.56 |
| 2:B:905:HIS:CE1 | 2:B:907:CYS:HB2 | 2.39 | 0.56 |
| 2:B:914:LEU:HD11 | 2:B:919:ARG:N | 2.21 | 0.56 |
| 2:B:929:THR:HA | 2:B:932:THR:CG2 | 2.35 | 0.56 |
| 2:B:1281:GLN:O | 2:B:1282:ASN:OD1 | 2.23 | 0.56 |
| 2:B:3111:LEU:HD13 | 2:B:3183:TYR:CE2 | 2.40 | 0.56 |
| 2:C:929:THR:HA | 2:C:932:THR:CG2 | 2.35 | 0.56 |
| 2:C:2166:LEU:HD21 | 2:C:2178:LEU:HD23 | 1.87 | 0.56 |
| 2:C:2768:ALA:HB3 | 2:C:2858:PRO:HB3 | 1.87 | 0.56 |
| 8:C:8009:A1BYZ:C5 | 8:C:8009:A1BYZ:C9 | 2.83 | 0.56 |
| 2:D:892:TRP:HA | 2:D:903:ARG:HE | 1.70 | 0.56 |
| 2:B:2971:SER:HA | 2:B:2974:PHE:CE1 | 2.41 | 0.56 |
| 1:F:22:THR:N | 1:F:108:GLU:O | 2.38 | 0.56 |
| 2:D:899:ASP:CB | 2:D:902:LYS:HB2 | 2.21 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:3557:ASN:HB3 | 2:D:3560:LEU:HD12 | 1.88 | 0.56 |
| 2:A:2971:SER:HA | 2:A:2974:PHE:CE1 | 2.41 | 0.56 |
| 2:B:29:VAL:HG12 | 2:B:30:LEU:HG | 1.86 | 0.56 |
| 2:B:919:ARG:HG2 | 2:B:920:ASN:N | 2.18 | 0.56 |
| 2:B:2746:VAL:HG21 | 2:B:2818:ILE:HG22 | 1.87 | 0.56 |
| 2:C:2234:CYS:SG | 2:C:2271:SER:HB3 | 2.46 | 0.56 |
| 2:C:2971:SER:HA | 2:C:2974:PHE:CE1 | 2.41 | 0.56 |
| 2:C:3384:ALA:O | 2:C:3388:ALA:N | 2.36 | 0.56 |
| 2:D:250:GLY:N | 2:D:373:LEU:HD11 | 2.21 | 0.56 |
| 2:A:554:ARG:NE | 2:A:556:GLU:OE2 | 2.39 | 0.56 |
| 2:A:881:GLU:HB3 | 2:A:969:ALA:N | 2.21 | 0.56 |
| 2:B:957:PRO:HG2 | 2:B:960:TYR:CD1 | 2.40 | 0.56 |
| 2:B:3111:LEU:HD13 | 2:B:3183:TYR:HE2 | 1.71 | 0.56 |
| 2:B:3347:VAL:HG11 | 2:B:3415:ARG:HB2 | 1.88 | 0.56 |
| 2:D:914:LEU:HD11 | 2:D:919:ARG:N | 2.21 | 0.56 |
| 2:A:250:GLY:N | 2:A:373:LEU:HD11 | 2.21 | 0.56 |
| 2:C:914:LEU:HD11 | 2:C:919:ARG:N | 2.21 | 0.56 |
| 2:C:2746:VAL:HG21 | 2:C:2818:ILE:HG22 | 1.87 | 0.56 |
| 2:C:3347:VAL:HG11 | 2:C:3415:ARG:HB2 | 1.88 | 0.56 |
| 2:D:888:ILE:CD1 | 2:D:960:TYR:HA | 2.32 | 0.56 |
| 2:A:914:LEU:HD11 | 2:A:919:ARG:N | 2.21 | 0.56 |
| 2:A:2877:GLU:OE2 | 2:A:2921:ARG:NE | 2.38 | 0.56 |
| 2:A:4675:LEU:HD23 | 2:A:4709:PHE:HE1 | 1.70 | 0.56 |
| 8:A:8009:A1BYZ:C5 | 8:A:8009:A1BYZ:C9 | 2.83 | 0.56 |
| 2:B:3894:LEU:HB3 | 2:B:3902:PHE:CE2 | 2.41 | 0.56 |
| 2:C:902:LYS:HB3 | 2:C:904:LEU:CG | 2.28 | 0.56 |
| 2:C:3686:GLU:OE1 | 2:C:3686:GLU:N | 2.39 | 0.56 |
| 2:D:881:GLU:HB3 | 2:D:969:ALA:N | 2.21 | 0.55 |
| 2:D:1281:GLN:O | 2:D:1282:ASN:OD1 | 2.23 | 0.55 |
| 2:D:2234:CYS:SG | 2:D:2271:SER:HB3 | 2.46 | 0.55 |
| 2:D:3111:LEU:HD13 | 2:D:3183:TYR:HE2 | 1.71 | 0.55 |
| 2:A:916:GLU:HA | 2:A:919:ARG:NE | 2.21 | 0.55 |
| 2:A:2234:CYS:SG | 2:A:2271:SER:HB3 | 2.46 | 0.55 |
| 2:A:3686:GLU:OE1 | 2:A:3686:GLU:N | 2.39 | 0.55 |
| 2:B:2234:CYS:SG | 2:B:2271:SER:HB3 | 2.46 | 0.55 |
| 2:B:2947:LEU:O | 2:B:2954:LYS:NZ | 2.39 | 0.55 |
| 2:C:881:GLU:HB3 | 2:C:969:ALA:N | 2.21 | 0.55 |
| 2:C:957:PRO:HG2 | 2:C:960:TYR:CD1 | 2.40 | 0.55 |
| 2:B:3377:GLU:OE1 | 2:B:3449:SER:OG | 2.12 | 0.55 |
| 2:C:3894:LEU:HB3 | 2:C:3902:PHE:CE2 | 2.41 | 0.55 |
| 2:D:554:ARG:NE | 2:D:556:GLU:OE2 | 2.39 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:3828:GLU:OE1 | 2:D:3828:GLU:N | 2.33 | 0.55 |
| 2:B:554:ARG:NE | 2:B:556:GLU:OE2 | 2.39 | 0.55 |
| 2:B:2768:ALA:HB3 | 2:B:2858:PRO:HB3 | 1.87 | 0.55 |
| 2:C:1654:LEU:O | 2:C:1661:GLN:NE2 | 2.36 | 0.55 |
| 2:D:2746:VAL:HG21 | 2:D:2818:ILE:HG22 | 1.87 | 0.55 |
| 2:B:881:GLU:O | 2:B:968:PRO:HB3 | 2.07 | 0.55 |
| 2:C:2947:LEU:O | 2:C:2954:LYS:NZ | 2.39 | 0.55 |
| 2:D:4675:LEU:HD23 | 2:D:4709:PHE:HE1 | 1.70 | 0.55 |
| 2:A:881:GLU:O | 2:A:968:PRO:HB3 | 2.07 | 0.55 |
| 2:A:2768:ALA:HB3 | 2:A:2858:PRO:HB3 | 1.87 | 0.55 |
| 2:B:916:GLU:HA | 2:B:919:ARG:NE | 2.21 | 0.55 |
| 2:C:554:ARG:NE | 2:C:556:GLU:OE2 | 2.39 | 0.55 |
| 2:C:2877:GLU:OE2 | 2:C:2921:ARG:NE | 2.38 | 0.55 |
| 2:D:881:GLU:O | 2:D:968:PRO:HB3 | 2.07 | 0.55 |
| 2:D:3531:GLN:HA | 2:D:3534:ILE:HD12 | 1.89 | 0.55 |
| 2:D:3686:GLU:N | 2:D:3686:GLU:OE1 | 2.39 | 0.55 |
| 2:B:409:ALA:HB2 | 2:B:484:MET:HE1 | 1.89 | 0.55 |
| 2:B:3166:CYS:HB3 | 2:B:3202:MET:HE1 | 1.89 | 0.55 |
| 2:C:864:LEU:HD11 | 2:C:930:LEU:CB | 2.37 | 0.55 |
| 2:D:952:LYS:HZ2 | 2:D:952:LYS:H | 1.55 | 0.55 |
| 2:D:2971:SER:HA | 2:D:2974:PHE:CE1 | 2.41 | 0.55 |
| 2:A:884:ALA:CB | 2:A:968:PRO:HG3 | 2.37 | 0.55 |
| 2:B:881:GLU:HB3 | 2:B:969:ALA:N | 2.21 | 0.55 |
| 2:B:899:ASP:CB | 2:B:902:LYS:HB2 | 2.21 | 0.55 |
| 2:C:884:ALA:CB | 2:C:968:PRO:HG3 | 2.37 | 0.55 |
| 2:C:3111:LEU:HD13 | 2:C:3183:TYR:HE2 | 1.71 | 0.55 |
| 2:A:3531:GLN:HA | 2:A:3534:ILE:HD12 | 1.89 | 0.55 |
| 2:A:3557:ASN:HB3 | 2:A:3560:LEU:HD12 | 1.88 | 0.55 |
| 2:B:914:LEU:HD21 | 2:B:919:ARG:CB | 2.37 | 0.55 |
| 2:B:3524:ASN:O | 2:B:3583:ARG:NH1 | 2.37 | 0.55 |
| 2:C:1425:PRO:O | 2:C:1429:LEU:HD23 | 2.07 | 0.55 |
| 2:C:2628:VAL:HG21 | 2:C:2675:LEU:HG | 1.89 | 0.55 |
| 2:D:3524:ASN:O | 2:D:3583:ARG:NH1 | 2.37 | 0.55 |
| 2:B:2257:TYR:O | 2:B:2261:ASN:ND2 | 2.40 | 0.55 |
| 2:C:601:LEU:HD23 | 2:C:604:LEU:HD12 | 1.89 | 0.55 |
| 2:D:409:ALA:HB2 | 2:D:484:MET:HE1 | 1.89 | 0.55 |
| 2:D:916:GLU:HA | 2:D:919:ARG:NE | 2.21 | 0.55 |
| 2:A:3347:VAL:HG11 | 2:A:3415:ARG:HB2 | 1.88 | 0.55 |
| 2:C:916:GLU:HA | 2:C:919:ARG:NE | 2.21 | 0.55 |
| 2:C:942:MET:HE2 | 2:C:1052:TYR:CE1 | 2.42 | 0.55 |
| 2:C:3166:CYS:HB3 | 2:C:3202:MET:HE1 | 1.89 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:942:MET:HE2 | 2:D:1052:TYR:CE1 | 2.42 | 0.54 |
| 2:D:2257:TYR:O | 2:D:2261:ASN:ND2 | 2.40 | 0.54 |
| 2:D:2928:LEU:HA | 2:D:2931:LEU:HD12 | 1.89 | 0.54 |
| 2:D:2947:LEU:O | 2:D:2954:LYS:NZ | 2.39 | 0.54 |
| 2:A:2928:LEU:HA | 2:A:2931:LEU:HD12 | 1.89 | 0.54 |
| 2:A:3111:LEU:HD13 | 2:A:3183:TYR:HE2 | 1.71 | 0.54 |
| 2:A:3166:CYS:HB3 | 2:A:3202:MET:HE1 | 1.89 | 0.54 |
| 2:B:864:LEU:HD11 | 2:B:930:LEU:CB | 2.37 | 0.54 |
| 2:D:3166:CYS:HB3 | 2:D:3202:MET:HE1 | 1.89 | 0.54 |
| 2:C:409:ALA:HB2 | 2:C:484:MET:HE1 | 1.89 | 0.54 |
| 2:C:2260:GLU:OE2 | 2:C:2298:LYS:NZ | 2.41 | 0.54 |
| 2:D:601:LEU:HD23 | 2:D:604:LEU:HD12 | 1.89 | 0.54 |
| 2:D:2628:VAL:HG21 | 2:D:2675:LEU:HG | 1.89 | 0.54 |
| 2:D:3506:VAL:O | 2:D:3509:SER:OG | 2.13 | 0.54 |
| 2:A:956:LEU:HD13 | 2:A:960:TYR:CB | 2.36 | 0.54 |
| 2:B:884:ALA:CB | 2:B:968:PRO:HG3 | 2.37 | 0.54 |
| 2:B:2628:VAL:HG21 | 2:B:2675:LEU:HG | 1.89 | 0.54 |
| 2:B:3531:GLN:HA | 2:B:3534:ILE:HD12 | 1.89 | 0.54 |
| 2:C:881:GLU:O | 2:C:968:PRO:HB3 | 2.07 | 0.54 |
| 2:D:956:LEU:HD13 | 2:D:960:TYR:CB | 2.36 | 0.54 |
| 2:D:3347:VAL:HG11 | 2:D:3415:ARG:HB2 | 1.88 | 0.54 |
| 2:A:942:MET:HE2 | 2:A:1052:TYR:CE1 | 2.42 | 0.54 |
| 2:A:3828:GLU:N | 2:A:3828:GLU:OE1 | 2.33 | 0.54 |
| 2:B:3557:ASN:HB3 | 2:B:3560:LEU:HD12 | 1.88 | 0.54 |
| 2:C:2257:TYR:O | 2:C:2261:ASN:ND2 | 2.40 | 0.54 |
| 1:G:26:HIS:CE1 | 1:G:105:LEU:HD11 | 2.43 | 0.54 |
| 2:A:409:ALA:HB2 | 2:A:484:MET:HE1 | 1.89 | 0.54 |
| 2:B:2877:GLU:OE2 | 2:B:2921:ARG:NE | 2.38 | 0.54 |
| 2:B:3686:GLU:OE1 | 2:B:3686:GLU:N | 2.39 | 0.54 |
| 2:C:914:LEU:HD21 | 2:C:919:ARG:CB | 2.37 | 0.54 |
| 2:A:3077:ASP:O | 2:A:3081:VAL:HG23 | 2.08 | 0.54 |
| 2:B:1425:PRO:O | 2:B:1429:LEU:HD23 | 2.07 | 0.54 |
| 2:B:2260:GLU:OE2 | 2:B:2298:LYS:NZ | 2.41 | 0.54 |
| 2:D:884:ALA:CB | 2:D:968:PRO:HG3 | 2.37 | 0.54 |
| 2:A:3443:PHE:CG | 2:A:3515:LEU:HD22 | 2.43 | 0.54 |
| 2:C:139:GLN:NE2 | 2:C:141:ASP:O | 2.41 | 0.54 |
| 2:B:884:ALA:HB3 | 2:B:968:PRO:HB3 | 1.90 | 0.54 |
| 2:C:3531:GLN:HA | 2:C:3534:ILE:HD12 | 1.89 | 0.54 |
| 1:H:26:HIS:CE1 | 1:H:105:LEU:HD11 | 2.43 | 0.54 |
| 2:D:139:GLN:NE2 | 2:D:141:ASP:O | 2.41 | 0.54 |
| 2:D:1425:PRO:O | 2:D:1429:LEU:HD23 | 2.07 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:3443:PHE:CG | 2:D:3515:LEU:HD22 | 2.43 | 0.54 |
| 8:D:8009:A1BYZ:C9 | 8:D:8009:A1BYZ:C4 | 2.86 | 0.54 |
| 2:A:874:LYS:HB2 | 2:A:874:LYS:NZ | 2.23 | 0.54 |
| 2:A:914:LEU:HD21 | 2:A:919:ARG:CB | 2.37 | 0.54 |
| 2:A:2260:GLU:OE2 | 2:A:2298:LYS:NZ | 2.41 | 0.54 |
| 2:A:2947:LEU:O | 2:A:2954:LYS:NZ | 2.39 | 0.54 |
| 2:B:250:GLY:N | 2:B:373:LEU:HD11 | 2.21 | 0.54 |
| 2:B:942:MET:HE2 | 2:B:1052:TYR:CE1 | 2.42 | 0.54 |
| 2:B:2928:LEU:HA | 2:B:2931:LEU:HD12 | 1.89 | 0.54 |
| 2:B:3541:TYR:OH | 2:B:3598:GLN:NE2 | 2.31 | 0.54 |
| 2:C:1821:VAL:HG22 | 2:C:1927:LEU:HD21 | 1.90 | 0.54 |
| 2:C:3388:ALA:O | 2:C:3392:GLU:N | 2.39 | 0.54 |
| 2:A:139:GLN:NE2 | 2:A:141:ASP:O | 2.41 | 0.54 |
| 2:B:139:GLN:NE2 | 2:B:141:ASP:O | 2.41 | 0.54 |
| 2:B:2878:GLN:OE1 | 2:B:2940:ARG:NH1 | 2.41 | 0.54 |
| 2:B:3443:PHE:CG | 2:B:3515:LEU:HD22 | 2.43 | 0.54 |
| 2:C:2382:GLU:C | 2:C:2386:ARG:HH12 | 2.16 | 0.54 |
| 2:D:215:VAL:HG12 | 2:D:275:LEU:HD12 | 1.90 | 0.53 |
| 2:D:905:HIS:ND1 | 2:D:907:CYS:HB2 | 2.23 | 0.53 |
| 2:D:1821:VAL:HG22 | 2:D:1927:LEU:HD21 | 1.90 | 0.53 |
| 2:A:1425:PRO:O | 2:A:1429:LEU:HD23 | 2.07 | 0.53 |
| 2:A:2878:GLN:OE1 | 2:A:2940:ARG:NH1 | 2.41 | 0.53 |
| 8:A:8009:A1BYZ:C9 | 8:A:8009:A1BYZ:C4 | 2.86 | 0.53 |
| 2:B:2802:ASP:OD1 | 2:B:2803:LYS:N | 2.41 | 0.53 |
| 2:C:956:LEU:HD13 | 2:C:960:TYR:CB | 2.36 | 0.53 |
| 2:C:2878:GLN:OE1 | 2:C:2940:ARG:NH1 | 2.41 | 0.53 |
| 1:E:58:ARG:O | 1:E:62:GLU:OE1 | 2.26 | 0.53 |
| 2:D:2878:GLN:OE1 | 2:D:2940:ARG:NH1 | 2.41 | 0.53 |
| 2:D:3672:ASP:OD1 | 2:D:3735:HIS:NE2 | 2.36 | 0.53 |
| 2:A:884:ALA:HB3 | 2:A:968:PRO:HB3 | 1.90 | 0.53 |
| 2:B:872:ARG:HH12 | 2:B:923:LEU:HD22 | 1.72 | 0.53 |
| 2:B:2314:LEU:HD11 | 2:B:2417:VAL:HG11 | 1.90 | 0.53 |
| 2:C:942:MET:HB2 | 2:C:1052:TYR:CE1 | 2.43 | 0.53 |
| 1:F:26:HIS:CE1 | 1:F:105:LEU:HD11 | 2.43 | 0.53 |
| 2:D:872:ARG:HH12 | 2:D:923:LEU:HD22 | 1.72 | 0.53 |
| 2:A:864:LEU:HD11 | 2:A:930:LEU:CB | 2.37 | 0.53 |
| 2:A:2628:VAL:HG21 | 2:A:2675:LEU:HG | 1.89 | 0.53 |
| 2:A:3108:VAL:HG12 | 2:A:3176:LEU:HD12 | 1.91 | 0.53 |
| 2:B:942:MET:HB2 | 2:B:1052:TYR:CE1 | 2.43 | 0.53 |
| 2:C:215:VAL:HG12 | 2:C:275:LEU:HD12 | 1.90 | 0.53 |
| 2:C:872:ARG:HH12 | 2:C:923:LEU:HD22 | 1.72 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:3557:ASN:HB3 | 2:C:3560:LEU:HD12 | 1.88 | 0.53 |
| 8:C:8009:A1BYZ:C9 | 8:C:8009:A1BYZ:C4 | 2.86 | 0.53 |
| 2:D:884:ALA:HB3 | 2:D:968:PRO:HB3 | 1.90 | 0.53 |
| 2:D:2260:GLU:OE2 | 2:D:2298:LYS:NZ | 2.41 | 0.53 |
| 2:D:2314:LEU:HD11 | 2:D:2417:VAL:HG11 | 1.90 | 0.53 |
| 2:D:2802:ASP:OD1 | 2:D:2803:LYS:N | 2.41 | 0.53 |
| 2:B:903:ARG:HA | 2:B:903:ARG:NH2 | 2.21 | 0.53 |
| 2:B:3108:VAL:HG12 | 2:B:3176:LEU:HD12 | 1.91 | 0.53 |
| 2:B:3515:LEU:HD21 | 2:B:3603:VAL:HG13 | 1.91 | 0.53 |
| 8:B:8009:A1BYZ:C9 | 8:B:8009:A1BYZ:C4 | 2.86 | 0.53 |
| 2:C:905:HIS:ND1 | 2:C:907:CYS:HB2 | 2.24 | 0.53 |
| 2:C:2913:THR:HG23 | 2:C:2916:GLU:OE1 | 2.08 | 0.53 |
| 2:C:2928:LEU:HA | 2:C:2931:LEU:HD12 | 1.89 | 0.53 |
| 2:A:601:LEU:HD23 | 2:A:604:LEU:HD12 | 1.89 | 0.53 |
| 2:A:2802:ASP:OD1 | 2:A:2803:LYS:N | 2.41 | 0.53 |
| 2:B:1654:LEU:O | 2:B:1661:GLN:NE2 | 2.36 | 0.53 |
| 2:B:3672:ASP:OD1 | 2:B:3735:HIS:NE2 | 2.36 | 0.53 |
| 2:C:3077:ASP:O | 2:C:3081:VAL:HG23 | 2.08 | 0.53 |
| 2:C:3443:PHE:CG | 2:C:3515:LEU:HD22 | 2.43 | 0.53 |
| 2:D:914:LEU:HD21 | 2:D:919:ARG:CB | 2.37 | 0.53 |
| 2:D:1654:LEU:O | 2:D:1661:GLN:NE2 | 2.36 | 0.53 |
| 2:D:2382:GLU:C | 2:D:2386:ARG:HH12 | 2.16 | 0.53 |
| 2:A:215:VAL:HG12 | 2:A:275:LEU:HD12 | 1.90 | 0.53 |
| 2:A:3380:LEU:HD21 | 2:A:3395:VAL:HG21 | 1.91 | 0.53 |
| 2:B:905:HIS:ND1 | 2:B:907:CYS:HB2 | 2.23 | 0.53 |
| 2:B:958:LYS:HA | 2:B:961:MET:HE3 | 1.91 | 0.53 |
| 2:B:1821:VAL:HG22 | 2:B:1927:LEU:HD21 | 1.90 | 0.53 |
| 2:C:958:LYS:HA | 2:C:961:MET:HE3 | 1.91 | 0.53 |
| 2:D:864:LEU:HD11 | 2:D:930:LEU:CB | 2.37 | 0.53 |
| 2:A:899:ASP:CB | 2:A:902:LYS:HB2 | 2.21 | 0.53 |
| 2:A:3344:GLN:O | 2:A:3347:VAL:HG12 | 2.09 | 0.53 |
| 2:B:3077:ASP:O | 2:B:3081:VAL:HG23 | 2.08 | 0.53 |
| 2:C:2802:ASP:OD1 | 2:C:2803:LYS:N | 2.41 | 0.53 |
| 2:C:3311:ASP:OD1 | 2:C:3312:HIS:N | 2.42 | 0.53 |
| 2:C:3515:LEU:HD21 | 2:C:3603:VAL:HG13 | 1.91 | 0.53 |
| 2:D:168:ASP:OD1 | 2:C:385:MET:HE1 | 2.09 | 0.53 |
| 2:D:898:ARG:HH11 | 2:D:906:PRO:HD2 | 1.74 | 0.53 |
| 2:A:1758:GLY:N | 2:A:1759:PRO:CD | 2.72 | 0.53 |
| 2:A:2913:THR:HG23 | 2:A:2916:GLU:OE1 | 2.08 | 0.53 |
| 2:C:2314:LEU:HD11 | 2:C:2417:VAL:HG11 | 1.90 | 0.53 |
| 2:C:3380:LEU:HD21 | 2:C:3395:VAL:HG21 | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:H:58:ARG:O | 1:H:62:GLU:OE1 | 2.27 | 0.53 |
| 2:A:385:MET:HE1 | 2:B:168:ASP:OD1 | 2.09 | 0.53 |
| 2:B:2382:GLU:C | 2:B:2386:ARG:HH12 | 2.16 | 0.53 |
| 1:E:26:HIS:CE1 | 1:E:105:LEU:HD11 | 2.44 | 0.53 |
| 1:G:58:ARG:O | 1:G:62:GLU:OE1 | 2.26 | 0.53 |
| 2:D:32:GLU:OE2 | 2:D:33:GLN:N | 2.42 | 0.53 |
| 2:D:942:MET:HB2 | 2:D:1052:TYR:CE1 | 2.43 | 0.53 |
| 2:D:2913:THR:HG23 | 2:D:2916:GLU:OE1 | 2.08 | 0.53 |
| 2:D:3344:GLN:O | 2:D:3347:VAL:HG12 | 2.09 | 0.53 |
| 2:D:3380:LEU:HD21 | 2:D:3395:VAL:HG21 | 1.91 | 0.53 |
| 2:A:872:ARG:HH12 | 2:A:923:LEU:HD22 | 1.72 | 0.53 |
| 2:A:905:HIS:ND1 | 2:A:907:CYS:HB2 | 2.24 | 0.53 |
| 2:B:3344:GLN:O | 2:B:3347:VAL:HG12 | 2.09 | 0.53 |
| 2:B:3380:LEU:HD21 | 2:B:3395:VAL:HG21 | 1.91 | 0.53 |
| 2:B:4675:LEU:HD23 | 2:B:4709:PHE:CE1 | 2.44 | 0.53 |
| 2:C:3108:VAL:HG12 | 2:C:3176:LEU:HD12 | 1.91 | 0.53 |
| 2:D:874:LYS:NZ | 2:D:874:LYS:HB2 | 2.23 | 0.52 |
| 2:D:3077:ASP:O | 2:D:3081:VAL:HG23 | 2.08 | 0.52 |
| 2:A:32:GLU:OE2 | 2:A:33:GLN:N | 2.42 | 0.52 |
| 2:A:912:HIS:HA | 2:A:919:ARG:CZ | 2.39 | 0.52 |
| 2:A:2382:GLU:C | 2:A:2386:ARG:HH12 | 2.16 | 0.52 |
| 2:B:32:GLU:OE2 | 2:B:33:GLN:N | 2.42 | 0.52 |
| 2:B:956:LEU:HD13 | 2:B:960:TYR:CB | 2.36 | 0.52 |
| 2:B:1758:GLY:N | 2:B:1759:PRO:CD | 2.72 | 0.52 |
| 2:C:874:LYS:HB2 | 2:C:874:LYS:NZ | 2.23 | 0.52 |
| 2:D:912:HIS:HA | 2:D:919:ARG:CZ | 2.40 | 0.52 |
| 2:A:2382:GLU:O | 2:A:2386:ARG:NH1 | 2.42 | 0.52 |
| 2:A:3515:LEU:HD21 | 2:A:3603:VAL:HG13 | 1.91 | 0.52 |
| 2:B:874:LYS:HB2 | 2:B:874:LYS:NZ | 2.23 | 0.52 |
| 2:C:32:GLU:OE2 | 2:C:33:GLN:N | 2.42 | 0.52 |
| 2:D:2382:GLU:O | 2:D:2386:ARG:NH1 | 2.42 | 0.52 |
| 2:A:942:MET:HB2 | 2:A:1052:TYR:CE1 | 2.43 | 0.52 |
| 2:A:2257:TYR:O | 2:A:2261:ASN:ND2 | 2.40 | 0.52 |
| 2:B:215:VAL:HG12 | 2:B:275:LEU:HD12 | 1.90 | 0.52 |
| 2:B:601:LEU:HD23 | 2:B:604:LEU:HD12 | 1.89 | 0.52 |
| 2:B:912:HIS:HA | 2:B:919:ARG:CZ | 2.40 | 0.52 |
| 2:B:2913:THR:HG23 | 2:B:2916:GLU:OE1 | 2.08 | 0.52 |
| 2:C:2382:GLU:O | 2:C:2386:ARG:NH1 | 2.42 | 0.52 |
| 2:C:3672:ASP:OD1 | 2:C:3735:HIS:NE2 | 2.36 | 0.52 |
| 2:D:979:THR:O | 2:D:983:THR:HG23 | 2.10 | 0.52 |
| 2:D:2737:ASP:OD1 | 2:D:2739:ARG:NH1 | 2.43 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:3108:VAL:HG12 | 2:D:3176:LEU:HD12 | 1.91 | 0.52 |
| 2:D:3515:LEU:HD21 | 2:D:3603:VAL:HG13 | 1.91 | 0.52 |
| 2:B:898:ARG:HH11 | 2:B:906:PRO:HD2 | 1.74 | 0.52 |
| 2:C:884:ALA:HB3 | 2:C:968:PRO:HB3 | 1.90 | 0.52 |
| 2:D:2005:GLU:N | 2:D:2005:GLU:OE1 | 2.43 | 0.52 |
| 2:A:3584:GLU:OE1 | 2:A:3584:GLU:N | 2.37 | 0.52 |
| 2:B:2005:GLU:OE1 | 2:B:2005:GLU:N | 2.43 | 0.52 |
| 2:C:912:HIS:HA | 2:C:919:ARG:CZ | 2.40 | 0.52 |
| 2:C:979:THR:O | 2:C:983:THR:HG23 | 2.10 | 0.52 |
| 2:C:1758:GLY:N | 2:C:1759:PRO:CD | 2.72 | 0.52 |
| 2:C:2737:ASP:OD1 | 2:C:2739:ARG:NH1 | 2.43 | 0.52 |
| 2:C:3344:GLN:O | 2:C:3347:VAL:HG12 | 2.09 | 0.52 |
| 2:D:3311:ASP:OD1 | 2:D:3312:HIS:N | 2.42 | 0.52 |
| 2:A:898:ARG:HH11 | 2:A:906:PRO:HD2 | 1.74 | 0.52 |
| 2:A:1821:VAL:HG22 | 2:A:1927:LEU:HD21 | 1.90 | 0.52 |
| 2:A:2737:ASP:OD1 | 2:A:2739:ARG:NH1 | 2.43 | 0.52 |
| 2:A:3311:ASP:OD1 | 2:A:3312:HIS:N | 2.42 | 0.52 |
| 2:B:385:MET:HE1 | 2:C:168:ASP:OD1 | 2.09 | 0.52 |
| 2:B:2382:GLU:O | 2:B:2386:ARG:NH1 | 2.42 | 0.52 |
| 2:B:3079:ARG:NH1 | 2:B:3156:ASP:OD2 | 2.43 | 0.52 |
| 2:C:3584:GLU:OE1 | 2:C:3584:GLU:N | 2.37 | 0.52 |
| 2:A:2314:LEU:HD11 | 2:A:2417:VAL:HG11 | 1.90 | 0.52 |
| 2:C:898:ARG:HH11 | 2:C:906:PRO:HD2 | 1.74 | 0.52 |
| 2:C:2213:VAL:HG11 | 2:C:2257:TYR:OH | 2.10 | 0.52 |
| 2:C:3079:ARG:NH1 | 2:C:3156:ASP:OD2 | 2.43 | 0.52 |
| 2:C:4981:HIS:O | 5:C:8003:ATP:N6 | 2.43 | 0.52 |
| 2:D:1758:GLY:N | 2:D:1759:PRO:CD | 2.72 | 0.52 |
| 2:D:2741:VAL:HG11 | 2:D:2820:TRP:NE1 | 2.25 | 0.52 |
| 2:A:958:LYS:HA | 2:A:961:MET:HE3 | 1.91 | 0.52 |
| 2:A:1164:THR:HG22 | 2:A:1169:VAL:HA | 1.92 | 0.52 |
| 2:A:2741:VAL:HG11 | 2:A:2820:TRP:NE1 | 2.25 | 0.52 |
| 2:B:2226:PHE:N | 2:B:2227:PRO:HD3 | 2.25 | 0.52 |
| 2:C:71:GLU:OE1 | 2:C:111:ARG:NH2 | 2.42 | 0.52 |
| 2:C:2226:PHE:N | 2:C:2227:PRO:HD3 | 2.25 | 0.52 |
| 2:D:958:LYS:HA | 2:D:961:MET:HE3 | 1.91 | 0.52 |
| 2:A:2213:VAL:HG11 | 2:A:2257:TYR:OH | 2.10 | 0.52 |
| 2:A:2226:PHE:N | 2:A:2227:PRO:HD3 | 2.25 | 0.52 |
| 2:B:605:CYS:SG | 2:B:1670:LEU:HD12 | 2.50 | 0.52 |
| 2:D:103:LEU:HD23 | 2:D:163:LYS:HA | 1.92 | 0.52 |
| 2:D:868:LEU:HD13 | 2:D:930:LEU:HG | 1.92 | 0.52 |
| 2:A:868:LEU:HD13 | 2:A:930:LEU:HG | 1.92 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:2005:GLU:N | 2:A:2005:GLU:OE1 | 2.43 | 0.52 |
| 2:A:4675:LEU:HD23 | 2:A:4709:PHE:CE1 | 2.44 | 0.52 |
| 2:B:103:LEU:HD23 | 2:B:163:LYS:HA | 1.92 | 0.52 |
| 2:B:2863:LEU:HD22 | 2:B:2929:LYS:HB3 | 1.93 | 0.52 |
| 2:B:3311:ASP:OD1 | 2:B:3312:HIS:N | 2.42 | 0.52 |
| 2:C:4675:LEU:HD23 | 2:C:4709:PHE:CE1 | 2.44 | 0.52 |
| 2:D:2007:ILE:HD11 | 2:D:3642:LEU:HD21 | 1.93 | 0.51 |
| 2:A:605:CYS:SG | 2:A:1670:LEU:HD12 | 2.50 | 0.51 |
| 2:B:979:THR:O | 2:B:983:THR:HG23 | 2.10 | 0.51 |
| 2:B:2737:ASP:OD1 | 2:B:2739:ARG:NH1 | 2.43 | 0.51 |
| 2:C:2005:GLU:OE1 | 2:C:2005:GLU:N | 2.43 | 0.51 |
| 2:D:71:GLU:OE1 | 2:D:111:ARG:NH2 | 2.42 | 0.51 |
| 2:D:4675:LEU:HD23 | 2:D:4709:PHE:CE1 | 2.44 | 0.51 |
| 2:D:4981:HIS:O | 5:D:8003:ATP:N6 | 2.43 | 0.51 |
| 2:A:898:ARG:O | 2:A:898:ARG:HG2 | 2.11 | 0.51 |
| 2:A:2007:ILE:HD11 | 2:A:3642:LEU:HD21 | 1.92 | 0.51 |
| 2:B:608:CYS:SG | 2:B:1673:SER:OG | 2.69 | 0.51 |
| 2:C:1164:THR:HG22 | 2:C:1169:VAL:HA | 1.92 | 0.51 |
| 2:C:2741:VAL:HG11 | 2:C:2820:TRP:NE1 | 2.25 | 0.51 |
| 2:D:1164:THR:HG22 | 2:D:1169:VAL:HA | 1.92 | 0.51 |
| 2:D:2226:PHE:N | 2:D:2227:PRO:HD3 | 2.25 | 0.51 |
| 2:D:3337:LYS:O | 2:D:3341:VAL:HG23 | 2.11 | 0.51 |
| 2:A:2542:PHE:O | 2:A:2545:THR:OG1 | 2.28 | 0.51 |
| 2:B:1164:THR:HG22 | 2:B:1169:VAL:HA | 1.92 | 0.51 |
| 2:B:2741:VAL:HG11 | 2:B:2820:TRP:NE1 | 2.25 | 0.51 |
| 2:C:2007:ILE:HD11 | 2:C:3642:LEU:HD21 | 1.93 | 0.51 |
| 2:C:4953:GLU:N | 2:C:4953:GLU:OE2 | 2.44 | 0.51 |
| 1:F:58:ARG:O | 1:F:62:GLU:OE1 | 2.28 | 0.51 |
| 2:D:2213:VAL:HG11 | 2:D:2257:TYR:OH | 2.10 | 0.51 |
| 2:A:2863:LEU:HD22 | 2:A:2929:LYS:HB3 | 1.93 | 0.51 |
| 2:A:4964:ASP:OD1 | 2:A:4965:TYR:N | 2.44 | 0.51 |
| 2:B:942:MET:HB2 | 2:B:1052:TYR:CD1 | 2.46 | 0.51 |
| 2:B:2213:VAL:HG11 | 2:B:2257:TYR:OH | 2.10 | 0.51 |
| 2:B:4981:HIS:O | 5:B:8003:ATP:N6 | 2.43 | 0.51 |
| 2:D:1063:GLN:OE1 | 2:D:1063:GLN:N | 2.44 | 0.51 |
| 2:D:4964:ASP:OD1 | 2:D:4965:TYR:N | 2.44 | 0.51 |
| 2:A:1063:GLN:OE1 | 2:A:1063:GLN:N | 2.44 | 0.51 |
| 2:C:605:CYS:SG | 2:C:1670:LEU:HD12 | 2.50 | 0.51 |
| 2:C:4964:ASP:OD1 | 2:C:4965:TYR:N | 2.44 | 0.51 |
| 2:D:605:CYS:SG | 2:D:1670:LEU:HD12 | 2.50 | 0.51 |
| 2:D:1116:LEU:HD12 | 2:D:1194:SER:HB3 | 1.93 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:3079:ARG:NH1 | 2:D:3156:ASP:OD2 | 2.43 | 0.51 |
| 2:A:3515:LEU:HD23 | 2:A:3607:LEU:HD21 | 1.93 | 0.51 |
| 2:B:909:VAL:HG21 | 2:B:914:LEU:HA | 1.93 | 0.51 |
| 2:B:4964:ASP:OD1 | 2:B:4965:TYR:N | 2.44 | 0.51 |
| 2:D:1297:GLN:NE2 | 2:D:1546:ASN:OD1 | 2.44 | 0.51 |
| 2:D:3515:LEU:HD23 | 2:D:3607:LEU:HD21 | 1.93 | 0.51 |
| 2:D:4953:GLU:N | 2:D:4953:GLU:OE2 | 2.44 | 0.51 |
| 2:A:885:LEU:HD12 | 2:A:960:TYR:HE2 | 1.76 | 0.51 |
| 2:A:979:THR:O | 2:A:983:THR:HG23 | 2.10 | 0.51 |
| 2:B:2007:ILE:HD11 | 2:B:3642:LEU:HD21 | 1.93 | 0.51 |
| 2:B:3861:MET:N | 2:B:3861:MET:SD | 2.84 | 0.51 |
| 2:B:4953:GLU:N | 2:B:4953:GLU:OE2 | 2.44 | 0.51 |
| 2:C:942:MET:HB2 | 2:C:1052:TYR:CD1 | 2.46 | 0.51 |
| 2:D:385:MET:HE1 | 2:A:168:ASP:OD1 | 2.11 | 0.51 |
| 2:A:3079:ARG:NH1 | 2:A:3156:ASP:OD2 | 2.43 | 0.51 |
| 2:A:4953:GLU:N | 2:A:4953:GLU:OE2 | 2.44 | 0.51 |
| 2:B:868:LEU:HD13 | 2:B:930:LEU:HG | 1.92 | 0.51 |
| 2:C:883:TRP:CH2 | 2:C:907:CYS:HB3 | 2.46 | 0.51 |
| 2:C:909:VAL:HG21 | 2:C:914:LEU:HA | 1.93 | 0.51 |
| 2:D:887:ARG:HA | 2:D:890:GLN:CD | 2.36 | 0.51 |
| 2:D:3354:LEU:HA | 2:D:3357:SER:OG | 2.11 | 0.51 |
| 7:D:8005:PCW:H442 | 7:D:8005:PCW:H20 | 1.93 | 0.51 |
| 2:B:2882:ASN:O | 2:B:2886:THR:HG23 | 2.11 | 0.51 |
| 2:C:885:LEU:HD12 | 2:C:960:TYR:HE2 | 1.76 | 0.51 |
| 2:C:887:ARG:HA | 2:C:890:GLN:CD | 2.36 | 0.51 |
| 2:C:898:ARG:O | 2:C:898:ARG:HG2 | 2.11 | 0.51 |
| 2:C:909:VAL:HG23 | 2:C:914:LEU:HB2 | 1.93 | 0.51 |
| 2:C:1116:LEU:HD12 | 2:C:1194:SER:HB3 | 1.93 | 0.51 |
| 2:D:2873:GLN:O | 2:D:2877:GLU:HG2 | 2.11 | 0.51 |
| 2:A:903:ARG:HA | 2:A:903:ARG:NH2 | 2.21 | 0.51 |
| 2:A:3337:LYS:O | 2:A:3341:VAL:HG23 | 2.11 | 0.51 |
| 2:A:4981:HIS:O | 5:A:8003:ATP:N6 | 2.43 | 0.51 |
| 2:B:887:ARG:HA | 2:B:890:GLN:CD | 2.36 | 0.51 |
| 2:B:1063:GLN:OE1 | 2:B:1063:GLN:N | 2.44 | 0.51 |
| 2:B:1645:GLU:OE1 | 2:B:1647:ARG:NH2 | 2.43 | 0.51 |
| 2:D:843:PRO:O | 2:D:1198:GLY:N | 2.38 | 0.50 |
| 2:A:887:ARG:HA | 2:A:890:GLN:CD | 2.36 | 0.50 |
| 2:A:942:MET:HB2 | 2:A:1052:TYR:CD1 | 2.46 | 0.50 |
| 2:A:3861:MET:N | 2:A:3861:MET:SD | 2.84 | 0.50 |
| 2:B:885:LEU:HD12 | 2:B:960:TYR:HE2 | 1.76 | 0.50 |
| 2:B:3354:LEU:HA | 2:B:3357:SER:OG | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:883:TRP:CH2 | 2:D:907:CYS:HB3 | 2.46 | 0.50 |
| 2:D:3861:MET:N | 2:D:3861:MET:SD | 2.84 | 0.50 |
| 2:B:1116:LEU:HD12 | 2:B:1194:SER:HB3 | 1.93 | 0.50 |
| 2:C:868:LEU:HD13 | 2:C:930:LEU:HG | 1.92 | 0.50 |
| 2:C:2863:LEU:HD22 | 2:C:2929:LYS:HB3 | 1.92 | 0.50 |
| 2:C:3861:MET:SD | 2:C:3861:MET:N | 2.84 | 0.50 |
| 2:D:885:LEU:HD12 | 2:D:960:TYR:HE2 | 1.76 | 0.50 |
| 2:A:103:LEU:HD23 | 2:A:163:LYS:HA | 1.92 | 0.50 |
| 2:A:1116:LEU:HD12 | 2:A:1194:SER:HB3 | 1.92 | 0.50 |
| 2:B:953:LYS:HE3 | 2:B:969:ALA:HB1 | 1.93 | 0.50 |
| 2:C:2882:ASN:O | 2:C:2886:THR:HG23 | 2.11 | 0.50 |
| 2:C:3337:LYS:O | 2:C:3341:VAL:HG23 | 2.11 | 0.50 |
| 2:D:985:LEU:HD21 | 2:D:1057:PRO:CD | 2.42 | 0.50 |
| 2:D:2961:LEU:HD21 | 2:D:3040:ILE:HD13 | 1.94 | 0.50 |
| 2:A:3645:LEU:HD21 | 2:A:3653:MET:HE3 | 1.93 | 0.50 |
| 2:B:2961:LEU:HD21 | 2:B:3040:ILE:HD13 | 1.94 | 0.50 |
| 2:B:3388:ALA:O | 2:B:3392:GLU:N | 2.39 | 0.50 |
| 2:D:71:GLU:OE1 | 2:D:111:ARG:NE | 2.44 | 0.50 |
| 2:D:2882:ASN:O | 2:D:2886:THR:HG23 | 2.11 | 0.50 |
| 2:D:3645:LEU:HD21 | 2:D:3653:MET:HE3 | 1.93 | 0.50 |
| 2:B:848:SER:N | 2:B:851:ASP:OD1 | 2.43 | 0.50 |
| 2:B:898:ARG:HB2 | 2:B:905:HIS:CD2 | 2.47 | 0.50 |
| 2:B:902:LYS:HG3 | 2:B:904:LEU:HD11 | 1.93 | 0.50 |
| 2:B:3534:ILE:HG13 | 2:B:3597:VAL:HG23 | 1.94 | 0.50 |
| 7:C:8005:PCW:H442 | 7:C:8005:PCW:H20 | 1.93 | 0.50 |
| 2:D:2372:GLU:HG2 | 2:A:197:MET:CE | 2.39 | 0.50 |
| 2:D:2600:GLN:O | 2:D:2604:ILE:HG12 | 2.12 | 0.50 |
| 2:D:3584:GLU:OE1 | 2:D:3584:GLU:N | 2.37 | 0.50 |
| 2:B:3515:LEU:HD23 | 2:B:3607:LEU:HD21 | 1.93 | 0.50 |
| 2:C:2600:GLN:O | 2:C:2604:ILE:HG12 | 2.12 | 0.50 |
| 2:D:898:ARG:O | 2:D:898:ARG:HG2 | 2.11 | 0.50 |
| 2:D:942:MET:HB2 | 2:D:1052:TYR:CD1 | 2.46 | 0.50 |
| 2:D:2863:LEU:HD22 | 2:D:2929:LYS:HB3 | 1.93 | 0.50 |
| 2:A:883:TRP:CH2 | 2:A:907:CYS:HB3 | 2.46 | 0.50 |
| 2:A:3354:LEU:HA | 2:A:3357:SER:OG | 2.11 | 0.50 |
| 2:B:2600:GLN:O | 2:B:2604:ILE:HG12 | 2.12 | 0.50 |
| 2:B:2873:GLN:O | 2:B:2877:GLU:HG2 | 2.11 | 0.50 |
| 2:B:2877:GLU:OE1 | 2:B:2909:TYR:OH | 2.21 | 0.50 |
| 2:B:3025:VAL:HG23 | 2:B:3025:VAL:O | 2.12 | 0.50 |
| 2:C:976:VAL:HG11 | 2:C:1045:ARG:O | 2.12 | 0.50 |
| 2:C:1063:GLN:N | 2:C:1063:GLN:OE1 | 2.44 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:3354:LEU:HA | 2:C:3357:SER:OG | 2.11 | 0.50 |
| 2:D:3025:VAL:HG23 | 2:D:3025:VAL:O | 2.12 | 0.50 |
| 2:D:4875:ASP:O | 2:C:4580:VAL:HG12 | 2.12 | 0.50 |
| 2:A:898:ARG:HB2 | 2:A:905:HIS:CD2 | 2.47 | 0.50 |
| 2:B:877:GLU:HG3 | 2:B:911:PHE:CG | 2.47 | 0.50 |
| 2:C:953:LYS:HE3 | 2:C:969:ALA:HB1 | 1.93 | 0.50 |
| 2:C:985:LEU:HD21 | 2:C:1057:PRO:CD | 2.42 | 0.50 |
| 2:C:2873:GLN:O | 2:C:2877:GLU:HG2 | 2.11 | 0.50 |
| 2:C:3025:VAL:HG23 | 2:C:3025:VAL:O | 2.12 | 0.50 |
| 2:C:3515:LEU:HD23 | 2:C:3607:LEU:HD21 | 1.93 | 0.50 |
| 2:D:953:LYS:HE3 | 2:D:969:ALA:HB1 | 1.93 | 0.50 |
| 2:A:909:VAL:HG21 | 2:A:914:LEU:HA | 1.93 | 0.50 |
| 2:A:3534:ILE:HG13 | 2:A:3597:VAL:HG23 | 1.94 | 0.50 |
| 2:B:3337:LYS:O | 2:B:3341:VAL:HG23 | 2.11 | 0.50 |
| 2:C:3645:LEU:HD21 | 2:C:3653:MET:HE3 | 1.93 | 0.50 |
| 2:C:3691:VAL:HG12 | 2:C:3693:GLU:H | 1.77 | 0.50 |
| 2:D:909:VAL:HG23 | 2:D:914:LEU:HB2 | 1.93 | 0.49 |
| 2:A:1758:GLY:N | 2:A:1759:PRO:HD2 | 2.27 | 0.49 |
| 7:A:8005:PCW:H442 | 7:A:8005:PCW:H20 | 1.93 | 0.49 |
| 2:B:258:ARG:O | 2:B:285:HIS:NE2 | 2.42 | 0.49 |
| 2:B:976:VAL:HG11 | 2:B:1045:ARG:O | 2.12 | 0.49 |
| 2:B:3591:GLU:O | 2:B:3594:VAL:HG12 | 2.12 | 0.49 |
| 2:D:902:LYS:HG3 | 2:D:904:LEU:HD11 | 1.93 | 0.49 |
| 2:A:976:VAL:HG11 | 2:A:1045:ARG:O | 2.12 | 0.49 |
| 2:A:985:LEU:HD21 | 2:A:1057:PRO:CD | 2.42 | 0.49 |
| 2:A:2600:GLN:O | 2:A:2604:ILE:HG12 | 2.12 | 0.49 |
| 2:A:2873:GLN:O | 2:A:2877:GLU:HG2 | 2.12 | 0.49 |
| 2:A:2961:LEU:HD21 | 2:A:3040:ILE:HD13 | 1.94 | 0.49 |
| 2:A:3691:VAL:HG12 | 2:A:3693:GLU:H | 1.77 | 0.49 |
| 2:C:898:ARG:HB2 | 2:C:905:HIS:CD2 | 2.47 | 0.49 |
| 2:C:1758:GLY:N | 2:C:1759:PRO:HD2 | 2.27 | 0.49 |
| 2:D:898:ARG:HB2 | 2:D:905:HIS:CD2 | 2.47 | 0.49 |
| 2:D:976:VAL:HG11 | 2:D:1045:ARG:O | 2.12 | 0.49 |
| 2:B:898:ARG:O | 2:B:898:ARG:HG2 | 2.11 | 0.49 |
| 2:B:985:LEU:HD21 | 2:B:1057:PRO:CD | 2.42 | 0.49 |
| 2:C:4122:GLU:OE1 | 2:C:4122:GLU:N | 2.44 | 0.49 |
| 2:D:909:VAL:HG21 | 2:D:914:LEU:HA | 1.93 | 0.49 |
| 2:A:608:CYS:SG | 2:A:1673:SER:OG | 2.69 | 0.49 |
| 2:A:877:GLU:HG3 | 2:A:911:PHE:CG | 2.47 | 0.49 |
| 2:A:909:VAL:HG23 | 2:A:914:LEU:HB2 | 1.93 | 0.49 |
| 2:A:2882:ASN:O | 2:A:2886:THR:HG23 | 2.11 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:909:VAL:HG23 | 2:B:914:LEU:HB2 | 1.93 | 0.49 |
| 2:B:2234:CYS:O | 2:B:2237:LEU:N | 2.46 | 0.49 |
| 2:B:2875:MET:HB3 | 2:B:2940:ARG:HB2 | 1.94 | 0.49 |
| 2:B:3220:TYR:CD1 | 2:B:3237:VAL:HG12 | 2.48 | 0.49 |
| 2:C:3591:GLU:O | 2:C:3594:VAL:HG12 | 2.12 | 0.49 |
| 2:D:1758:GLY:N | 2:D:1759:PRO:HD2 | 2.27 | 0.49 |
| 2:D:3534:ILE:HG13 | 2:D:3597:VAL:HG23 | 1.94 | 0.49 |
| 2:D:3691:VAL:HG12 | 2:D:3693:GLU:H | 1.77 | 0.49 |
| 2:A:902:LYS:HG3 | 2:A:904:LEU:HD11 | 1.93 | 0.49 |
| 2:A:1645:GLU:OE1 | 2:A:1647:ARG:NH2 | 2.43 | 0.49 |
| 2:A:2875:MET:HB3 | 2:A:2940:ARG:HB2 | 1.94 | 0.49 |
| 2:C:103:LEU:HD23 | 2:C:163:LYS:HA | 1.92 | 0.49 |
| 2:A:1297:GLN:NE2 | 2:A:1546:ASN:OD1 | 2.44 | 0.49 |
| 2:C:902:LYS:HG3 | 2:C:904:LEU:HD11 | 1.93 | 0.49 |
| 2:C:903:ARG:HA | 2:C:903:ARG:NH2 | 2.21 | 0.49 |
| 2:C:2234:CYS:O | 2:C:2237:LEU:N | 2.46 | 0.49 |
| 2:C:3220:TYR:CD1 | 2:C:3237:VAL:HG12 | 2.48 | 0.49 |
| 2:D:500:THR:HG23 | 2:D:503:HIS:H | 1.77 | 0.49 |
| 2:D:877:GLU:HG3 | 2:D:911:PHE:CG | 2.47 | 0.49 |
| 2:D:3317:LEU:HD23 | 2:D:3354:LEU:CD2 | 2.43 | 0.49 |
| 2:A:71:GLU:OE1 | 2:A:111:ARG:NH2 | 2.42 | 0.49 |
| 2:A:3025:VAL:HG23 | 2:A:3025:VAL:O | 2.12 | 0.49 |
| 2:A:3230:ILE:HG13 | 2:A:3231:LEU:HD12 | 1.95 | 0.49 |
| 2:C:848:SER:N | 2:C:851:ASP:OD1 | 2.43 | 0.49 |
| 2:C:3230:ILE:HG13 | 2:C:3231:LEU:HD12 | 1.95 | 0.49 |
| 2:D:3176:LEU:HD23 | 2:D:3176:LEU:C | 2.38 | 0.49 |
| 2:C:673:ALA:O | 2:C:681:THR:OG1 | 2.31 | 0.49 |
| 2:C:877:GLU:HG3 | 2:C:911:PHE:CG | 2.47 | 0.49 |
| 2:C:2961:LEU:HD21 | 2:C:3040:ILE:HD13 | 1.94 | 0.49 |
| 2:D:1536:GLU:OE1 | 2:D:1536:GLU:N | 2.46 | 0.49 |
| 2:D:2246:GLN:NE2 | 2:D:3867:THR:O | 2.46 | 0.49 |
| 2:D:3230:ILE:HG13 | 2:D:3231:LEU:HD12 | 1.95 | 0.49 |
| 2:A:940:VAL:HG23 | 2:A:1052:TYR:HB3 | 1.95 | 0.49 |
| 2:A:3317:LEU:HD23 | 2:A:3354:LEU:CD2 | 2.43 | 0.49 |
| 2:B:883:TRP:CH2 | 2:B:907:CYS:HB3 | 2.46 | 0.49 |
| 2:B:940:VAL:HG23 | 2:B:1052:TYR:HB3 | 1.95 | 0.49 |
| 7:B:8005:PCW:H442 | 7:B:8005:PCW:H20 | 1.93 | 0.49 |
| 2:C:258:ARG:O | 2:C:285:HIS:NE2 | 2.42 | 0.49 |
| 2:C:500:THR:HG23 | 2:C:503:HIS:H | 1.77 | 0.49 |
| 2:C:2415:ASN:O | 2:C:2415:ASN:ND2 | 2.46 | 0.49 |
| 2:C:3176:LEU:HD23 | 2:C:3176:LEU:C | 2.38 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:4747:GLU:OE2 | 2:A:4747:GLU:HA | 2.13 | 0.49 |
| 2:B:295:THR:O | 2:B:299:GLY:N | 2.46 | 0.49 |
| 2:B:673:ALA:O | 2:B:681:THR:OG1 | 2.30 | 0.49 |
| 2:B:957:PRO:HB2 | 2:B:959:THR:HG23 | 1.95 | 0.49 |
| 2:B:3230:ILE:HG13 | 2:B:3231:LEU:HD12 | 1.95 | 0.49 |
| 2:B:3317:LEU:HD23 | 2:B:3354:LEU:CD2 | 2.43 | 0.49 |
| 2:C:2246:GLN:NE2 | 2:C:3867:THR:O | 2.46 | 0.49 |
| 2:C:3435:LEU:CD2 | 2:C:3518:MET:HE2 | 2.42 | 0.49 |
| 2:D:2583:MET:HE3 | 2:D:2611:LEU:HD23 | 1.95 | 0.48 |
| 2:A:953:LYS:HE3 | 2:A:969:ALA:HB1 | 1.93 | 0.48 |
| 2:A:2246:GLN:NE2 | 2:A:3867:THR:O | 2.46 | 0.48 |
| 2:B:2394:ASP:OD2 | 2:B:2419:LEU:N | 2.46 | 0.48 |
| 2:B:4054:SER:O | 2:B:4056:SER:N | 2.46 | 0.48 |
| 2:C:2875:MET:HB3 | 2:C:2940:ARG:HB2 | 1.94 | 0.48 |
| 2:C:3317:LEU:HD23 | 2:C:3354:LEU:CD2 | 2.43 | 0.48 |
| 2:C:3556:ASN:OD1 | 2:C:3557:ASN:N | 2.46 | 0.48 |
| 2:D:1783:CYS:SG | 2:D:1785:VAL:HG22 | 2.53 | 0.48 |
| 2:D:2746:VAL:HG22 | 2:D:2747:ILE:N | 2.28 | 0.48 |
| 2:D:4855:ASN:CG | 7:C:8006:PCW:H341 | 2.38 | 0.48 |
| 2:A:1536:GLU:OE1 | 2:A:1536:GLU:N | 2.46 | 0.48 |
| 2:A:2895:LEU:HD22 | 2:A:2901:GLY:O | 2.13 | 0.48 |
| 2:B:500:THR:HG23 | 2:B:503:HIS:H | 1.77 | 0.48 |
| 2:B:1758:GLY:N | 2:B:1759:PRO:HD2 | 2.27 | 0.48 |
| 2:B:2415:ASN:O | 2:B:2415:ASN:ND2 | 2.46 | 0.48 |
| 2:B:3645:LEU:HD21 | 2:B:3653:MET:HE3 | 1.93 | 0.48 |
| 2:B:3691:VAL:HG12 | 2:B:3693:GLU:H | 1.77 | 0.48 |
| 2:C:843:PRO:O | 2:C:1198:GLY:N | 2.38 | 0.48 |
| 2:C:4747:GLU:HA | 2:C:4747:GLU:OE2 | 2.13 | 0.48 |
| 2:D:608:CYS:SG | 2:D:1673:SER:OG | 2.69 | 0.48 |
| 2:D:3556:ASN:OD1 | 2:D:3557:ASN:N | 2.46 | 0.48 |
| 2:A:500:THR:HG23 | 2:A:503:HIS:H | 1.77 | 0.48 |
| 2:A:1783:CYS:SG | 2:A:1785:VAL:HG22 | 2.53 | 0.48 |
| 2:A:2234:CYS:O | 2:A:2237:LEU:N | 2.46 | 0.48 |
| 2:A:4054:SER:O | 2:A:4056:SER:N | 2.46 | 0.48 |
| 2:C:2394:ASP:OD2 | 2:C:2419:LEU:N | 2.47 | 0.48 |
| 2:D:951:LEU:HD22 | 2:D:973:LEU:HB3 | 1.95 | 0.48 |
| 2:D:2007:ILE:CD1 | 2:D:3642:LEU:HD21 | 2.44 | 0.48 |
| 2:D:2415:ASN:ND2 | 2:D:2415:ASN:O | 2.46 | 0.48 |
| 2:D:4054:SER:O | 2:D:4056:SER:N | 2.46 | 0.48 |
| 2:D:4122:GLU:OE1 | 2:D:4122:GLU:N | 2.44 | 0.48 |
| 2:A:888:ILE:HG13 | 2:A:889:GLU:N | 2.26 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:957:PRO:HB2 | 2:A:959:THR:HG23 | 1.95 | 0.48 |
| 2:A:2007:ILE:CD1 | 2:A:3642:LEU:HD21 | 2.44 | 0.48 |
| 2:A:2415:ASN:O | 2:A:2415:ASN:ND2 | 2.46 | 0.48 |
| 2:A:3176:LEU:HD23 | 2:A:3176:LEU:C | 2.38 | 0.48 |
| 2:A:3591:GLU:O | 2:A:3594:VAL:HG12 | 2.12 | 0.48 |
| 2:B:71:GLU:OE1 | 2:B:111:ARG:NE | 2.44 | 0.48 |
| 2:B:2372:GLU:HG2 | 2:C:197:MET:CE | 2.41 | 0.48 |
| 2:C:1536:GLU:OE1 | 2:C:1536:GLU:N | 2.46 | 0.48 |
| 2:C:4054:SER:O | 2:C:4056:SER:N | 2.46 | 0.48 |
| 2:D:872:ARG:CG | 2:D:927:GLY:HA2 | 2.43 | 0.48 |
| 2:D:877:GLU:O | 2:D:881:GLU:HG2 | 2.13 | 0.48 |
| 2:D:903:ARG:HA | 2:D:903:ARG:NH2 | 2.21 | 0.48 |
| 2:D:3220:TYR:CD1 | 2:D:3237:VAL:HG12 | 2.48 | 0.48 |
| 2:D:4747:GLU:HA | 2:D:4747:GLU:OE2 | 2.13 | 0.48 |
| 2:A:3246:VAL:HG12 | 2:A:3247:LEU:N | 2.29 | 0.48 |
| 2:A:3435:LEU:CD2 | 2:A:3518:MET:HE2 | 2.42 | 0.48 |
| 2:A:3556:ASN:OD1 | 2:A:3557:ASN:N | 2.46 | 0.48 |
| 2:B:3410:TYR:O | 2:B:3413:LEU:N | 2.47 | 0.48 |
| 2:C:2542:PHE:O | 2:C:2545:THR:OG1 | 2.28 | 0.48 |
| 2:D:2234:CYS:O | 2:D:2237:LEU:N | 2.46 | 0.48 |
| 2:D:2394:ASP:OD2 | 2:D:2419:LEU:N | 2.46 | 0.48 |
| 2:D:2875:MET:HB3 | 2:D:2940:ARG:HB2 | 1.94 | 0.48 |
| 2:A:3220:TYR:CD1 | 2:A:3237:VAL:HG12 | 2.48 | 0.48 |
| 2:B:890:GLN:HB2 | 2:B:892:TRP:HD1 | 1.79 | 0.48 |
| 2:B:2746:VAL:HG22 | 2:B:2747:ILE:N | 2.28 | 0.48 |
| 2:B:3435:LEU:CD2 | 2:B:3518:MET:HE2 | 2.42 | 0.48 |
| 2:B:4747:GLU:HA | 2:B:4747:GLU:OE2 | 2.13 | 0.48 |
| 2:C:888:ILE:HG13 | 2:C:889:GLU:N | 2.26 | 0.48 |
| 2:C:957:PRO:HB2 | 2:C:959:THR:HG23 | 1.95 | 0.48 |
| 2:C:3246:VAL:HG12 | 2:C:3247:LEU:N | 2.29 | 0.48 |
| 2:D:890:GLN:HB2 | 2:D:892:TRP:HD1 | 1.79 | 0.48 |
| 2:A:2746:VAL:HG22 | 2:A:2747:ILE:N | 2.28 | 0.48 |
| 2:B:3176:LEU:C | 2:B:3176:LEU:HD23 | 2.38 | 0.48 |
| 2:B:3246:VAL:HG12 | 2:B:3247:LEU:N | 2.29 | 0.48 |
| 2:B:4122:GLU:OE1 | 2:B:4122:GLU:N | 2.44 | 0.48 |
| 2:B:4580:VAL:HG12 | 2:C:4875:ASP:O | 2.12 | 0.48 |
| 2:C:158:ARG:CZ | 2:C:165:ARG:HH21 | 2.27 | 0.48 |
| 2:C:951:LEU:HD22 | 2:C:973:LEU:HB3 | 1.95 | 0.48 |
| 2:D:898:ARG:NH1 | 2:D:907:CYS:HB2 | 2.29 | 0.48 |
| 2:D:940:VAL:HG23 | 2:D:1052:TYR:HB3 | 1.95 | 0.48 |
| 2:D:1645:GLU:OE1 | 2:D:1647:ARG:NH2 | 2.43 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:3246:VAL:HG12 | 2:D:3247:LEU:N | 2.29 | 0.48 |
| 2:A:877:GLU:O | 2:A:881:GLU:HG2 | 2.14 | 0.48 |
| 2:A:940:VAL:HB | 2:A:1054:ILE:CG1 | 2.43 | 0.48 |
| 2:B:1536:GLU:OE1 | 2:B:1536:GLU:N | 2.46 | 0.48 |
| 2:B:2007:ILE:CD1 | 2:B:3642:LEU:HD21 | 2.44 | 0.48 |
| 2:B:2583:MET:HE3 | 2:B:2611:LEU:HD23 | 1.95 | 0.48 |
| 2:C:877:GLU:O | 2:C:881:GLU:HG2 | 2.13 | 0.48 |
| 2:C:890:GLN:HB2 | 2:C:892:TRP:HD1 | 1.79 | 0.48 |
| 2:C:955:LYS:HE3 | 2:C:955:LYS:HB3 | 1.61 | 0.48 |
| 2:C:1783:CYS:SG | 2:C:1785:VAL:HG22 | 2.53 | 0.48 |
| 2:C:3168:ARG:O | 2:C:3172:SER:OG | 2.27 | 0.48 |
| 2:D:158:ARG:CZ | 2:D:165:ARG:HH21 | 2.27 | 0.48 |
| 2:D:295:THR:O | 2:D:299:GLY:N | 2.46 | 0.48 |
| 2:D:940:VAL:HB | 2:D:1054:ILE:CG1 | 2.43 | 0.48 |
| 2:D:957:PRO:HB2 | 2:D:959:THR:HG23 | 1.95 | 0.48 |
| 2:D:2634:LEU:HD12 | 2:D:2686:SER:HB3 | 1.96 | 0.48 |
| 2:A:890:GLN:HB2 | 2:A:892:TRP:HD1 | 1.79 | 0.48 |
| 2:A:2372:GLU:HG2 | 2:B:197:MET:CE | 2.41 | 0.48 |
| 2:A:3864:GLU:O | 2:A:3868:VAL:HG23 | 2.14 | 0.48 |
| 2:B:902:LYS:HD2 | 2:B:902:LYS:HA | 1.55 | 0.48 |
| 2:B:1783:CYS:SG | 2:B:1785:VAL:HG22 | 2.53 | 0.48 |
| 2:B:2234:CYS:HB3 | 2:B:2238:CYS:HB3 | 1.55 | 0.48 |
| 2:B:3556:ASN:OD1 | 2:B:3557:ASN:N | 2.46 | 0.48 |
| 2:C:2007:ILE:CD1 | 2:C:3642:LEU:HD21 | 2.44 | 0.48 |
| 2:C:3534:ILE:HG13 | 2:C:3597:VAL:HG23 | 1.94 | 0.48 |
| 1:E:2:GLY:N | 1:E:78:SER:OG | 2.42 | 0.48 |
| 2:A:258:ARG:O | 2:A:285:HIS:NE2 | 2.42 | 0.48 |
| 2:A:295:THR:O | 2:A:299:GLY:N | 2.46 | 0.48 |
| 2:A:898:ARG:NH1 | 2:A:907:CYS:HB2 | 2.29 | 0.48 |
| 2:B:871:ILE:HG13 | 2:B:1050:TYR:CE2 | 2.49 | 0.48 |
| 2:B:872:ARG:CG | 2:B:927:GLY:HA2 | 2.43 | 0.48 |
| 2:B:888:ILE:HG13 | 2:B:889:GLU:N | 2.26 | 0.48 |
| 2:B:2863:LEU:HD13 | 2:B:2929:LYS:HB2 | 1.96 | 0.48 |
| 2:B:2895:LEU:HD22 | 2:B:2901:GLY:O | 2.14 | 0.48 |
| 2:C:872:ARG:CG | 2:C:927:GLY:HA2 | 2.43 | 0.48 |
| 2:C:3864:GLU:O | 2:C:3868:VAL:HG23 | 2.14 | 0.48 |
| 2:D:859:THR:CG2 | 2:D:932:THR:HA | 2.44 | 0.47 |
| 2:D:955:LYS:HB3 | 2:D:955:LYS:HE3 | 1.61 | 0.47 |
| 2:D:3435:LEU:CD2 | 2:D:3518:MET:HE2 | 2.42 | 0.47 |
| 2:D:3864:GLU:O | 2:D:3868:VAL:HG23 | 2.14 | 0.47 |
| 2:A:158:ARG:CZ | 2:A:165:ARG:HH21 | 2.27 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:859:THR:CG2 | 2:A:932:THR:HA | 2.44 | 0.47 |
| 2:A:3388:ALA:O | 2:A:3392:GLU:N | 2.39 | 0.47 |
| 2:B:158:ARG:CZ | 2:B:165:ARG:HH21 | 2.27 | 0.47 |
| 2:B:877:GLU:O | 2:B:881:GLU:HG2 | 2.13 | 0.47 |
| 2:B:951:LEU:HD22 | 2:B:973:LEU:HB3 | 1.95 | 0.47 |
| 7:B:8006:PCW:H341 | 2:C:4855:ASN:CG | 2.39 | 0.47 |
| 2:C:940:VAL:HG23 | 2:C:1052:TYR:HB3 | 1.95 | 0.47 |
| 2:C:2119:ARG:NH2 | 2:C:3720:ASP:OD1 | 2.47 | 0.47 |
| 2:C:2746:VAL:HG22 | 2:C:2747:ILE:N | 2.28 | 0.47 |
| 2:C:3410:TYR:O | 2:C:3413:LEU:N | 2.47 | 0.47 |
| 2:C:4088:ARG:NH1 | 2:C:4090:LEU:HD12 | 2.29 | 0.47 |
| 1:F:33:ASP:OD2 | 1:F:35:LYS:HG3 | 2.14 | 0.47 |
| 2:A:920:ASN:HA | 2:A:923:LEU:HD12 | 1.97 | 0.47 |
| 2:A:2265:GLY:O | 2:A:2267:GLY:N | 2.45 | 0.47 |
| 2:A:3410:TYR:O | 2:A:3413:LEU:N | 2.47 | 0.47 |
| 2:A:4122:GLU:OE1 | 2:A:4122:GLU:N | 2.44 | 0.47 |
| 2:B:157:GLN:OE1 | 2:B:158:ARG:NH1 | 2.47 | 0.47 |
| 2:B:2246:GLN:NE2 | 2:B:3867:THR:O | 2.46 | 0.47 |
| 2:B:3088:ILE:HD12 | 2:B:3088:ILE:H | 1.79 | 0.47 |
| 2:C:295:THR:O | 2:C:299:GLY:N | 2.46 | 0.47 |
| 2:C:886:THR:O | 2:C:890:GLN:HG3 | 2.14 | 0.47 |
| 2:C:898:ARG:NH1 | 2:C:907:CYS:HB2 | 2.29 | 0.47 |
| 2:C:2624:LEU:O | 2:C:2628:VAL:HG23 | 2.14 | 0.47 |
| 2:C:4670:LYS:O | 2:C:4674:GLU:HG2 | 2.15 | 0.47 |
| 2:D:871:ILE:HG13 | 2:D:1050:TYR:CE2 | 2.49 | 0.47 |
| 2:B:4670:LYS:O | 2:B:4674:GLU:HG2 | 2.15 | 0.47 |
| 2:C:871:ILE:HG13 | 2:C:1050:TYR:CE2 | 2.49 | 0.47 |
| 2:C:2583:MET:HE3 | 2:C:2611:LEU:HD23 | 1.95 | 0.47 |
| 2:C:2863:LEU:HD13 | 2:C:2929:LYS:HB2 | 1.96 | 0.47 |
| 2:C:2889:ARG:O | 2:C:2893:GLN:OE1 | 2.32 | 0.47 |
| 2:D:888:ILE:HG13 | 2:D:889:GLU:N | 2.26 | 0.47 |
| 2:D:2895:LEU:HD22 | 2:D:2901:GLY:O | 2.14 | 0.47 |
| 2:D:3088:ILE:H | 2:D:3088:ILE:HD12 | 1.79 | 0.47 |
| 2:D:3591:GLU:O | 2:D:3594:VAL:HG12 | 2.12 | 0.47 |
| 2:D:3859:LEU:C | 2:D:3859:LEU:HD12 | 2.39 | 0.47 |
| 2:A:2394:ASP:OD2 | 2:A:2419:LEU:N | 2.46 | 0.47 |
| 2:A:3182:PRO:O | 2:A:3185:GLU:HG3 | 2.15 | 0.47 |
| 2:B:931:LYS:HA | 2:B:934:LEU:HD22 | 1.95 | 0.47 |
| 2:C:1116:LEU:HD12 | 2:C:1194:SER:CB | 2.45 | 0.47 |
| 2:D:2624:LEU:O | 2:D:2628:VAL:HG23 | 2.14 | 0.47 |
| 2:D:3322:ARG:HA | 2:D:3325:VAL:HG12 | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:848:SER:N | 2:A:851:ASP:OD1 | 2.43 | 0.47 |
| 2:A:971:LEU:CD1 | 2:A:973:LEU:HD21 | 2.45 | 0.47 |
| 2:A:2583:MET:HE3 | 2:A:2611:LEU:HD23 | 1.95 | 0.47 |
| 2:A:2624:LEU:O | 2:A:2628:VAL:HG23 | 2.14 | 0.47 |
| 2:A:3088:ILE:H | 2:A:3088:ILE:HD12 | 1.79 | 0.47 |
| 2:B:649:ILE:HD13 | 2:B:812:CYS:HB3 | 1.96 | 0.47 |
| 2:C:916:GLU:HA | 2:C:919:ARG:CD | 2.44 | 0.47 |
| 2:C:971:LEU:CD1 | 2:C:973:LEU:HD21 | 2.45 | 0.47 |
| 2:C:2634:LEU:HD12 | 2:C:2686:SER:HB3 | 1.96 | 0.47 |
| 2:C:2895:LEU:HD22 | 2:C:2901:GLY:O | 2.14 | 0.47 |
| 2:D:157:GLN:OE1 | 2:D:158:ARG:NH1 | 2.47 | 0.47 |
| 2:D:916:GLU:HA | 2:D:919:ARG:CD | 2.44 | 0.47 |
| 2:D:1127:GLY:O | 2:D:1128:HIS:C | 2.58 | 0.47 |
| 2:D:2265:GLY:O | 2:D:2267:GLY:N | 2.45 | 0.47 |
| 2:A:157:GLN:OE1 | 2:A:158:ARG:NH1 | 2.47 | 0.47 |
| 2:A:942:MET:HG3 | 2:A:1052:TYR:CD2 | 2.50 | 0.47 |
| 2:A:2863:LEU:HD13 | 2:A:2929:LYS:HB2 | 1.96 | 0.47 |
| 2:A:2942:LEU:HD21 | 2:A:2945:MET:HB2 | 1.97 | 0.47 |
| 2:C:608:CYS:SG | 2:C:1673:SER:C | 2.98 | 0.47 |
| 2:C:608:CYS:SG | 2:C:1673:SER:OG | 2.69 | 0.47 |
| 2:C:859:THR:CG2 | 2:C:932:THR:HA | 2.44 | 0.47 |
| 2:C:3088:ILE:H | 2:C:3088:ILE:HD12 | 1.79 | 0.47 |
| 2:D:608:CYS:SG | 2:D:1673:SER:C | 2.98 | 0.47 |
| 2:D:673:ALA:O | 2:D:681:THR:OG1 | 2.31 | 0.47 |
| 2:D:886:THR:O | 2:D:890:GLN:HG3 | 2.14 | 0.47 |
| 2:D:942:MET:HG3 | 2:D:1052:TYR:CD2 | 2.50 | 0.47 |
| 2:D:2746:VAL:HG22 | 2:D:2747:ILE:H | 1.79 | 0.47 |
| 2:D:3410:TYR:O | 2:D:3413:LEU:N | 2.47 | 0.47 |
| 2:D:4638:GLU:HB3 | 2:D:4639:PRO:HD3 | 1.97 | 0.47 |
| 2:D:4670:LYS:O | 2:D:4674:GLU:HG2 | 2.15 | 0.47 |
| 2:A:885:LEU:HD12 | 2:A:960:TYR:CE2 | 2.50 | 0.47 |
| 2:A:951:LEU:HD22 | 2:A:973:LEU:HB3 | 1.95 | 0.47 |
| 2:A:1127:GLY:O | 2:A:1128:HIS:C | 2.58 | 0.47 |
| 2:A:2574:GLU:H | 2:A:2619:MET:HE1 | 1.80 | 0.47 |
| 2:A:2746:VAL:HG22 | 2:A:2747:ILE:H | 1.79 | 0.47 |
| 2:A:3220:TYR:CE1 | 2:A:3237:VAL:HG12 | 2.50 | 0.47 |
| 2:A:4088:ARG:NH1 | 2:A:4090:LEU:HD12 | 2.29 | 0.47 |
| 2:B:296:GLU:OE1 | 2:B:296:GLU:N | 2.37 | 0.47 |
| 2:B:859:THR:CG2 | 2:B:932:THR:HA | 2.44 | 0.47 |
| 2:B:916:GLU:HA | 2:B:919:ARG:CD | 2.44 | 0.47 |
| 2:B:940:VAL:HB | 2:B:1054:ILE:CG1 | 2.43 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:971:LEU:CD1 | 2:B:973:LEU:HD21 | 2.45 | 0.47 |
| 2:B:3062:ALA:HB3 | 2:B:3063:PRO:HD3 | 1.97 | 0.47 |
| 2:B:3182:PRO:O | 2:B:3185:GLU:HG3 | 2.15 | 0.47 |
| 2:B:3864:GLU:O | 2:B:3868:VAL:HG23 | 2.14 | 0.47 |
| 2:C:920:ASN:HA | 2:C:923:LEU:HD12 | 1.97 | 0.47 |
| 2:C:940:VAL:HB | 2:C:1054:ILE:CG1 | 2.43 | 0.47 |
| 2:C:985:LEU:HD11 | 2:C:1056:PRO:HB3 | 1.97 | 0.47 |
| 2:C:2942:LEU:HD21 | 2:C:2945:MET:HB2 | 1.97 | 0.47 |
| 2:C:3062:ALA:HB3 | 2:C:3063:PRO:HD3 | 1.97 | 0.47 |
| 2:C:3182:PRO:O | 2:C:3185:GLU:HG3 | 2.15 | 0.47 |
| 2:C:3220:TYR:CE1 | 2:C:3237:VAL:HG12 | 2.50 | 0.47 |
| 2:C:3859:LEU:C | 2:C:3859:LEU:HD12 | 2.39 | 0.47 |
| 2:D:931:LYS:HA | 2:D:934:LEU:HD22 | 1.95 | 0.47 |
| 2:D:2574:GLU:H | 2:D:2619:MET:HE1 | 1.80 | 0.47 |
| 2:A:608:CYS:SG | 2:A:1673:SER:C | 2.98 | 0.47 |
| 2:B:70:LEU:HD13 | 2:B:102:LEU:HD11 | 1.97 | 0.47 |
| 2:B:71:GLU:OE1 | 2:B:111:ARG:NH2 | 2.42 | 0.47 |
| 2:C:2179:MET:HE2 | 2:C:2211:VAL:HG11 | 1.97 | 0.47 |
| 2:D:885:LEU:HD12 | 2:D:960:TYR:CE2 | 2.50 | 0.47 |
| 2:D:1116:LEU:HD12 | 2:D:1194:SER:CB | 2.45 | 0.47 |
| 2:D:2210:GLU:OE1 | 2:D:2210:GLU:HA | 2.15 | 0.47 |
| 2:D:2942:LEU:HD21 | 2:D:2945:MET:HB2 | 1.97 | 0.47 |
| 2:D:3062:ALA:HB3 | 2:D:3063:PRO:HD3 | 1.97 | 0.47 |
| 2:A:896:PRO:HD2 | 2:A:904:LEU:HD13 | 1.97 | 0.47 |
| 2:A:916:GLU:HA | 2:A:919:ARG:CD | 2.45 | 0.47 |
| 2:A:3062:ALA:HB3 | 2:A:3063:PRO:HD3 | 1.97 | 0.47 |
| 2:B:920:ASN:HA | 2:B:923:LEU:HD12 | 1.97 | 0.47 |
| 2:B:985:LEU:HD11 | 2:B:1056:PRO:HB3 | 1.97 | 0.47 |
| 2:B:2283:ASP:HA | 2:B:2342:VAL:HG13 | 1.97 | 0.47 |
| 2:B:2624:LEU:O | 2:B:2628:VAL:HG23 | 2.14 | 0.47 |
| 2:B:2634:LEU:HD12 | 2:B:2686:SER:HB3 | 1.96 | 0.47 |
| 2:B:3859:LEU:C | 2:B:3859:LEU:HD12 | 2.39 | 0.47 |
| 2:B:4088:ARG:NH1 | 2:B:4090:LEU:HD12 | 2.29 | 0.47 |
| 2:C:157:GLN:OE1 | 2:C:158:ARG:NH1 | 2.47 | 0.47 |
| 2:C:942:MET:HG3 | 2:C:1052:TYR:CD2 | 2.50 | 0.47 |
| 2:C:2746:VAL:HG22 | 2:C:2747:ILE:H | 1.79 | 0.47 |
| 2:C:3322:ARG:HA | 2:C:3325:VAL:HG12 | 1.97 | 0.47 |
| 2:D:926:SER:O | 2:D:930:LEU:HD22 | 2.15 | 0.47 |
| 2:D:952:LYS:O | 2:D:972:ASP:HB3 | 2.15 | 0.47 |
| 2:D:2863:LEU:HD13 | 2:D:2929:LYS:HB2 | 1.96 | 0.47 |
| 2:A:71:GLU:OE1 | 2:A:111:ARG:NE | 2.44 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:886:THR:O | 2:A:890:GLN:HG3 | 2.14 | 0.47 |
| 2:A:952:LYS:O | 2:A:972:ASP:HB3 | 2.15 | 0.47 |
| 2:A:2889:ARG:O | 2:A:2893:GLN:OE1 | 2.32 | 0.47 |
| 2:B:886:THR:O | 2:B:890:GLN:HG3 | 2.14 | 0.47 |
| 2:C:885:LEU:HD12 | 2:C:960:TYR:CE2 | 2.50 | 0.47 |
| 2:C:3434:GLU:O | 2:C:3438:MET:HG3 | 2.15 | 0.47 |
| 1:H:33:ASP:OD2 | 1:H:35:LYS:HG3 | 2.14 | 0.46 |
| 2:D:649:ILE:HD13 | 2:D:812:CYS:HB3 | 1.96 | 0.46 |
| 2:A:843:PRO:O | 2:A:1198:GLY:N | 2.38 | 0.46 |
| 2:A:921:TYR:O | 2:A:924:GLN:HG3 | 2.15 | 0.46 |
| 2:A:926:SER:O | 2:A:930:LEU:HD22 | 2.15 | 0.46 |
| 2:A:2179:MET:HE2 | 2:A:2211:VAL:HG11 | 1.97 | 0.46 |
| 2:A:3322:ARG:HA | 2:A:3325:VAL:HG12 | 1.97 | 0.46 |
| 2:B:608:CYS:SG | 2:B:1673:SER:C | 2.98 | 0.46 |
| 2:B:885:LEU:HD12 | 2:B:960:TYR:CE2 | 2.50 | 0.46 |
| 2:B:896:PRO:HD2 | 2:B:904:LEU:HD13 | 1.97 | 0.46 |
| 2:B:2179:MET:HE2 | 2:B:2211:VAL:HG11 | 1.97 | 0.46 |
| 2:B:2746:VAL:HG22 | 2:B:2747:ILE:H | 1.79 | 0.46 |
| 2:B:2756:ILE:HG23 | 2:B:2810:ILE:HB | 1.97 | 0.46 |
| 2:B:4638:GLU:HB3 | 2:B:4639:PRO:HD3 | 1.97 | 0.46 |
| 2:C:910:ASN:O | 2:C:911:PHE:C | 2.58 | 0.46 |
| 2:D:921:TYR:O | 2:D:924:GLN:HG3 | 2.16 | 0.46 |
| 2:D:971:LEU:CD1 | 2:D:973:LEU:HD21 | 2.45 | 0.46 |
| 2:D:2756:ILE:HG23 | 2:D:2810:ILE:HB | 1.97 | 0.46 |
| 2:D:3220:TYR:CE1 | 2:D:3237:VAL:HG12 | 2.50 | 0.46 |
| 2:D:4709:PHE:HB3 | 2:D:4710:PRO:HD3 | 1.98 | 0.46 |
| 2:A:2756:ILE:HG23 | 2:A:2810:ILE:HB | 1.97 | 0.46 |
| 2:A:4638:GLU:HB3 | 2:A:4639:PRO:HD3 | 1.97 | 0.46 |
| 2:A:4670:LYS:O | 2:A:4674:GLU:HG2 | 2.14 | 0.46 |
| 2:B:652:GLY:N | 2:B:659:GLN:OE1 | 2.46 | 0.46 |
| 2:B:1297:GLN:NE2 | 2:B:1546:ASN:OD1 | 2.44 | 0.46 |
| 2:B:2334:ASP:O | 2:B:2337:ARG:HG2 | 2.15 | 0.46 |
| 2:B:2942:LEU:HD21 | 2:B:2945:MET:HB2 | 1.97 | 0.46 |
| 2:B:3220:TYR:CE1 | 2:B:3237:VAL:HG12 | 2.50 | 0.46 |
| 2:C:1297:GLN:NE2 | 2:C:1546:ASN:OD1 | 2.44 | 0.46 |
| 2:C:1645:GLU:OE1 | 2:C:1647:ARG:NH2 | 2.43 | 0.46 |
| 1:E:33:ASP:OD2 | 1:E:35:LYS:HG3 | 2.14 | 0.46 |
| 2:D:2889:ARG:O | 2:D:2893:GLN:OE1 | 2.32 | 0.46 |
| 2:A:649:ILE:HD13 | 2:A:812:CYS:HB3 | 1.96 | 0.46 |
| 2:A:871:ILE:HG13 | 2:A:1050:TYR:CE2 | 2.49 | 0.46 |
| 2:A:1116:LEU:HD12 | 2:A:1194:SER:CB | 2.45 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:2210:GLU:OE1 | 2:A:2210:GLU:HA | 2.15 | 0.46 |
| 2:A:3859:LEU:HD12 | 2:A:3859:LEU:C | 2.39 | 0.46 |
| 2:B:2265:GLY:O | 2:B:2267:GLY:N | 2.45 | 0.46 |
| 2:B:3434:GLU:O | 2:B:3438:MET:HG3 | 2.15 | 0.46 |
| 2:C:2334:ASP:O | 2:C:2337:ARG:HG2 | 2.15 | 0.46 |
| 2:C:2756:ILE:HG23 | 2:C:2810:ILE:HB | 1.97 | 0.46 |
| 2:D:2179:MET:HE2 | 2:D:2211:VAL:HG11 | 1.97 | 0.46 |
| 2:D:3182:PRO:O | 2:D:3185:GLU:HG3 | 2.15 | 0.46 |
| 2:D:4088:ARG:NH1 | 2:D:4090:LEU:HD12 | 2.29 | 0.46 |
| 2:A:931:LYS:HA | 2:A:934:LEU:HD22 | 1.96 | 0.46 |
| 2:A:2334:ASP:O | 2:A:2337:ARG:HG2 | 2.15 | 0.46 |
| 2:A:2634:LEU:HD12 | 2:A:2686:SER:HB3 | 1.96 | 0.46 |
| 2:B:942:MET:HG3 | 2:B:1052:TYR:CD2 | 2.50 | 0.46 |
| 2:B:2210:GLU:OE1 | 2:B:2210:GLU:HA | 2.15 | 0.46 |
| 2:C:931:LYS:HA | 2:C:934:LEU:HD22 | 1.95 | 0.46 |
| 2:C:2210:GLU:OE1 | 2:C:2210:GLU:HA | 2.15 | 0.46 |
| 2:C:4709:PHE:HB3 | 2:C:4710:PRO:HD3 | 1.98 | 0.46 |
| 2:D:896:PRO:HD2 | 2:D:904:LEU:HD13 | 1.97 | 0.46 |
| 2:D:2334:ASP:O | 2:D:2337:ARG:HG2 | 2.15 | 0.46 |
| 2:A:872:ARG:CG | 2:A:927:GLY:HA2 | 2.43 | 0.46 |
| 2:A:911:PHE:CE1 | 2:A:923:LEU:HG | 2.51 | 0.46 |
| 2:B:898:ARG:NH1 | 2:B:907:CYS:HB2 | 2.29 | 0.46 |
| 2:B:1116:LEU:HD12 | 2:B:1194:SER:CB | 2.45 | 0.46 |
| 2:C:649:ILE:HD13 | 2:C:812:CYS:HB3 | 1.96 | 0.46 |
| 2:C:652:GLY:N | 2:C:659:GLN:OE1 | 2.46 | 0.46 |
| 2:C:911:PHE:CE1 | 2:C:923:LEU:HG | 2.51 | 0.46 |
| 2:C:1127:GLY:O | 2:C:1128:HIS:C | 2.58 | 0.46 |
| 2:C:2234:CYS:C | 2:C:2236:PHE:N | 2.74 | 0.46 |
| 2:D:848:SER:N | 2:D:851:ASP:OD1 | 2.43 | 0.46 |
| 2:D:911:PHE:CE1 | 2:D:923:LEU:HG | 2.51 | 0.46 |
| 2:D:4096:PHE:CZ | 2:D:4100:MET:HE2 | 2.51 | 0.46 |
| 2:A:673:ALA:O | 2:A:681:THR:OG1 | 2.31 | 0.46 |
| 2:A:3672:ASP:OD1 | 2:A:3735:HIS:NE2 | 2.36 | 0.46 |
| 2:A:4096:PHE:CZ | 2:A:4100:MET:HE2 | 2.51 | 0.46 |
| 2:B:914:LEU:HD11 | 2:B:918:GLU:C | 2.41 | 0.46 |
| 2:B:952:LYS:O | 2:B:972:ASP:HB3 | 2.15 | 0.46 |
| 2:B:2889:ARG:O | 2:B:2893:GLN:OE1 | 2.32 | 0.46 |
| 2:B:3322:ARG:HA | 2:B:3325:VAL:HG12 | 1.97 | 0.46 |
| 2:B:3373:VAL:HG12 | 2:B:3399:PHE:CZ | 2.51 | 0.46 |
| 2:B:3645:LEU:HD21 | 2:B:3653:MET:CE | 2.46 | 0.46 |
| 2:B:4220:PHE:CE1 | 2:B:4224:VAL:HG21 | 2.51 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:896:PRO:HD2 | 2:C:904:LEU:HD13 | 1.97 | 0.46 |
| 2:C:2283:ASP:HA | 2:C:2342:VAL:HG13 | 1.97 | 0.46 |
| 2:C:3645:LEU:HD21 | 2:C:3653:MET:CE | 2.46 | 0.46 |
| 1:E:43:ARG:HA | 2:A:1692:GLN:HE21 | 1.81 | 0.46 |
| 2:D:70:LEU:HD13 | 2:D:102:LEU:HD11 | 1.97 | 0.46 |
| 2:D:914:LEU:HD11 | 2:D:918:GLU:C | 2.41 | 0.46 |
| 2:D:931:LYS:O | 2:D:934:LEU:HB2 | 2.16 | 0.46 |
| 2:D:1293:SER:OG | 2:D:1294:LEU:HD12 | 2.16 | 0.46 |
| 2:D:3645:LEU:HD21 | 2:D:3653:MET:CE | 2.46 | 0.46 |
| 2:A:70:LEU:HD13 | 2:A:102:LEU:HD11 | 1.97 | 0.46 |
| 2:B:183:LEU:HD12 | 2:B:191:GLN:O | 2.16 | 0.46 |
| 2:B:910:ASN:O | 2:B:911:PHE:C | 2.58 | 0.46 |
| 2:C:70:LEU:HD13 | 2:C:102:LEU:HD11 | 1.97 | 0.46 |
| 2:C:183:LEU:HD12 | 2:C:191:GLN:O | 2.16 | 0.46 |
| 2:C:470:ARG:NE | 2:C:3713:GLU:OE1 | 2.42 | 0.46 |
| 2:C:952:LYS:O | 2:C:972:ASP:HB3 | 2.15 | 0.46 |
| 2:C:2802:ASP:OD1 | 2:C:2802:ASP:C | 2.59 | 0.46 |
| 2:C:3373:VAL:HG12 | 2:C:3399:PHE:CZ | 2.51 | 0.46 |
| 2:C:4009:ASP:OD1 | 2:C:4010:SER:N | 2.49 | 0.46 |
| 2:D:258:ARG:O | 2:D:285:HIS:NE2 | 2.42 | 0.46 |
| 2:D:2799:SER:O | 2:D:2802:ASP:OD1 | 2.34 | 0.46 |
| 2:D:3373:VAL:HG12 | 2:D:3399:PHE:CZ | 2.51 | 0.46 |
| 2:D:3944:ASP:OD2 | 2:D:3945:VAL:N | 2.49 | 0.46 |
| 2:A:365:PRO:O | 2:A:366:LYS:HB3 | 2.16 | 0.46 |
| 2:A:868:LEU:CD1 | 2:A:930:LEU:HB3 | 2.45 | 0.46 |
| 2:A:911:PHE:O | 2:A:914:LEU:HD23 | 2.16 | 0.46 |
| 2:A:2215:VAL:HG21 | 2:A:2229:MET:CE | 2.46 | 0.46 |
| 2:A:2224:ILE:HD11 | 2:A:2268:MET:SD | 2.56 | 0.46 |
| 2:A:2799:SER:O | 2:A:2802:ASP:OD1 | 2.34 | 0.46 |
| 2:A:2871:GLU:HG2 | 2:A:2940:ARG:HB3 | 1.98 | 0.46 |
| 2:B:642:VAL:HG21 | 2:B:682:HIS:HD1 | 1.81 | 0.46 |
| 2:B:921:TYR:O | 2:B:924:GLN:HG3 | 2.16 | 0.46 |
| 2:B:1426:GLU:OE1 | 2:B:1426:GLU:N | 2.41 | 0.46 |
| 2:B:2215:VAL:HG21 | 2:B:2229:MET:CE | 2.46 | 0.46 |
| 2:C:870:ARG:NH2 | 2:C:871:ILE:HB | 2.31 | 0.46 |
| 2:C:911:PHE:O | 2:C:914:LEU:HD23 | 2.16 | 0.46 |
| 2:C:914:LEU:HD11 | 2:C:918:GLU:C | 2.41 | 0.46 |
| 2:C:921:TYR:O | 2:C:924:GLN:HG3 | 2.16 | 0.46 |
| 2:C:3041:THR:OG1 | 2:C:3081:VAL:HG21 | 2.16 | 0.46 |
| 2:C:4220:PHE:CE1 | 2:C:4224:VAL:HG21 | 2.51 | 0.46 |
| 2:C:4638:GLU:HB3 | 2:C:4639:PRO:HD3 | 1.97 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:365:PRO:O | 2:D:366:LYS:HB3 | 2.16 | 0.46 |
| 2:D:868:LEU:CD1 | 2:D:930:LEU:HB3 | 2.45 | 0.46 |
| 2:D:985:LEU:HD11 | 2:D:1056:PRO:HB3 | 1.97 | 0.46 |
| 2:D:2119:ARG:NH2 | 2:D:3720:ASP:OD1 | 2.47 | 0.46 |
| 2:D:2283:ASP:HA | 2:D:2342:VAL:HG13 | 1.97 | 0.46 |
| 2:D:3004:LEU:HB2 | 2:D:3005:PRO:HD3 | 1.97 | 0.46 |
| 2:D:4009:ASP:OD1 | 2:D:4010:SER:N | 2.49 | 0.46 |
| 2:D:4893:GLY:N | 2:D:4897:ASP:OD2 | 2.47 | 0.46 |
| 2:A:931:LYS:O | 2:A:934:LEU:HB2 | 2.16 | 0.46 |
| 2:A:2283:ASP:HA | 2:A:2342:VAL:HG13 | 1.97 | 0.46 |
| 2:B:1127:GLY:O | 2:B:1128:HIS:C | 2.58 | 0.46 |
| 2:B:2574:GLU:H | 2:B:2619:MET:HE1 | 1.80 | 0.46 |
| 2:B:4009:ASP:OD1 | 2:B:4010:SER:N | 2.49 | 0.46 |
| 2:C:926:SER:O | 2:C:930:LEU:HD22 | 2.15 | 0.46 |
| 2:C:2265:GLY:O | 2:C:2267:GLY:N | 2.45 | 0.46 |
| 2:C:4096:PHE:CZ | 2:C:4100:MET:HE2 | 2.51 | 0.46 |
| 1:G:26:HIS:ND1 | 1:G:105:LEU:HD11 | 2.31 | 0.46 |
| 2:D:870:ARG:NH2 | 2:D:871:ILE:HB | 2.31 | 0.46 |
| 2:D:2224:ILE:HD11 | 2:D:2268:MET:SD | 2.56 | 0.46 |
| 2:D:3388:ALA:O | 2:D:3392:GLU:N | 2.39 | 0.46 |
| 2:D:3434:GLU:O | 2:D:3438:MET:HG3 | 2.15 | 0.46 |
| 2:A:985:LEU:HD11 | 2:A:1056:PRO:HB3 | 1.97 | 0.46 |
| 2:A:2525:VAL:HG23 | 2:A:2526:GLY:N | 2.31 | 0.46 |
| 2:A:3373:VAL:HG12 | 2:A:3399:PHE:CZ | 2.51 | 0.46 |
| 2:A:3645:LEU:HD21 | 2:A:3653:MET:CE | 2.46 | 0.46 |
| 2:A:3944:ASP:OD2 | 2:A:3945:VAL:N | 2.49 | 0.46 |
| 2:B:926:SER:O | 2:B:930:LEU:HD22 | 2.15 | 0.46 |
| 2:B:931:LYS:O | 2:B:934:LEU:HB2 | 2.16 | 0.46 |
| 2:B:2224:ILE:HD11 | 2:B:2268:MET:SD | 2.56 | 0.46 |
| 2:B:3181:ASN:OD1 | 2:B:3183:TYR:CD1 | 2.69 | 0.46 |
| 2:B:3324:ILE:CG2 | 2:B:3409:LEU:HD21 | 2.46 | 0.46 |
| 2:C:1293:SER:OG | 2:C:1294:LEU:HD12 | 2.16 | 0.46 |
| 2:C:2907:VAL:HG23 | 2:C:2912:LEU:HG | 1.98 | 0.46 |
| 2:C:3004:LEU:HB2 | 2:C:3005:PRO:HD3 | 1.97 | 0.46 |
| 2:D:197:MET:CE | 2:C:2372:GLU:HG2 | 2.41 | 0.45 |
| 2:D:2907:VAL:HG23 | 2:D:2912:LEU:HG | 1.98 | 0.45 |
| 2:D:3041:THR:OG1 | 2:D:3081:VAL:HG21 | 2.16 | 0.45 |
| 2:A:914:LEU:HD11 | 2:A:918:GLU:C | 2.41 | 0.45 |
| 2:A:955:LYS:HE3 | 2:A:955:LYS:HB3 | 1.61 | 0.45 |
| 2:A:2119:ARG:NH2 | 2:A:3720:ASP:OD1 | 2.47 | 0.45 |
| 2:A:2645:LEU:HD13 | 2:A:2679:LEU:HD21 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:3324:ILE:CG2 | 2:A:3409:LEU:HD21 | 2.46 | 0.45 |
| 2:B:870:ARG:NH2 | 2:B:874:LYS:HD3 | 2.31 | 0.45 |
| 2:B:911:PHE:CE1 | 2:B:923:LEU:HG | 2.51 | 0.45 |
| 2:B:2119:ARG:NH2 | 2:B:3720:ASP:OD1 | 2.47 | 0.45 |
| 2:B:2871:GLU:HG2 | 2:B:2940:ARG:HB3 | 1.98 | 0.45 |
| 2:B:4054:SER:O | 2:B:4055:SER:C | 2.59 | 0.45 |
| 2:C:71:GLU:OE1 | 2:C:111:ARG:NE | 2.44 | 0.45 |
| 2:C:2645:LEU:HD13 | 2:C:2679:LEU:HD21 | 1.99 | 0.45 |
| 2:C:2794:PRO:O | 2:C:2798:PHE:N | 2.41 | 0.45 |
| 2:C:3324:ILE:CG2 | 2:C:3409:LEU:HD21 | 2.46 | 0.45 |
| 2:D:920:ASN:HA | 2:D:923:LEU:HD12 | 1.97 | 0.45 |
| 2:D:3894:LEU:HD13 | 2:D:3902:PHE:CZ | 2.52 | 0.45 |
| 2:D:4054:SER:O | 2:D:4055:SER:C | 2.59 | 0.45 |
| 2:D:4248:MET:HE1 | 2:D:4987:MET:HE1 | 1.98 | 0.45 |
| 2:A:3894:LEU:HD13 | 2:A:3902:PHE:CZ | 2.52 | 0.45 |
| 2:A:4709:PHE:HB3 | 2:A:4710:PRO:HD3 | 1.98 | 0.45 |
| 2:B:956:LEU:HD12 | 2:B:968:PRO:CD | 2.44 | 0.45 |
| 2:B:2799:SER:O | 2:B:2802:ASP:OD1 | 2.34 | 0.45 |
| 2:B:3584:GLU:OE1 | 2:B:3584:GLU:N | 2.37 | 0.45 |
| 2:C:3203:PRO:HA | 2:C:3284:ARG:NH2 | 2.31 | 0.45 |
| 2:C:3536:LEU:CD2 | 2:C:3560:LEU:HD13 | 2.46 | 0.45 |
| 2:D:893:THR:O | 2:D:904:LEU:HA | 2.16 | 0.45 |
| 2:D:2525:VAL:HG23 | 2:D:2526:GLY:N | 2.31 | 0.45 |
| 2:D:2802:ASP:OD1 | 2:D:2802:ASP:C | 2.59 | 0.45 |
| 2:A:642:VAL:HG21 | 2:A:682:HIS:HD1 | 1.81 | 0.45 |
| 2:A:870:ARG:NH2 | 2:A:871:ILE:HB | 2.31 | 0.45 |
| 2:A:3181:ASN:OD1 | 2:A:3183:TYR:CD1 | 2.69 | 0.45 |
| 2:B:868:LEU:CD1 | 2:B:930:LEU:HB3 | 2.45 | 0.45 |
| 2:B:2525:VAL:HG23 | 2:B:2526:GLY:N | 2.31 | 0.45 |
| 2:B:3004:LEU:HB2 | 2:B:3005:PRO:HD3 | 1.97 | 0.45 |
| 2:B:4096:PHE:CZ | 2:B:4100:MET:HE2 | 2.51 | 0.45 |
| 2:B:4248:MET:HE1 | 2:B:4987:MET:HE1 | 1.98 | 0.45 |
| 2:C:2574:GLU:H | 2:C:2619:MET:HE1 | 1.80 | 0.45 |
| 2:C:2799:SER:O | 2:C:2802:ASP:OD1 | 2.34 | 0.45 |
| 1:H:26:HIS:ND1 | 1:H:105:LEU:HD11 | 2.31 | 0.45 |
| 2:D:911:PHE:O | 2:D:914:LEU:HD23 | 2.16 | 0.45 |
| 2:D:2215:VAL:HG21 | 2:D:2229:MET:CE | 2.46 | 0.45 |
| 2:D:2645:LEU:HD13 | 2:D:2679:LEU:HD21 | 1.99 | 0.45 |
| 2:A:2907:VAL:HG23 | 2:A:2912:LEU:HG | 1.98 | 0.45 |
| 2:A:4054:SER:O | 2:A:4055:SER:C | 2.59 | 0.45 |
| 2:B:365:PRO:O | 2:B:366:LYS:HB3 | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:870:ARG:NH2 | 2:B:871:ILE:HB | 2.31 | 0.45 |
| 2:B:879:ILE:CA | 2:B:882:LEU:HD12 | 2.33 | 0.45 |
| 2:B:911:PHE:O | 2:B:914:LEU:HD23 | 2.16 | 0.45 |
| 2:B:978:LEU:HD13 | 2:B:982:GLN:HB3 | 1.98 | 0.45 |
| 2:B:2234:CYS:C | 2:B:2236:PHE:N | 2.74 | 0.45 |
| 2:B:2645:LEU:HD13 | 2:B:2679:LEU:HD21 | 1.99 | 0.45 |
| 2:B:2816:ALA:HB1 | 2:B:2882:ASN:ND2 | 2.32 | 0.45 |
| 2:B:2907:VAL:HG23 | 2:B:2912:LEU:HG | 1.98 | 0.45 |
| 2:B:3756:PHE:HA | 2:B:3759:LYS:HZ2 | 1.82 | 0.45 |
| 2:C:642:VAL:HG21 | 2:C:682:HIS:HD1 | 1.81 | 0.45 |
| 2:C:3944:ASP:OD2 | 2:C:3945:VAL:N | 2.49 | 0.45 |
| 2:C:4248:MET:HE1 | 2:C:4987:MET:HE1 | 1.98 | 0.45 |
| 2:A:183:LEU:HD12 | 2:A:191:GLN:O | 2.16 | 0.45 |
| 2:A:4009:ASP:OD1 | 2:A:4010:SER:N | 2.49 | 0.45 |
| 2:B:422:PHE:CD1 | 2:B:422:PHE:C | 2.95 | 0.45 |
| 2:B:4709:PHE:HB3 | 2:B:4710:PRO:HD3 | 1.98 | 0.45 |
| 1:F:26:HIS:ND1 | 1:F:105:LEU:HD11 | 2.31 | 0.45 |
| 2:D:862:ILE:HG22 | 2:D:931:LYS:HG2 | 1.99 | 0.45 |
| 2:D:888:ILE:CG1 | 2:D:960:TYR:HA | 2.47 | 0.45 |
| 2:D:954:THR:HG22 | 2:D:972:ASP:HB2 | 1.98 | 0.45 |
| 2:D:4220:PHE:CE1 | 2:D:4224:VAL:HG21 | 2.51 | 0.45 |
| 2:B:321:LYS:HZ1 | 2:B:357:TRP:CG | 2.35 | 0.45 |
| 2:B:1293:SER:OG | 2:B:1294:LEU:HD12 | 2.16 | 0.45 |
| 2:B:3203:PRO:HA | 2:B:3284:ARG:NH2 | 2.31 | 0.45 |
| 2:B:4686:ILE:HD12 | 2:B:4735:ILE:CD1 | 2.47 | 0.45 |
| 2:C:843:PRO:O | 2:C:1197:PRO:HA | 2.17 | 0.45 |
| 2:C:2215:VAL:HG21 | 2:C:2229:MET:CE | 2.46 | 0.45 |
| 2:C:2866:VAL:CG1 | 2:C:2933:MET:HE3 | 2.45 | 0.45 |
| 2:C:2875:MET:HB3 | 2:C:2940:ARG:HD2 | 1.99 | 0.45 |
| 2:D:183:LEU:HD12 | 2:D:191:GLN:O | 2.16 | 0.45 |
| 2:D:2862:ASP:O | 2:D:2865:VAL:HG12 | 2.17 | 0.45 |
| 2:D:2871:GLU:HG2 | 2:D:2940:ARG:HB3 | 1.98 | 0.45 |
| 2:D:4066:ASP:OD1 | 2:D:4172:SER:OG | 2.26 | 0.45 |
| 2:A:910:ASN:O | 2:A:911:PHE:C | 2.58 | 0.45 |
| 2:A:954:THR:HG22 | 2:A:972:ASP:HB2 | 1.98 | 0.45 |
| 2:A:3434:GLU:O | 2:A:3438:MET:HG3 | 2.15 | 0.45 |
| 2:A:3536:LEU:CD2 | 2:A:3560:LEU:HD13 | 2.46 | 0.45 |
| 2:A:4686:ILE:HD12 | 2:A:4735:ILE:CD1 | 2.47 | 0.45 |
| 2:B:843:PRO:O | 2:B:1197:PRO:HA | 2.17 | 0.45 |
| 2:B:893:THR:O | 2:B:904:LEU:HA | 2.16 | 0.45 |
| 2:B:2187:MET:HE2 | 2:B:2236:PHE:HA | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:296:GLU:OE1 | 2:C:296:GLU:N | 2.37 | 0.45 |
| 2:C:931:LYS:O | 2:C:934:LEU:HB2 | 2.16 | 0.45 |
| 2:C:978:LEU:HD13 | 2:C:982:GLN:HB3 | 1.98 | 0.45 |
| 2:C:2187:MET:HE2 | 2:C:2236:PHE:HA | 1.99 | 0.45 |
| 2:D:910:ASN:O | 2:D:911:PHE:C | 2.58 | 0.45 |
| 2:D:978:LEU:HD22 | 2:D:978:LEU:HA | 1.78 | 0.45 |
| 2:D:3324:ILE:CG2 | 2:D:3409:LEU:HD21 | 2.46 | 0.45 |
| 2:A:898:ARG:HB2 | 2:A:905:HIS:HA | 1.99 | 0.45 |
| 2:A:1293:SER:OG | 2:A:1294:LEU:HD12 | 2.16 | 0.45 |
| 2:A:3004:LEU:HB2 | 2:A:3005:PRO:HD3 | 1.97 | 0.45 |
| 2:B:888:ILE:CG1 | 2:B:960:TYR:HA | 2.47 | 0.45 |
| 2:B:898:ARG:HB2 | 2:B:905:HIS:HA | 1.99 | 0.45 |
| 2:B:2753:ASP:HA | 2:B:2756:ILE:HD12 | 1.99 | 0.45 |
| 2:B:3041:THR:OG1 | 2:B:3081:VAL:HG21 | 2.16 | 0.45 |
| 2:C:893:THR:O | 2:C:904:LEU:HA | 2.16 | 0.45 |
| 2:C:2224:ILE:HD11 | 2:C:2268:MET:SD | 2.56 | 0.45 |
| 2:C:4054:SER:O | 2:C:4055:SER:C | 2.59 | 0.45 |
| 2:C:4686:ILE:HD12 | 2:C:4735:ILE:CD1 | 2.47 | 0.45 |
| 2:D:422:PHE:C | 2:D:422:PHE:CD1 | 2.95 | 0.45 |
| 2:D:642:VAL:HG21 | 2:D:682:HIS:HD1 | 1.81 | 0.45 |
| 2:D:843:PRO:O | 2:D:1197:PRO:HA | 2.17 | 0.45 |
| 2:D:898:ARG:HB2 | 2:D:905:HIS:HA | 1.99 | 0.45 |
| 2:D:978:LEU:HD13 | 2:D:982:GLN:HB3 | 1.98 | 0.45 |
| 2:D:3198:LEU:HD11 | 2:D:3202:MET:CE | 2.47 | 0.45 |
| 2:D:4580:VAL:HG12 | 2:A:4875:ASP:O | 2.17 | 0.45 |
| 2:A:956:LEU:HD12 | 2:A:968:PRO:CD | 2.44 | 0.45 |
| 2:A:961:MET:CG | 2:A:965:GLY:HA2 | 2.43 | 0.45 |
| 2:A:3203:PRO:HA | 2:A:3284:ARG:NH2 | 2.31 | 0.45 |
| 2:A:4086:ASP:OD2 | 2:A:4088:ARG:NH2 | 2.50 | 0.45 |
| 2:A:4220:PHE:CE1 | 2:A:4224:VAL:HG21 | 2.51 | 0.45 |
| 2:B:2802:ASP:OD1 | 2:B:2802:ASP:C | 2.59 | 0.45 |
| 2:B:3177:GLY:C | 2:B:3269:HIS:ND1 | 2.75 | 0.45 |
| 2:B:3536:LEU:CD2 | 2:B:3560:LEU:HD13 | 2.46 | 0.45 |
| 2:C:459:GLU:H | 2:C:459:GLU:CD | 2.25 | 0.45 |
| 2:C:3177:GLY:C | 2:C:3269:HIS:ND1 | 2.75 | 0.45 |
| 2:D:3108:VAL:HA | 2:D:3176:LEU:HD12 | 1.99 | 0.45 |
| 2:D:3181:ASN:OD1 | 2:D:3183:TYR:CD1 | 2.69 | 0.45 |
| 2:D:3226:ARG:CZ | 2:D:3226:ARG:HB3 | 2.47 | 0.45 |
| 2:A:879:ILE:CA | 2:A:882:LEU:HD12 | 2.33 | 0.45 |
| 2:A:3177:GLY:C | 2:A:3269:HIS:ND1 | 2.75 | 0.45 |
| 2:B:843:PRO:O | 2:B:1198:GLY:N | 2.38 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:2255:LEU:C | 2:B:2255:LEU:HD23 | 2.42 | 0.45 |
| 2:C:321:LYS:HZ1 | 2:C:357:TRP:CG | 2.35 | 0.45 |
| 2:C:898:ARG:HB2 | 2:C:905:HIS:HA | 1.99 | 0.45 |
| 2:C:2862:ASP:O | 2:C:2865:VAL:HG12 | 2.17 | 0.45 |
| 2:C:2871:GLU:HG2 | 2:C:2940:ARG:HB3 | 1.98 | 0.45 |
| 2:C:3756:PHE:HA | 2:C:3759:LYS:HZ2 | 1.81 | 0.45 |
| 2:C:4066:ASP:OD1 | 2:C:4172:SER:OG | 2.26 | 0.45 |
| 2:D:1426:GLU:OE1 | 2:D:1426:GLU:N | 2.41 | 0.44 |
| 2:D:3177:GLY:C | 2:D:3269:HIS:ND1 | 2.75 | 0.44 |
| 2:D:3820:LEU:HD13 | 2:D:3902:PHE:HD1 | 1.81 | 0.44 |
| 2:A:470:ARG:NE | 2:A:3713:GLU:OE1 | 2.42 | 0.44 |
| 2:A:862:ILE:HG22 | 2:A:931:LYS:HG2 | 1.99 | 0.44 |
| 2:A:893:THR:O | 2:A:904:LEU:HA | 2.16 | 0.44 |
| 2:C:899:ASP:CB | 2:C:902:LYS:HB2 | 2.21 | 0.44 |
| 2:C:954:THR:HG22 | 2:C:972:ASP:HB2 | 1.98 | 0.44 |
| 2:D:459:GLU:CD | 2:D:459:GLU:H | 2.25 | 0.44 |
| 2:D:2816:ALA:HB1 | 2:D:2882:ASN:ND2 | 2.32 | 0.44 |
| 2:D:2866:VAL:CG1 | 2:D:2933:MET:HE3 | 2.45 | 0.44 |
| 2:D:4628:TYR:OH | 2:A:4858:ARG:NH1 | 2.49 | 0.44 |
| 2:A:888:ILE:CG1 | 2:A:960:TYR:HA | 2.47 | 0.44 |
| 2:A:978:LEU:HD22 | 2:A:978:LEU:HA | 1.78 | 0.44 |
| 2:A:3108:VAL:HA | 2:A:3176:LEU:HD12 | 1.99 | 0.44 |
| 2:B:723:TRP:CZ2 | 2:B:728:ALA:HB2 | 2.53 | 0.44 |
| 2:B:954:THR:HG22 | 2:B:972:ASP:HB2 | 1.98 | 0.44 |
| 2:B:3944:ASP:OD2 | 2:B:3945:VAL:N | 2.49 | 0.44 |
| 2:B:4671:ARG:NH1 | 2:B:4700:ASP:OD1 | 2.51 | 0.44 |
| 2:C:3226:ARG:HB3 | 2:C:3226:ARG:CZ | 2.47 | 0.44 |
| 2:C:3820:LEU:HD13 | 2:C:3902:PHE:HD1 | 1.81 | 0.44 |
| 2:C:4893:GLY:N | 2:C:4897:ASP:OD2 | 2.47 | 0.44 |
| 2:D:947:ALA:HA | 2:D:950:ASN:ND2 | 2.32 | 0.44 |
| 2:D:2753:ASP:HA | 2:D:2756:ILE:HD12 | 1.99 | 0.44 |
| 2:D:2875:MET:HB3 | 2:D:2940:ARG:HD2 | 1.99 | 0.44 |
| 2:D:4024:LYS:N | 2:D:4142:ILE:HD13 | 2.33 | 0.44 |
| 2:D:4088:ARG:HH12 | 2:D:4090:LEU:HD12 | 1.82 | 0.44 |
| 2:D:4686:ILE:HD12 | 2:D:4735:ILE:CD1 | 2.47 | 0.44 |
| 2:A:978:LEU:HD13 | 2:A:982:GLN:HB3 | 1.98 | 0.44 |
| 2:A:2237:LEU:O | 2:A:2240:PHE:HB3 | 2.18 | 0.44 |
| 2:A:2802:ASP:OD1 | 2:A:2802:ASP:C | 2.59 | 0.44 |
| 2:B:872:ARG:HH12 | 2:B:923:LEU:HB3 | 1.82 | 0.44 |
| 2:B:978:LEU:HD11 | 2:B:1044:VAL:HG11 | 1.99 | 0.44 |
| 2:B:978:LEU:HD21 | 2:B:1044:VAL:HG12 | 1.99 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:2413:GLU:HG3 | 2:B:2413:GLU:O | 2.17 | 0.44 |
| 2:C:422:PHE:CD1 | 2:C:422:PHE:C | 2.95 | 0.44 |
| 2:C:978:LEU:HD21 | 2:C:1044:VAL:HG12 | 1.99 | 0.44 |
| 2:C:2255:LEU:HD23 | 2:C:2255:LEU:C | 2.42 | 0.44 |
| 2:C:2816:ALA:HB1 | 2:C:2882:ASN:ND2 | 2.32 | 0.44 |
| 2:C:3181:ASN:OD1 | 2:C:3183:TYR:CD1 | 2.69 | 0.44 |
| 2:C:3198:LEU:HD11 | 2:C:3202:MET:CE | 2.47 | 0.44 |
| 1:E:33:ASP:OD2 | 1:E:33:ASP:C | 2.60 | 0.44 |
| 2:D:956:LEU:HD12 | 2:D:968:PRO:CD | 2.44 | 0.44 |
| 2:D:1478:GLY:HA2 | 2:D:1485:HIS:H | 1.83 | 0.44 |
| 2:D:2234:CYS:HB3 | 2:D:2238:CYS:HB3 | 1.55 | 0.44 |
| 2:D:3203:PRO:HA | 2:D:3284:ARG:NH2 | 2.31 | 0.44 |
| 2:D:4671:ARG:NH1 | 2:D:4700:ASP:OD1 | 2.51 | 0.44 |
| 2:A:723:TRP:CZ2 | 2:A:728:ALA:HB2 | 2.53 | 0.44 |
| 2:A:1478:GLY:HA2 | 2:A:1485:HIS:H | 1.83 | 0.44 |
| 2:A:2862:ASP:O | 2:A:2865:VAL:HG12 | 2.17 | 0.44 |
| 2:A:3446:TRP:HZ3 | 2:A:3610:THR:HG22 | 1.83 | 0.44 |
| 2:A:4248:MET:HE1 | 2:A:4987:MET:HE1 | 1.99 | 0.44 |
| 2:A:4689:GLN:OE1 | 2:A:4701:ARG:NH2 | 2.51 | 0.44 |
| 2:B:34:LEU:HD23 | 2:B:35:LYS:N | 2.33 | 0.44 |
| 2:B:2237:LEU:O | 2:B:2240:PHE:HB3 | 2.18 | 0.44 |
| 2:B:3108:VAL:HA | 2:B:3176:LEU:HD12 | 1.99 | 0.44 |
| 2:B:3294:PRO:HB2 | 2:B:3297:LEU:HB3 | 1.99 | 0.44 |
| 2:C:365:PRO:O | 2:C:366:LYS:HB3 | 2.16 | 0.44 |
| 2:C:865:PRO:CD | 2:C:868:LEU:HB2 | 2.44 | 0.44 |
| 2:C:2525:VAL:HG23 | 2:C:2526:GLY:N | 2.31 | 0.44 |
| 2:C:2753:ASP:HA | 2:C:2756:ILE:HD12 | 1.99 | 0.44 |
| 2:C:4086:ASP:OD2 | 2:C:4088:ARG:NH2 | 2.50 | 0.44 |
| 2:D:2237:LEU:O | 2:D:2240:PHE:HB3 | 2.18 | 0.44 |
| 2:D:2413:GLU:HG3 | 2:D:2413:GLU:O | 2.17 | 0.44 |
| 2:D:3859:LEU:HD11 | 2:D:3871:ARG:NH2 | 2.29 | 0.44 |
| 2:A:843:PRO:O | 2:A:1197:PRO:HA | 2.17 | 0.44 |
| 2:A:862:ILE:HD13 | 2:A:931:LYS:O | 2.18 | 0.44 |
| 2:A:2255:LEU:HD23 | 2:A:2255:LEU:C | 2.42 | 0.44 |
| 2:A:2816:ALA:HB1 | 2:A:2882:ASN:ND2 | 2.32 | 0.44 |
| 2:B:3226:ARG:HB3 | 2:B:3226:ARG:CZ | 2.47 | 0.44 |
| 2:C:947:ALA:HA | 2:C:950:ASN:ND2 | 2.32 | 0.44 |
| 2:C:2237:LEU:O | 2:C:2240:PHE:HB3 | 2.18 | 0.44 |
| 2:C:3580:VAL:HB | 2:C:3583:ARG:HD3 | 2.00 | 0.44 |
| 2:C:3894:LEU:HD13 | 2:C:3902:PHE:CZ | 2.52 | 0.44 |
| 2:D:463:GLU:HG3 | 2:D:3711:LEU:HD13 | 2.00 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:2255:LEU:HD23 | 2:D:2255:LEU:C | 2.42 | 0.44 |
| 2:A:872:ARG:HH12 | 2:A:923:LEU:HB3 | 1.82 | 0.44 |
| 2:A:1426:GLU:OE1 | 2:A:1426:GLU:N | 2.41 | 0.44 |
| 2:A:2972:GLN:O | 2:A:2975:ILE:HG22 | 2.18 | 0.44 |
| 2:B:459:GLU:H | 2:B:459:GLU:CD | 2.25 | 0.44 |
| 2:B:2862:ASP:O | 2:B:2865:VAL:HG12 | 2.17 | 0.44 |
| 2:B:3446:TRP:HZ3 | 2:B:3610:THR:HG22 | 1.83 | 0.44 |
| 2:B:4869:GLU:OE1 | 2:B:4869:GLU:HA | 2.18 | 0.44 |
| 2:C:868:LEU:CD1 | 2:C:930:LEU:HB3 | 2.45 | 0.44 |
| 2:C:2972:GLN:O | 2:C:2975:ILE:HG22 | 2.18 | 0.44 |
| 2:C:3108:VAL:HA | 2:C:3176:LEU:HD12 | 1.99 | 0.44 |
| 2:C:4088:ARG:HH12 | 2:C:4090:LEU:HD12 | 1.82 | 0.44 |
| 2:C:4689:GLN:OE1 | 2:C:4701:ARG:NH2 | 2.51 | 0.44 |
| 2:D:321:LYS:HZ1 | 2:D:357:TRP:CG | 2.35 | 0.44 |
| 2:D:932:THR:HG23 | 2:D:989:LEU:HD22 | 2.00 | 0.44 |
| 2:D:978:LEU:HD11 | 2:D:1044:VAL:HG11 | 1.99 | 0.44 |
| 2:D:3446:TRP:HZ3 | 2:D:3610:THR:HG22 | 1.83 | 0.44 |
| 2:D:3580:VAL:HB | 2:D:3583:ARG:HD3 | 2.00 | 0.44 |
| 2:D:4543:GLU:O | 2:D:4547:VAL:HG23 | 2.18 | 0.44 |
| 2:D:4869:GLU:OE1 | 2:D:4869:GLU:HA | 2.18 | 0.44 |
| 2:A:422:PHE:C | 2:A:422:PHE:CD1 | 2.95 | 0.44 |
| 2:A:947:ALA:HA | 2:A:950:ASN:ND2 | 2.32 | 0.44 |
| 2:A:971:LEU:H | 2:A:971:LEU:HG | 1.58 | 0.44 |
| 2:A:3293:PRO:O | 2:A:3295:PRO:CD | 2.66 | 0.44 |
| 2:A:3546:THR:HG22 | 2:A:3547:ASP:N | 2.33 | 0.44 |
| 2:A:4088:ARG:HH12 | 2:A:4090:LEU:HD12 | 1.82 | 0.44 |
| 2:B:973:LEU:CB | 2:B:976:VAL:HG23 | 2.46 | 0.44 |
| 2:B:1047:LEU:HA | 2:B:1050:TYR:CD2 | 2.53 | 0.44 |
| 2:B:2866:VAL:CG1 | 2:B:2933:MET:HE3 | 2.45 | 0.44 |
| 2:B:4086:ASP:OD2 | 2:B:4088:ARG:NH2 | 2.50 | 0.44 |
| 2:C:34:LEU:HD23 | 2:C:35:LYS:N | 2.33 | 0.44 |
| 2:C:862:ILE:HG22 | 2:C:931:LYS:HG2 | 1.99 | 0.44 |
| 2:C:1478:GLY:HA2 | 2:C:1485:HIS:H | 1.82 | 0.44 |
| 2:D:2254:HIS:O | 2:D:2255:LEU:C | 2.60 | 0.44 |
| 2:D:3536:LEU:CD2 | 2:D:3560:LEU:HD13 | 2.46 | 0.44 |
| 2:A:870:ARG:NH2 | 2:A:874:LYS:HD3 | 2.31 | 0.44 |
| 2:A:1047:LEU:HA | 2:A:1050:TYR:CD2 | 2.53 | 0.44 |
| 2:A:2383:GLU:OE1 | 2:A:2386:ARG:NH2 | 2.51 | 0.44 |
| 2:A:3198:LEU:HD11 | 2:A:3202:MET:CE | 2.47 | 0.44 |
| 2:B:470:ARG:NE | 2:B:3713:GLU:OE1 | 2.42 | 0.44 |
| 2:B:862:ILE:HD13 | 2:B:931:LYS:O | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:884:ALA:HA | 2:B:908:LEU:HD22 | 2.00 | 0.44 |
| 2:B:2314:LEU:HD12 | 2:B:2319:TYR:CG | 2.53 | 0.44 |
| 2:B:3868:VAL:HG12 | 2:B:3870:ASN:H | 1.83 | 0.44 |
| 2:B:4024:LYS:N | 2:B:4142:ILE:HD13 | 2.33 | 0.44 |
| 2:C:723:TRP:CZ2 | 2:C:728:ALA:HB2 | 2.53 | 0.44 |
| 2:C:2413:GLU:O | 2:C:2413:GLU:HG3 | 2.17 | 0.44 |
| 2:C:4543:GLU:O | 2:C:4547:VAL:HG23 | 2.18 | 0.44 |
| 1:E:26:HIS:ND1 | 1:E:105:LEU:HD11 | 2.32 | 0.44 |
| 2:D:723:TRP:CZ2 | 2:D:728:ALA:HB2 | 2.53 | 0.44 |
| 2:D:862:ILE:HD13 | 2:D:931:LYS:O | 2.18 | 0.44 |
| 2:D:1047:LEU:HA | 2:D:1050:TYR:CD2 | 2.53 | 0.44 |
| 2:D:3377:GLU:O | 2:D:3380:LEU:HG | 2.18 | 0.44 |
| 2:D:3453:LYS:O | 2:D:3456:GLU:HG3 | 2.18 | 0.44 |
| 2:D:4689:GLN:OE1 | 2:D:4701:ARG:NH2 | 2.51 | 0.44 |
| 7:D:8006:PCW:H341 | 2:A:4855:ASN:CG | 2.43 | 0.44 |
| 2:A:321:LYS:HZ1 | 2:A:357:TRP:CG | 2.35 | 0.44 |
| 2:A:2866:VAL:CG1 | 2:A:2933:MET:HE3 | 2.45 | 0.44 |
| 2:A:3868:VAL:HG12 | 2:A:3870:ASN:H | 1.83 | 0.44 |
| 2:B:463:GLU:HG3 | 2:B:3711:LEU:HD13 | 2.00 | 0.44 |
| 2:B:933:LEU:HD22 | 2:B:1054:ILE:HG21 | 2.00 | 0.44 |
| 2:B:947:ALA:HA | 2:B:950:ASN:ND2 | 2.32 | 0.44 |
| 2:B:3377:GLU:O | 2:B:3380:LEU:HG | 2.18 | 0.44 |
| 2:B:4689:GLN:OE1 | 2:B:4701:ARG:NH2 | 2.51 | 0.44 |
| 2:C:463:GLU:HG3 | 2:C:3711:LEU:HD13 | 2.00 | 0.44 |
| 2:C:884:ALA:HA | 2:C:908:LEU:HD22 | 2.00 | 0.44 |
| 2:C:2383:GLU:OE1 | 2:C:2386:ARG:NH2 | 2.51 | 0.44 |
| 2:D:2972:GLN:O | 2:D:2975:ILE:HG22 | 2.18 | 0.43 |
| 2:A:459:GLU:CD | 2:A:459:GLU:H | 2.25 | 0.43 |
| 2:A:463:GLU:HG3 | 2:A:3711:LEU:HD13 | 2.00 | 0.43 |
| 2:A:2187:MET:HE2 | 2:A:2236:PHE:HA | 1.99 | 0.43 |
| 2:A:3041:THR:OG1 | 2:A:3081:VAL:HG21 | 2.16 | 0.43 |
| 2:A:4024:LYS:N | 2:A:4142:ILE:HD13 | 2.33 | 0.43 |
| 2:B:862:ILE:HG22 | 2:B:931:LYS:HG2 | 1.99 | 0.43 |
| 2:B:865:PRO:CD | 2:B:868:LEU:HB2 | 2.44 | 0.43 |
| 2:B:2972:GLN:O | 2:B:2975:ILE:HG22 | 2.18 | 0.43 |
| 2:B:3105:GLU:HA | 2:B:3108:VAL:HG22 | 2.00 | 0.43 |
| 2:B:3293:PRO:O | 2:B:3295:PRO:CD | 2.66 | 0.43 |
| 2:B:3894:LEU:HD13 | 2:B:3902:PHE:CZ | 2.52 | 0.43 |
| 2:B:4543:GLU:O | 2:B:4547:VAL:HG23 | 2.18 | 0.43 |
| 2:C:888:ILE:CG1 | 2:C:960:TYR:HA | 2.47 | 0.43 |
| 2:C:973:LEU:CB | 2:C:976:VAL:HG23 | 2.46 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:1047:LEU:HA | 2:C:1050:TYR:CD2 | 2.53 | 0.43 |
| 2:C:3267:MET:HG3 | 2:C:3267:MET:O | 2.18 | 0.43 |
| 2:C:3294:PRO:HB2 | 2:C:3297:LEU:HB3 | 1.99 | 0.43 |
| 2:C:3868:VAL:HG12 | 2:C:3870:ASN:H | 1.83 | 0.43 |
| 2:C:4869:GLU:OE1 | 2:C:4869:GLU:HA | 2.18 | 0.43 |
| 2:D:34:LEU:HD23 | 2:D:35:LYS:N | 2.33 | 0.43 |
| 2:D:902:LYS:HA | 2:D:902:LYS:HD2 | 1.55 | 0.43 |
| 2:D:2187:MET:HE2 | 2:D:2236:PHE:HA | 1.99 | 0.43 |
| 2:A:875:LEU:HD12 | 2:A:878:ASN:HD22 | 1.83 | 0.43 |
| 2:A:978:LEU:HD11 | 2:A:1044:VAL:HG11 | 1.99 | 0.43 |
| 2:A:1742:GLU:OE1 | 2:A:1742:GLU:N | 2.45 | 0.43 |
| 2:A:3226:ARG:HB3 | 2:A:3226:ARG:CZ | 2.48 | 0.43 |
| 2:A:3294:PRO:HB2 | 2:A:3297:LEU:HB3 | 1.99 | 0.43 |
| 2:A:3820:LEU:HD13 | 2:A:3902:PHE:HD1 | 1.81 | 0.43 |
| 2:B:308:ALA:HB1 | 2:B:313:THR:HG21 | 2.01 | 0.43 |
| 2:B:2782:ILE:O | 2:B:2783:ASP:C | 2.61 | 0.43 |
| 2:B:3546:THR:HG22 | 2:B:3547:ASP:N | 2.33 | 0.43 |
| 2:B:3820:LEU:HD13 | 2:B:3902:PHE:HD1 | 1.81 | 0.43 |
| 2:B:4854:PHE:O | 2:B:4858:ARG:NH1 | 2.50 | 0.43 |
| 2:C:707:GLY:N | 2:C:710:ASP:OD2 | 2.44 | 0.43 |
| 2:C:930:LEU:O | 2:C:934:LEU:HD22 | 2.18 | 0.43 |
| 2:C:2254:HIS:O | 2:C:2255:LEU:C | 2.60 | 0.43 |
| 2:C:3291:GLU:OE2 | 2:C:3310:SER:N | 2.38 | 0.43 |
| 2:C:3546:THR:HG22 | 2:C:3547:ASP:N | 2.33 | 0.43 |
| 2:C:3594:VAL:O | 2:C:3597:VAL:HG12 | 2.19 | 0.43 |
| 2:D:884:ALA:HA | 2:D:908:LEU:HD22 | 2.00 | 0.43 |
| 2:D:3267:MET:HG3 | 2:D:3267:MET:O | 2.18 | 0.43 |
| 2:D:4086:ASP:OD2 | 2:D:4088:ARG:NH2 | 2.50 | 0.43 |
| 2:A:652:GLY:N | 2:A:659:GLN:OE1 | 2.46 | 0.43 |
| 2:A:884:ALA:HA | 2:A:908:LEU:HD22 | 2.00 | 0.43 |
| 2:A:2753:ASP:HA | 2:A:2756:ILE:HD12 | 1.99 | 0.43 |
| 2:B:4214:LYS:O | 2:B:4218:ARG:HG3 | 2.18 | 0.43 |
| 2:C:11:GLU:OE1 | 2:C:12:VAL:N | 2.52 | 0.43 |
| 2:C:894:TYR:CB | 2:C:964:ASN:HB3 | 2.48 | 0.43 |
| 2:C:2314:LEU:HD12 | 2:C:2319:TYR:CG | 2.53 | 0.43 |
| 2:C:3377:GLU:O | 2:C:3380:LEU:HG | 2.18 | 0.43 |
| 2:C:3453:LYS:O | 2:C:3456:GLU:HG3 | 2.18 | 0.43 |
| 2:D:3294:PRO:HB2 | 2:D:3297:LEU:HB3 | 1.99 | 0.43 |
| 2:A:296:GLU:OE1 | 2:A:296:GLU:N | 2.37 | 0.43 |
| 2:A:308:ALA:HB1 | 2:A:313:THR:HG21 | 2.00 | 0.43 |
| 2:A:952:LYS:HZ3 | 2:A:952:LYS:HG2 | 1.65 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:3130:LEU:O | 2:A:3133:THR:OG1 | 2.36 | 0.43 |
| 7:A:8006:PCW:H341 | 2:B:4855:ASN:CG | 2.44 | 0.43 |
| 2:B:3198:LEU:HD11 | 2:B:3202:MET:CE | 2.47 | 0.43 |
| 2:B:4187:MET:HE3 | 2:B:4191:ARG:HA | 2.00 | 0.43 |
| 2:C:605:CYS:HB2 | 2:C:608:CYS:H | 1.84 | 0.43 |
| 2:C:2241:CYS:SG | 2:C:2251:MET:HG3 | 2.59 | 0.43 |
| 2:C:4024:LYS:N | 2:C:4142:ILE:HD13 | 2.33 | 0.43 |
| 2:D:470:ARG:NE | 2:D:3713:GLU:OE1 | 2.42 | 0.43 |
| 2:D:875:LEU:HD12 | 2:D:878:ASN:HD22 | 1.83 | 0.43 |
| 2:D:877:GLU:HA | 2:D:911:PHE:CE2 | 2.54 | 0.43 |
| 2:A:11:GLU:OE1 | 2:A:12:VAL:N | 2.52 | 0.43 |
| 2:A:930:LEU:O | 2:A:934:LEU:HD22 | 2.18 | 0.43 |
| 2:A:3267:MET:HG3 | 2:A:3267:MET:O | 2.18 | 0.43 |
| 2:B:953:LYS:HE2 | 2:B:953:LYS:HB2 | 1.84 | 0.43 |
| 2:B:1478:GLY:HA2 | 2:B:1485:HIS:H | 1.82 | 0.43 |
| 2:B:3267:MET:O | 2:B:3267:MET:HG3 | 2.18 | 0.43 |
| 2:C:933:LEU:HD22 | 2:C:1054:ILE:HG21 | 2.00 | 0.43 |
| 2:C:2234:CYS:HB3 | 2:C:2238:CYS:HB3 | 1.55 | 0.43 |
| 2:C:3105:GLU:HA | 2:C:3108:VAL:HG22 | 2.00 | 0.43 |
| 2:C:3446:TRP:HZ3 | 2:C:3610:THR:HG22 | 1.83 | 0.43 |
| 2:D:2241:CYS:SG | 2:D:2251:MET:HG3 | 2.59 | 0.43 |
| 2:D:3868:VAL:HG12 | 2:D:3870:ASN:H | 1.83 | 0.43 |
| 2:A:297:ASP:N | 2:A:297:ASP:OD1 | 2.52 | 0.43 |
| 2:A:978:LEU:HD21 | 2:A:1044:VAL:HG12 | 1.99 | 0.43 |
| 2:A:2254:HIS:O | 2:A:2255:LEU:C | 2.60 | 0.43 |
| 2:A:2314:LEU:HD12 | 2:A:2319:TYR:CG | 2.53 | 0.43 |
| 2:A:2413:GLU:HG3 | 2:A:2413:GLU:O | 2.17 | 0.43 |
| 2:A:2875:MET:HB3 | 2:A:2940:ARG:HD2 | 1.99 | 0.43 |
| 2:A:3105:GLU:HA | 2:A:3108:VAL:HG22 | 2.00 | 0.43 |
| 2:A:3319:ASN:O | 2:A:3323:ILE:HG12 | 2.19 | 0.43 |
| 2:A:3546:THR:HG22 | 2:A:3547:ASP:H | 1.83 | 0.43 |
| 2:A:3580:VAL:HB | 2:A:3583:ARG:HD3 | 2.00 | 0.43 |
| 2:B:930:LEU:O | 2:B:934:LEU:HD22 | 2.18 | 0.43 |
| 2:B:3108:VAL:HG12 | 2:B:3176:LEU:CD1 | 2.49 | 0.43 |
| 2:C:862:ILE:HD13 | 2:C:931:LYS:O | 2.18 | 0.43 |
| 2:C:3293:PRO:O | 2:C:3295:PRO:CD | 2.66 | 0.43 |
| 2:C:4214:LYS:O | 2:C:4218:ARG:HG3 | 2.18 | 0.43 |
| 2:D:916:GLU:N | 2:D:917:PRO:CD | 2.82 | 0.43 |
| 2:D:930:LEU:O | 2:D:934:LEU:HD22 | 2.18 | 0.43 |
| 2:D:2782:ILE:O | 2:D:2783:ASP:C | 2.61 | 0.43 |
| 2:D:3587:ALA:O | 2:D:3593:ILE:HD11 | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:956:LEU:HD22 | 2:A:957:PRO:HD2 | 2.01 | 0.43 |
| 2:A:3377:GLU:O | 2:A:3380:LEU:HG | 2.18 | 0.43 |
| 2:A:3894:LEU:CB | 2:A:3902:PHE:CE2 | 3.02 | 0.43 |
| 2:A:4671:ARG:NH1 | 2:A:4700:ASP:OD1 | 2.51 | 0.43 |
| 2:B:2914:ALA:O | 2:B:2917:LYS:HB2 | 2.19 | 0.43 |
| 2:B:4543:GLU:OE1 | 2:B:4543:GLU:HA | 2.19 | 0.43 |
| 2:C:2914:ALA:O | 2:C:2917:LYS:HB2 | 2.19 | 0.43 |
| 2:C:3324:ILE:HG21 | 2:C:3409:LEU:HD21 | 2.01 | 0.43 |
| 2:C:4688:GLU:O | 2:C:4689:GLN:NE2 | 2.52 | 0.43 |
| 2:D:870:ARG:NH2 | 2:D:874:LYS:HD3 | 2.31 | 0.43 |
| 2:D:2872:LEU:O | 2:D:2875:MET:HG2 | 2.19 | 0.43 |
| 2:D:3546:THR:HG22 | 2:D:3547:ASP:N | 2.33 | 0.43 |
| 2:D:3594:VAL:O | 2:D:3597:VAL:HG12 | 2.19 | 0.43 |
| 2:D:3756:PHE:HA | 2:D:3759:LYS:HZ2 | 1.83 | 0.43 |
| 2:A:872:ARG:HH22 | 2:A:923:LEU:HD23 | 1.84 | 0.43 |
| 2:A:877:GLU:HA | 2:A:911:PHE:CE2 | 2.54 | 0.43 |
| 2:A:894:TYR:CB | 2:A:964:ASN:HB3 | 2.48 | 0.43 |
| 2:A:916:GLU:N | 2:A:917:PRO:CD | 2.82 | 0.43 |
| 2:A:933:LEU:HD22 | 2:A:1054:ILE:HG21 | 2.00 | 0.43 |
| 2:A:2872:LEU:O | 2:A:2875:MET:HG2 | 2.19 | 0.43 |
| 2:B:1273:LEU:HD22 | 2:B:1290:LEU:HD11 | 2.01 | 0.43 |
| 2:B:2875:MET:HB3 | 2:B:2940:ARG:HD2 | 1.99 | 0.43 |
| 2:B:3324:ILE:HG21 | 2:B:3409:LEU:HD21 | 2.01 | 0.43 |
| 2:B:4088:ARG:HH12 | 2:B:4090:LEU:HD12 | 1.82 | 0.43 |
| 2:C:952:LYS:HZ3 | 2:C:952:LYS:HG2 | 1.66 | 0.43 |
| 2:C:956:LEU:HD12 | 2:C:968:PRO:CD | 2.44 | 0.43 |
| 1:H:33:ASP:OD2 | 1:H:33:ASP:C | 2.60 | 0.43 |
| 2:D:11:GLU:OE1 | 2:D:12:VAL:N | 2.52 | 0.43 |
| 2:D:605:CYS:HB2 | 2:D:608:CYS:H | 1.84 | 0.43 |
| 2:D:916:GLU:HA | 2:D:919:ARG:HD2 | 2.01 | 0.43 |
| 2:D:1031:ALA:O | 2:D:1034:ARG:HG2 | 2.19 | 0.43 |
| 2:D:2269:GLN:HG3 | 2:D:2269:GLN:O | 2.19 | 0.43 |
| 2:D:2314:LEU:HD12 | 2:D:2319:TYR:CG | 2.53 | 0.43 |
| 2:D:2914:ALA:O | 2:D:2917:LYS:HB2 | 2.19 | 0.43 |
| 2:D:3546:THR:HG22 | 2:D:3547:ASP:H | 1.84 | 0.43 |
| 2:A:916:GLU:HA | 2:A:919:ARG:HD2 | 2.01 | 0.43 |
| 2:A:2782:ILE:O | 2:A:2783:ASP:C | 2.61 | 0.43 |
| 2:A:3453:LYS:O | 2:A:3456:GLU:HG3 | 2.18 | 0.43 |
| 2:A:4869:GLU:OE1 | 2:A:4869:GLU:HA | 2.18 | 0.43 |
| 2:B:877:GLU:HA | 2:B:911:PHE:CE2 | 2.54 | 0.43 |
| 2:B:881:GLU:HB3 | 2:B:970:PRO:N | 2.34 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:308:ALA:HB1 | 2:C:313:THR:HG21 | 2.00 | 0.43 |
| 2:C:978:LEU:HD11 | 2:C:1044:VAL:HG11 | 1.99 | 0.43 |
| 2:C:2519:LEU:O | 2:C:2523:LEU:HD13 | 2.19 | 0.43 |
| 2:C:2782:ILE:O | 2:C:2783:ASP:C | 2.61 | 0.43 |
| 2:C:4187:MET:HE3 | 2:C:4191:ARG:HA | 2.00 | 0.43 |
| 1:G:77:ILE:O | 1:G:97:THR:HG23 | 2.19 | 0.43 |
| 2:D:791:ARG:HA | 2:D:1627:TRP:O | 2.19 | 0.43 |
| 2:D:872:ARG:HH12 | 2:D:923:LEU:HB3 | 1.82 | 0.43 |
| 2:D:973:LEU:CB | 2:D:976:VAL:HG23 | 2.46 | 0.43 |
| 2:D:2519:LEU:O | 2:D:2523:LEU:HD13 | 2.19 | 0.43 |
| 2:D:3108:VAL:HG12 | 2:D:3176:LEU:CD1 | 2.49 | 0.43 |
| 2:D:3324:ILE:HG21 | 2:D:3409:LEU:HD21 | 2.01 | 0.43 |
| 2:D:3399:PHE:HB2 | 2:D:3455:GLU:HG3 | 2.01 | 0.43 |
| 2:A:3756:PHE:HA | 2:A:3759:LYS:HZ2 | 1.83 | 0.43 |
| 2:B:952:LYS:HZ3 | 2:B:952:LYS:HG2 | 1.65 | 0.43 |
| 2:B:1155:ASP:OD1 | 2:B:1157:THR:OG1 | 2.32 | 0.43 |
| 2:B:2768:ALA:HA | 2:B:2771:LYS:HE3 | 2.01 | 0.43 |
| 2:B:3556:ASN:OD1 | 2:B:3556:ASN:C | 2.62 | 0.43 |
| 2:C:872:ARG:HH12 | 2:C:923:LEU:HB3 | 1.82 | 0.43 |
| 2:C:1273:LEU:HD22 | 2:C:1290:LEU:HD11 | 2.01 | 0.43 |
| 2:D:707:GLY:N | 2:D:710:ASP:OD2 | 2.44 | 0.42 |
| 2:D:978:LEU:HD21 | 2:D:1044:VAL:HG12 | 1.99 | 0.42 |
| 2:D:3293:PRO:O | 2:D:3295:PRO:CD | 2.66 | 0.42 |
| 2:A:34:LEU:HD23 | 2:A:35:LYS:N | 2.33 | 0.42 |
| 2:A:2241:CYS:SG | 2:A:2251:MET:HG3 | 2.59 | 0.42 |
| 2:A:2519:LEU:O | 2:A:2523:LEU:HD13 | 2.19 | 0.42 |
| 2:A:3285:TRP:HB3 | 2:A:3306:THR:HG21 | 2.01 | 0.42 |
| 2:A:4543:GLU:OE1 | 2:A:4543:GLU:HA | 2.19 | 0.42 |
| 2:B:875:LEU:HD12 | 2:B:878:ASN:HD22 | 1.83 | 0.42 |
| 2:B:932:THR:HG23 | 2:B:989:LEU:HD22 | 2.00 | 0.42 |
| 2:B:2519:LEU:O | 2:B:2523:LEU:HD13 | 2.19 | 0.42 |
| 2:B:2794:PRO:O | 2:B:2798:PHE:N | 2.41 | 0.42 |
| 2:B:3453:LYS:O | 2:B:3456:GLU:HG3 | 2.18 | 0.42 |
| 2:B:4625:MET:HA | 2:B:4625:MET:HE2 | 2.01 | 0.42 |
| 2:C:791:ARG:HA | 2:C:1627:TRP:O | 2.19 | 0.42 |
| 2:C:875:LEU:HD12 | 2:C:878:ASN:HD22 | 1.83 | 0.42 |
| 2:C:932:THR:HG23 | 2:C:989:LEU:HD22 | 2.00 | 0.42 |
| 2:C:1857:SER:OG | 2:C:1860:ASP:OD1 | 2.35 | 0.42 |
| 2:C:4671:ARG:NH1 | 2:C:4700:ASP:OD1 | 2.51 | 0.42 |
| 1:F:33:ASP:OD2 | 1:F:33:ASP:C | 2.60 | 0.42 |
| 2:D:3366:LEU:HD13 | 2:D:3406:LEU:HD23 | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:4214:LYS:O | 2:D:4218:ARG:HG3 | 2.18 | 0.42 |
| 2:A:3110:ASN:ND2 | 2:A:3126:VAL:HG13 | 2.34 | 0.42 |
| 2:A:4214:LYS:O | 2:A:4218:ARG:HG3 | 2.18 | 0.42 |
| 2:B:948:GLU:HG2 | 2:B:1050:TYR:HA | 2.01 | 0.42 |
| 2:B:2563:ILE:HG22 | 2:B:2611:LEU:HD11 | 2.01 | 0.42 |
| 2:B:3110:ASN:ND2 | 2:B:3126:VAL:HG13 | 2.34 | 0.42 |
| 2:B:3160:ASP:O | 2:B:3164:VAL:HG23 | 2.19 | 0.42 |
| 2:B:3594:VAL:O | 2:B:3597:VAL:HG12 | 2.19 | 0.42 |
| 2:C:216:THR:OG1 | 2:C:219:HIS:CD2 | 2.73 | 0.42 |
| 2:C:877:GLU:HA | 2:C:911:PHE:CE2 | 2.54 | 0.42 |
| 2:C:881:GLU:HB3 | 2:C:970:PRO:N | 2.34 | 0.42 |
| 2:C:3108:VAL:HG12 | 2:C:3176:LEU:CD1 | 2.49 | 0.42 |
| 2:C:3110:ASN:ND2 | 2:C:3126:VAL:HG13 | 2.34 | 0.42 |
| 2:C:3410:TYR:N | 2:C:3411:PRO:HD2 | 2.34 | 0.42 |
| 2:C:3962:LYS:HG3 | 2:C:4025:ASP:OD1 | 2.20 | 0.42 |
| 2:D:872:ARG:HH22 | 2:D:923:LEU:HD23 | 1.84 | 0.42 |
| 2:D:956:LEU:HD22 | 2:D:957:PRO:HD2 | 2.01 | 0.42 |
| 2:D:3055:VAL:HG23 | 2:D:3062:ALA:HB1 | 2.02 | 0.42 |
| 2:D:3105:GLU:HA | 2:D:3108:VAL:HG22 | 2.00 | 0.42 |
| 2:D:3130:LEU:O | 2:D:3133:THR:OG1 | 2.36 | 0.42 |
| 2:D:3894:LEU:CB | 2:D:3902:PHE:CE2 | 3.02 | 0.42 |
| 2:D:4625:MET:HE2 | 2:D:4625:MET:HA | 2.01 | 0.42 |
| 2:A:3587:ALA:O | 2:A:3593:ILE:HD11 | 2.19 | 0.42 |
| 2:B:11:GLU:OE1 | 2:B:12:VAL:N | 2.52 | 0.42 |
| 2:B:894:TYR:CB | 2:B:964:ASN:HB3 | 2.48 | 0.42 |
| 2:B:2254:HIS:O | 2:B:2255:LEU:C | 2.60 | 0.42 |
| 2:B:2269:GLN:O | 2:B:2269:GLN:HG3 | 2.19 | 0.42 |
| 2:B:3962:LYS:HG3 | 2:B:4025:ASP:OD1 | 2.20 | 0.42 |
| 2:C:859:THR:HG21 | 2:C:932:THR:HA | 2.01 | 0.42 |
| 2:C:925:MET:O | 2:C:929:THR:HG23 | 2.20 | 0.42 |
| 2:C:2768:ALA:HA | 2:C:2771:LYS:HE3 | 2.01 | 0.42 |
| 2:C:3160:ASP:O | 2:C:3164:VAL:HG23 | 2.19 | 0.42 |
| 2:C:3366:LEU:HD13 | 2:C:3406:LEU:HD23 | 2.01 | 0.42 |
| 2:D:652:GLY:N | 2:D:659:GLN:OE1 | 2.46 | 0.42 |
| 2:D:881:GLU:HB3 | 2:D:970:PRO:N | 2.34 | 0.42 |
| 2:D:894:TYR:CB | 2:D:964:ASN:HB3 | 2.48 | 0.42 |
| 2:D:1480:GLU:OE1 | 2:D:1480:GLU:N | 2.43 | 0.42 |
| 2:D:1742:GLU:OE1 | 2:D:1742:GLU:N | 2.45 | 0.42 |
| 2:D:3110:ASN:ND2 | 2:D:3126:VAL:HG13 | 2.34 | 0.42 |
| 2:D:3285:TRP:HB3 | 2:D:3306:THR:HG21 | 2.02 | 0.42 |
| 2:D:3319:ASN:O | 2:D:3323:ILE:HG12 | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:875:LEU:HD12 | 2:A:875:LEU:O | 2.19 | 0.42 |
| 2:A:2314:LEU:HD11 | 2:A:2417:VAL:CG1 | 2.50 | 0.42 |
| 2:A:3055:VAL:HG23 | 2:A:3062:ALA:HB1 | 2.01 | 0.42 |
| 2:A:3594:VAL:O | 2:A:3597:VAL:HG12 | 2.19 | 0.42 |
| 2:A:4543:GLU:O | 2:A:4547:VAL:HG23 | 2.18 | 0.42 |
| 2:B:605:CYS:HB2 | 2:B:608:CYS:H | 1.84 | 0.42 |
| 2:B:875:LEU:HD12 | 2:B:875:LEU:O | 2.19 | 0.42 |
| 2:B:951:LEU:H | 2:B:951:LEU:HG | 1.70 | 0.42 |
| 2:B:961:MET:CG | 2:B:965:GLY:HA2 | 2.43 | 0.42 |
| 2:B:1031:ALA:O | 2:B:1034:ARG:HG2 | 2.19 | 0.42 |
| 2:B:2241:CYS:SG | 2:B:2251:MET:HG3 | 2.59 | 0.42 |
| 2:C:902:LYS:HA | 2:C:902:LYS:HD2 | 1.55 | 0.42 |
| 2:C:916:GLU:N | 2:C:917:PRO:CD | 2.82 | 0.42 |
| 2:C:3285:TRP:HB3 | 2:C:3306:THR:HG21 | 2.02 | 0.42 |
| 2:C:3587:ALA:O | 2:C:3593:ILE:HD11 | 2.19 | 0.42 |
| 1:G:57:ILE:CG1 | 1:G:60:TRP:HD1 | 2.32 | 0.42 |
| 2:D:308:ALA:HB1 | 2:D:313:THR:HG21 | 2.01 | 0.42 |
| 2:D:933:LEU:HD22 | 2:D:1054:ILE:HG21 | 2.00 | 0.42 |
| 2:D:4649:THR:OG1 | 2:D:4801:HIS:CD2 | 2.73 | 0.42 |
| 2:A:902:LYS:CE | 2:A:904:LEU:HD21 | 2.39 | 0.42 |
| 2:A:2623:LEU:O | 2:A:2627:LEU:HD13 | 2.19 | 0.42 |
| 2:A:4625:MET:HE2 | 2:A:4625:MET:HA | 2.01 | 0.42 |
| 2:B:859:THR:HG21 | 2:B:932:THR:HA | 2.01 | 0.42 |
| 2:B:872:ARG:HH22 | 2:B:923:LEU:HD23 | 1.84 | 0.42 |
| 2:B:3580:VAL:HB | 2:B:3583:ARG:HD3 | 2.00 | 0.42 |
| 2:C:1031:ALA:O | 2:C:1034:ARG:HG2 | 2.19 | 0.42 |
| 2:C:2269:GLN:HG3 | 2:C:2269:GLN:O | 2.19 | 0.42 |
| 2:C:3319:ASN:O | 2:C:3323:ILE:HG12 | 2.19 | 0.42 |
| 1:F:80:ASP:OD2 | 1:F:81:TYR:CD1 | 2.73 | 0.42 |
| 2:D:3410:TYR:N | 2:D:3411:PRO:HD2 | 2.34 | 0.42 |
| 2:A:1153:MET:HE1 | 2:A:1164:THR:HG23 | 2.02 | 0.42 |
| 2:A:2269:GLN:HG3 | 2:A:2269:GLN:O | 2.19 | 0.42 |
| 2:A:2768:ALA:HA | 2:A:2771:LYS:HE3 | 2.01 | 0.42 |
| 2:A:2794:PRO:O | 2:A:2798:PHE:N | 2.41 | 0.42 |
| 2:A:3324:ILE:HG21 | 2:A:3409:LEU:HD21 | 2.01 | 0.42 |
| 2:A:4649:THR:OG1 | 2:A:4801:HIS:CD2 | 2.73 | 0.42 |
| 2:A:4893:GLY:N | 2:A:4897:ASP:OD2 | 2.47 | 0.42 |
| 2:B:2383:GLU:OE1 | 2:B:2386:ARG:NH2 | 2.51 | 0.42 |
| 2:B:2623:LEU:O | 2:B:2627:LEU:HD13 | 2.19 | 0.42 |
| 2:C:978:LEU:HD22 | 2:C:978:LEU:HA | 1.78 | 0.42 |
| 2:C:2270:GLY:O | 2:C:2272:THR:HG23 | 2.20 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:C:4543:GLU:OE1 | 2:C:4543:GLU:HA | 2.19 | 0.42 |
| 1:E:77:ILE:O | 1:E:97:THR:HG23 | 2.19 | 0.42 |
| 2:D:216:THR:OG1 | 2:D:219:HIS:CD2 | 2.73 | 0.42 |
| 2:D:1428:ILE:HG23 | 2:D:1429:LEU:HD22 | 2.01 | 0.42 |
| 2:D:2314:LEU:HD11 | 2:D:2417:VAL:CG1 | 2.50 | 0.42 |
| 2:D:3962:LYS:HG3 | 2:D:4025:ASP:OD1 | 2.20 | 0.42 |
| 2:A:791:ARG:HA | 2:A:1627:TRP:O | 2.19 | 0.42 |
| 2:A:881:GLU:HB3 | 2:A:970:PRO:N | 2.34 | 0.42 |
| 2:A:948:GLU:HG2 | 2:A:1050:TYR:HA | 2.02 | 0.42 |
| 2:A:973:LEU:CB | 2:A:976:VAL:HG23 | 2.46 | 0.42 |
| 2:A:1031:ALA:O | 2:A:1034:ARG:HG2 | 2.19 | 0.42 |
| 2:A:2563:ILE:HG22 | 2:A:2611:LEU:HD11 | 2.01 | 0.42 |
| 2:A:3108:VAL:HG12 | 2:A:3176:LEU:CD1 | 2.49 | 0.42 |
| 2:A:3160:ASP:O | 2:A:3164:VAL:HG23 | 2.20 | 0.42 |
| 2:A:3366:LEU:HD13 | 2:A:3406:LEU:HD23 | 2.01 | 0.42 |
| 2:B:1153:MET:HE1 | 2:B:1164:THR:HG23 | 2.02 | 0.42 |
| 2:B:3285:TRP:HB3 | 2:B:3306:THR:HG21 | 2.02 | 0.42 |
| 2:B:3443:PHE:CD2 | 2:B:3515:LEU:HD22 | 2.55 | 0.42 |
| 2:B:4688:GLU:O | 2:B:4689:GLN:NE2 | 2.52 | 0.42 |
| 2:C:872:ARG:HH22 | 2:C:923:LEU:HD23 | 1.84 | 0.42 |
| 2:C:956:LEU:HD22 | 2:C:957:PRO:HD2 | 2.01 | 0.42 |
| 2:C:3999:PHE:HD1 | 2:C:4019:LEU:HD11 | 1.85 | 0.42 |
| 2:D:925:MET:O | 2:D:929:THR:HG23 | 2.20 | 0.42 |
| 2:D:2623:LEU:O | 2:D:2627:LEU:HD13 | 2.19 | 0.42 |
| 2:D:3160:ASP:O | 2:D:3164:VAL:HG23 | 2.19 | 0.42 |
| 2:D:3556:ASN:OD1 | 2:D:3556:ASN:C | 2.62 | 0.42 |
| 2:D:4688:GLU:O | 2:D:4689:GLN:NE2 | 2.52 | 0.42 |
| 2:A:859:THR:HG21 | 2:A:932:THR:HA | 2.01 | 0.42 |
| 2:A:1273:LEU:HD22 | 2:A:1290:LEU:HD11 | 2.01 | 0.42 |
| 2:B:955:LYS:HB3 | 2:B:955:LYS:HE3 | 1.61 | 0.42 |
| 2:B:2270:GLY:O | 2:B:2272:THR:HG23 | 2.20 | 0.42 |
| 2:B:2413:GLU:O | 2:B:2416:ARG:N | 2.53 | 0.42 |
| 2:B:2922:GLU:HA | 2:B:2925:GLN:HG2 | 2.02 | 0.42 |
| 2:B:3410:TYR:N | 2:B:3411:PRO:HD2 | 2.34 | 0.42 |
| 2:C:875:LEU:HD12 | 2:C:875:LEU:O | 2.19 | 0.42 |
| 2:C:3055:VAL:HG23 | 2:C:3062:ALA:HB1 | 2.02 | 0.42 |
| 2:C:3360:ILE:HB | 2:C:3361:PRO:HD3 | 2.02 | 0.42 |
| 2:C:3392:GLU:O | 2:C:3396:ARG:HG2 | 2.20 | 0.42 |
| 2:C:3974:GLY:N | 2:C:3975:PRO:HA | 2.35 | 0.42 |
| 1:H:77:ILE:O | 1:H:97:THR:HG23 | 2.20 | 0.42 |
| 1:H:80:ASP:OD2 | 1:H:81:TYR:CD1 | 2.73 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:784:PHE:CG | 2:D:788:ILE:HD11 | 2.55 | 0.42 |
| 2:D:870:ARG:HD3 | 2:D:1052:TYR:OH | 2.20 | 0.42 |
| 2:D:2270:GLY:O | 2:D:2272:THR:HG23 | 2.20 | 0.42 |
| 2:D:2876:ALA:HB1 | 2:D:2921:ARG:NH1 | 2.35 | 0.42 |
| 2:A:784:PHE:CG | 2:A:788:ILE:HD11 | 2.55 | 0.42 |
| 2:A:932:THR:HG23 | 2:A:989:LEU:HD22 | 2.00 | 0.42 |
| 2:A:1144:TRP:HB2 | 2:A:1148:ASP:HB2 | 2.02 | 0.42 |
| 2:A:1428:ILE:HG23 | 2:A:1429:LEU:HD22 | 2.01 | 0.42 |
| 2:A:2876:ALA:HB1 | 2:A:2921:ARG:NH1 | 2.35 | 0.42 |
| 2:A:2914:ALA:O | 2:A:2917:LYS:HB2 | 2.19 | 0.42 |
| 2:A:3399:PHE:HB2 | 2:A:3455:GLU:HG3 | 2.01 | 0.42 |
| 2:A:3403:CYS:SG | 2:A:3456:GLU:HA | 2.60 | 0.42 |
| 2:A:3859:LEU:HD11 | 2:A:3871:ARG:NH2 | 2.29 | 0.42 |
| 2:A:3999:PHE:HD1 | 2:A:4019:LEU:HD11 | 1.85 | 0.42 |
| 2:A:4187:MET:HE3 | 2:A:4191:ARG:HA | 2.00 | 0.42 |
| 2:B:784:PHE:CG | 2:B:788:ILE:HD11 | 2.55 | 0.42 |
| 2:B:874:LYS:HE3 | 2:B:875:LEU:N | 2.35 | 0.42 |
| 2:B:1064:VAL:HG13 | 2:B:1065:ASP:N | 2.35 | 0.42 |
| 2:B:1546:ASN:OD1 | 2:B:1546:ASN:O | 2.38 | 0.42 |
| 2:B:3130:LEU:O | 2:B:3133:THR:OG1 | 2.36 | 0.42 |
| 2:B:3587:ALA:O | 2:B:3593:ILE:HD11 | 2.19 | 0.42 |
| 2:C:2623:LEU:O | 2:C:2627:LEU:HD13 | 2.19 | 0.42 |
| 2:C:3546:THR:HG22 | 2:C:3547:ASP:H | 1.84 | 0.42 |
| 2:D:337:PRO:HA | 2:D:338:PRO:HD3 | 1.92 | 0.42 |
| 2:D:859:THR:HG21 | 2:D:932:THR:HA | 2.01 | 0.42 |
| 2:D:931:LYS:HB3 | 2:D:931:LYS:HE3 | 1.79 | 0.42 |
| 2:D:1127:GLY:HA3 | 2:D:1144:TRP:CE3 | 2.55 | 0.42 |
| 2:D:2635:ASN:OD1 | 2:D:2638:ALA:N | 2.53 | 0.42 |
| 2:D:2762:TYR:CZ | 2:D:2863:LEU:HG | 2.55 | 0.42 |
| 2:D:2771:LYS:HB3 | 2:D:2776:TRP:HB2 | 2.02 | 0.42 |
| 2:D:4187:MET:HE3 | 2:D:4191:ARG:HA | 2.00 | 0.42 |
| 2:D:4543:GLU:OE1 | 2:D:4543:GLU:HA | 2.19 | 0.42 |
| 2:A:605:CYS:HB2 | 2:A:608:CYS:H | 1.84 | 0.42 |
| 2:A:925:MET:O | 2:A:929:THR:HG23 | 2.20 | 0.42 |
| 2:A:3198:LEU:HD12 | 2:A:3198:LEU:O | 2.20 | 0.42 |
| 2:A:3556:ASN:OD1 | 2:A:3556:ASN:C | 2.62 | 0.42 |
| 2:A:4703:VAL:O | 2:A:4703:VAL:HG22 | 2.20 | 0.42 |
| 2:B:216:THR:OG1 | 2:B:219:HIS:CD2 | 2.73 | 0.42 |
| 2:B:297:ASP:OD1 | 2:B:297:ASP:N | 2.52 | 0.42 |
| 2:B:791:ARG:HA | 2:B:1627:TRP:O | 2.19 | 0.42 |
| 2:B:3267:MET:O | 2:B:3267:MET:CG | 2.68 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:3319:ASN:O | 2:B:3323:ILE:HG12 | 2.19 | 0.42 |
| 2:B:3360:ILE:HB | 2:B:3361:PRO:HD3 | 2.02 | 0.42 |
| 2:B:3974:GLY:N | 2:B:3975:PRO:HA | 2.35 | 0.42 |
| 2:B:3999:PHE:HD1 | 2:B:4019:LEU:HD11 | 1.85 | 0.42 |
| 2:B:4893:GLY:N | 2:B:4897:ASP:OD2 | 2.47 | 0.42 |
| 2:C:784:PHE:CG | 2:C:788:ILE:HD11 | 2.55 | 0.42 |
| 2:C:874:LYS:HE3 | 2:C:875:LEU:N | 2.35 | 0.42 |
| 2:C:1064:VAL:HG13 | 2:C:1065:ASP:N | 2.35 | 0.42 |
| 2:C:2563:ILE:HG22 | 2:C:2611:LEU:HD11 | 2.01 | 0.42 |
| 2:C:3367:ARG:NH1 | 2:C:3441:GLU:OE1 | 2.42 | 0.42 |
| 2:C:4625:MET:HE2 | 2:C:4625:MET:HA | 2.01 | 0.42 |
| 1:E:91:ILE:N | 1:E:91:ILE:HD12 | 2.35 | 0.41 |
| 2:D:1273:LEU:HD22 | 2:D:1290:LEU:HD11 | 2.01 | 0.41 |
| 2:D:3850:PHE:CZ | 2:D:3940:TYR:OH | 2.73 | 0.41 |
| 2:D:3999:PHE:HD1 | 2:D:4019:LEU:HD11 | 1.85 | 0.41 |
| 2:D:4854:PHE:O | 2:D:4858:ARG:NH1 | 2.50 | 0.41 |
| 2:A:1546:ASN:OD1 | 2:A:1546:ASN:O | 2.38 | 0.41 |
| 2:A:2779:GLY:HA3 | 2:A:2788:THR:HB | 2.01 | 0.41 |
| 2:A:3392:GLU:O | 2:A:3396:ARG:HG2 | 2.20 | 0.41 |
| 2:A:3443:PHE:CD2 | 2:A:3515:LEU:HD22 | 2.55 | 0.41 |
| 2:B:916:GLU:HA | 2:B:919:ARG:HD2 | 2.01 | 0.41 |
| 2:B:916:GLU:N | 2:B:917:PRO:CD | 2.82 | 0.41 |
| 2:B:1127:GLY:HA3 | 2:B:1144:TRP:CE3 | 2.55 | 0.41 |
| 2:B:3177:GLY:HA3 | 2:B:3269:HIS:CE1 | 2.55 | 0.41 |
| 2:B:3198:LEU:HD12 | 2:B:3198:LEU:O | 2.20 | 0.41 |
| 2:B:3366:LEU:HD13 | 2:B:3406:LEU:HD23 | 2.01 | 0.41 |
| 2:B:3399:PHE:HB2 | 2:B:3455:GLU:HG3 | 2.01 | 0.41 |
| 2:B:3403:CYS:SG | 2:B:3456:GLU:HA | 2.60 | 0.41 |
| 2:B:4578:TYR:HE1 | 2:B:4630:LEU:HD21 | 1.85 | 0.41 |
| 2:B:4909:LEU:HA | 2:B:4912:VAL:HG22 | 2.02 | 0.41 |
| 2:C:843:PRO:HG2 | 2:C:1072:ARG:O | 2.20 | 0.41 |
| 2:C:967:LYS:HZ1 | 2:C:969:ALA:HB2 | 1.84 | 0.41 |
| 2:C:1428:ILE:HG23 | 2:C:1429:LEU:HD22 | 2.01 | 0.41 |
| 2:C:3399:PHE:HB2 | 2:C:3455:GLU:HG3 | 2.01 | 0.41 |
| 2:C:4649:THR:OG1 | 2:C:4801:HIS:CD2 | 2.73 | 0.41 |
| 1:E:91:ILE:HD11 | 2:A:1685:ALA:HA | 2.01 | 0.41 |
| 1:G:2:GLY:N | 1:G:78:SER:OG | 2.41 | 0.41 |
| 2:D:297:ASP:OD1 | 2:D:297:ASP:N | 2.52 | 0.41 |
| 2:D:2334:ASP:HA | 2:D:2337:ARG:HD3 | 2.02 | 0.41 |
| 2:D:2383:GLU:OE1 | 2:D:2386:ARG:NH2 | 2.51 | 0.41 |
| 2:D:3360:ILE:HB | 2:D:3361:PRO:HD3 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:1470:VAL:HG13 | 2:A:1493:CYS:HB3 | 2.03 | 0.41 |
| 2:A:3177:GLY:HA3 | 2:A:3269:HIS:CE1 | 2.55 | 0.41 |
| 2:A:3850:PHE:CZ | 2:A:3940:TYR:OH | 2.73 | 0.41 |
| 2:A:3962:LYS:HG3 | 2:A:4025:ASP:OD1 | 2.20 | 0.41 |
| 2:B:1996:THR:O | 2:B:1997:ARG:C | 2.63 | 0.41 |
| 2:B:2876:ALA:HB1 | 2:B:2921:ARG:NH1 | 2.35 | 0.41 |
| 2:B:3239:GLU:O | 2:B:3240:MET:C | 2.63 | 0.41 |
| 2:B:3546:THR:HG22 | 2:B:3547:ASP:H | 1.84 | 0.41 |
| 2:B:4703:VAL:HG22 | 2:B:4703:VAL:O | 2.20 | 0.41 |
| 8:B:8008:A1BYZ:O7 | 8:B:8008:A1BYZ:C10 | 2.68 | 0.41 |
| 2:C:1996:THR:O | 2:C:1997:ARG:C | 2.63 | 0.41 |
| 2:C:2234:CYS:O | 2:C:2236:PHE:C | 2.63 | 0.41 |
| 2:C:2746:VAL:O | 2:C:2815:LYS:HE2 | 2.20 | 0.41 |
| 2:C:3202:MET:HG3 | 2:C:3204:VAL:H | 1.85 | 0.41 |
| 2:D:2768:ALA:HA | 2:D:2771:LYS:HE3 | 2.01 | 0.41 |
| 2:D:3198:LEU:HD12 | 2:D:3198:LEU:O | 2.20 | 0.41 |
| 2:D:3443:PHE:CD2 | 2:D:3515:LEU:HD22 | 2.55 | 0.41 |
| 2:A:216:THR:OG1 | 2:A:219:HIS:CD2 | 2.73 | 0.41 |
| 2:A:870:ARG:HD3 | 2:A:1052:TYR:OH | 2.20 | 0.41 |
| 2:A:2266:LEU:HD13 | 2:A:2327:CYS:HB3 | 2.02 | 0.41 |
| 2:A:2771:LYS:HB3 | 2:A:2776:TRP:HB2 | 2.02 | 0.41 |
| 2:A:3079:ARG:O | 2:A:3083:LYS:HG2 | 2.21 | 0.41 |
| 2:A:3410:TYR:N | 2:A:3411:PRO:HD2 | 2.34 | 0.41 |
| 2:B:956:LEU:HD22 | 2:B:957:PRO:HD2 | 2.01 | 0.41 |
| 2:B:1144:TRP:HB2 | 2:B:1148:ASP:HB2 | 2.02 | 0.41 |
| 2:B:2234:CYS:O | 2:B:2236:PHE:C | 2.63 | 0.41 |
| 2:B:2266:LEU:HD13 | 2:B:2327:CYS:HB3 | 2.03 | 0.41 |
| 2:B:2314:LEU:HD11 | 2:B:2417:VAL:CG1 | 2.50 | 0.41 |
| 2:B:2872:LEU:O | 2:B:2875:MET:HG2 | 2.19 | 0.41 |
| 2:B:3850:PHE:CZ | 2:B:3940:TYR:OH | 2.73 | 0.41 |
| 2:C:2872:LEU:O | 2:C:2875:MET:HG2 | 2.19 | 0.41 |
| 2:C:3894:LEU:CB | 2:C:3902:PHE:CE2 | 3.02 | 0.41 |
| 2:C:4909:LEU:HA | 2:C:4912:VAL:HG22 | 2.02 | 0.41 |
| 1:F:91:ILE:HD12 | 1:F:91:ILE:N | 2.35 | 0.41 |
| 2:D:566:TYR:O | 2:D:570:ILE:HG12 | 2.20 | 0.41 |
| 2:D:2234:CYS:O | 2:D:2236:PHE:C | 2.63 | 0.41 |
| 2:D:2563:ILE:HG22 | 2:D:2611:LEU:HD11 | 2.01 | 0.41 |
| 2:D:3008:ASN:OD1 | 2:D:3008:ASN:C | 2.63 | 0.41 |
| 2:A:874:LYS:HE3 | 2:A:875:LEU:N | 2.35 | 0.41 |
| 2:A:1996:THR:O | 2:A:1997:ARG:C | 2.63 | 0.41 |
| 2:A:4580:VAL:HG12 | 2:B:4875:ASP:O | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:4865:GLU:HA | 2:A:4865:GLU:OE2 | 2.21 | 0.41 |
| 2:A:4899:ILE:HG13 | 2:A:4911:ARG:NH2 | 2.35 | 0.41 |
| 2:B:843:PRO:HG2 | 2:B:1072:ARG:O | 2.20 | 0.41 |
| 2:B:967:LYS:HZ1 | 2:B:969:ALA:HB2 | 1.85 | 0.41 |
| 2:B:2975:ILE:HD11 | 2:B:3057:LEU:HD22 | 2.02 | 0.41 |
| 2:B:3055:VAL:HG23 | 2:B:3062:ALA:HB1 | 2.02 | 0.41 |
| 2:C:870:ARG:NH2 | 2:C:874:LYS:HD3 | 2.31 | 0.41 |
| 2:C:870:ARG:HD3 | 2:C:1052:TYR:OH | 2.20 | 0.41 |
| 2:C:2334:ASP:HA | 2:C:2337:ARG:HD3 | 2.03 | 0.41 |
| 2:C:2876:ALA:HB1 | 2:C:2921:ARG:NH1 | 2.35 | 0.41 |
| 2:C:2922:GLU:HA | 2:C:2925:GLN:HG2 | 2.02 | 0.41 |
| 2:C:3008:ASN:OD1 | 2:C:3008:ASN:C | 2.63 | 0.41 |
| 2:D:902:LYS:CE | 2:D:904:LEU:HD21 | 2.39 | 0.41 |
| 2:D:1144:TRP:HB2 | 2:D:1148:ASP:HB2 | 2.02 | 0.41 |
| 2:D:1546:ASN:OD1 | 2:D:1546:ASN:O | 2.38 | 0.41 |
| 2:D:3267:MET:O | 2:D:3267:MET:CG | 2.68 | 0.41 |
| 2:D:4703:VAL:HG22 | 2:D:4703:VAL:O | 2.20 | 0.41 |
| 2:A:951:LEU:H | 2:A:951:LEU:HG | 1.70 | 0.41 |
| 2:A:1127:GLY:HA3 | 2:A:1144:TRP:CE3 | 2.55 | 0.41 |
| 2:A:4578:TYR:HE1 | 2:A:4630:LEU:HD21 | 1.85 | 0.41 |
| 2:B:925:MET:O | 2:B:929:THR:HG23 | 2.20 | 0.41 |
| 2:B:1781:PRO:HA | 2:B:1782:PRO:HD3 | 1.97 | 0.41 |
| 2:B:3567:SER:HB3 | 2:B:3570:LEU:HD13 | 2.03 | 0.41 |
| 2:B:4934:ILE:H | 2:B:4934:ILE:HD12 | 1.86 | 0.41 |
| 2:C:916:GLU:HA | 2:C:919:ARG:HD2 | 2.01 | 0.41 |
| 2:C:1127:GLY:H | 2:C:1144:TRP:HZ3 | 1.68 | 0.41 |
| 2:C:3079:ARG:O | 2:C:3083:LYS:HG2 | 2.21 | 0.41 |
| 2:C:3403:CYS:SG | 2:C:3456:GLU:HA | 2.60 | 0.41 |
| 2:C:3443:PHE:CD2 | 2:C:3515:LEU:HD22 | 2.55 | 0.41 |
| 2:C:4578:TYR:HE1 | 2:C:4630:LEU:HD21 | 1.85 | 0.41 |
| 8:C:8008:A1BYZ:O7 | 8:C:8008:A1BYZ:C10 | 2.68 | 0.41 |
| 1:G:91:ILE:HD12 | 1:G:91:ILE:N | 2.35 | 0.41 |
| 2:D:875:LEU:HD12 | 2:D:875:LEU:O | 2.19 | 0.41 |
| 2:D:1064:VAL:HG13 | 2:D:1065:ASP:N | 2.35 | 0.41 |
| 2:D:2975:ILE:HD11 | 2:D:3057:LEU:HD22 | 2.02 | 0.41 |
| 2:D:3567:SER:HB3 | 2:D:3570:LEU:HD13 | 2.03 | 0.41 |
| 2:A:1064:VAL:HG13 | 2:A:1065:ASP:N | 2.35 | 0.41 |
| 2:A:2029:ARG:O | 2:A:2033:VAL:HG23 | 2.21 | 0.41 |
| 2:A:2234:CYS:O | 2:A:2236:PHE:C | 2.63 | 0.41 |
| 2:A:2874:ALA:O | 2:A:2878:GLN:OE1 | 2.39 | 0.41 |
| 2:A:2978:LEU:HA | 2:A:2981:VAL:HG22 | 2.03 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:3360:ILE:HB | 2:A:3361:PRO:HD3 | 2.02 | 0.41 |
| 2:A:3567:SER:HB3 | 2:A:3570:LEU:HD13 | 2.03 | 0.41 |
| 2:A:3896:GLU:HA | 2:A:3970:GLU:OE1 | 2.21 | 0.41 |
| 2:B:566:TYR:O | 2:B:570:ILE:HG12 | 2.20 | 0.41 |
| 2:B:859:THR:HG21 | 2:B:932:THR:CA | 2.51 | 0.41 |
| 2:B:1428:ILE:HG23 | 2:B:1429:LEU:HD22 | 2.01 | 0.41 |
| 2:B:1470:VAL:HG13 | 2:B:1493:CYS:HB3 | 2.03 | 0.41 |
| 2:B:2635:ASN:OD1 | 2:B:2638:ALA:N | 2.53 | 0.41 |
| 2:B:2762:TYR:CZ | 2:B:2863:LEU:HG | 2.55 | 0.41 |
| 2:C:859:THR:HG21 | 2:C:932:THR:CA | 2.51 | 0.41 |
| 2:C:902:LYS:CE | 2:C:904:LEU:HD21 | 2.39 | 0.41 |
| 2:C:948:GLU:HG2 | 2:C:1050:TYR:HA | 2.01 | 0.41 |
| 2:C:1144:TRP:HB2 | 2:C:1148:ASP:HB2 | 2.02 | 0.41 |
| 2:C:2413:GLU:O | 2:C:2416:ARG:N | 2.53 | 0.41 |
| 2:C:3239:GLU:O | 2:C:3240:MET:C | 2.63 | 0.41 |
| 2:D:1153:MET:HE1 | 2:D:1164:THR:HG23 | 2.02 | 0.41 |
| 2:D:1470:VAL:HG13 | 2:D:1493:CYS:HB3 | 2.03 | 0.41 |
| 2:D:2413:GLU:O | 2:D:2416:ARG:N | 2.53 | 0.41 |
| 2:D:2779:GLY:HA3 | 2:D:2788:THR:HB | 2.02 | 0.41 |
| 2:D:2782:ILE:O | 2:D:2783:ASP:OD1 | 2.39 | 0.41 |
| 2:D:3177:GLY:HA3 | 2:D:3269:HIS:CE1 | 2.55 | 0.41 |
| 2:D:3202:MET:HG3 | 2:D:3204:VAL:H | 1.85 | 0.41 |
| 2:D:3291:GLU:OE2 | 2:D:3310:SER:N | 2.38 | 0.41 |
| 2:D:3392:GLU:O | 2:D:3396:ARG:HG2 | 2.20 | 0.41 |
| 2:D:3403:CYS:SG | 2:D:3456:GLU:HA | 2.60 | 0.41 |
| 2:D:3936:PHE:CE2 | 2:D:3940:TYR:CE2 | 3.09 | 0.41 |
| 2:D:3974:GLY:N | 2:D:3975:PRO:HA | 2.35 | 0.41 |
| 2:A:2782:ILE:O | 2:A:2783:ASP:OD1 | 2.39 | 0.41 |
| 2:A:2975:ILE:HD11 | 2:A:3057:LEU:HD22 | 2.02 | 0.41 |
| 2:A:3057:LEU:HD23 | 2:A:3057:LEU:C | 2.45 | 0.41 |
| 2:B:2370:ARG:NH1 | 2:B:2373:GLY:O | 2.54 | 0.41 |
| 2:B:2779:GLY:HA3 | 2:B:2788:THR:HB | 2.02 | 0.41 |
| 2:B:3079:ARG:O | 2:B:3083:LYS:HG2 | 2.21 | 0.41 |
| 2:B:3170:LEU:CD1 | 2:B:3195:LEU:HD11 | 2.50 | 0.41 |
| 2:B:4649:THR:OG1 | 2:B:4801:HIS:CD2 | 2.73 | 0.41 |
| 2:C:2779:GLY:HA3 | 2:C:2788:THR:HB | 2.02 | 0.41 |
| 2:C:3556:ASN:OD1 | 2:C:3556:ASN:C | 2.62 | 0.41 |
| 2:C:3687:GLU:O | 2:C:3688:GLU:HB3 | 2.21 | 0.41 |
| 2:C:4934:ILE:H | 2:C:4934:ILE:HD12 | 1.86 | 0.41 |
| 2:D:296:GLU:OE1 | 2:D:296:GLU:N | 2.37 | 0.41 |
| 2:D:575:VAL:HA | 2:D:578:ILE:HG12 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:874:LYS:HE3 | 2:D:875:LEU:N | 2.35 | 0.41 |
| 2:D:1127:GLY:H | 2:D:1144:TRP:HZ3 | 1.68 | 0.41 |
| 2:D:2922:GLU:HA | 2:D:2925:GLN:HG2 | 2.02 | 0.41 |
| 2:D:3367:ARG:NH1 | 2:D:3441:GLU:OE1 | 2.42 | 0.41 |
| 2:D:4934:ILE:H | 2:D:4934:ILE:HD12 | 1.86 | 0.41 |
| 2:A:865:PRO:CD | 2:A:868:LEU:HB2 | 2.44 | 0.41 |
| 2:A:2635:ASN:OD1 | 2:A:2638:ALA:N | 2.53 | 0.41 |
| 2:A:3239:GLU:O | 2:A:3240:MET:C | 2.63 | 0.41 |
| 2:A:3291:GLU:OE2 | 2:A:3310:SER:N | 2.38 | 0.41 |
| 2:A:4173:ILE:H | 2:A:4173:ILE:HD12 | 1.86 | 0.41 |
| 2:A:4688:GLU:O | 2:A:4689:GLN:NE2 | 2.52 | 0.41 |
| 2:B:2186:ILE:HG21 | 2:B:2204:MET:HE1 | 2.03 | 0.41 |
| 2:B:3894:LEU:CB | 2:B:3902:PHE:CE2 | 3.02 | 0.41 |
| 2:B:3896:GLU:HA | 2:B:3970:GLU:OE1 | 2.21 | 0.41 |
| 2:B:5014:GLU:OE2 | 2:B:5014:GLU:HA | 2.21 | 0.41 |
| 2:C:2771:LYS:HB3 | 2:C:2776:TRP:HB2 | 2.02 | 0.41 |
| 2:C:2874:ALA:O | 2:C:2878:GLN:OE1 | 2.39 | 0.41 |
| 2:C:3177:GLY:HA3 | 2:C:3269:HIS:CE1 | 2.55 | 0.41 |
| 2:C:3567:SER:HB3 | 2:C:3570:LEU:HD13 | 2.03 | 0.41 |
| 2:C:4899:ILE:HG13 | 2:C:4911:ARG:NH2 | 2.35 | 0.41 |
| 1:H:91:ILE:N | 1:H:91:ILE:HD12 | 2.35 | 0.41 |
| 2:D:892:TRP:CZ3 | 2:D:905:HIS:HD2 | 2.39 | 0.41 |
| 2:D:948:GLU:HG2 | 2:D:1050:TYR:HA | 2.01 | 0.41 |
| 2:D:956:LEU:HD22 | 2:D:956:LEU:HA | 1.84 | 0.41 |
| 2:D:2029:ARG:O | 2:D:2033:VAL:HG23 | 2.21 | 0.41 |
| 2:D:2578:ILE:HG23 | 2:D:2579:MET:N | 2.36 | 0.41 |
| 2:D:2746:VAL:O | 2:D:2815:LYS:HE2 | 2.20 | 0.41 |
| 2:D:2978:LEU:O | 2:D:2982:VAL:HG23 | 2.21 | 0.41 |
| 2:D:3057:LEU:HD23 | 2:D:3057:LEU:C | 2.45 | 0.41 |
| 2:D:3170:LEU:CD1 | 2:D:3195:LEU:HD11 | 2.50 | 0.41 |
| 2:D:3553:PHE:O | 2:D:3556:ASN:OD1 | 2.39 | 0.41 |
| 2:D:4173:ILE:H | 2:D:4173:ILE:HD12 | 1.86 | 0.41 |
| 2:D:4800:GLY:HA2 | 2:D:4806:PHE:HB2 | 2.03 | 0.41 |
| 2:D:4865:GLU:HA | 2:D:4865:GLU:OE2 | 2.21 | 0.41 |
| 2:A:276:ARG:HE | 2:A:329:LYS:HD3 | 1.86 | 0.41 |
| 2:A:2270:GLY:O | 2:A:2272:THR:HG23 | 2.20 | 0.41 |
| 2:A:2668:THR:HG21 | 2:A:2673:LEU:HD21 | 2.03 | 0.41 |
| 2:A:2798:PHE:O | 2:A:2803:LYS:HD2 | 2.21 | 0.41 |
| 2:A:2922:GLU:HA | 2:A:2925:GLN:HG2 | 2.02 | 0.41 |
| 2:A:3202:MET:HG3 | 2:A:3204:VAL:H | 1.85 | 0.41 |
| 2:A:3534:ILE:CG1 | 2:A:3597:VAL:HG23 | 2.51 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:A:3553:PHE:O | 2:A:3556:ASN:OD1 | 2.39 | 0.41 |
| 2:A:3687:GLU:O | 2:A:3688:GLU:HB3 | 2.21 | 0.41 |
| 2:A:3974:GLY:N | 2:A:3975:PRO:HA | 2.35 | 0.41 |
| 2:A:4894:GLY:HA2 | 2:A:4923:ILE:HD11 | 2.03 | 0.41 |
| 2:A:4902:PRO:HB3 | 2:A:4911:ARG:HG2 | 2.03 | 0.41 |
| 2:A:4909:LEU:HA | 2:A:4912:VAL:HG22 | 2.02 | 0.41 |
| 2:A:4934:ILE:HD12 | 2:A:4934:ILE:H | 1.86 | 0.41 |
| 2:B:575:VAL:HA | 2:B:578:ILE:HG12 | 2.02 | 0.41 |
| 2:B:870:ARG:HD3 | 2:B:1052:TYR:OH | 2.20 | 0.41 |
| 2:B:898:ARG:HH12 | 2:B:907:CYS:CB | 2.34 | 0.41 |
| 2:B:971:LEU:H | 2:B:971:LEU:HG | 1.57 | 0.41 |
| 2:B:1127:GLY:H | 2:B:1144:TRP:HZ3 | 1.68 | 0.41 |
| 2:B:1742:GLU:OE1 | 2:B:1742:GLU:N | 2.45 | 0.41 |
| 2:B:2029:ARG:O | 2:B:2033:VAL:HG23 | 2.21 | 0.41 |
| 2:B:2746:VAL:O | 2:B:2815:LYS:HE2 | 2.20 | 0.41 |
| 2:B:3057:LEU:HD23 | 2:B:3057:LEU:C | 2.45 | 0.41 |
| 2:B:3291:GLU:OE2 | 2:B:3310:SER:N | 2.38 | 0.41 |
| 2:B:3553:PHE:O | 2:B:3556:ASN:OD1 | 2.39 | 0.41 |
| 2:B:3987:ARG:NH2 | 2:C:162:GLU:HA | 2.36 | 0.41 |
| 2:B:4723:LEU:HD22 | 2:B:4741:MET:HE2 | 2.03 | 0.41 |
| 2:B:4899:ILE:HG13 | 2:B:4911:ARG:NH2 | 2.35 | 0.41 |
| 2:C:505:ALA:HB2 | 2:C:513:ALA:HB2 | 2.03 | 0.41 |
| 2:C:1127:GLY:HA3 | 2:C:1144:TRP:CE3 | 2.55 | 0.41 |
| 2:C:1153:MET:HE1 | 2:C:1164:THR:HG23 | 2.02 | 0.41 |
| 2:C:1546:ASN:OD1 | 2:C:1546:ASN:O | 2.38 | 0.41 |
| 2:C:2314:LEU:HD11 | 2:C:2417:VAL:CG1 | 2.50 | 0.41 |
| 2:C:2370:ARG:NH1 | 2:C:2373:GLY:O | 2.54 | 0.41 |
| 2:C:2420:GLY:O | 2:C:2424:MET:HE3 | 2.21 | 0.41 |
| 2:C:2578:ILE:HG23 | 2:C:2579:MET:N | 2.36 | 0.41 |
| 2:C:2635:ASN:OD1 | 2:C:2638:ALA:N | 2.53 | 0.41 |
| 2:C:2975:ILE:HD11 | 2:C:3057:LEU:HD22 | 2.02 | 0.41 |
| 2:C:3198:LEU:HD12 | 2:C:3198:LEU:O | 2.20 | 0.41 |
| 2:C:3267:MET:O | 2:C:3267:MET:CG | 2.68 | 0.41 |
| 2:C:3553:PHE:O | 2:C:3556:ASN:OD1 | 2.39 | 0.41 |
| 2:C:3894:LEU:HD13 | 2:C:3902:PHE:HZ | 1.86 | 0.41 |
| 2:C:4703:VAL:HG22 | 2:C:4703:VAL:O | 2.20 | 0.41 |
| 2:C:4806:PHE:HA | 7:C:8006:PCW:H39 | 2.03 | 0.41 |
| 2:D:862:ILE:CG2 | 2:D:934:LEU:HD23 | 2.51 | 0.41 |
| 2:D:961:MET:CG | 2:D:965:GLY:HA2 | 2.43 | 0.41 |
| 2:D:2266:LEU:HD13 | 2:D:2327:CYS:HB3 | 2.03 | 0.41 |
| 2:D:2420:GLY:O | 2:D:2424:MET:HE3 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:2748:ILE:O | 2:D:2748:ILE:HG23 | 2.21 | 0.41 |
| 2:D:2863:LEU:O | 2:D:2929:LYS:HD2 | 2.21 | 0.41 |
| 2:D:2978:LEU:HA | 2:D:2981:VAL:HG22 | 2.03 | 0.41 |
| 2:D:3837:ALA:O | 2:D:3841:THR:HG23 | 2.21 | 0.41 |
| 2:A:958:LYS:HA | 2:A:961:MET:HB3 | 2.03 | 0.41 |
| 2:A:2420:GLY:O | 2:A:2424:MET:HE3 | 2.21 | 0.41 |
| 2:A:2762:TYR:CZ | 2:A:2863:LEU:HG | 2.55 | 0.41 |
| 2:A:2881:GLU:OE1 | 2:A:2909:TYR:HB2 | 2.21 | 0.41 |
| 2:A:4806:PHE:HA | 7:A:8006:PCW:H39 | 2.03 | 0.41 |
| 2:B:459:GLU:OE2 | 2:B:459:GLU:N | 2.54 | 0.41 |
| 2:B:2771:LYS:HB3 | 2:B:2776:TRP:HB2 | 2.02 | 0.41 |
| 2:B:2978:LEU:HA | 2:B:2981:VAL:HG22 | 2.03 | 0.41 |
| 2:B:3540:ARG:HD2 | 2:B:3543:LEU:HD12 | 2.03 | 0.41 |
| 2:B:3687:GLU:O | 2:B:3688:GLU:HB3 | 2.21 | 0.41 |
| 2:B:4806:PHE:HA | 7:B:8006:PCW:H39 | 2.03 | 0.41 |
| 2:B:4865:GLU:HA | 2:B:4865:GLU:OE2 | 2.21 | 0.41 |
| 2:C:566:TYR:O | 2:C:570:ILE:HG12 | 2.20 | 0.41 |
| 2:C:899:ASP:HB3 | 2:C:902:LYS:CG | 2.51 | 0.41 |
| 2:C:951:LEU:H | 2:C:951:LEU:HG | 1.70 | 0.41 |
| 2:C:2863:LEU:O | 2:C:2929:LYS:HD2 | 2.21 | 0.41 |
| 2:C:4173:ILE:H | 2:C:4173:ILE:HD12 | 1.86 | 0.41 |
| 2:C:4545:GLN:OE1 | 2:C:4545:GLN:HA | 2.21 | 0.41 |
| 1:F:77:ILE:O | 1:F:97:THR:HG23 | 2.20 | 0.40 |
| 1:G:33:ASP:OD1 | 1:G:33:ASP:N | 2.55 | 0.40 |
| 1:H:2:GLY:N | 1:H:78:SER:OG | 2.35 | 0.40 |
| 2:D:951:LEU:HD21 | 2:D:1049:GLY:CA | 2.51 | 0.40 |
| 2:D:985:LEU:HD11 | 2:D:1056:PRO:CB | 2.51 | 0.40 |
| 2:D:2874:ALA:O | 2:D:2878:GLN:OE1 | 2.39 | 0.40 |
| 2:D:3079:ARG:O | 2:D:3083:LYS:HG2 | 2.21 | 0.40 |
| 2:D:4578:TYR:HE1 | 2:D:4630:LEU:HD21 | 1.85 | 0.40 |
| 2:D:4899:ILE:HG13 | 2:D:4911:ARG:NH2 | 2.35 | 0.40 |
| 2:A:575:VAL:HA | 2:A:578:ILE:HG12 | 2.03 | 0.40 |
| 2:A:1127:GLY:H | 2:A:1144:TRP:HZ3 | 1.68 | 0.40 |
| 2:A:2334:ASP:HA | 2:A:2337:ARG:HD3 | 2.03 | 0.40 |
| 2:A:2413:GLU:O | 2:A:2416:ARG:N | 2.53 | 0.40 |
| 2:A:2746:VAL:O | 2:A:2815:LYS:HE2 | 2.20 | 0.40 |
| 2:B:276:ARG:HE | 2:B:329:LYS:HD3 | 1.86 | 0.40 |
| 2:B:898:ARG:NH1 | 2:B:906:PRO:HD2 | 2.36 | 0.40 |
| 2:B:958:LYS:HA | 2:B:961:MET:HB3 | 2.03 | 0.40 |
| 2:B:985:LEU:HD11 | 2:B:1056:PRO:HA | 2.03 | 0.40 |
| 2:B:2445:GLN:OE1 | 2:B:2445:GLN:HA | 2.22 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:B:2668:THR:HG21 | 2:B:2673:LEU:HD21 | 2.02 | 0.40 |
| 2:B:3202:MET:HG3 | 2:B:3204:VAL:H | 1.85 | 0.40 |
| 2:B:3710:ALA:HB2 | 2:B:3785:MET:HE2 | 2.03 | 0.40 |
| 2:B:3894:LEU:HD13 | 2:B:3902:PHE:HZ | 1.86 | 0.40 |
| 2:B:4800:GLY:HA2 | 2:B:4806:PHE:HB2 | 2.03 | 0.40 |
| 2:C:1470:VAL:HG13 | 2:C:1493:CYS:HB3 | 2.03 | 0.40 |
| 2:C:2668:THR:HG21 | 2:C:2673:LEU:HD21 | 2.03 | 0.40 |
| 2:C:2762:TYR:CZ | 2:C:2863:LEU:HG | 2.55 | 0.40 |
| 2:C:2978:LEU:O | 2:C:2982:VAL:HG23 | 2.21 | 0.40 |
| 2:C:3057:LEU:HD23 | 2:C:3057:LEU:C | 2.45 | 0.40 |
| 1:F:80:ASP:OD2 | 1:F:80:ASP:C | 2.65 | 0.40 |
| 2:D:843:PRO:HG2 | 2:D:1072:ARG:O | 2.20 | 0.40 |
| 2:D:952:LYS:HZ3 | 2:D:952:LYS:HG2 | 1.57 | 0.40 |
| 2:D:2736:PHE:O | 2:D:2738:PRO:HD3 | 2.21 | 0.40 |
| 2:D:2958:PHE:HE1 | 2:D:3035:LYS:HG2 | 1.86 | 0.40 |
| 2:D:3534:ILE:CG1 | 2:D:3597:VAL:HG23 | 2.51 | 0.40 |
| 2:D:4909:LEU:HA | 2:D:4912:VAL:HG22 | 2.02 | 0.40 |
| 2:A:862:ILE:CG2 | 2:A:934:LEU:HD23 | 2.51 | 0.40 |
| 2:A:892:TRP:CZ3 | 2:A:905:HIS:HD2 | 2.39 | 0.40 |
| 2:A:2958:PHE:HE1 | 2:A:3035:LYS:HG2 | 1.87 | 0.40 |
| 2:A:2990:SER:O | 2:A:2993:GLU:N | 2.52 | 0.40 |
| 2:A:3170:LEU:CD1 | 2:A:3195:LEU:HD11 | 2.50 | 0.40 |
| 2:A:3683:GLU:HB3 | 2:A:3686:GLU:HB2 | 2.04 | 0.40 |
| 2:A:3837:ALA:O | 2:A:3841:THR:HG23 | 2.22 | 0.40 |
| 2:A:4723:LEU:HD22 | 2:A:4741:MET:HE2 | 2.03 | 0.40 |
| 2:A:5014:GLU:OE2 | 2:A:5014:GLU:HA | 2.21 | 0.40 |
| 2:B:2782:ILE:O | 2:B:2783:ASP:OD1 | 2.39 | 0.40 |
| 2:B:2798:PHE:O | 2:B:2803:LYS:HD2 | 2.21 | 0.40 |
| 2:B:3392:GLU:O | 2:B:3396:ARG:HG2 | 2.20 | 0.40 |
| 2:B:3936:PHE:CE2 | 2:B:3940:TYR:CE2 | 3.09 | 0.40 |
| 2:B:4545:GLN:OE1 | 2:B:4545:GLN:HA | 2.21 | 0.40 |
| 2:C:593:LYS:NZ | 2:C:1584:GLU:OE2 | 2.39 | 0.40 |
| 2:C:879:ILE:CA | 2:C:882:LEU:HD12 | 2.33 | 0.40 |
| 2:C:898:ARG:NH1 | 2:C:906:PRO:HD2 | 2.36 | 0.40 |
| 2:C:953:LYS:HE2 | 2:C:953:LYS:HB2 | 1.84 | 0.40 |
| 2:C:2266:LEU:HD13 | 2:C:2327:CYS:HB3 | 2.03 | 0.40 |
| 2:C:2445:GLN:OE1 | 2:C:2445:GLN:HA | 2.22 | 0.40 |
| 2:C:2782:ILE:O | 2:C:2783:ASP:OD1 | 2.39 | 0.40 |
| 2:C:3896:GLU:HA | 2:C:3970:GLU:OE1 | 2.21 | 0.40 |
| 2:C:4894:GLY:HA2 | 2:C:4923:ILE:HD11 | 2.03 | 0.40 |
| 2:C:4902:PRO:HB3 | 2:C:4911:ARG:HG2 | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:G:43:ARG:HA | 2:C:1692:GLN:HE21 | 1.86 | 0.40 |
| 1:H:80:ASP:OD2 | 1:H:80:ASP:C | 2.64 | 0.40 |
| 2:D:4806:PHE:HA | 7:D:8006:PCW:H39 | 2.03 | 0.40 |
| 2:D:4894:GLY:HA2 | 2:D:4923:ILE:HD11 | 2.03 | 0.40 |
| 2:A:566:TYR:O | 2:A:570:ILE:HG12 | 2.20 | 0.40 |
| 2:A:967:LYS:HZ1 | 2:A:969:ALA:HB2 | 1.86 | 0.40 |
| 2:A:4578:TYR:HD2 | 2:A:4805:PHE:CZ | 2.40 | 0.40 |
| 2:B:862:ILE:CG2 | 2:B:934:LEU:HD23 | 2.51 | 0.40 |
| 2:B:2874:ALA:O | 2:B:2878:GLN:OE1 | 2.39 | 0.40 |
| 2:B:2958:PHE:HE1 | 2:B:3035:LYS:HG2 | 1.86 | 0.40 |
| 2:B:4042:MET:HE2 | 2:B:4045:ARG:NH2 | 2.37 | 0.40 |
| 2:B:4894:GLY:HA2 | 2:B:4923:ILE:HD11 | 2.03 | 0.40 |
| 2:C:951:LEU:HD21 | 2:C:1049:GLY:CA | 2.51 | 0.40 |
| 2:C:956:LEU:HD22 | 2:C:956:LEU:HA | 1.84 | 0.40 |
| 2:C:985:LEU:HD11 | 2:C:1056:PRO:CB | 2.51 | 0.40 |
| 2:C:985:LEU:HD11 | 2:C:1056:PRO:HA | 2.03 | 0.40 |
| 2:C:2736:PHE:O | 2:C:2738:PRO:HD3 | 2.21 | 0.40 |
| 2:C:2958:PHE:HE1 | 2:C:3035:LYS:HG2 | 1.86 | 0.40 |
| 2:C:3524:ASN:OD1 | 2:C:3583:ARG:NH1 | 2.54 | 0.40 |
| 2:C:3683:GLU:HB3 | 2:C:3686:GLU:HB2 | 2.04 | 0.40 |
| 2:C:3710:ALA:HB2 | 2:C:3785:MET:HE2 | 2.03 | 0.40 |
| 2:C:3936:PHE:CE2 | 2:C:3940:TYR:CE2 | 3.09 | 0.40 |
| 2:D:505:ALA:HB2 | 2:D:513:ALA:HB2 | 2.03 | 0.40 |
| 2:D:859:THR:HG21 | 2:D:932:THR:CA | 2.51 | 0.40 |
| 2:D:899:ASP:HB3 | 2:D:902:LYS:CG | 2.51 | 0.40 |
| 2:D:2668:THR:HG21 | 2:D:2673:LEU:HD21 | 2.03 | 0.40 |
| 2:D:3239:GLU:O | 2:D:3240:MET:C | 2.63 | 0.40 |
| 2:D:3894:LEU:HD13 | 2:D:3902:PHE:HZ | 1.86 | 0.40 |
| 2:D:3896:GLU:HA | 2:D:3970:GLU:OE1 | 2.21 | 0.40 |
| 2:D:4042:MET:HE2 | 2:D:4045:ARG:NH2 | 2.37 | 0.40 |
| 2:D:5014:GLU:OE2 | 2:D:5014:GLU:HA | 2.21 | 0.40 |
| 2:A:859:THR:HG21 | 2:A:932:THR:CA | 2.51 | 0.40 |
| 2:A:2445:GLN:OE1 | 2:A:2445:GLN:HA | 2.22 | 0.40 |
| 2:A:3008:ASN:C | 2:A:3008:ASN:OD1 | 2.63 | 0.40 |
| 2:A:3540:ARG:HD2 | 2:A:3543:LEU:HD12 | 2.04 | 0.40 |
| 2:A:4987:MET:O | 2:A:4991:MET:HG3 | 2.22 | 0.40 |
| 2:B:593:LYS:NZ | 2:B:1584:GLU:OE2 | 2.39 | 0.40 |
| 2:B:4173:ILE:HD12 | 2:B:4173:ILE:H | 1.86 | 0.40 |
| 2:C:862:ILE:CG2 | 2:C:934:LEU:HD23 | 2.51 | 0.40 |
| 2:C:3909:GLN:O | 2:C:3915:THR:HG22 | 2.22 | 0.40 |
| 2:D:216:THR:OG1 | 2:D:219:HIS:NE2 | 2.55 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:D:1181:ARG:HB2 | 2:D:1181:ARG:CZ | 2.52 | 0.40 |
| 2:D:2881:GLU:OE1 | 2:D:2909:TYR:HB2 | 2.21 | 0.40 |
| 2:D:3687:GLU:O | 2:D:3688:GLU:HB3 | 2.21 | 0.40 |
| 2:D:4578:TYR:HD2 | 2:D:4805:PHE:CZ | 2.40 | 0.40 |
| 2:D:4987:MET:O | 2:D:4991:MET:HG3 | 2.22 | 0.40 |
| 2:A:2578:ILE:HG23 | 2:A:2579:MET:N | 2.36 | 0.40 |
| 2:A:2736:PHE:O | 2:A:2738:PRO:HD3 | 2.21 | 0.40 |
| 2:A:3894:LEU:HD13 | 2:A:3902:PHE:HZ | 1.86 | 0.40 |
| 2:A:4686:ILE:HD12 | 2:A:4735:ILE:HD13 | 2.04 | 0.40 |
| 2:B:985:LEU:HD11 | 2:B:1056:PRO:CB | 2.51 | 0.40 |
| 2:B:2334:ASP:HA | 2:B:2337:ARG:HD3 | 2.03 | 0.40 |
| 2:B:2736:PHE:O | 2:B:2738:PRO:HD3 | 2.21 | 0.40 |
| 2:B:2875:MET:HE1 | 2:B:2938:VAL:HG22 | 2.04 | 0.40 |
| 2:C:874:LYS:H | 2:C:874:LYS:HG3 | 1.57 | 0.40 |
| 2:C:2875:MET:HE1 | 2:C:2938:VAL:HG22 | 2.04 | 0.40 |
| 2:C:2881:GLU:OE1 | 2:C:2909:TYR:HB2 | 2.21 | 0.40 |
| 2:C:3534:ILE:CG1 | 2:C:3597:VAL:HG23 | 2.51 | 0.40 |
| 2:C:3837:ALA:O | 2:C:3841:THR:HG23 | 2.21 | 0.40 |
| 2:C:4578:TYR:HD2 | 2:C:4805:PHE:CZ | 2.40 | 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 | E | 105/108 (97%) | 102 (97%) | 3 (3%) | 0 | 100 | 100 |
| 1 | F | 105/108 (97%) | 102 (97%) | 3 (3%) | 0 | 100 | 100 |
| 1 | G | 105/108 (97%) | 102 (97%) | 3 (3%) | 0 | 100 | 100 |
| 1 | H | 105/108 (97%) | 102 (97%) | 3 (3%) | 0 | 100 | 100 |
| 2 | A | 4345/5035 (86%) | 4228 (97%) | 114 (3%) | 3 (0%) | 48 | 79 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles |
|---|---|---|---|---|---|---|
| 2 | B | 4345/5035 (86%) | 4227 (97%) | 115 (3%) | 3 (0%) | 48 79 |
| 2 | C | 4345/5035 (86%) | 4227 (97%) | 115 (3%) | 3 (0%) | 48 79 |
| 2 | D | 4345/5035 (86%) | 4228 (97%) | 114 (3%) | 3 (0%) | 48 79 |
| All | All | 17800/20572 (86%) | 17318 (97%) | 470 (3%) | 12 (0%) | 50 79 |

All (12) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | D | 2574 | GLU |
| 2 | D | 4055 | SER |
| 2 | A | 2574 | GLU |
| 2 | A | 4055 | SER |
| 2 | B | 2574 | GLU |
| 2 | B | 4055 | SER |
| 2 | C | 2574 | GLU |
| 2 | C | 4055 | SER |
| 2 | D | 3357 | SER |
| 2 | A | 3357 | SER |
| 2 | B | 3357 | SER |
| 2 | C | 3357 | SER |

### 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 | E | 89/90 (99%) | 89 (100%) | 0 | 100 100 |
| 1 | F | 89/90 (99%) | 89 (100%) | 0 | 100 100 |
| 1 | G | 89/90 (99%) | 89 (100%) | 0 | 100 100 |
| 1 | H | 89/90 (99%) | 89 (100%) | 0 | 100 100 |
| 2 | A | 3806/4296 (89%) | 3742 (98%) | 64 (2%) | 56 78 |
| 2 | B | 3806/4296 (89%) | 3742 (98%) | 64 (2%) | 56 78 |
| 2 | C | 3806/4296 (89%) | 3742 (98%) | 64 (2%) | 56 78 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|---|---|---|---|---|---|
| 2 | D | 3806/4296 (89%) | 3742 (98%) | 64 (2%) | 56 78 |
| All | All | 15580/17544 (89%) | 15324 (98%) | 256 (2%) | 58 79 |

All (256) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | D | 864 | LEU |
| 2 | D | 868 | LEU |
| 2 | D | 869 | GLU |
| 2 | D | 870 | ARG |
| 2 | D | 871 | ILE |
| 2 | D | 872 | ARG |
| 2 | D | 874 | LYS |
| 2 | D | 877 | GLU |
| 2 | D | 878 | ASN |
| 2 | D | 885 | LEU |
| 2 | D | 887 | ARG |
| 2 | D | 888 | ILE |
| 2 | D | 889 | GLU |
| 2 | D | 893 | THR |
| 2 | D | 897 | VAL |
| 2 | D | 898 | ARG |
| 2 | D | 900 | ASP |
| 2 | D | 902 | LYS |
| 2 | D | 904 | LEU |
| 2 | D | 905 | HIS |
| 2 | D | 907 | CYS |
| 2 | D | 909 | VAL |
| 2 | D | 910 | ASN |
| 2 | D | 914 | LEU |
| 2 | D | 918 | GLU |
| 2 | D | 919 | ARG |
| 2 | D | 925 | MET |
| 2 | D | 929 | THR |
| 2 | D | 930 | LEU |
| 2 | D | 931 | LYS |
| 2 | D | 933 | LEU |
| 2 | D | 934 | LEU |
| 2 | D | 938 | CYS |
| 2 | D | 939 | HIS |
| 2 | D | 940 | VAL |
| 2 | D | 945 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | D | 948 | GLU |
| 2 | D | 949 | ASP |
| 2 | D | 951 | LEU |
| 2 | D | 952 | LYS |
| 2 | D | 953 | LYS |
| 2 | D | 954 | THR |
| 2 | D | 955 | LYS |
| 2 | D | 956 | LEU |
| 2 | D | 959 | THR |
| 2 | D | 961 | MET |
| 2 | D | 962 | MET |
| 2 | D | 963 | SER |
| 2 | D | 964 | ASN |
| 2 | D | 966 | TYR |
| 2 | D | 967 | LYS |
| 2 | D | 971 | LEU |
| 2 | D | 972 | ASP |
| 2 | D | 973 | LEU |
| 2 | D | 975 | HIS |
| 2 | D | 977 | ARG |
| 2 | D | 978 | LEU |
| 2 | D | 979 | THR |
| 2 | D | 1047 | LEU |
| 2 | D | 1048 | LEU |
| 2 | D | 1053 | ASN |
| 2 | D | 1055 | GLU |
| 2 | D | 2282 | ILE |
| 2 | D | 2337 | ARG |
| 2 | A | 864 | LEU |
| 2 | A | 868 | LEU |
| 2 | A | 869 | GLU |
| 2 | A | 870 | ARG |
| 2 | A | 871 | ILE |
| 2 | A | 872 | ARG |
| 2 | A | 874 | LYS |
| 2 | A | 877 | GLU |
| 2 | A | 878 | ASN |
| 2 | A | 885 | LEU |
| 2 | A | 887 | ARG |
| 2 | A | 888 | ILE |
| 2 | A | 889 | GLU |
| 2 | A | 893 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | A | 897 | VAL |
| 2 | A | 898 | ARG |
| 2 | A | 900 | ASP |
| 2 | A | 902 | LYS |
| 2 | A | 904 | LEU |
| 2 | A | 905 | HIS |
| 2 | A | 907 | CYS |
| 2 | A | 909 | VAL |
| 2 | A | 910 | ASN |
| 2 | A | 914 | LEU |
| 2 | A | 918 | GLU |
| 2 | A | 919 | ARG |
| 2 | A | 925 | MET |
| 2 | A | 929 | THR |
| 2 | A | 930 | LEU |
| 2 | A | 931 | LYS |
| 2 | A | 933 | LEU |
| 2 | A | 934 | LEU |
| 2 | A | 938 | CYS |
| 2 | A | 939 | HIS |
| 2 | A | 940 | VAL |
| 2 | A | 945 | GLU |
| 2 | A | 948 | GLU |
| 2 | A | 949 | ASP |
| 2 | A | 951 | LEU |
| 2 | A | 952 | LYS |
| 2 | A | 953 | LYS |
| 2 | A | 954 | THR |
| 2 | A | 955 | LYS |
| 2 | A | 956 | LEU |
| 2 | A | 959 | THR |
| 2 | A | 961 | MET |
| 2 | A | 962 | MET |
| 2 | A | 963 | SER |
| 2 | A | 964 | ASN |
| 2 | A | 966 | TYR |
| 2 | A | 967 | LYS |
| 2 | A | 971 | LEU |
| 2 | A | 972 | ASP |
| 2 | A | 973 | LEU |
| 2 | A | 975 | HIS |
| 2 | A | 977 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | A | 978 | LEU |
| 2 | A | 979 | THR |
| 2 | A | 1047 | LEU |
| 2 | A | 1048 | LEU |
| 2 | A | 1053 | ASN |
| 2 | A | 1055 | GLU |
| 2 | A | 2282 | ILE |
| 2 | A | 2337 | ARG |
| 2 | B | 864 | LEU |
| 2 | B | 868 | LEU |
| 2 | B | 869 | GLU |
| 2 | B | 870 | ARG |
| 2 | B | 871 | ILE |
| 2 | B | 872 | ARG |
| 2 | B | 874 | LYS |
| 2 | B | 877 | GLU |
| 2 | B | 878 | ASN |
| 2 | B | 885 | LEU |
| 2 | B | 887 | ARG |
| 2 | B | 888 | ILE |
| 2 | B | 889 | GLU |
| 2 | B | 893 | THR |
| 2 | B | 897 | VAL |
| 2 | B | 898 | ARG |
| 2 | B | 900 | ASP |
| 2 | B | 902 | LYS |
| 2 | B | 904 | LEU |
| 2 | B | 905 | HIS |
| 2 | B | 907 | CYS |
| 2 | B | 909 | VAL |
| 2 | B | 910 | ASN |
| 2 | B | 914 | LEU |
| 2 | B | 918 | GLU |
| 2 | B | 919 | ARG |
| 2 | B | 925 | MET |
| 2 | B | 929 | THR |
| 2 | B | 930 | LEU |
| 2 | B | 931 | LYS |
| 2 | B | 933 | LEU |
| 2 | B | 934 | LEU |
| 2 | B | 938 | CYS |
| 2 | B | 939 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | B | 940 | VAL |
| 2 | B | 945 | GLU |
| 2 | B | 948 | GLU |
| 2 | B | 949 | ASP |
| 2 | B | 951 | LEU |
| 2 | B | 952 | LYS |
| 2 | B | 953 | LYS |
| 2 | B | 954 | THR |
| 2 | B | 955 | LYS |
| 2 | B | 956 | LEU |
| 2 | B | 959 | THR |
| 2 | B | 961 | MET |
| 2 | B | 962 | MET |
| 2 | B | 963 | SER |
| 2 | B | 964 | ASN |
| 2 | B | 966 | TYR |
| 2 | B | 967 | LYS |
| 2 | B | 971 | LEU |
| 2 | B | 972 | ASP |
| 2 | B | 973 | LEU |
| 2 | B | 975 | HIS |
| 2 | B | 977 | ARG |
| 2 | B | 978 | LEU |
| 2 | B | 979 | THR |
| 2 | B | 1047 | LEU |
| 2 | B | 1048 | LEU |
| 2 | B | 1053 | ASN |
| 2 | B | 1055 | GLU |
| 2 | B | 2282 | ILE |
| 2 | B | 2337 | ARG |
| 2 | C | 864 | LEU |
| 2 | C | 868 | LEU |
| 2 | C | 869 | GLU |
| 2 | C | 870 | ARG |
| 2 | C | 871 | ILE |
| 2 | C | 872 | ARG |
| 2 | C | 874 | LYS |
| 2 | C | 877 | GLU |
| 2 | C | 878 | ASN |
| 2 | C | 885 | LEU |
| 2 | C | 887 | ARG |
| 2 | C | 888 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | C | 889 | GLU |
| 2 | C | 893 | THR |
| 2 | C | 897 | VAL |
| 2 | C | 898 | ARG |
| 2 | C | 900 | ASP |
| 2 | C | 902 | LYS |
| 2 | C | 904 | LEU |
| 2 | C | 905 | HIS |
| 2 | C | 907 | CYS |
| 2 | C | 909 | VAL |
| 2 | C | 910 | ASN |
| 2 | C | 914 | LEU |
| 2 | C | 918 | GLU |
| 2 | C | 919 | ARG |
| 2 | C | 925 | MET |
| 2 | C | 929 | THR |
| 2 | C | 930 | LEU |
| 2 | C | 931 | LYS |
| 2 | C | 933 | LEU |
| 2 | C | 934 | LEU |
| 2 | C | 938 | CYS |
| 2 | C | 939 | HIS |
| 2 | C | 940 | VAL |
| 2 | C | 945 | GLU |
| 2 | C | 948 | GLU |
| 2 | C | 949 | ASP |
| 2 | C | 951 | LEU |
| 2 | C | 952 | LYS |
| 2 | C | 953 | LYS |
| 2 | C | 954 | THR |
| 2 | C | 955 | LYS |
| 2 | C | 956 | LEU |
| 2 | C | 959 | THR |
| 2 | C | 961 | MET |
| 2 | C | 962 | MET |
| 2 | C | 963 | SER |
| 2 | C | 964 | ASN |
| 2 | C | 966 | TYR |
| 2 | C | 967 | LYS |
| 2 | C | 971 | LEU |
| 2 | C | 972 | ASP |
| 2 | C | 973 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | C | 975 | HIS |
| 2 | C | 977 | ARG |
| 2 | C | 978 | LEU |
| 2 | C | 979 | THR |
| 2 | C | 1047 | LEU |
| 2 | C | 1048 | LEU |
| 2 | C | 1053 | ASN |
| 2 | C | 1055 | GLU |
| 2 | C | 2282 | ILE |
| 2 | C | 2337 | ARG |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (129) such sidechains are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | H | 21 | GLN |
| 2 | D | 106 | HIS |
| 2 | D | 380 | HIS |
| 2 | D | 594 | HIS |
| 2 | D | 905 | HIS |
| 2 | D | 950 | ASN |
| 2 | D | 995 | ASN |
| 2 | D | 1085 | GLN |
| 2 | D | 1131 | GLN |
| 2 | D | 1202 | HIS |
| 2 | D | 1299 | HIS |
| 2 | D | 1485 | HIS |
| 2 | D | 1570 | GLN |
| 2 | D | 1591 | GLN |
| 2 | D | 1612 | HIS |
| 2 | D | 1632 | GLN |
| 2 | D | 1641 | HIS |
| 2 | D | 1762 | HIS |
| 2 | D | 2773 | GLN |
| 2 | D | 2774 | ASN |
| 2 | D | 2932 | GLN |
| 2 | D | 2992 | HIS |
| 2 | D | 3110 | ASN |
| 2 | D | 3423 | HIS |
| 2 | D | 3598 | GLN |
| 2 | D | 3612 | HIS |
| 2 | D | 3885 | GLN |
| 2 | D | 3917 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | D | 3930 | GLN |
| 2 | D | 4001 | HIS |
| 2 | D | 4156 | HIS |
| 2 | D | 4834 | GLN |
| 2 | D | 5004 | GLN |
| 2 | A | 380 | HIS |
| 2 | A | 594 | HIS |
| 2 | A | 905 | HIS |
| 2 | A | 950 | ASN |
| 2 | A | 995 | ASN |
| 2 | A | 1085 | GLN |
| 2 | A | 1131 | GLN |
| 2 | A | 1202 | HIS |
| 2 | A | 1299 | HIS |
| 2 | A | 1430 | ASN |
| 2 | A | 1485 | HIS |
| 2 | A | 1570 | GLN |
| 2 | A | 1591 | GLN |
| 2 | A | 1632 | GLN |
| 2 | A | 1641 | HIS |
| 2 | A | 1762 | HIS |
| 2 | A | 1939 | GLN |
| 2 | A | 1973 | ASN |
| 2 | A | 2004 | GLN |
| 2 | A | 2764 | HIS |
| 2 | A | 2773 | GLN |
| 2 | A | 2774 | ASN |
| 2 | A | 2992 | HIS |
| 2 | A | 3110 | ASN |
| 2 | A | 3423 | HIS |
| 2 | A | 3612 | HIS |
| 2 | A | 3885 | GLN |
| 2 | A | 3917 | ASN |
| 2 | A | 3930 | GLN |
| 2 | A | 4037 | ASN |
| 2 | A | 4057 | ASN |
| 2 | A | 4156 | HIS |
| 2 | A | 4834 | GLN |
| 2 | B | 380 | HIS |
| 2 | B | 594 | HIS |
| 2 | B | 905 | HIS |
| 2 | B | 950 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | B | 995 | ASN |
| 2 | B | 1085 | GLN |
| 2 | B | 1131 | GLN |
| 2 | B | 1202 | HIS |
| 2 | B | 1485 | HIS |
| 2 | B | 1570 | GLN |
| 2 | B | 1591 | GLN |
| 2 | B | 1612 | HIS |
| 2 | B | 1632 | GLN |
| 2 | B | 1641 | HIS |
| 2 | B | 1720 | HIS |
| 2 | B | 1762 | HIS |
| 2 | B | 2037 | GLN |
| 2 | B | 2773 | GLN |
| 2 | B | 2774 | ASN |
| 2 | B | 2932 | GLN |
| 2 | B | 2992 | HIS |
| 2 | B | 3110 | ASN |
| 2 | B | 3423 | HIS |
| 2 | B | 3612 | HIS |
| 2 | B | 3885 | GLN |
| 2 | B | 3917 | ASN |
| 2 | B | 3930 | GLN |
| 2 | B | 4156 | HIS |
| 2 | B | 4834 | GLN |
| 2 | B | 5004 | GLN |
| 2 | C | 106 | HIS |
| 2 | C | 380 | HIS |
| 2 | C | 594 | HIS |
| 2 | C | 905 | HIS |
| 2 | C | 950 | ASN |
| 2 | C | 995 | ASN |
| 2 | C | 1085 | GLN |
| 2 | C | 1131 | GLN |
| 2 | C | 1202 | HIS |
| 2 | C | 1485 | HIS |
| 2 | C | 1570 | GLN |
| 2 | C | 1591 | GLN |
| 2 | C | 1612 | HIS |
| 2 | C | 1632 | GLN |
| 2 | C | 1641 | HIS |
| 2 | C | 1720 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | C | 1762 | HIS |
| 2 | C | 1973 | ASN |
| 2 | C | 2004 | GLN |
| 2 | C | 2037 | GLN |
| 2 | C | 2773 | GLN |
| 2 | C | 2774 | ASN |
| 2 | C | 2932 | GLN |
| 2 | C | 2992 | HIS |
| 2 | C | 3110 | ASN |
| 2 | C | 3423 | HIS |
| 2 | C | 3612 | HIS |
| 2 | C | 3885 | GLN |
| 2 | C | 3917 | ASN |
| 2 | C | 3930 | GLN |
| 2 | C | 4156 | HIS |
| 2 | C | 4834 | GLN |
| 2 | C | 5004 | GLN |

#### 5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

### 5.6 Ligand geometry (i)

Of 36 ligands modelled in this entry, 8 are monoatomic - leaving 28 for Mogul analysis.

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

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\|>2$ | Counts | RMSZ | $\#\|Z\|>2$ |
| 4 | CFF | C | 8002 | - | 8,15,15 | 2.14 | 3 (37%) | 8,23,23 | 1.49 | 1 (12%) |
| 8 | A1BYZ | C | 8009 | - | 32,32,32 | 0.60 | 1 (3%) | 40,47,47 | 1.19 | 4 (10%) |
| 5 | ATP | B | 8007 | - | 28,33,33 | 0.61 | 0 | 34,52,52 | 0.88 | 1 (2%) |
| 5 | ATP | D | 8007 | - | 28,33,33 | 0.61 | 0 | 34,52,52 | 0.88 | 1 (2%) |
| 8 | A1BYZ | C | 8008 | - | 32,32,32 | 0.68 | 1 (3%) | 40,47,47 | 0.85 | 1 (2%) |
| 7 | PCW | B | 8005 | - | 53,53,53 | 1.25 | 7 (13%) | 59,61,61 | 1.12 | 3 (5%) |
| 4 | CFF | A | 8002 | - | 8,15,15 | 2.14 | 3 (37%) | 8,23,23 | 1.49 | 1 (12%) |
| 8 | A1BYZ | B | 8009 | - | 32,32,32 | 0.60 | 1 (3%) | 40,47,47 | 1.19 | 4 (10%) |
| 8 | A1BYZ | D | 8009 | - | 32,32,32 | 0.60 | 1 (3%) | 40,47,47 | 1.19 | 4 (10%) |
| 7 | PCW | B | 8006 | - | 53,53,53 | 1.24 | 7 (13%) | 59,61,61 | 1.19 | 4 (6%) |
| 8 | A1BYZ | A | 8009 | - | 32,32,32 | 0.60 | 1 (3%) | 40,47,47 | 1.19 | 4 (10%) |
| 5 | ATP | A | 8007 | - | 28,33,33 | 0.60 | 0 | 34,52,52 | 0.88 | 1 (2%) |
| 4 | CFF | D | 8002 | - | 8,15,15 | 2.14 | 3 (37%) | 8,23,23 | 1.49 | 1 (12%) |
| 5 | ATP | C | 8007 | - | 28,33,33 | 0.61 | 0 | 34,52,52 | 0.88 | 1 (2%) |
| 7 | PCW | D | 8006 | - | 53,53,53 | 1.24 | 7 (13%) | 59,61,61 | 1.19 | 4 (6%) |
| 7 | PCW | A | 8005 | - | 53,53,53 | 1.26 | 7 (13%) | 59,61,61 | 1.12 | 3 (5%) |
| 5 | ATP | B | 8003 | - | 28,33,33 | 0.66 | 0 | 34,52,52 | 0.89 | 2 (5%) |
| 5 | ATP | C | 8003 | - | 28,33,33 | 0.66 | 0 | 34,52,52 | 0.90 | 2 (5%) |
| 8 | A1BYZ | A | 8008 | - | 32,32,32 | 0.67 | 1 (3%) | 40,47,47 | 0.85 | 1 (2%) |
| 8 | A1BYZ | B | 8008 | - | 32,32,32 | 0.68 | 1 (3%) | 40,47,47 | 0.85 | 1 (2%) |
| 7 | PCW | C | 8006 | - | 53,53,53 | 1.24 | 7 (13%) | 59,61,61 | 1.19 | 4 (6%) |
| 5 | ATP | D | 8003 | - | 28,33,33 | 0.66 | 0 | 34,52,52 | 0.89 | 2 (5%) |
| 7 | PCW | D | 8005 | - | 53,53,53 | 1.26 | 7 (13%) | 59,61,61 | 1.12 | 3 (5%) |
| 8 | A1BYZ | D | 8008 | - | 32,32,32 | 0.68 | 1 (3%) | 40,47,47 | 0.85 | 1 (2%) |
| 5 | ATP | A | 8003 | - | 28,33,33 | 0.66 | 0 | 34,52,52 | 0.89 | 2 (5%) |
| 7 | PCW | C | 8005 | - | 53,53,53 | 1.25 | 7 (13%) | 59,61,61 | 1.12 | 3 (5%) |
| 4 | CFF | B | 8002 | - | 8,15,15 | 2.14 | 3 (37%) | 8,23,23 | 1.49 | 1 (12%) |
| 7 | PCW | A | 8006 | - | 53,53,53 | 1.24 | 7 (13%) | 59,61,61 | 1.19 | 4 (6%) |

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

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|---|---|---|---|---|---|---|---|
| 4 | CFF | C | 8002 | - | - | - | 0/2/2/2 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|---|---|---|---|---|---|---|---|
| 8 | A1BYZ | C | 8009 | - | - | 4/18/59/59 | 0/3/3/3 |
| 5 | ATP | B | 8007 | - | - | 8/18/38/38 | 0/3/3/3 |
| 5 | ATP | D | 8007 | - | - | 8/18/38/38 | 0/3/3/3 |
| 8 | A1BYZ | C | 8008 | - | - | 3/18/59/59 | 0/3/3/3 |
| 7 | PCW | B | 8005 | - | - | 25/57/57/57 | - |
| 8 | A1BYZ | B | 8009 | - | - | 4/18/59/59 | 0/3/3/3 |
| 4 | CFF | A | 8002 | - | - | - | 0/2/2/2 |
| 8 | A1BYZ | D | 8009 | - | - | 4/18/59/59 | 0/3/3/3 |
| 7 | PCW | B | 8006 | - | - | 29/57/57/57 | - |
| 8 | A1BYZ | A | 8009 | - | - | 4/18/59/59 | 0/3/3/3 |
| 5 | ATP | A | 8007 | - | - | 8/18/38/38 | 0/3/3/3 |
| 5 | ATP | C | 8007 | - | - | 8/18/38/38 | 0/3/3/3 |
| 4 | CFF | D | 8002 | - | - | - | 0/2/2/2 |
| 7 | PCW | D | 8006 | - | - | 29/57/57/57 | - |
| 7 | PCW | A | 8005 | - | - | 25/57/57/57 | - |
| 5 | ATP | B | 8003 | - | - | 9/18/38/38 | 0/3/3/3 |
| 5 | ATP | C | 8003 | - | - | 9/18/38/38 | 0/3/3/3 |
| 8 | A1BYZ | A | 8008 | - | - | 3/18/59/59 | 0/3/3/3 |
| 8 | A1BYZ | B | 8008 | - | - | 3/18/59/59 | 0/3/3/3 |
| 7 | PCW | C | 8006 | - | - | 29/57/57/57 | - |
| 5 | ATP | D | 8003 | - | - | 9/18/38/38 | 0/3/3/3 |
| 7 | PCW | D | 8005 | - | - | 25/57/57/57 | - |
| 8 | A1BYZ | D | 8008 | - | - | 3/18/59/59 | 0/3/3/3 |
| 5 | ATP | A | 8003 | - | - | 9/18/38/38 | 0/3/3/3 |
| 7 | PCW | C | 8005 | - | - | 25/57/57/57 | - |
| 4 | CFF | B | 8002 | - | - | - | 0/2/2/2 |
| 7 | PCW | A | 8006 | - | - | 29/57/57/57 | - |

All (76) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 4 | B | 8002 | CFF | C5-C4 | -3.52 | 1.33 | 1.39 |
| 4 | A | 8002 | CFF | C5-C4 | -3.49 | 1.33 | 1.39 |
| 4 | D | 8002 | CFF | C5-C4 | -3.49 | 1.33 | 1.39 |
| 4 | C | 8002 | CFF | C5-C4 | -3.49 | 1.33 | 1.39 |
| 4 | D | 8002 | CFF | C6-N1 | -3.34 | 1.32 | 1.38 |
| 4 | A | 8002 | CFF | C6-N1 | -3.34 | 1.32 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 4 | B | 8002 | CFF | C6-N1 | -3.34 | 1.32 | 1.38 |
| 4 | C | 8002 | CFF | C6-N1 | -3.34 | 1.32 | 1.38 |
| 8 | D | 8008 | A1BYZ | C16-C15 | -3.34 | 1.51 | 1.54 |
| 8 | B | 8008 | A1BYZ | C16-C15 | -3.34 | 1.51 | 1.54 |
| 8 | C | 8008 | A1BYZ | C16-C15 | -3.34 | 1.51 | 1.54 |
| 8 | A | 8008 | A1BYZ | C16-C15 | -3.32 | 1.51 | 1.54 |
| 7 | D | 8006 | PCW | O3-C11 | 3.03 | 1.42 | 1.33 |
| 7 | B | 8006 | PCW | O3-C11 | 3.03 | 1.42 | 1.33 |
| 7 | C | 8006 | PCW | O3-C11 | 3.03 | 1.42 | 1.33 |
| 7 | A | 8006 | PCW | O3-C11 | 3.02 | 1.42 | 1.33 |
| 7 | A | 8005 | PCW | O3-C11 | 3.00 | 1.42 | 1.33 |
| 7 | D | 8005 | PCW | O3-C11 | 3.00 | 1.42 | 1.33 |
| 7 | B | 8005 | PCW | O3-C11 | 3.00 | 1.42 | 1.33 |
| 7 | C | 8005 | PCW | O3-C11 | 3.00 | 1.42 | 1.33 |
| 8 | D | 8009 | A1BYZ | C16-C15 | -2.98 | 1.51 | 1.54 |
| 8 | A | 8009 | A1BYZ | C16-C15 | -2.98 | 1.51 | 1.54 |
| 8 | B | 8009 | A1BYZ | C16-C15 | -2.98 | 1.51 | 1.54 |
| 8 | C | 8009 | A1BYZ | C16-C15 | -2.98 | 1.51 | 1.54 |
| 7 | A | 8005 | PCW | O2-C31 | 2.96 | 1.42 | 1.34 |
| 7 | D | 8005 | PCW | O2-C31 | 2.96 | 1.42 | 1.34 |
| 7 | C | 8005 | PCW | O2-C31 | 2.96 | 1.42 | 1.34 |
| 7 | B | 8005 | PCW | O2-C31 | 2.94 | 1.42 | 1.34 |
| 7 | A | 8006 | PCW | O2-C31 | 2.70 | 1.41 | 1.34 |
| 7 | D | 8006 | PCW | O2-C31 | 2.69 | 1.41 | 1.34 |
| 7 | B | 8006 | PCW | O2-C31 | 2.69 | 1.41 | 1.34 |
| 7 | C | 8006 | PCW | O2-C31 | 2.69 | 1.41 | 1.34 |
| 7 | D | 8005 | PCW | P-O4P | 2.64 | 1.69 | 1.59 |
| 7 | B | 8005 | PCW | P-O4P | 2.64 | 1.69 | 1.59 |
| 7 | C | 8005 | PCW | P-O4P | 2.64 | 1.69 | 1.59 |
| 7 | A | 8005 | PCW | P-O4P | 2.63 | 1.69 | 1.59 |
| 4 | C | 8002 | CFF | O13-C6 | -2.60 | 1.18 | 1.24 |
| 4 | D | 8002 | CFF | O13-C6 | -2.60 | 1.18 | 1.24 |
| 4 | A | 8002 | CFF | O13-C6 | -2.60 | 1.18 | 1.24 |
| 4 | B | 8002 | CFF | O13-C6 | -2.60 | 1.18 | 1.24 |
| 7 | A | 8006 | PCW | P-O4P | 2.54 | 1.69 | 1.59 |
| 7 | D | 8006 | PCW | P-O4P | 2.52 | 1.69 | 1.59 |
| 7 | B | 8006 | PCW | P-O4P | 2.52 | 1.69 | 1.59 |
| 7 | C | 8006 | PCW | P-O4P | 2.52 | 1.69 | 1.59 |
| 7 | A | 8006 | PCW | O2-C2 | -2.39 | 1.41 | 1.46 |
| 7 | D | 8005 | PCW | C5-C4 | 2.39 | 1.58 | 1.51 |
| 7 | B | 8005 | PCW | C5-C4 | 2.39 | 1.58 | 1.51 |
| 7 | C | 8005 | PCW | C5-C4 | 2.39 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 7 | D | 8006 | PCW | O2-C2 | -2.38 | 1.41 | 1.46 |
| 7 | B | 8006 | PCW | O2-C2 | -2.38 | 1.41 | 1.46 |
| 7 | C | 8006 | PCW | O2-C2 | -2.38 | 1.41 | 1.46 |
| 7 | A | 8005 | PCW | C5-C4 | 2.37 | 1.58 | 1.51 |
| 7 | D | 8005 | PCW | C32-C31 | 2.36 | 1.57 | 1.50 |
| 7 | B | 8005 | PCW | C32-C31 | 2.36 | 1.57 | 1.50 |
| 7 | C | 8005 | PCW | C32-C31 | 2.35 | 1.57 | 1.50 |
| 7 | A | 8005 | PCW | C32-C31 | 2.33 | 1.57 | 1.50 |
| 7 | A | 8005 | PCW | O2-C2 | -2.30 | 1.41 | 1.46 |
| 7 | A | 8005 | PCW | P-O3P | 2.29 | 1.68 | 1.59 |
| 7 | D | 8005 | PCW | P-O3P | 2.29 | 1.68 | 1.59 |
| 7 | B | 8005 | PCW | P-O3P | 2.29 | 1.68 | 1.59 |
| 7 | C | 8005 | PCW | P-O3P | 2.29 | 1.68 | 1.59 |
| 7 | D | 8005 | PCW | O2-C2 | -2.28 | 1.41 | 1.46 |
| 7 | B | 8005 | PCW | O2-C2 | -2.28 | 1.41 | 1.46 |
| 7 | C | 8005 | PCW | O2-C2 | -2.28 | 1.41 | 1.46 |
| 7 | A | 8006 | PCW | C5-C4 | 2.23 | 1.58 | 1.51 |
| 7 | D | 8006 | PCW | C5-C4 | 2.23 | 1.58 | 1.51 |
| 7 | B | 8006 | PCW | C5-C4 | 2.23 | 1.58 | 1.51 |
| 7 | C | 8006 | PCW | C5-C4 | 2.21 | 1.58 | 1.51 |
| 7 | A | 8006 | PCW | P-O3P | 2.16 | 1.67 | 1.59 |
| 7 | D | 8006 | PCW | P-O3P | 2.15 | 1.67 | 1.59 |
| 7 | B | 8006 | PCW | P-O3P | 2.15 | 1.67 | 1.59 |
| 7 | C | 8006 | PCW | P-O3P | 2.15 | 1.67 | 1.59 |
| 7 | A | 8006 | PCW | C32-C31 | 2.06 | 1.56 | 1.50 |
| 7 | D | 8006 | PCW | C32-C31 | 2.04 | 1.56 | 1.50 |
| 7 | B | 8006 | PCW | C32-C31 | 2.04 | 1.56 | 1.50 |
| 7 | C | 8006 | PCW | C32-C31 | 2.04 | 1.56 | 1.50 |

All (64) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 7 | D | 8006 | PCW | O2-C31-C32 | 4.14 | 120.43 | 111.48 |
| 7 | B | 8006 | PCW | O2-C31-C32 | 4.14 | 120.43 | 111.48 |
| 7 | C | 8006 | PCW | O2-C31-C32 | 4.14 | 120.43 | 111.48 |
| 7 | A | 8006 | PCW | O2-C31-C32 | 4.13 | 120.41 | 111.48 |
| 7 | C | 8005 | PCW | O2-C31-C32 | 3.98 | 120.09 | 111.48 |
| 7 | D | 8005 | PCW | O2-C31-C32 | 3.98 | 120.09 | 111.48 |
| 7 | A | 8006 | PCW | C21-C20-C19 | 3.97 | 154.60 | 124.83 |
| 7 | A | 8005 | PCW | O2-C31-C32 | 3.97 | 120.08 | 111.48 |
| 7 | D | 8006 | PCW | C21-C20-C19 | 3.97 | 154.60 | 124.83 |
| 7 | B | 8006 | PCW | C21-C20-C19 | 3.97 | 154.60 | 124.83 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 7 | C | 8006 | PCW | C21-C20-C19 | 3.97 | 154.60 | 124.83 |
| 7 | B | 8005 | PCW | O2-C31-C32 | 3.97 | 120.06 | 111.48 |
| 7 | A | 8005 | PCW | C21-C20-C19 | 3.78 | 153.19 | 124.83 |
| 7 | D | 8005 | PCW | C21-C20-C19 | 3.78 | 153.15 | 124.83 |
| 7 | B | 8005 | PCW | C21-C20-C19 | 3.78 | 153.15 | 124.83 |
| 7 | C | 8005 | PCW | C21-C20-C19 | 3.78 | 153.15 | 124.83 |
| 8 | A | 8009 | A1BYZ | C15-C16-C17 | -3.57 | 108.70 | 110.88 |
| 8 | D | 8009 | A1BYZ | C15-C16-C17 | -3.56 | 108.70 | 110.88 |
| 8 | B | 8009 | A1BYZ | C15-C16-C17 | -3.56 | 108.70 | 110.88 |
| 8 | D | 8009 | A1BYZ | C14-C15-C16 | 3.52 | 112.57 | 110.70 |
| 8 | B | 8009 | A1BYZ | C14-C15-C16 | 3.52 | 112.57 | 110.70 |
| 8 | C | 8009 | A1BYZ | C14-C15-C16 | 3.52 | 112.57 | 110.70 |
| 8 | C | 8009 | A1BYZ | C15-C16-C17 | -3.52 | 108.73 | 110.88 |
| 8 | A | 8009 | A1BYZ | C14-C15-C16 | 3.50 | 112.56 | 110.70 |
| 8 | D | 8008 | A1BYZ | C24-C25-C26 | -3.01 | 111.36 | 116.30 |
| 8 | B | 8008 | A1BYZ | C24-C25-C26 | -3.01 | 111.36 | 116.30 |
| 8 | C | 8008 | A1BYZ | C24-C25-C26 | -3.01 | 111.36 | 116.30 |
| 8 | A | 8008 | A1BYZ | C24-C25-C26 | -2.98 | 111.41 | 116.30 |
| 4 | B | 8002 | CFF | C14-N7-C8 | -2.95 | 111.22 | 125.43 |
| 4 | D | 8002 | CFF | C14-N7-C8 | -2.95 | 111.25 | 125.43 |
| 4 | A | 8002 | CFF | C14-N7-C8 | -2.95 | 111.25 | 125.43 |
| 4 | C | 8002 | CFF | C14-N7-C8 | -2.94 | 111.28 | 125.43 |
| 8 | A | 8009 | A1BYZ | C24-C25-C26 | -2.94 | 111.48 | 116.30 |
| 8 | D | 8009 | A1BYZ | C24-C25-C26 | -2.93 | 111.49 | 116.30 |
| 8 | B | 8009 | A1BYZ | C24-C25-C26 | -2.93 | 111.49 | 116.30 |
| 8 | C | 8009 | A1BYZ | C24-C25-C26 | -2.93 | 111.49 | 116.30 |
| 7 | A | 8005 | PCW | O3-C11-C12 | 2.81 | 120.41 | 111.83 |
| 7 | D | 8005 | PCW | O3-C11-C12 | 2.81 | 120.40 | 111.83 |
| 7 | B | 8005 | PCW | O3-C11-C12 | 2.81 | 120.40 | 111.83 |
| 7 | C | 8005 | PCW | O3-C11-C12 | 2.81 | 120.40 | 111.83 |
| 7 | A | 8006 | PCW | C18-C19-C20 | 2.71 | 145.15 | 124.83 |
| 7 | C | 8006 | PCW | C18-C19-C20 | 2.71 | 145.15 | 124.83 |
| 7 | D | 8006 | PCW | C18-C19-C20 | 2.71 | 145.14 | 124.83 |
| 7 | B | 8006 | PCW | C18-C19-C20 | 2.71 | 145.11 | 124.83 |
| 7 | A | 8006 | PCW | O3-C11-C12 | 2.59 | 119.74 | 111.83 |
| 7 | D | 8006 | PCW | O3-C11-C12 | 2.59 | 119.72 | 111.83 |
| 7 | B | 8006 | PCW | O3-C11-C12 | 2.59 | 119.72 | 111.83 |
| 7 | C | 8006 | PCW | O3-C11-C12 | 2.59 | 119.72 | 111.83 |
| 5 | A | 8007 | ATP | C5-C6-N6 | 2.30 | 123.81 | 120.31 |
| 8 | C | 8009 | A1BYZ | C16-C17-C18 | -2.29 | 121.23 | 123.59 |
| 5 | D | 8003 | ATP | C5-C6-N6 | 2.29 | 123.81 | 120.31 |
| 5 | B | 8003 | ATP | C5-C6-N6 | 2.29 | 123.81 | 120.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 5 | C | 8003 | ATP | C5-C6-N6 | 2.29 | 123.81 | 120.31 |
| 8 | A | 8009 | A1BYZ | C16-C17-C18 | -2.29 | 121.23 | 123.59 |
| 5 | D | 8007 | ATP | C5-C6-N6 | 2.29 | 123.79 | 120.31 |
| 5 | B | 8007 | ATP | C5-C6-N6 | 2.29 | 123.79 | 120.31 |
| 5 | C | 8007 | ATP | C5-C6-N6 | 2.29 | 123.79 | 120.31 |
| 5 | A | 8003 | ATP | C5-C6-N6 | 2.28 | 123.78 | 120.31 |
| 8 | D | 8009 | A1BYZ | C16-C17-C18 | -2.26 | 121.26 | 123.59 |
| 8 | B | 8009 | A1BYZ | C16-C17-C18 | -2.26 | 121.26 | 123.59 |
| 5 | D | 8003 | ATP | O3'-C3'-C2' | -2.01 | 105.36 | 111.82 |
| 5 | B | 8003 | ATP | O3'-C3'-C2' | -2.01 | 105.36 | 111.82 |
| 5 | C | 8003 | ATP | O3'-C3'-C2' | -2.01 | 105.36 | 111.82 |
| 5 | A | 8003 | ATP | O3'-C3'-C2' | -2.01 | 105.38 | 111.82 |

There are no chirality outliers.

All (312) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 5 | D | 8003 | ATP | C5'-O5'-PA-O1A |
| 5 | D | 8003 | ATP | C5'-O5'-PA-O2A |
| 5 | D | 8003 | ATP | C5'-O5'-PA-O3A |
| 5 | D | 8007 | ATP | PB-O3B-PG-O3G |
| 5 | D | 8007 | ATP | C5'-O5'-PA-O2A |
| 5 | A | 8003 | ATP | C5'-O5'-PA-O1A |
| 5 | A | 8003 | ATP | C5'-O5'-PA-O2A |
| 5 | A | 8003 | ATP | C5'-O5'-PA-O3A |
| 5 | A | 8007 | ATP | PB-O3B-PG-O3G |
| 5 | A | 8007 | ATP | C5'-O5'-PA-O2A |
| 5 | B | 8003 | ATP | C5'-O5'-PA-O1A |
| 5 | B | 8003 | ATP | C5'-O5'-PA-O2A |
| 5 | B | 8003 | ATP | C5'-O5'-PA-O3A |
| 5 | B | 8007 | ATP | PB-O3B-PG-O3G |
| 5 | B | 8007 | ATP | C5'-O5'-PA-O2A |
| 5 | C | 8003 | ATP | C5'-O5'-PA-O1A |
| 5 | C | 8003 | ATP | C5'-O5'-PA-O2A |
| 5 | C | 8003 | ATP | C5'-O5'-PA-O3A |
| 5 | C | 8007 | ATP | PB-O3B-PG-O3G |
| 5 | C | 8007 | ATP | C5'-O5'-PA-O2A |
| 7 | D | 8005 | PCW | C32-C31-O2-C2 |
| 7 | D | 8005 | PCW | O31-C31-O2-C2 |
| 7 | D | 8005 | PCW | C1-O3P-P-O2P |
| 7 | D | 8005 | PCW | C1-O3P-P-O4P |
| 7 | D | 8005 | PCW | C4-O4P-P-O2P |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 7 | D | 8006 | PCW | C1-O3P-P-O2P |
| 7 | A | 8005 | PCW | C32-C31-O2-C2 |
| 7 | A | 8005 | PCW | O31-C31-O2-C2 |
| 7 | A | 8005 | PCW | C1-O3P-P-O2P |
| 7 | A | 8005 | PCW | C1-O3P-P-O4P |
| 7 | A | 8005 | PCW | C4-O4P-P-O2P |
| 7 | A | 8006 | PCW | C1-O3P-P-O2P |
| 7 | B | 8005 | PCW | C32-C31-O2-C2 |
| 7 | B | 8005 | PCW | O31-C31-O2-C2 |
| 7 | B | 8005 | PCW | C1-O3P-P-O2P |
| 7 | B | 8005 | PCW | C1-O3P-P-O4P |
| 7 | B | 8005 | PCW | C4-O4P-P-O2P |
| 7 | B | 8006 | PCW | C1-O3P-P-O2P |
| 7 | C | 8005 | PCW | C32-C31-O2-C2 |
| 7 | C | 8005 | PCW | O31-C31-O2-C2 |
| 7 | C | 8005 | PCW | C1-O3P-P-O2P |
| 7 | C | 8005 | PCW | C1-O3P-P-O4P |
| 7 | C | 8005 | PCW | C4-O4P-P-O2P |
| 7 | C | 8006 | PCW | C1-O3P-P-O2P |
| 8 | D | 8009 | A1BYZ | C3-C6-O8-C9 |
| 8 | D | 8009 | A1BYZ | O7-C6-O8-C9 |
| 8 | A | 8009 | A1BYZ | C3-C6-O8-C9 |
| 8 | A | 8009 | A1BYZ | O7-C6-O8-C9 |
| 8 | B | 8009 | A1BYZ | C3-C6-O8-C9 |
| 8 | B | 8009 | A1BYZ | O7-C6-O8-C9 |
| 8 | C | 8009 | A1BYZ | C3-C6-O8-C9 |
| 8 | C | 8009 | A1BYZ | O7-C6-O8-C9 |
| 8 | D | 8008 | A1BYZ | C10-C9-O8-C6 |
| 8 | A | 8008 | A1BYZ | C10-C9-O8-C6 |
| 8 | B | 8008 | A1BYZ | C10-C9-O8-C6 |
| 8 | C | 8008 | A1BYZ | C10-C9-O8-C6 |
| 7 | D | 8006 | PCW | O11-C11-O3-C3 |
| 7 | A | 8006 | PCW | O11-C11-O3-C3 |
| 7 | B | 8006 | PCW | O11-C11-O3-C3 |
| 7 | C | 8006 | PCW | O11-C11-O3-C3 |
| 7 | D | 8006 | PCW | C32-C31-O2-C2 |
| 7 | A | 8006 | PCW | C32-C31-O2-C2 |
| 7 | B | 8006 | PCW | C32-C31-O2-C2 |
| 7 | C | 8006 | PCW | C32-C31-O2-C2 |
| 7 | D | 8006 | PCW | C12-C11-O3-C3 |
| 7 | A | 8006 | PCW | C12-C11-O3-C3 |
| 7 | B | 8006 | PCW | C12-C11-O3-C3 |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 7 | C | 8006 | PCW | C12-C11-O3-C3 |
| 7 | D | 8006 | PCW | O31-C31-O2-C2 |
| 7 | A | 8006 | PCW | O31-C31-O2-C2 |
| 7 | B | 8006 | PCW | O31-C31-O2-C2 |
| 7 | C | 8006 | PCW | O31-C31-O2-C2 |
| 7 | D | 8006 | PCW | C21-C22-C23-C24 |
| 7 | A | 8006 | PCW | C21-C22-C23-C24 |
| 7 | B | 8006 | PCW | C21-C22-C23-C24 |
| 7 | C | 8006 | PCW | C21-C22-C23-C24 |
| 7 | D | 8005 | PCW | C22-C23-C24-C25 |
| 7 | B | 8005 | PCW | C22-C23-C24-C25 |
| 7 | C | 8005 | PCW | C22-C23-C24-C25 |
| 7 | A | 8005 | PCW | C22-C23-C24-C25 |
| 8 | D | 8009 | A1BYZ | C15-C20-C21-C22 |
| 8 | A | 8009 | A1BYZ | C15-C20-C21-C22 |
| 8 | B | 8009 | A1BYZ | C15-C20-C21-C22 |
| 8 | C | 8009 | A1BYZ | C15-C20-C21-C22 |
| 7 | D | 8005 | PCW | C4-C5-N-C6 |
| 7 | A | 8005 | PCW | C4-C5-N-C6 |
| 7 | B | 8005 | PCW | C4-C5-N-C6 |
| 7 | C | 8005 | PCW | C4-C5-N-C6 |
| 7 | D | 8005 | PCW | C31-C32-C33-C34 |
| 7 | A | 8005 | PCW | C31-C32-C33-C34 |
| 7 | B | 8005 | PCW | C31-C32-C33-C34 |
| 7 | C | 8005 | PCW | C31-C32-C33-C34 |
| 7 | D | 8005 | PCW | C4-C5-N-C8 |
| 7 | A | 8005 | PCW | C4-C5-N-C8 |
| 7 | B | 8005 | PCW | C4-C5-N-C8 |
| 7 | C | 8005 | PCW | C4-C5-N-C8 |
| 7 | A | 8006 | PCW | C35-C36-C37-C38 |
| 7 | D | 8006 | PCW | C35-C36-C37-C38 |
| 7 | B | 8006 | PCW | C35-C36-C37-C38 |
| 7 | C | 8006 | PCW | C35-C36-C37-C38 |
| 7 | D | 8005 | PCW | C33-C34-C35-C36 |
| 7 | A | 8005 | PCW | C33-C34-C35-C36 |
| 7 | B | 8005 | PCW | C33-C34-C35-C36 |
| 7 | C | 8005 | PCW | C33-C34-C35-C36 |
| 7 | D | 8006 | PCW | C11-C12-C13-C14 |
| 7 | A | 8006 | PCW | C11-C12-C13-C14 |
| 7 | B | 8006 | PCW | C11-C12-C13-C14 |
| 7 | C | 8006 | PCW | C11-C12-C13-C14 |
| 7 | D | 8005 | PCW | C11-C12-C13-C14 |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 7 | A | 8005 | PCW | C11-C12-C13-C14 |
| 7 | B | 8005 | PCW | C11-C12-C13-C14 |
| 7 | C | 8005 | PCW | C11-C12-C13-C14 |
| 7 | D | 8006 | PCW | C22-C23-C24-C25 |
| 7 | D | 8006 | PCW | C34-C35-C36-C37 |
| 7 | A | 8006 | PCW | C22-C23-C24-C25 |
| 7 | A | 8006 | PCW | C34-C35-C36-C37 |
| 7 | B | 8006 | PCW | C22-C23-C24-C25 |
| 7 | B | 8006 | PCW | C34-C35-C36-C37 |
| 7 | C | 8006 | PCW | C22-C23-C24-C25 |
| 7 | C | 8006 | PCW | C34-C35-C36-C37 |
| 7 | D | 8005 | PCW | C12-C11-O3-C3 |
| 7 | A | 8005 | PCW | C12-C11-O3-C3 |
| 7 | B | 8005 | PCW | C12-C11-O3-C3 |
| 7 | C | 8005 | PCW | C12-C11-O3-C3 |
| 7 | D | 8005 | PCW | C4-C5-N-C7 |
| 7 | A | 8005 | PCW | C4-C5-N-C7 |
| 7 | B | 8005 | PCW | C4-C5-N-C7 |
| 7 | C | 8005 | PCW | C4-C5-N-C7 |
| 7 | D | 8005 | PCW | C13-C14-C15-C16 |
| 7 | B | 8005 | PCW | C13-C14-C15-C16 |
| 7 | A | 8005 | PCW | C13-C14-C15-C16 |
| 7 | C | 8005 | PCW | C13-C14-C15-C16 |
| 7 | D | 8005 | PCW | C20-C21-C22-C23 |
| 7 | A | 8005 | PCW | C20-C21-C22-C23 |
| 7 | B | 8005 | PCW | C20-C21-C22-C23 |
| 7 | C | 8005 | PCW | C20-C21-C22-C23 |
| 7 | A | 8005 | PCW | C44-C45-C46-C47 |
| 7 | C | 8005 | PCW | C44-C45-C46-C47 |
| 7 | D | 8005 | PCW | C44-C45-C46-C47 |
| 7 | B | 8005 | PCW | C44-C45-C46-C47 |
| 7 | D | 8005 | PCW | C2-C3-O3-C11 |
| 7 | A | 8005 | PCW | C2-C3-O3-C11 |
| 7 | B | 8005 | PCW | C2-C3-O3-C11 |
| 7 | C | 8005 | PCW | C2-C3-O3-C11 |
| 7 | A | 8005 | PCW | O11-C11-O3-C3 |
| 7 | D | 8005 | PCW | O11-C11-O3-C3 |
| 7 | B | 8005 | PCW | O11-C11-O3-C3 |
| 7 | C | 8005 | PCW | O11-C11-O3-C3 |
| 7 | D | 8006 | PCW | C15-C16-C17-C18 |
| 7 | A | 8006 | PCW | C15-C16-C17-C18 |
| 7 | B | 8006 | PCW | C15-C16-C17-C18 |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 7 | C | 8006 | PCW | C15-C16-C17-C18 |
| 5 | D | 8003 | ATP | PB-O3B-PG-O1G |
| 5 | A | 8003 | ATP | PB-O3B-PG-O1G |
| 5 | B | 8003 | ATP | PB-O3B-PG-O1G |
| 5 | C | 8003 | ATP | PB-O3B-PG-O1G |
| 8 | D | 8008 | A1BYZ | C20-C21-C22-C23 |
| 8 | A | 8008 | A1BYZ | C20-C21-C22-C23 |
| 8 | B | 8008 | A1BYZ | C20-C21-C22-C23 |
| 8 | C | 8008 | A1BYZ | C20-C21-C22-C23 |
| 7 | D | 8006 | PCW | C20-C21-C22-C23 |
| 7 | A | 8006 | PCW | C20-C21-C22-C23 |
| 7 | B | 8006 | PCW | C20-C21-C22-C23 |
| 7 | C | 8006 | PCW | C20-C21-C22-C23 |
| 7 | D | 8006 | PCW | C42-C43-C44-C45 |
| 7 | A | 8006 | PCW | C42-C43-C44-C45 |
| 7 | B | 8006 | PCW | C42-C43-C44-C45 |
| 7 | C | 8006 | PCW | C42-C43-C44-C45 |
| 5 | D | 8003 | ATP | PA-O3A-PB-O1B |
| 5 | A | 8003 | ATP | PA-O3A-PB-O1B |
| 5 | B | 8003 | ATP | PA-O3A-PB-O1B |
| 5 | C | 8003 | ATP | PA-O3A-PB-O1B |
| 5 | D | 8003 | ATP | C4'-C5'-O5'-PA |
| 5 | A | 8003 | ATP | C4'-C5'-O5'-PA |
| 5 | B | 8003 | ATP | C4'-C5'-O5'-PA |
| 5 | C | 8003 | ATP | C4'-C5'-O5'-PA |
| 7 | D | 8005 | PCW | C12-C13-C14-C15 |
| 7 | A | 8005 | PCW | C12-C13-C14-C15 |
| 7 | B | 8005 | PCW | C12-C13-C14-C15 |
| 7 | C | 8005 | PCW | C12-C13-C14-C15 |
| 7 | D | 8006 | PCW | C31-C32-C33-C34 |
| 7 | A | 8006 | PCW | C31-C32-C33-C34 |
| 7 | B | 8006 | PCW | C31-C32-C33-C34 |
| 7 | C | 8006 | PCW | C31-C32-C33-C34 |
| 7 | D | 8006 | PCW | O3P-C1-C2-O2 |
| 7 | A | 8006 | PCW | O3P-C1-C2-O2 |
| 7 | B | 8006 | PCW | O3P-C1-C2-O2 |
| 7 | C | 8006 | PCW | O3P-C1-C2-O2 |
| 8 | D | 8008 | A1BYZ | C16-C15-C20-C21 |
| 8 | A | 8008 | A1BYZ | C16-C15-C20-C21 |
| 8 | B | 8008 | A1BYZ | C16-C15-C20-C21 |
| 8 | C | 8008 | A1BYZ | C16-C15-C20-C21 |
| 7 | B | 8006 | PCW | C44-C45-C46-C47 |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 7 | D | 8006 | PCW | C44-C45-C46-C47 |
| 7 | A | 8006 | PCW | C44-C45-C46-C47 |
| 7 | C | 8006 | PCW | C44-C45-C46-C47 |
| 7 | D | 8006 | PCW | C40-C41-C42-C43 |
| 7 | A | 8006 | PCW | C40-C41-C42-C43 |
| 7 | B | 8006 | PCW | C40-C41-C42-C43 |
| 7 | C | 8006 | PCW | C40-C41-C42-C43 |
| 7 | D | 8006 | PCW | O3P-C1-C2-C3 |
| 7 | A | 8006 | PCW | O3P-C1-C2-C3 |
| 7 | B | 8006 | PCW | O3P-C1-C2-C3 |
| 7 | C | 8006 | PCW | O3P-C1-C2-C3 |
| 5 | D | 8003 | ATP | PB-O3B-PG-O3G |
| 5 | A | 8003 | ATP | PB-O3B-PG-O3G |
| 5 | B | 8003 | ATP | PB-O3B-PG-O3G |
| 5 | C | 8003 | ATP | PB-O3B-PG-O3G |
| 7 | D | 8006 | PCW | C41-C42-C43-C44 |
| 7 | A | 8006 | PCW | C41-C42-C43-C44 |
| 7 | B | 8006 | PCW | C41-C42-C43-C44 |
| 7 | C | 8006 | PCW | C41-C42-C43-C44 |
| 7 | C | 8005 | PCW | C45-C46-C47-C48 |
| 7 | D | 8005 | PCW | C45-C46-C47-C48 |
| 7 | A | 8005 | PCW | C45-C46-C47-C48 |
| 7 | B | 8005 | PCW | C45-C46-C47-C48 |
| 7 | D | 8006 | PCW | O4P-C4-C5-N |
| 7 | A | 8006 | PCW | O4P-C4-C5-N |
| 7 | B | 8006 | PCW | O4P-C4-C5-N |
| 7 | C | 8006 | PCW | O4P-C4-C5-N |
| 5 | D | 8007 | ATP | C5'-O5'-PA-O1A |
| 5 | D | 8007 | ATP | C5'-O5'-PA-O3A |
| 5 | A | 8007 | ATP | C5'-O5'-PA-O1A |
| 5 | A | 8007 | ATP | C5'-O5'-PA-O3A |
| 5 | B | 8007 | ATP | C5'-O5'-PA-O1A |
| 5 | B | 8007 | ATP | C5'-O5'-PA-O3A |
| 5 | C | 8007 | ATP | C5'-O5'-PA-O1A |
| 5 | C | 8007 | ATP | C5'-O5'-PA-O3A |
| 7 | D | 8005 | PCW | C1-O3P-P-O1P |
| 7 | D | 8005 | PCW | C4-O4P-P-O1P |
| 7 | D | 8005 | PCW | C4-O4P-P-O3P |
| 7 | D | 8006 | PCW | C4-O4P-P-O2P |
| 7 | A | 8005 | PCW | C1-O3P-P-O1P |
| 7 | A | 8005 | PCW | C4-O4P-P-O1P |
| 7 | A | 8005 | PCW | C4-O4P-P-O3P |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 7 | A | 8006 | PCW | C4-O4P-P-O2P |
| 7 | B | 8005 | PCW | C1-O3P-P-O1P |
| 7 | B | 8005 | PCW | C4-O4P-P-O1P |
| 7 | B | 8005 | PCW | C4-O4P-P-O3P |
| 7 | B | 8006 | PCW | C4-O4P-P-O2P |
| 7 | C | 8005 | PCW | C1-O3P-P-O1P |
| 7 | C | 8005 | PCW | C4-O4P-P-O1P |
| 7 | C | 8005 | PCW | C4-O4P-P-O3P |
| 7 | C | 8006 | PCW | C4-O4P-P-O2P |
| 7 | D | 8005 | PCW | C19-C20-C21-C22 |
| 7 | A | 8005 | PCW | C19-C20-C21-C22 |
| 7 | B | 8005 | PCW | C19-C20-C21-C22 |
| 7 | C | 8005 | PCW | C19-C20-C21-C22 |
| 7 | D | 8006 | PCW | C37-C38-C39-C40 |
| 7 | A | 8006 | PCW | C37-C38-C39-C40 |
| 7 | B | 8006 | PCW | C37-C38-C39-C40 |
| 7 | C | 8006 | PCW | C37-C38-C39-C40 |
| 7 | D | 8006 | PCW | C19-C20-C21-C22 |
| 7 | A | 8006 | PCW | C19-C20-C21-C22 |
| 7 | B | 8006 | PCW | C19-C20-C21-C22 |
| 7 | C | 8006 | PCW | C19-C20-C21-C22 |
| 7 | D | 8006 | PCW | C36-C37-C38-C39 |
| 7 | B | 8006 | PCW | C36-C37-C38-C39 |
| 7 | C | 8006 | PCW | C36-C37-C38-C39 |
| 8 | D | 8009 | A1BYZ | C2-C3-C6-O7 |
| 8 | A | 8009 | A1BYZ | C2-C3-C6-O7 |
| 8 | B | 8009 | A1BYZ | C2-C3-C6-O7 |
| 8 | C | 8009 | A1BYZ | C2-C3-C6-O7 |
| 5 | D | 8007 | ATP | PB-O3A-PA-O1A |
| 5 | A | 8007 | ATP | PB-O3A-PA-O1A |
| 5 | B | 8007 | ATP | PB-O3A-PA-O1A |
| 5 | C | 8007 | ATP | PB-O3A-PA-O1A |
| 7 | A | 8006 | PCW | C36-C37-C38-C39 |
| 7 | A | 8006 | PCW | C25-C26-C27-C28 |
| 5 | D | 8007 | ATP | C4'-C5'-O5'-PA |
| 5 | A | 8007 | ATP | C4'-C5'-O5'-PA |
| 5 | B | 8007 | ATP | C4'-C5'-O5'-PA |
| 5 | C | 8007 | ATP | C4'-C5'-O5'-PA |
| 7 | D | 8006 | PCW | C25-C26-C27-C28 |
| 7 | B | 8006 | PCW | C25-C26-C27-C28 |
| 7 | C | 8006 | PCW | C25-C26-C27-C28 |
| 7 | D | 8005 | PCW | C39-C40-C41-C42 |

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| Mol | Chain | Res | Type | Atoms |
|---|---|---|---|---|
| 7 | D | 8006 | PCW | C17-C18-C19-C20 |
| 7 | A | 8005 | PCW | C39-C40-C41-C42 |
| 7 | A | 8006 | PCW | C17-C18-C19-C20 |
| 7 | B | 8005 | PCW | C39-C40-C41-C42 |
| 7 | B | 8006 | PCW | C17-C18-C19-C20 |
| 7 | C | 8005 | PCW | C39-C40-C41-C42 |
| 7 | C | 8006 | PCW | C17-C18-C19-C20 |
| 5 | D | 8007 | ATP | PB-O3B-PG-O1G |
| 5 | A | 8007 | ATP | PB-O3B-PG-O1G |
| 5 | B | 8007 | ATP | PB-O3B-PG-O1G |
| 5 | C | 8007 | ATP | PB-O3B-PG-O1G |
| 5 | D | 8003 | ATP | PG-O3B-PB-O1B |
| 5 | D | 8003 | ATP | PG-O3B-PB-O2B |
| 5 | A | 8003 | ATP | PG-O3B-PB-O1B |
| 5 | A | 8003 | ATP | PG-O3B-PB-O2B |
| 5 | B | 8003 | ATP | PG-O3B-PB-O1B |
| 5 | B | 8003 | ATP | PG-O3B-PB-O2B |
| 5 | C | 8003 | ATP | PG-O3B-PB-O1B |
| 5 | C | 8003 | ATP | PG-O3B-PB-O2B |
| 7 | D | 8006 | PCW | O2-C31-C32-C33 |
| 7 | A | 8006 | PCW | O2-C31-C32-C33 |
| 7 | B | 8006 | PCW | O2-C31-C32-C33 |
| 7 | C | 8006 | PCW | O2-C31-C32-C33 |
| 7 | D | 8006 | PCW | C16-C17-C18-C19 |
| 7 | A | 8006 | PCW | C16-C17-C18-C19 |
| 7 | B | 8006 | PCW | C16-C17-C18-C19 |
| 7 | C | 8006 | PCW | C16-C17-C18-C19 |
| 7 | D | 8006 | PCW | O31-C31-C32-C33 |
| 7 | B | 8006 | PCW | O31-C31-C32-C33 |
| 7 | A | 8006 | PCW | O31-C31-C32-C33 |
| 7 | C | 8006 | PCW | O31-C31-C32-C33 |
| 5 | D | 8007 | ATP | PB-O3A-PA-O2A |
| 5 | A | 8007 | ATP | PB-O3A-PA-O2A |
| 5 | B | 8007 | ATP | PB-O3A-PA-O2A |
| 5 | C | 8007 | ATP | PB-O3A-PA-O2A |

There are no ring outliers.

18 monomers are involved in 30 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 8 | C | 8009 | A1BYZ | 2 | 0 |
| 8 | C | 8008 | A1BYZ | 1 | 0 |

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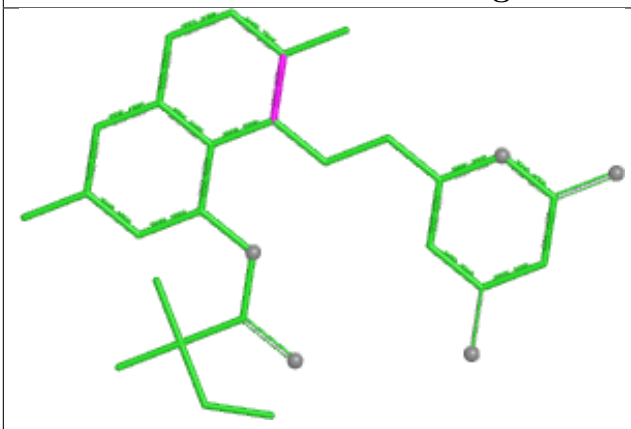
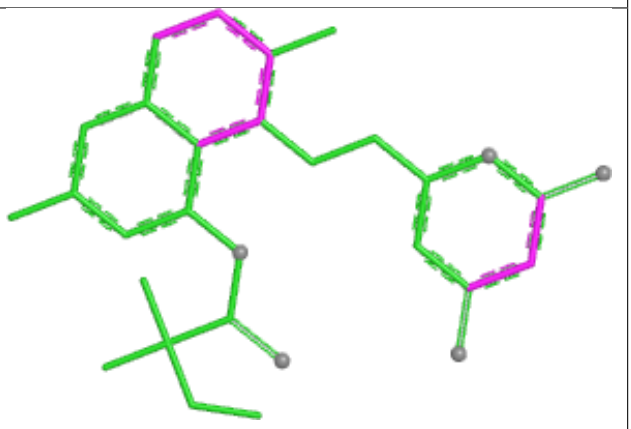
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 7 | B | 8005 | PCW | 2 | 0 |
| 8 | B | 8009 | A1BYZ | 2 | 0 |
| 8 | D | 8009 | A1BYZ | 2 | 0 |
| 7 | B | 8006 | PCW | 3 | 0 |
| 8 | A | 8009 | A1BYZ | 2 | 0 |
| 7 | D | 8006 | PCW | 3 | 0 |
| 7 | A | 8005 | PCW | 2 | 0 |
| 5 | B | 8003 | ATP | 1 | 0 |
| 5 | C | 8003 | ATP | 1 | 0 |
| 8 | B | 8008 | A1BYZ | 1 | 0 |
| 7 | C | 8006 | PCW | 3 | 0 |
| 5 | D | 8003 | ATP | 1 | 0 |
| 7 | D | 8005 | PCW | 2 | 0 |
| 5 | A | 8003 | ATP | 1 | 0 |
| 7 | C | 8005 | PCW | 2 | 0 |
| 7 | A | 8006 | PCW | 3 | 0 |

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

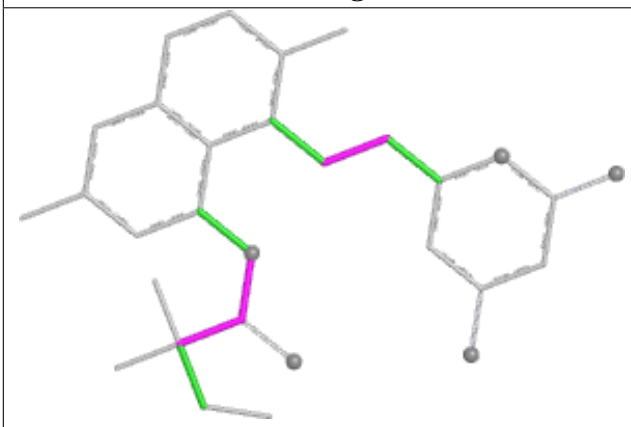
**Ligand A1BYZ C 8009**



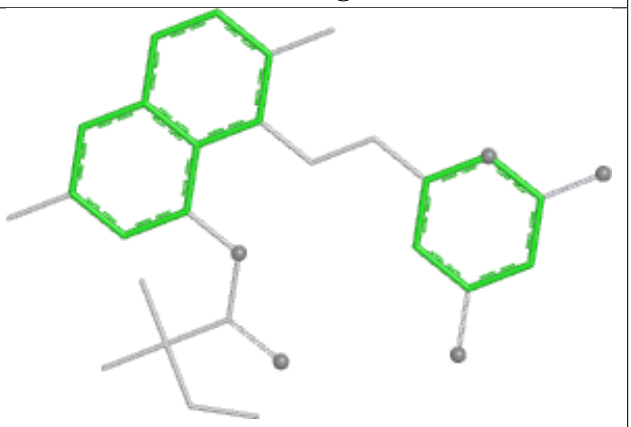
**Bond lengths**



**Bond angles**

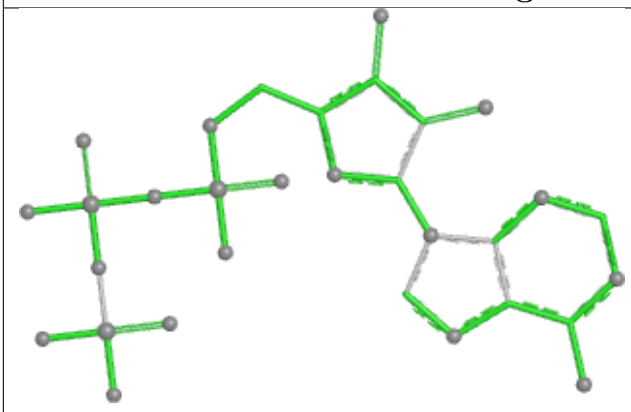


**Torsions**

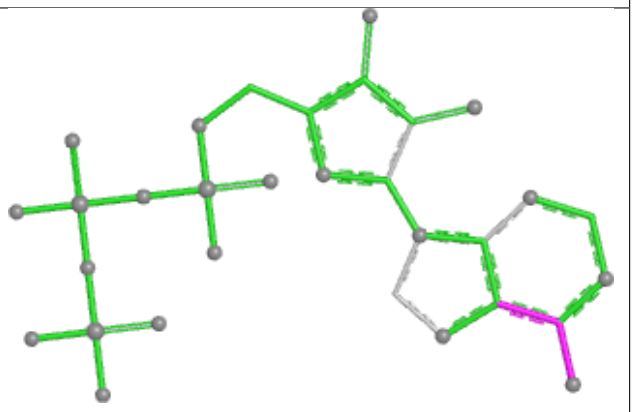


**Rings**

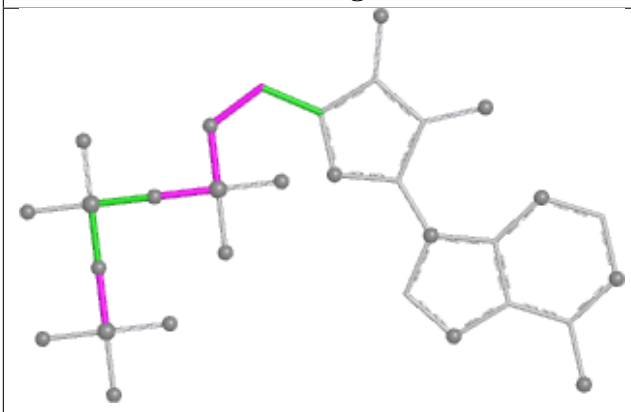
**Ligand ATP B 8007**



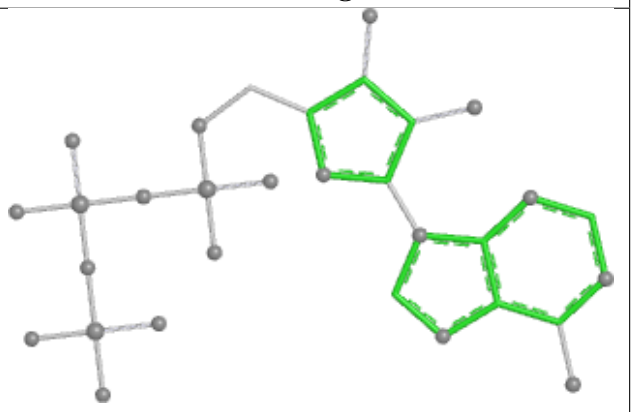
Bond lengths



Bond angles

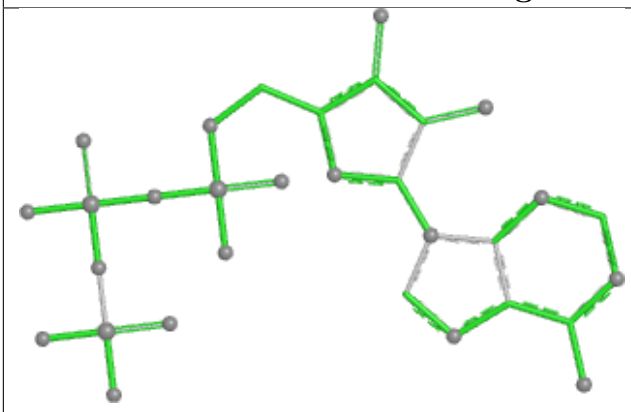


Torsions

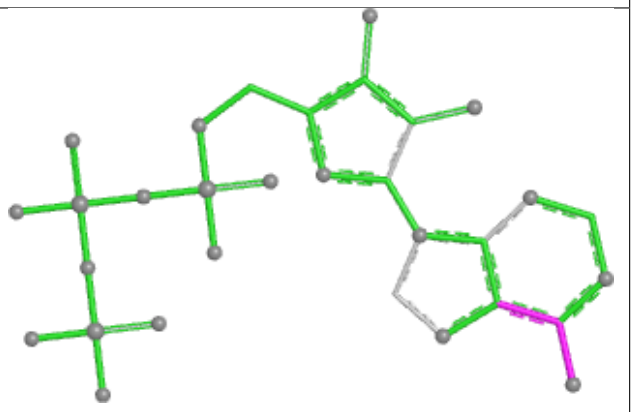


Rings

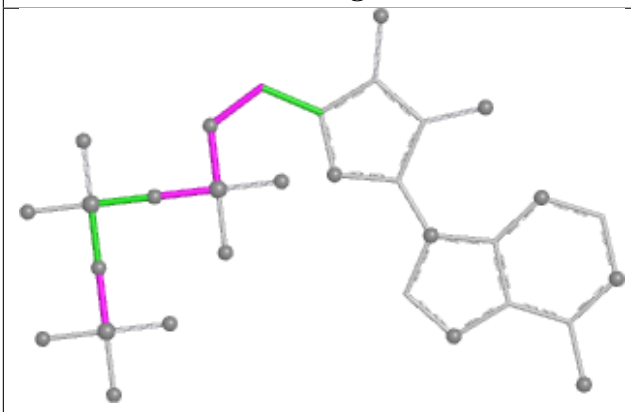
**Ligand ATP D 8007**



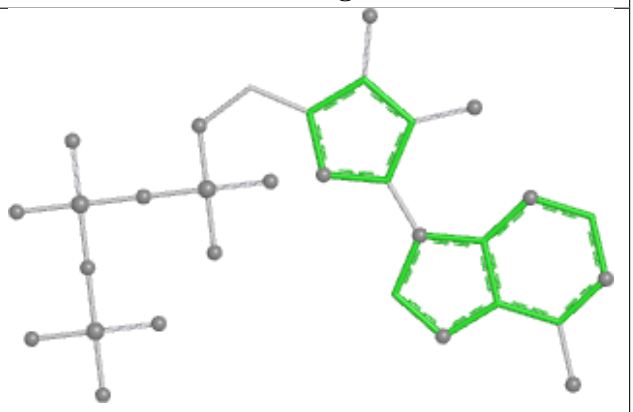
Bond lengths



Bond angles

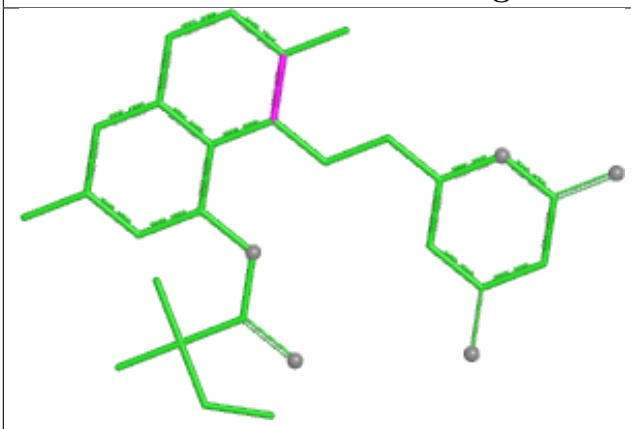


Torsions

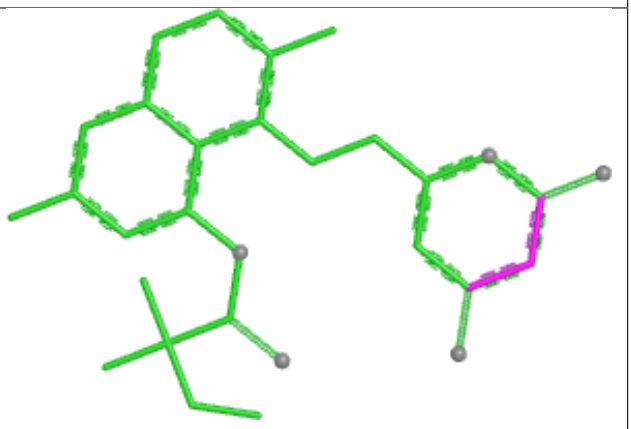


Rings

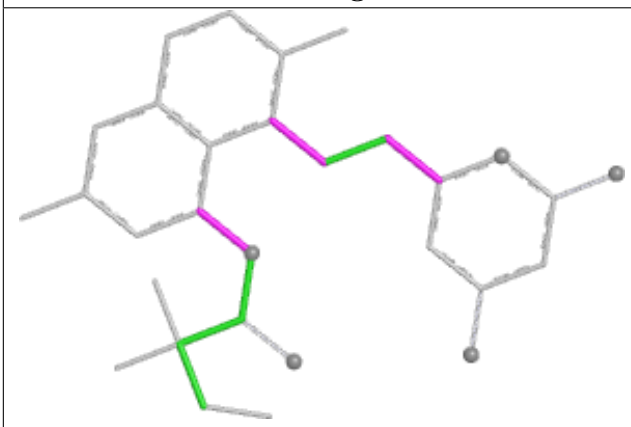
**Ligand A1BYZ C 8008**



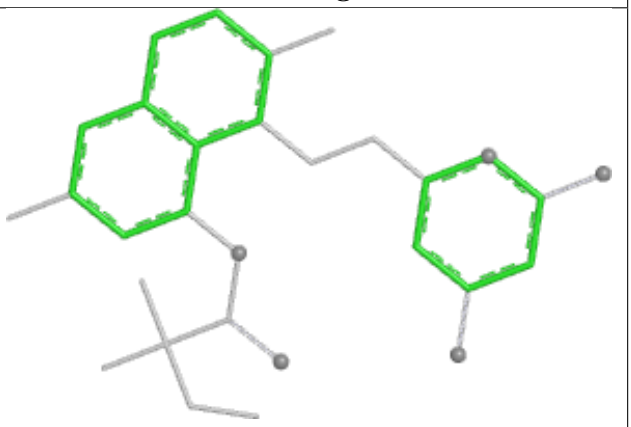
**Bond lengths**



**Bond angles**

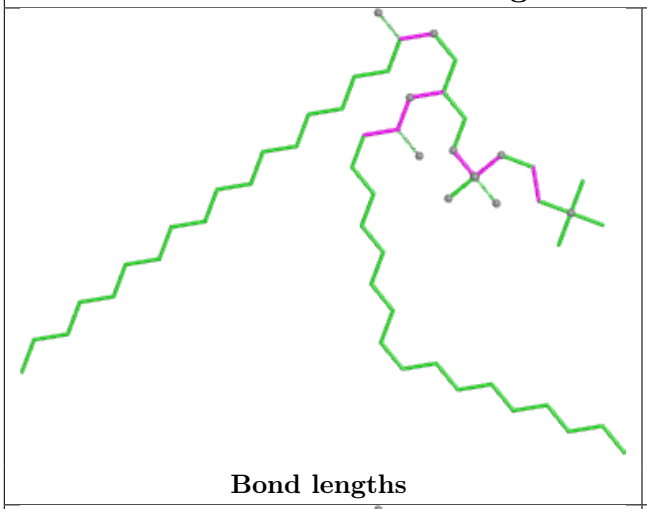


**Torsions**

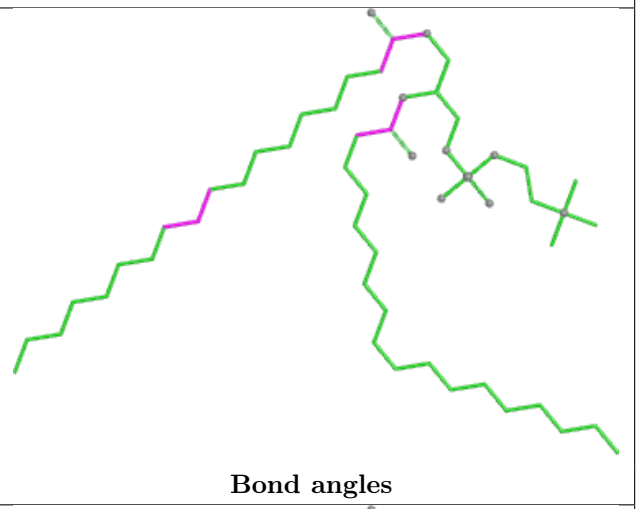


**Rings**

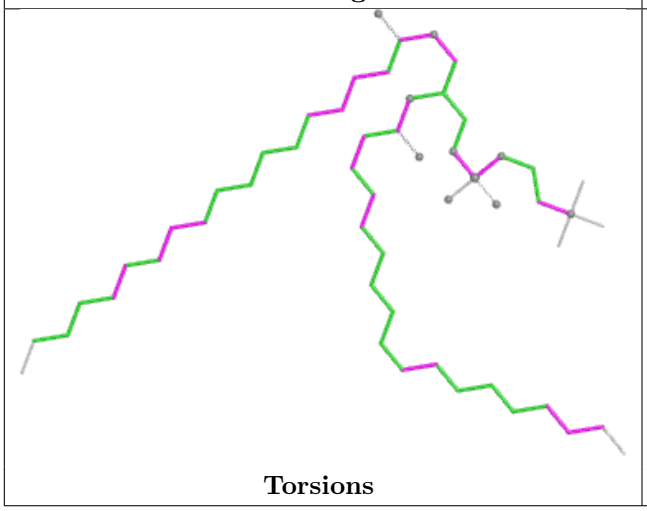
**Ligand PCW B 8005**



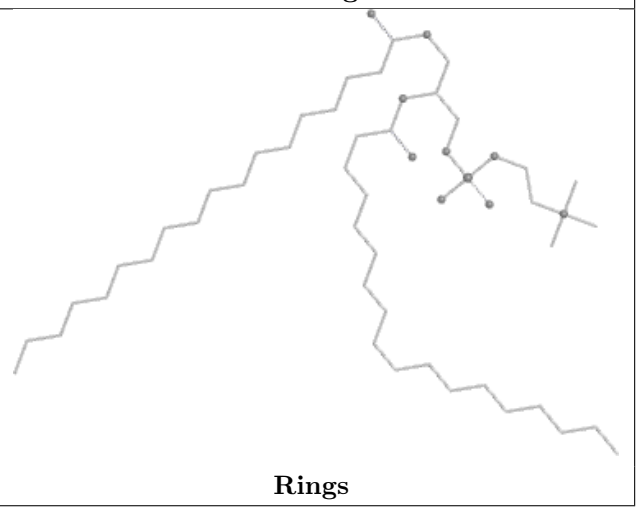
**Bond lengths**



**Bond angles**

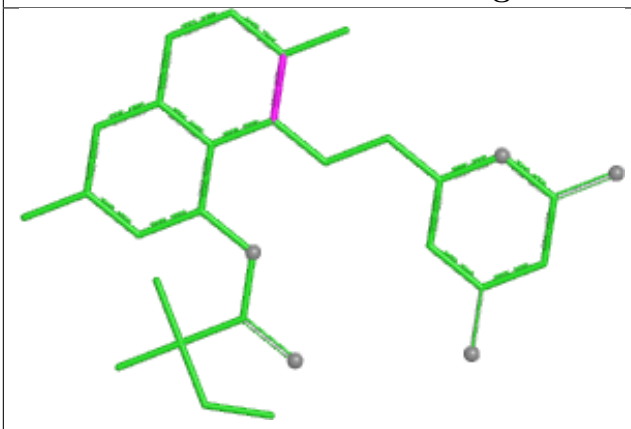


**Torsions**

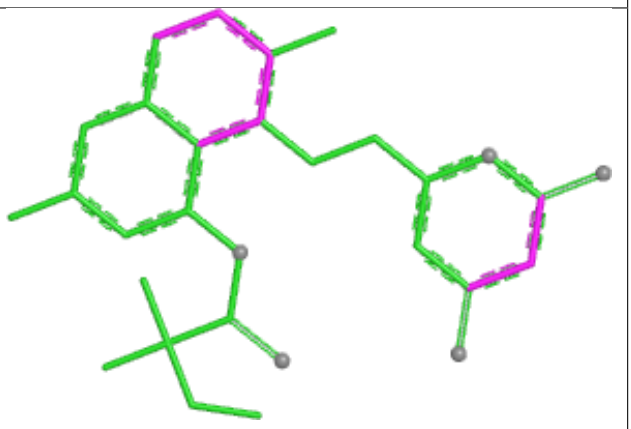


**Rings**

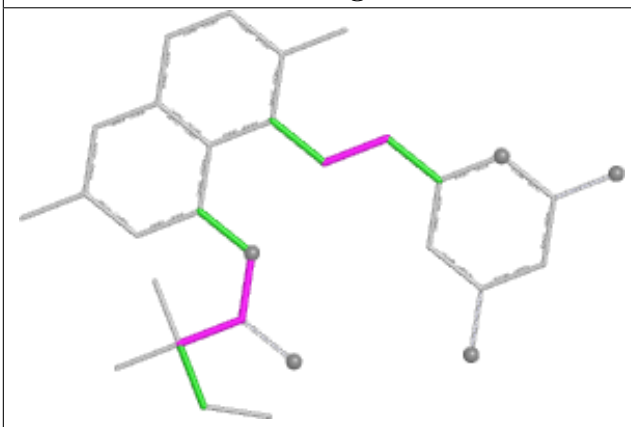
**Ligand A1BYZ B 8009**



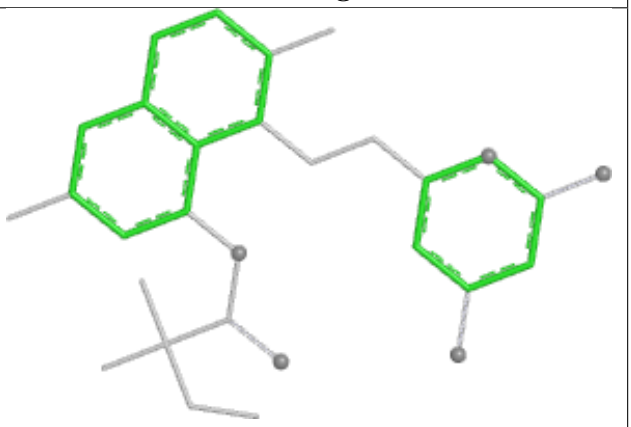
**Bond lengths**



**Bond angles**

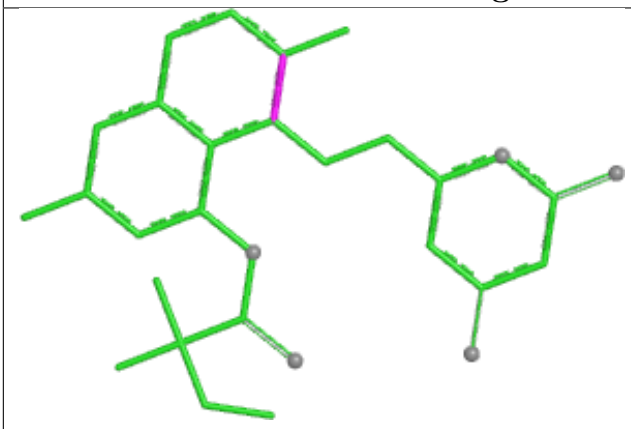


**Torsions**

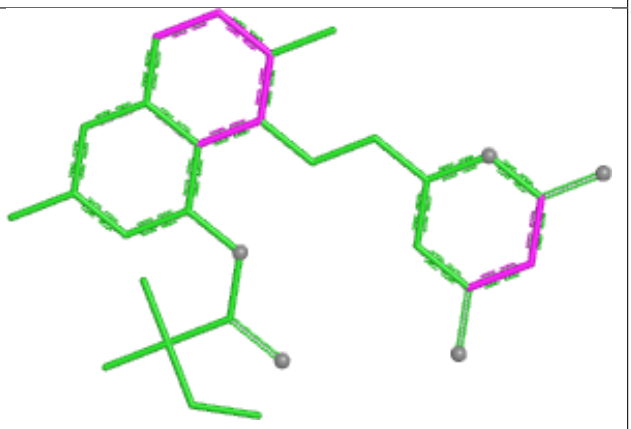


**Rings**

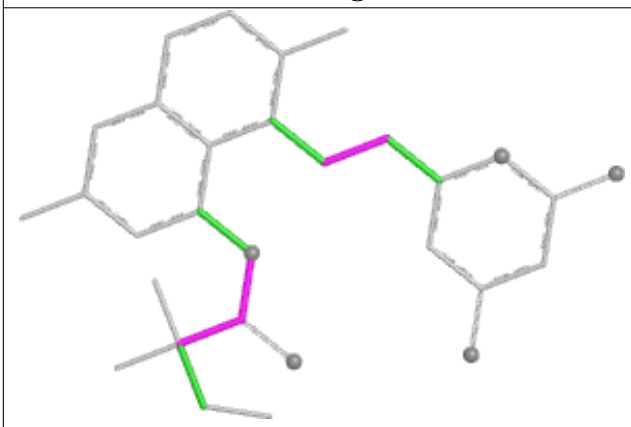
**Ligand A1BYZ D 8009**



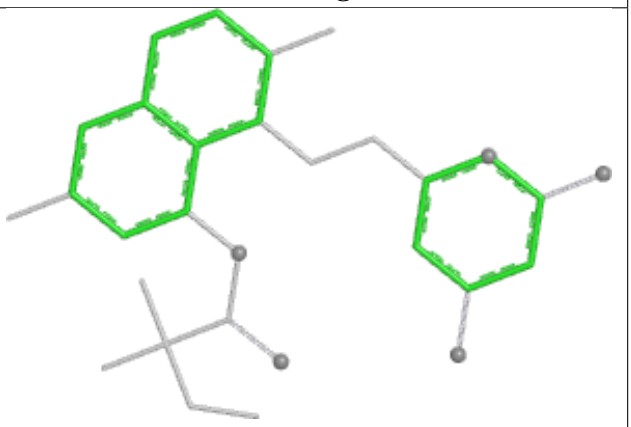
**Bond lengths**



**Bond angles**

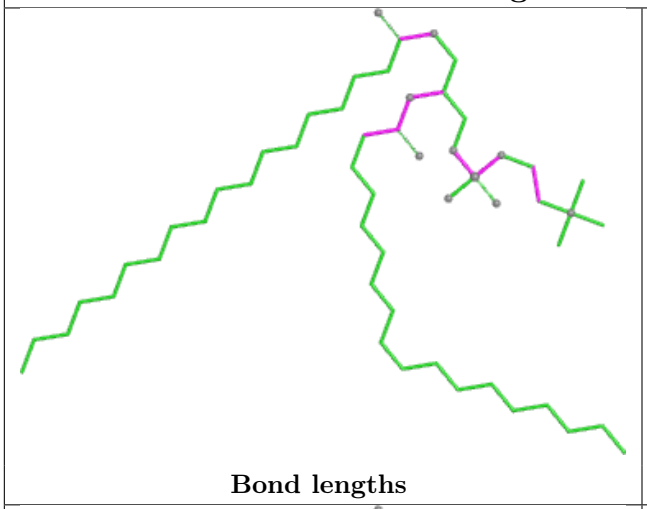


**Torsions**

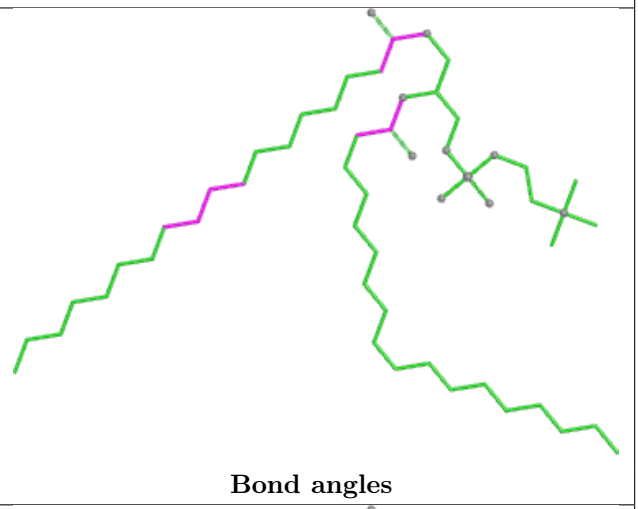


**Rings**

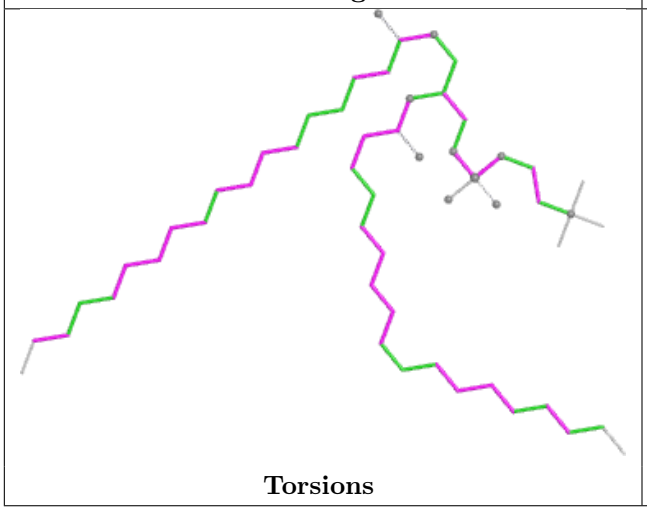
**Ligand PCW B 8006**



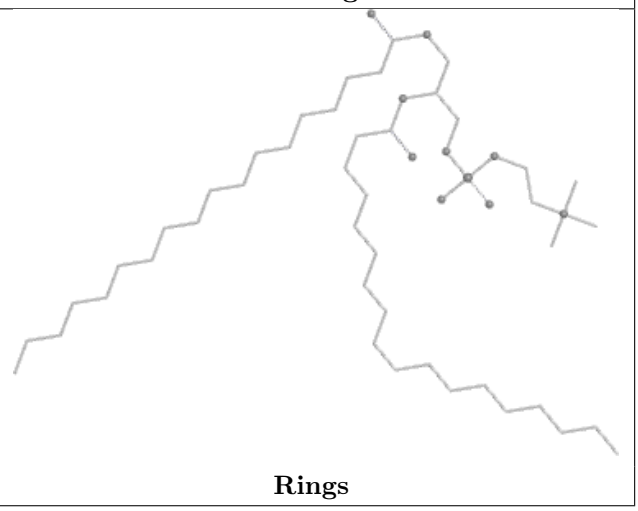
**Bond lengths**



**Bond angles**

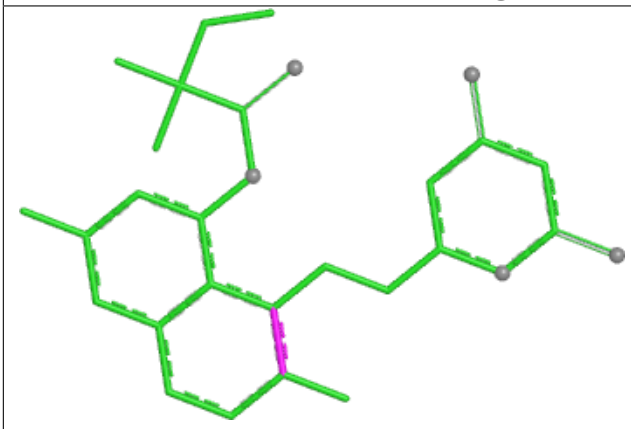


**Torsions**

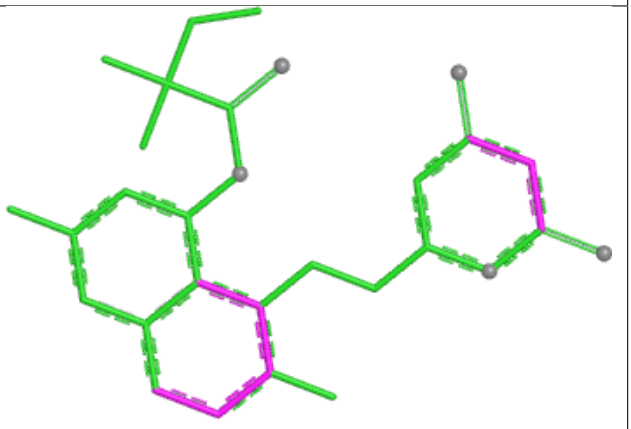


**Rings**

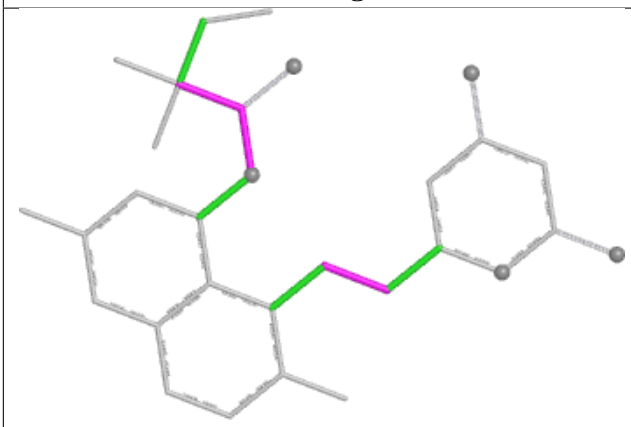
**Ligand A1BYZ A 8009**



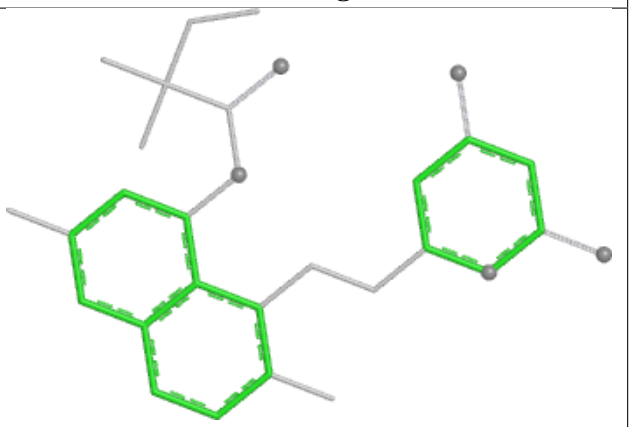
**Bond lengths**



**Bond angles**

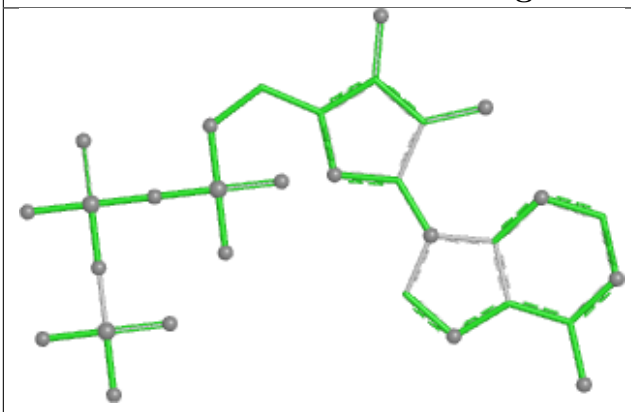


**Torsions**

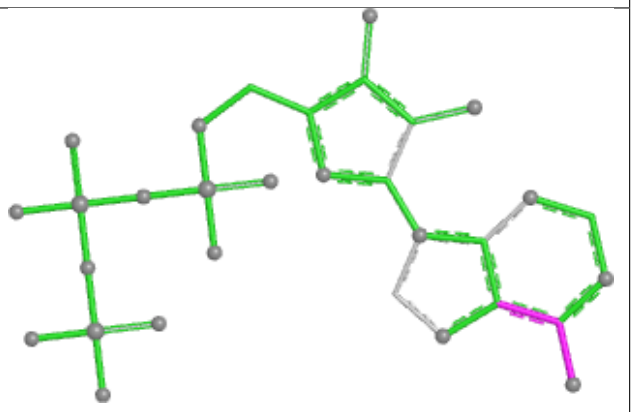


**Rings**

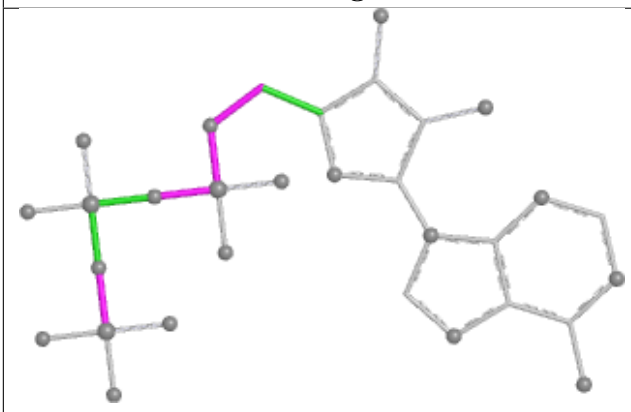
**Ligand ATP A 8007**



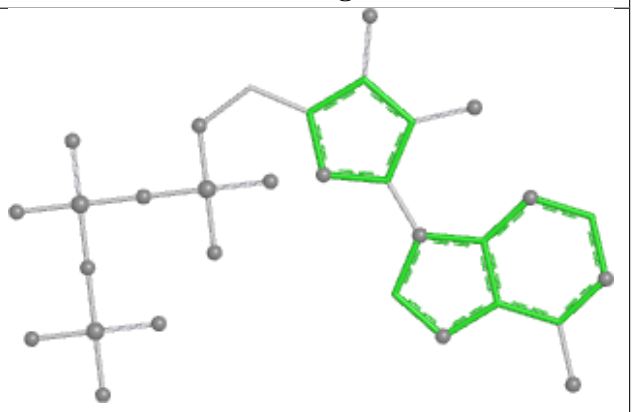
Bond lengths



Bond angles

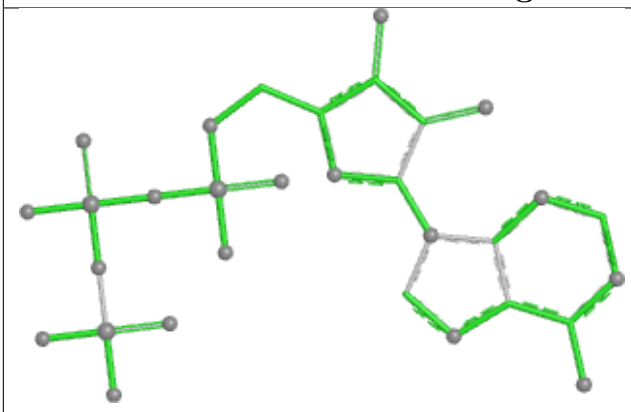


Torsions



Rings

**Ligand ATP C 8007**



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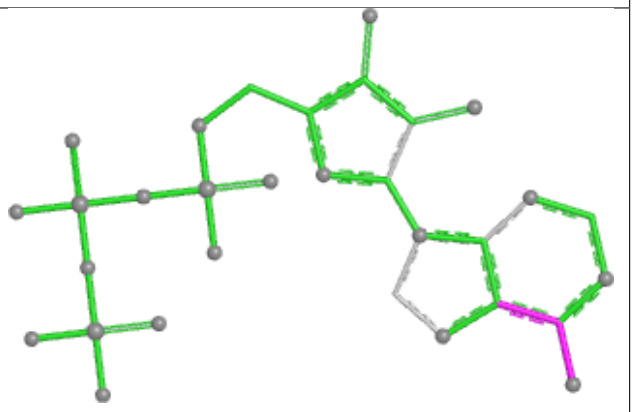
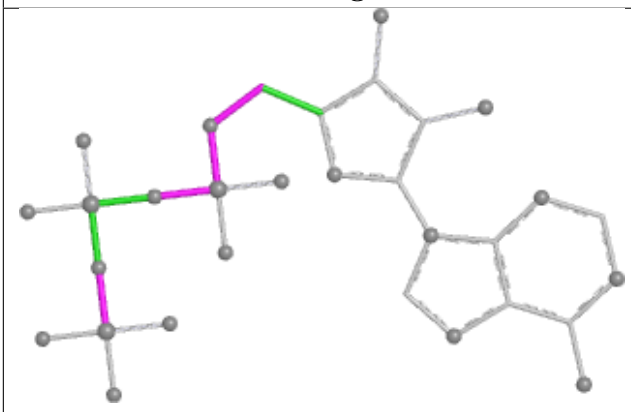
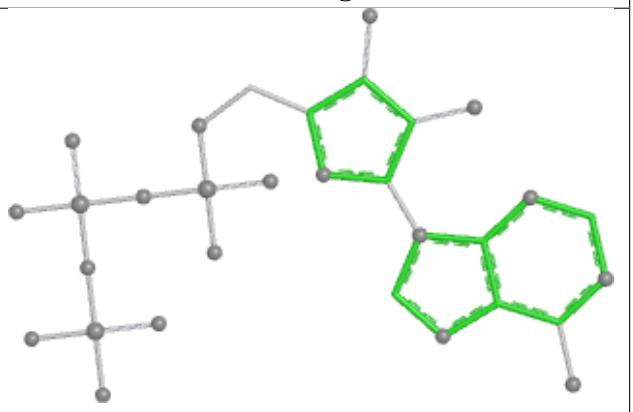


Bond angles

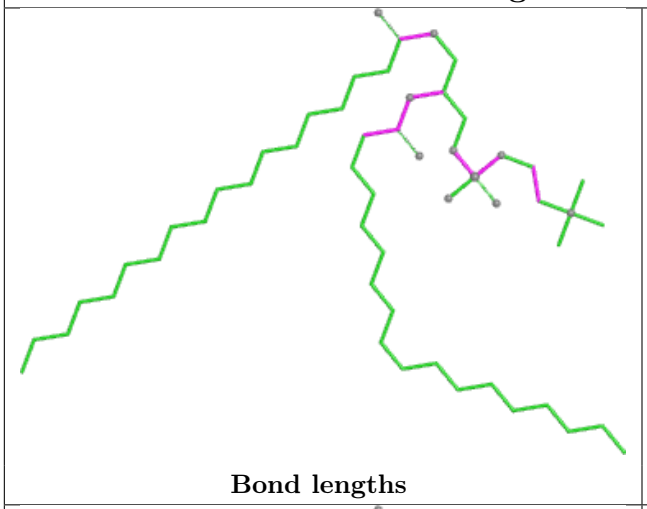


Torsions

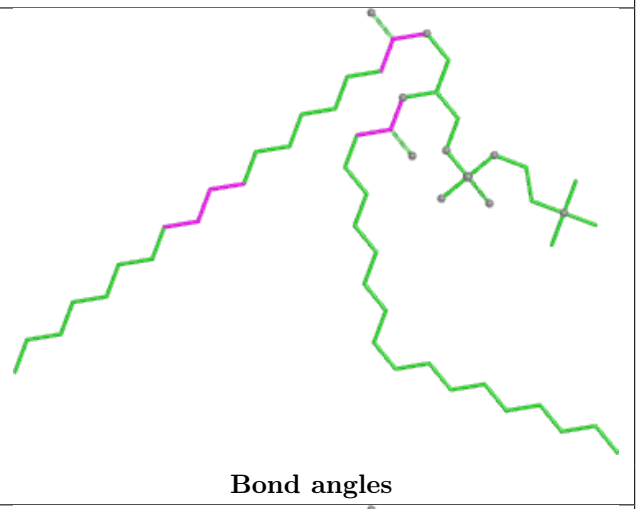


Rings

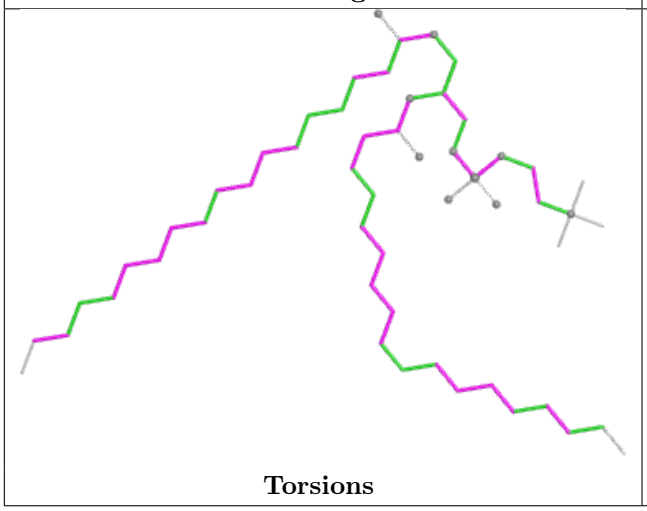
**Ligand PCW D 8006**



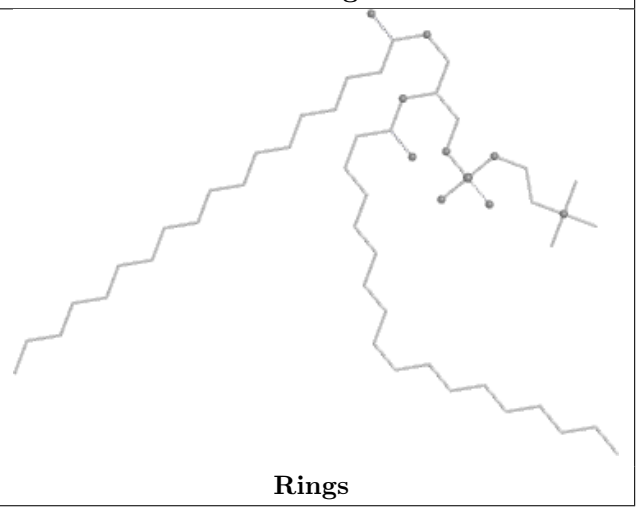
**Bond lengths**



**Bond angles**

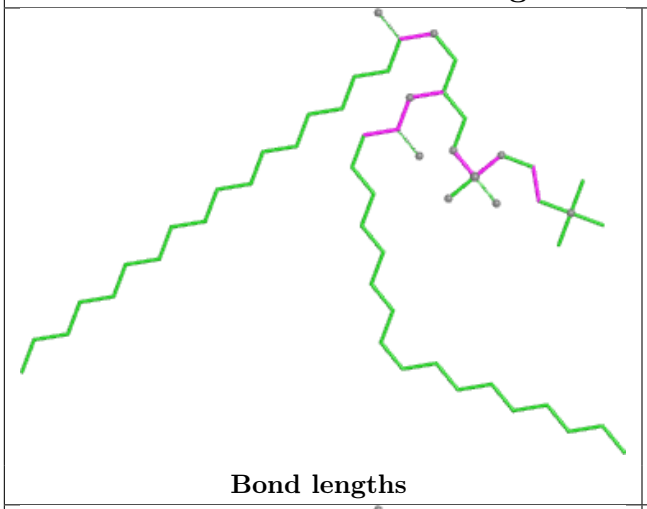


**Torsions**



**Rings**

**Ligand PCW A 8005**



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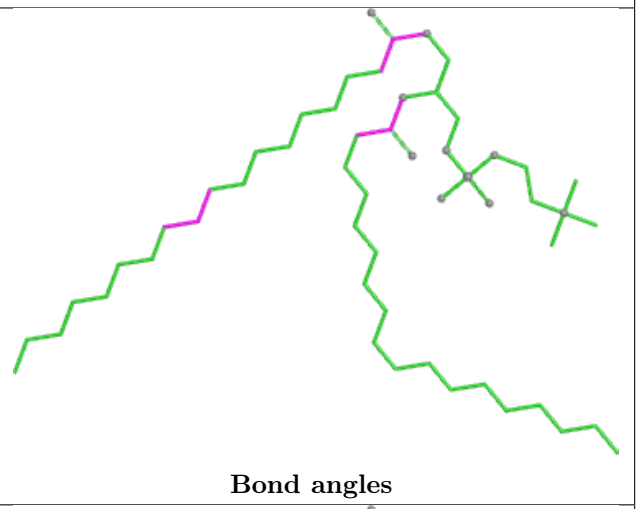
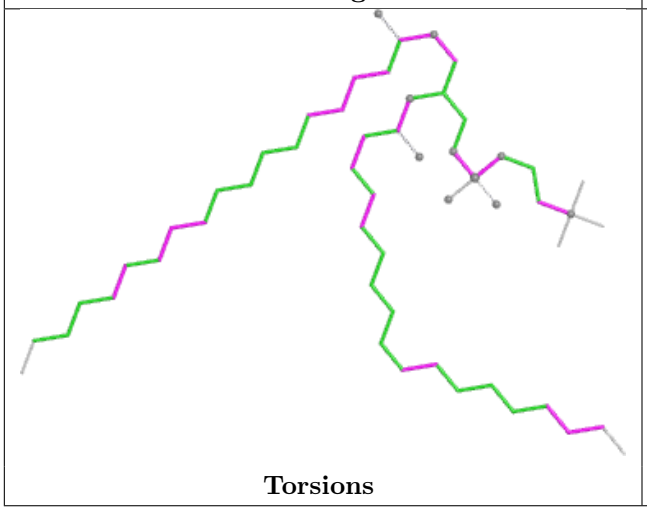
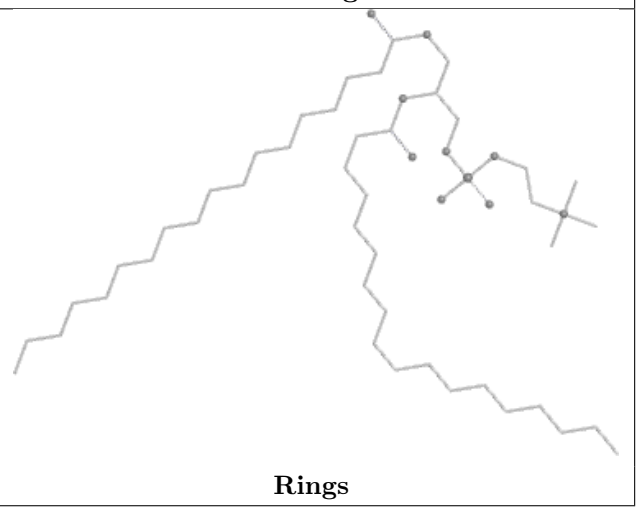


**Bond angles**

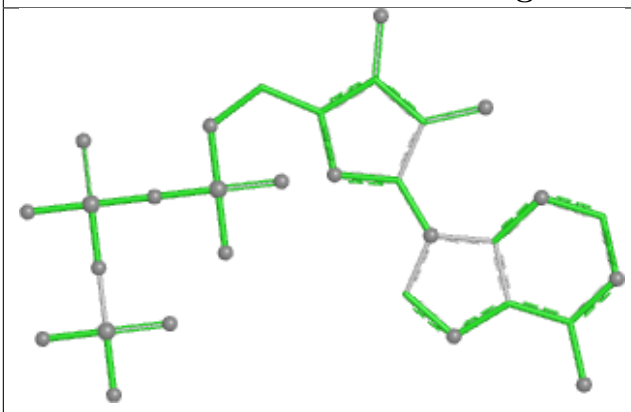


**Torsions**

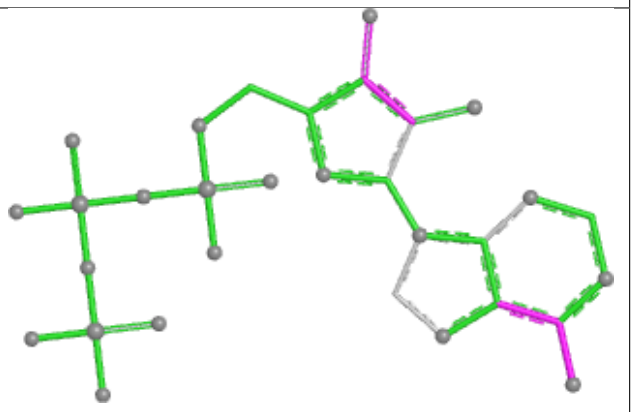


**Rings**

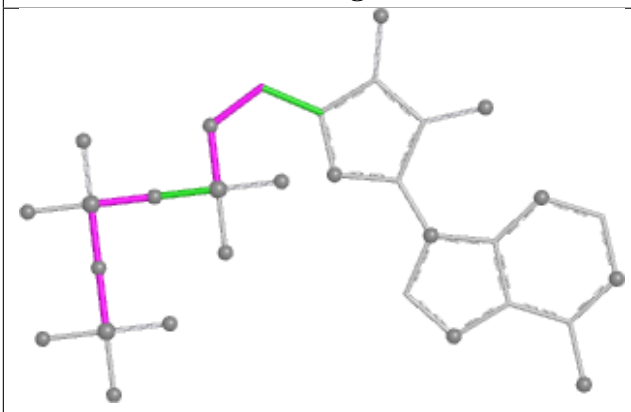
**Ligand ATP B 8003**



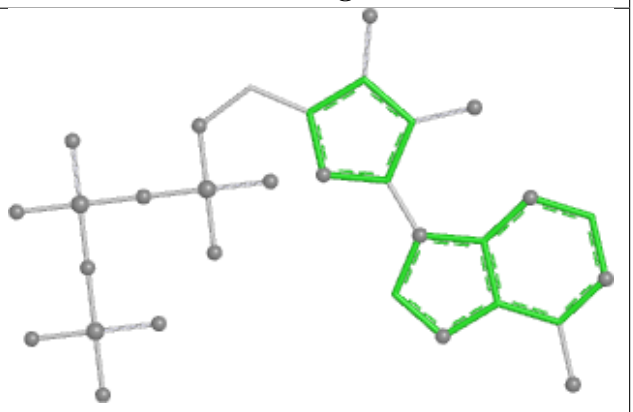
Bond lengths



Bond angles

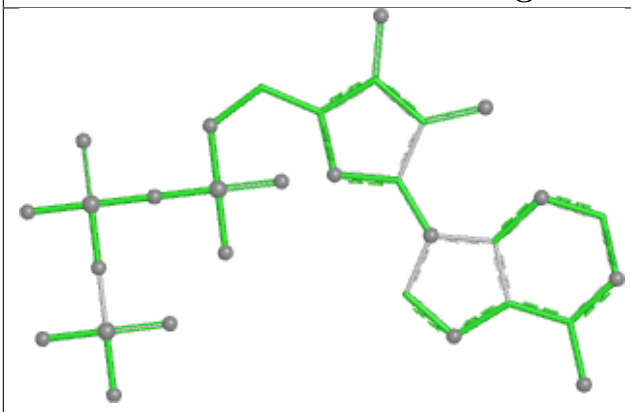


Torsions

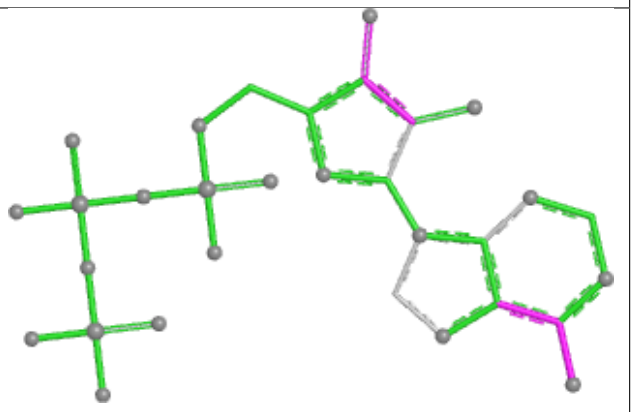


Rings

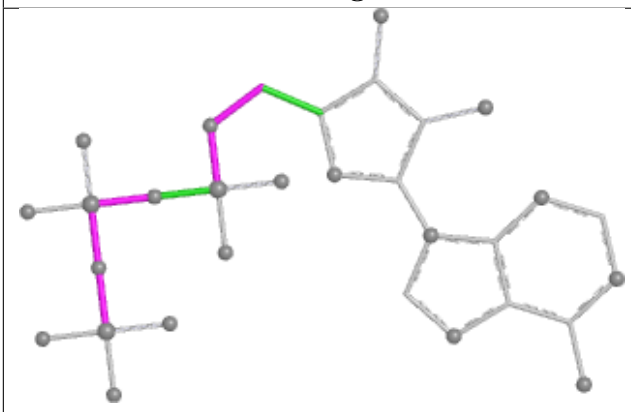
**Ligand ATP C 8003**



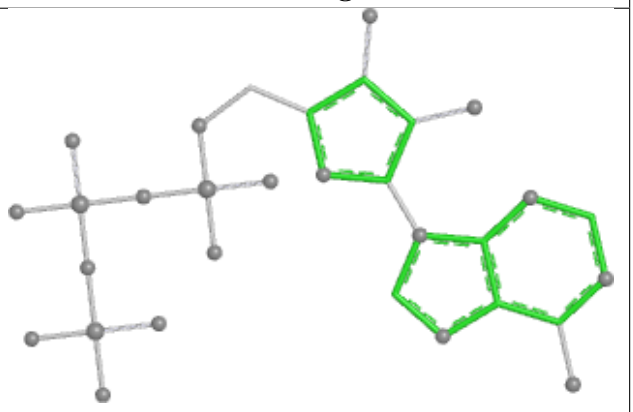
Bond lengths



Bond angles

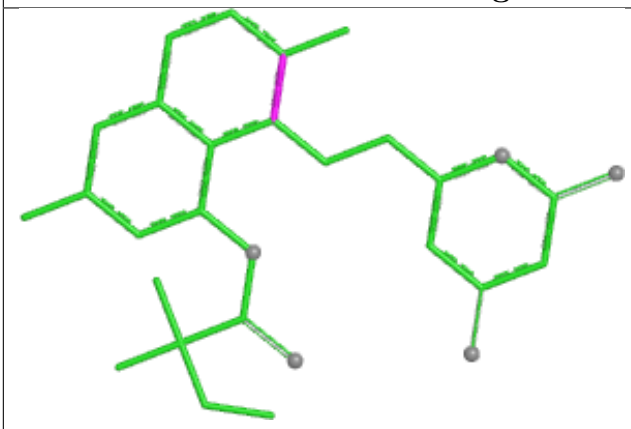


Torsions

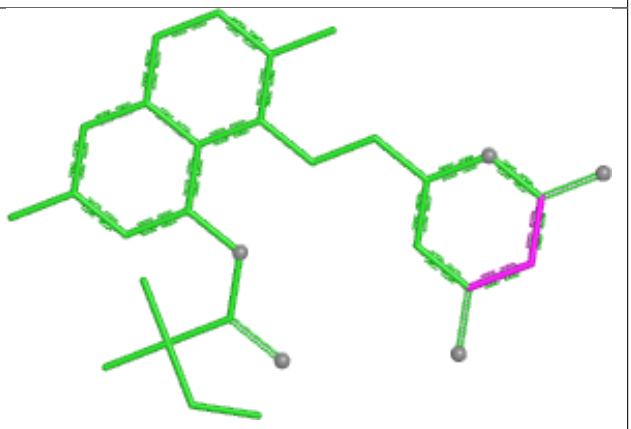


Rings

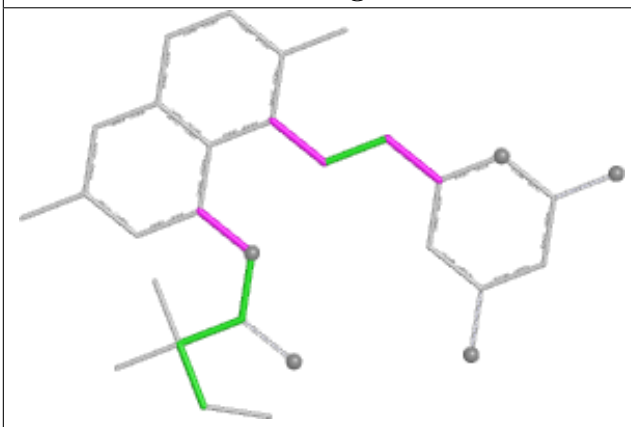
**Ligand A1BYZ A 8008**



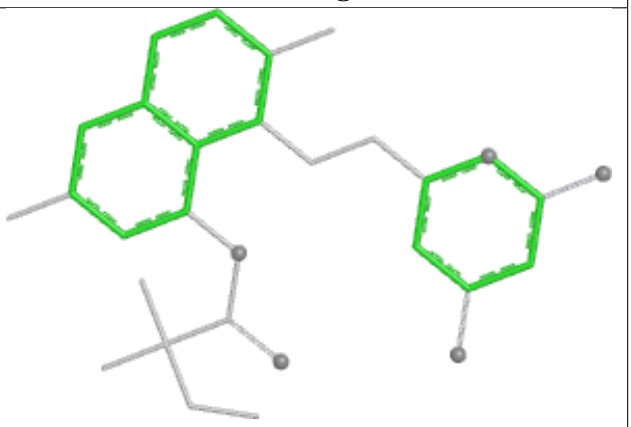
**Bond lengths**



**Bond angles**

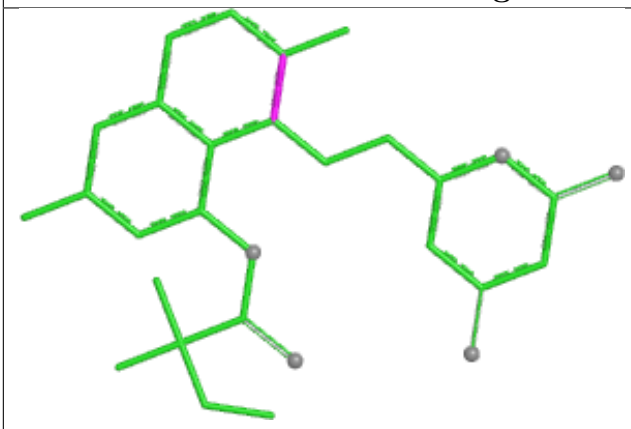


**Torsions**

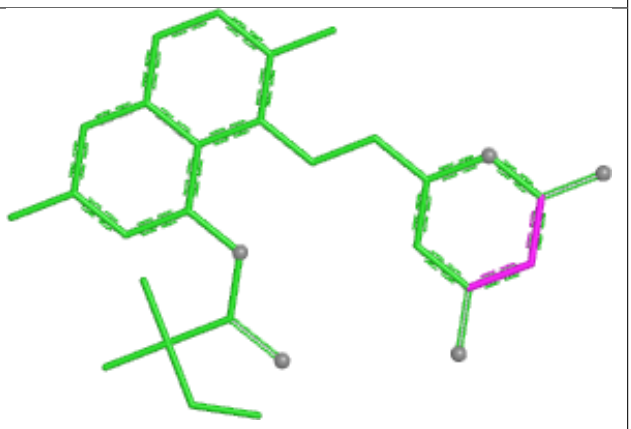


**Rings**

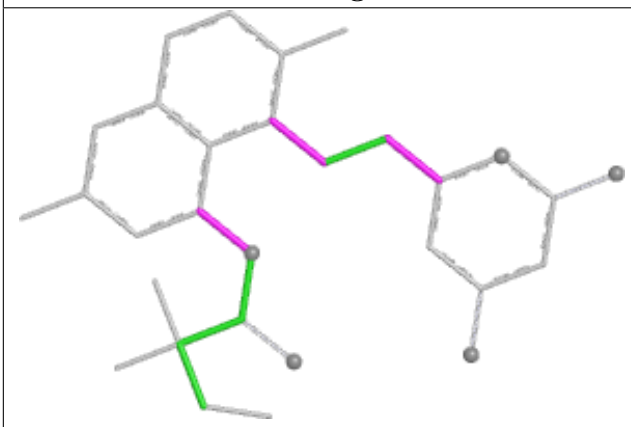
**Ligand A1BYZ B 8008**



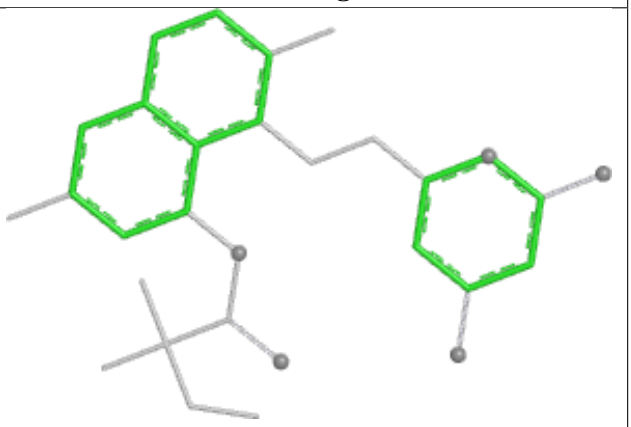
**Bond lengths**



**Bond angles**

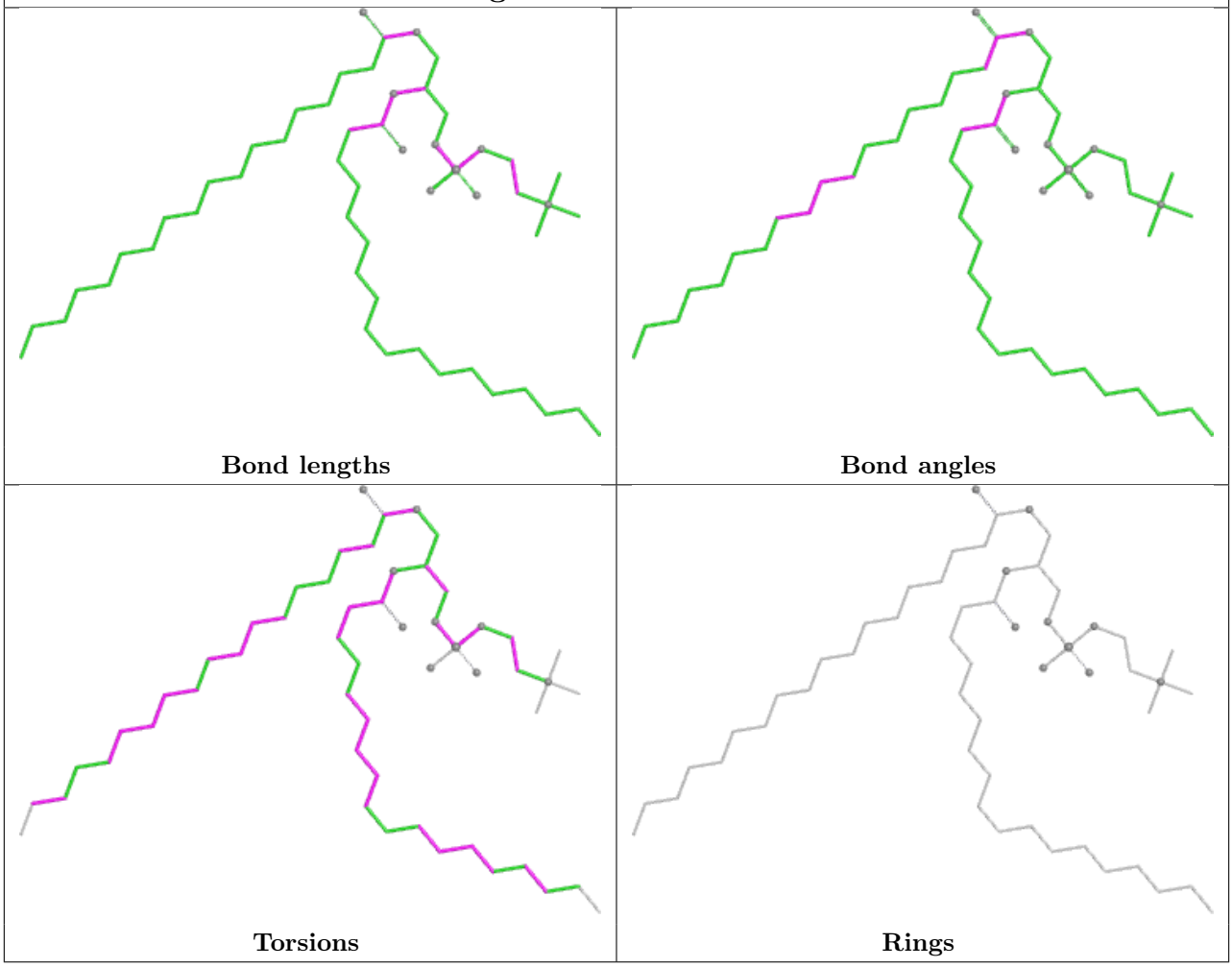


**Torsions**

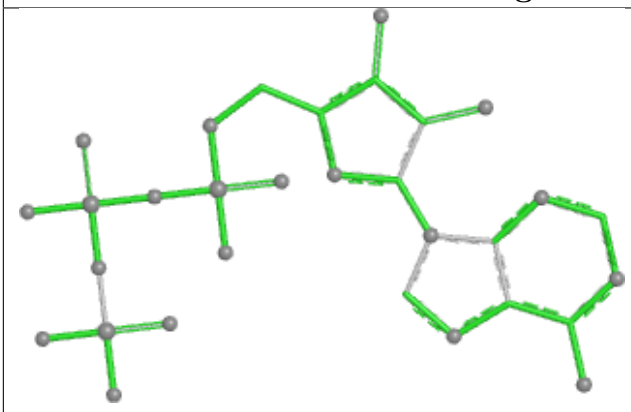


**Rings**

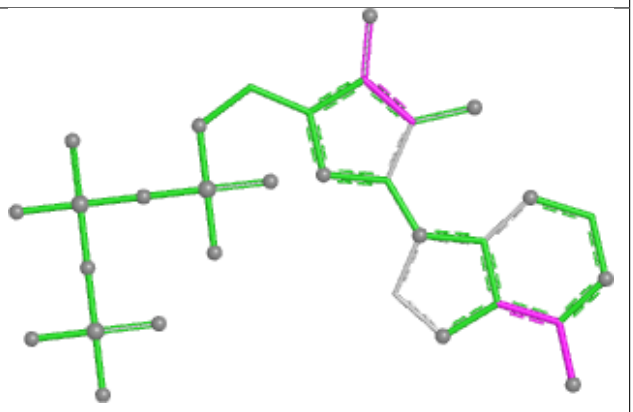
**Ligand PCW C 8006**



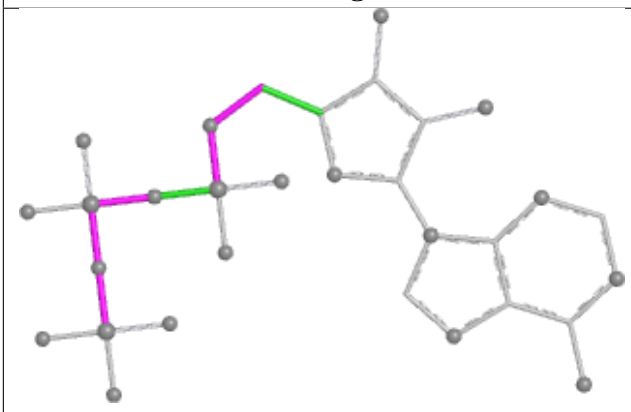
**Ligand ATP D 8003**



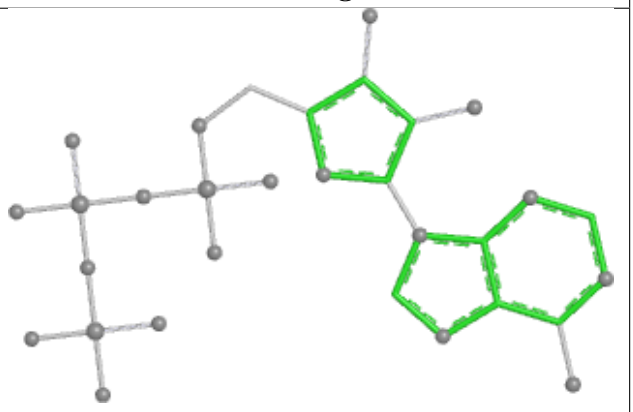
Bond lengths



Bond angles

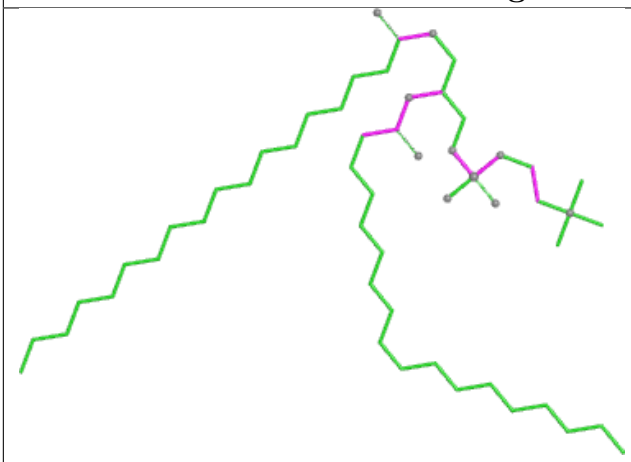


Torsions

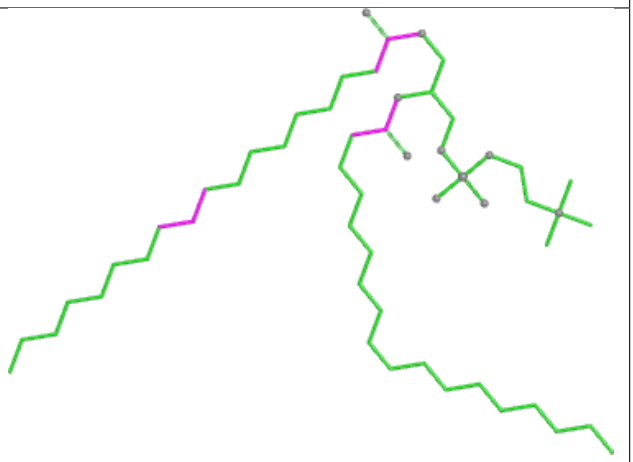


Rings

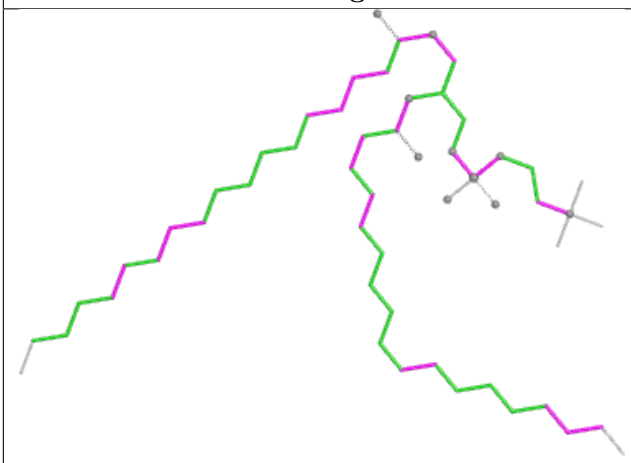
**Ligand PCW D 8005**



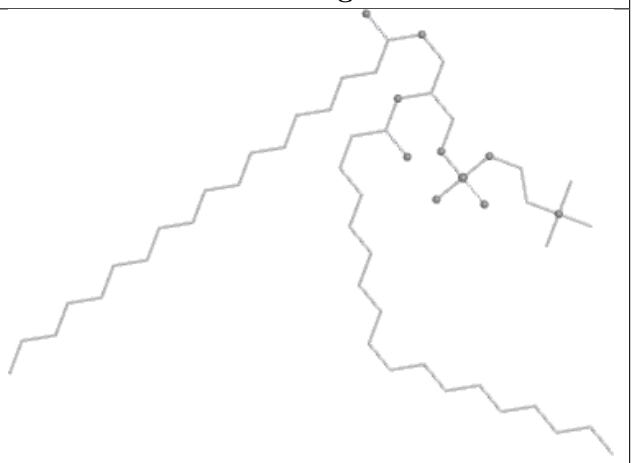
**Bond lengths**



**Bond angles**

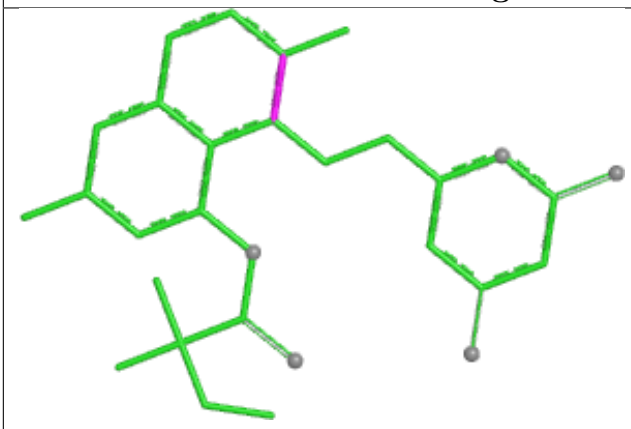


**Torsions**

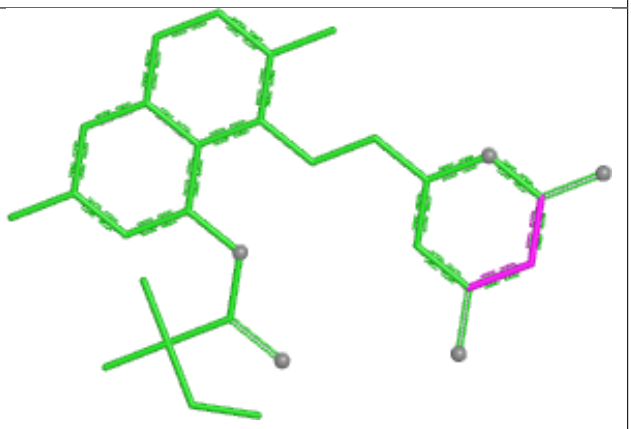


**Rings**

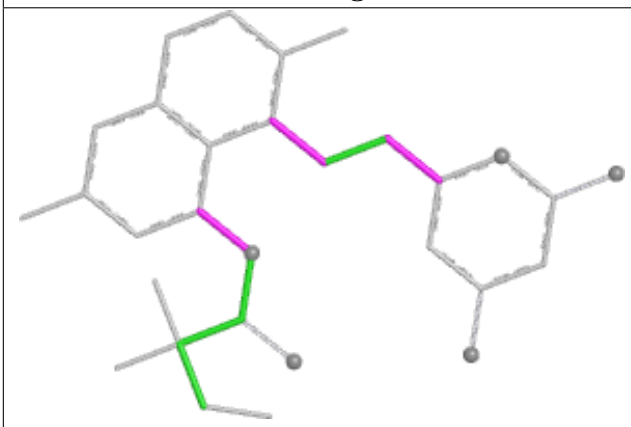
**Ligand A1BYZ D 8008**



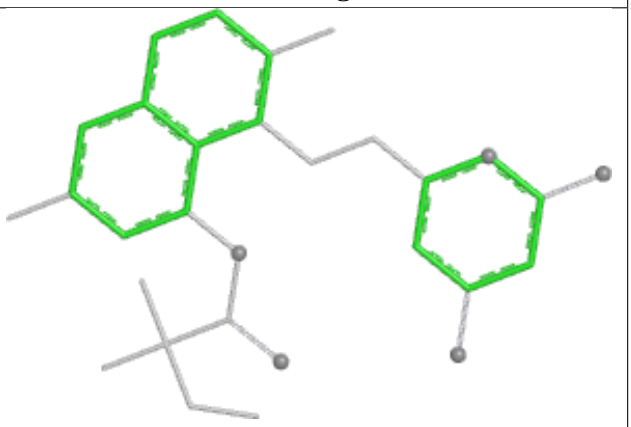
**Bond lengths**



**Bond angles**

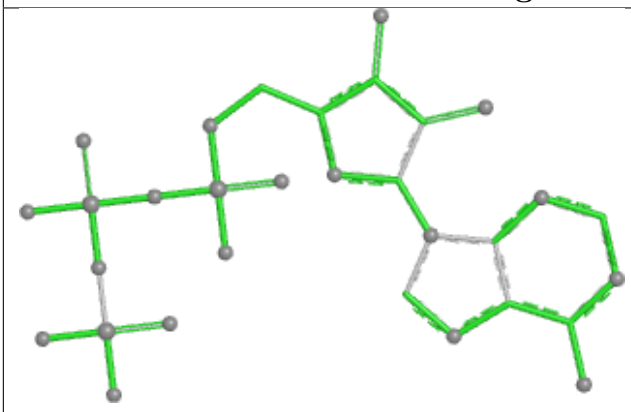


**Torsions**

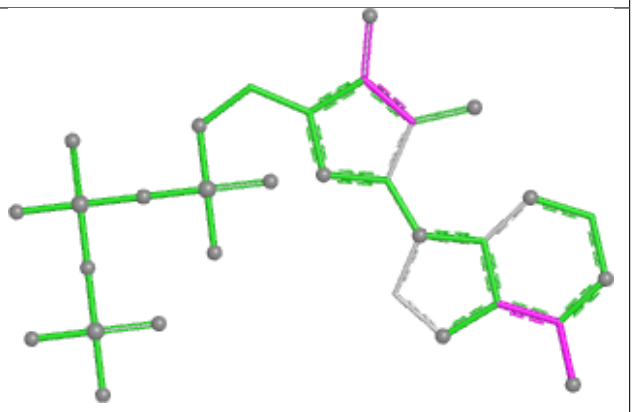


**Rings**

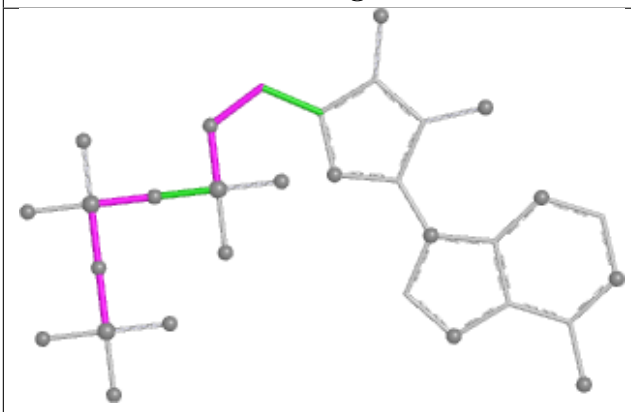
**Ligand ATP A 8003**



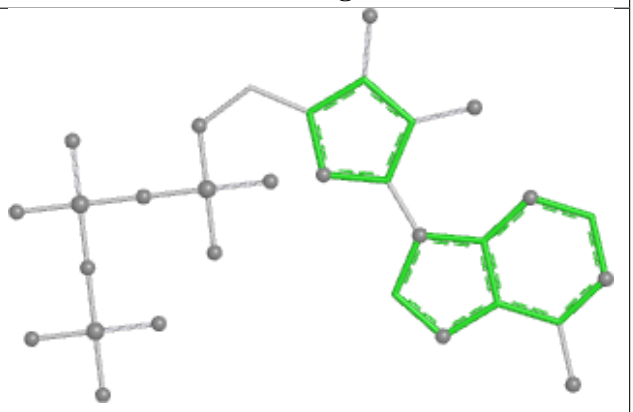
Bond lengths



Bond angles

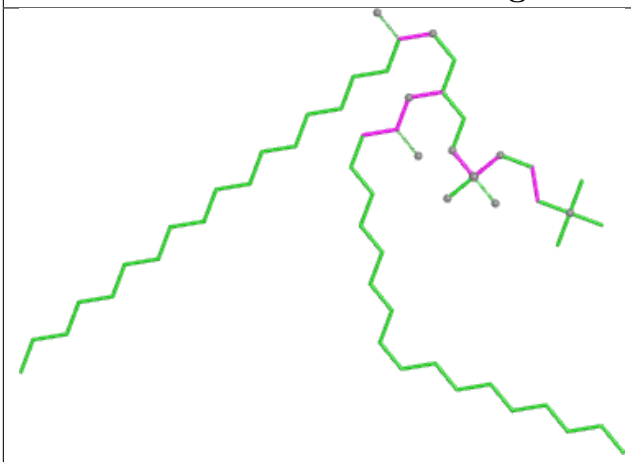


Torsions

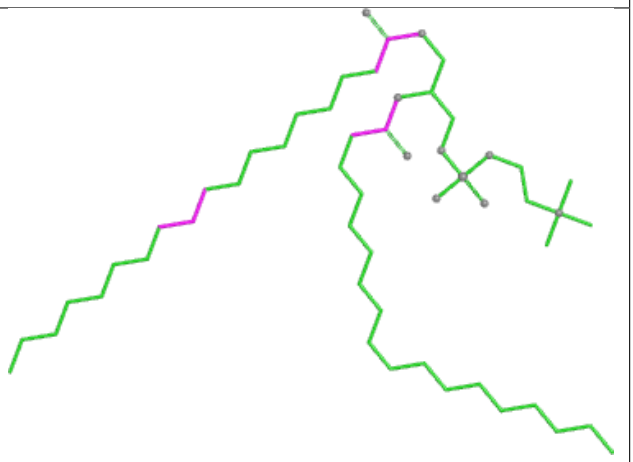


Rings

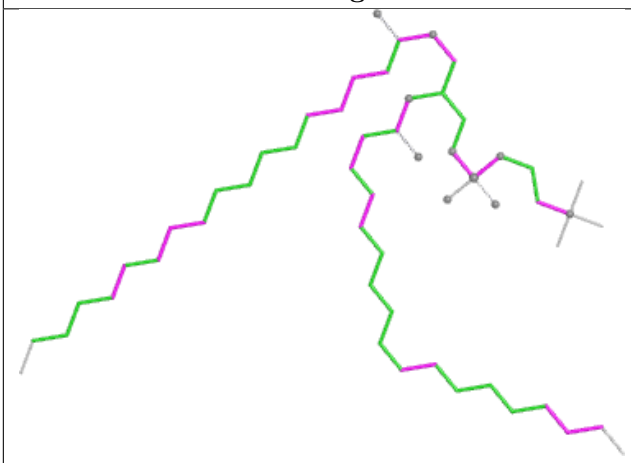
**Ligand PCW C 8005**



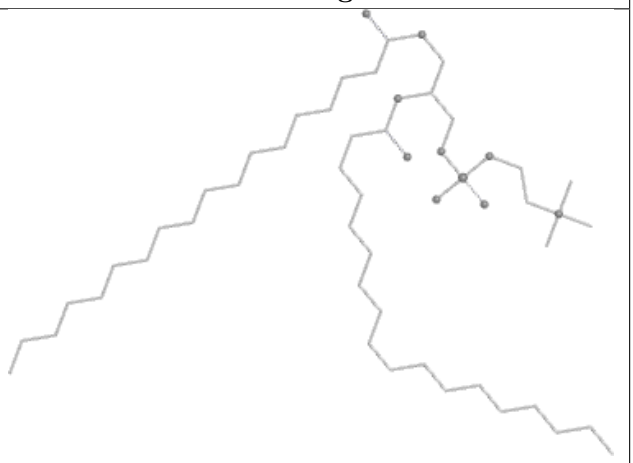
**Bond lengths**



**Bond angles**

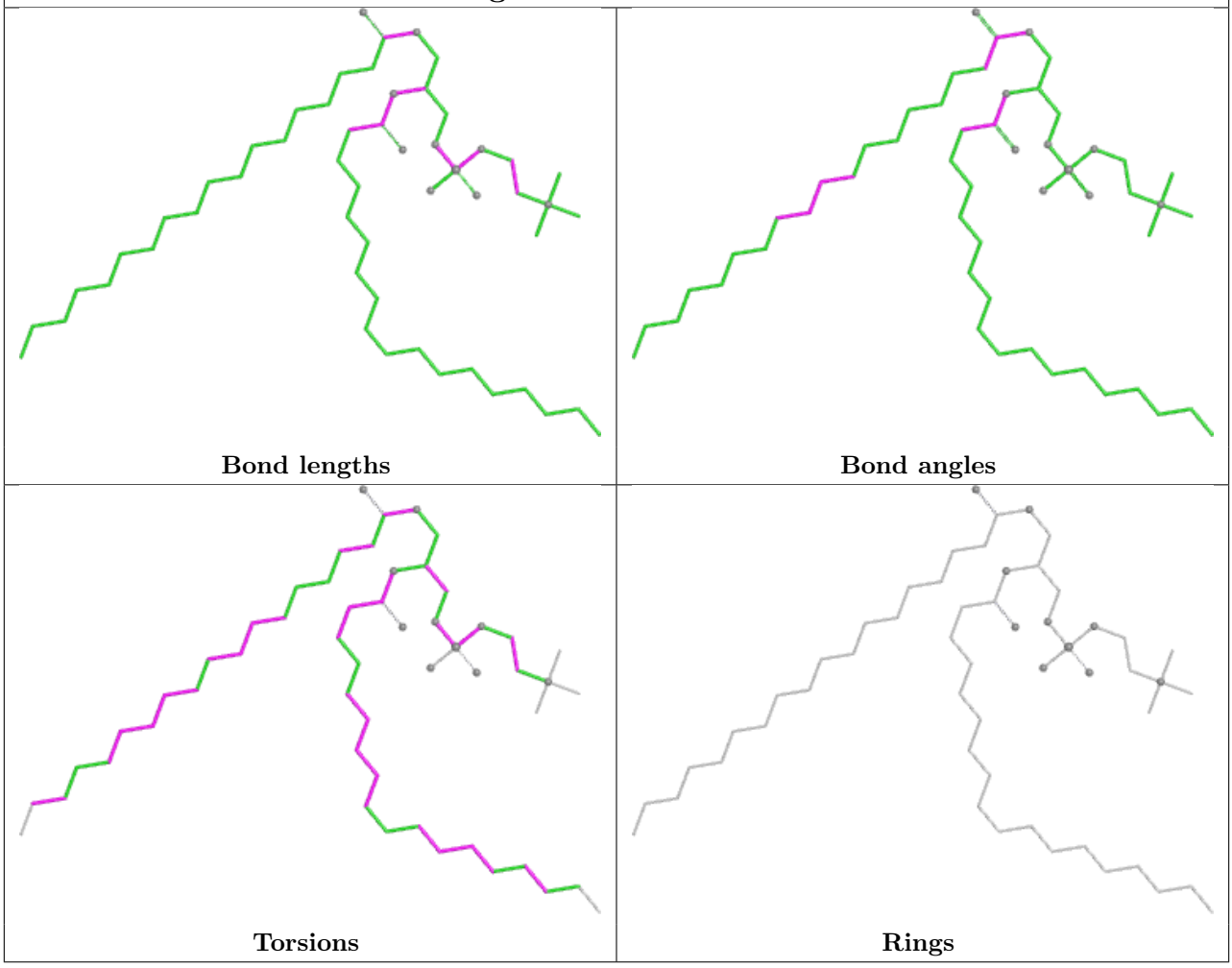


**Torsions**



**Rings**

**Ligand PCW A 8006**




## 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.

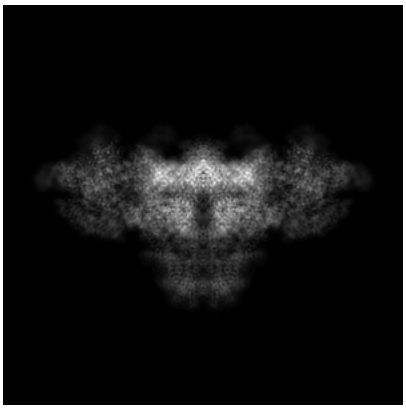
# 6 Map visualisation

This section contains visualisations of the EMDB entry EMD-49536. These allow visual inspection of the internal detail of the map and identification of artifacts.

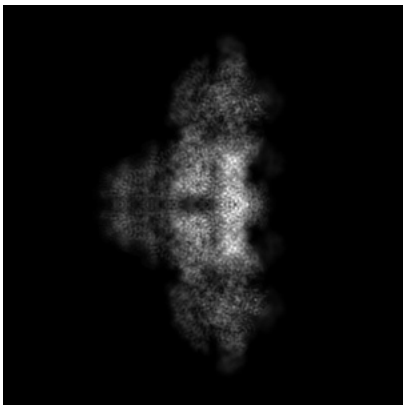
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

## 6.1 Orthogonal projections

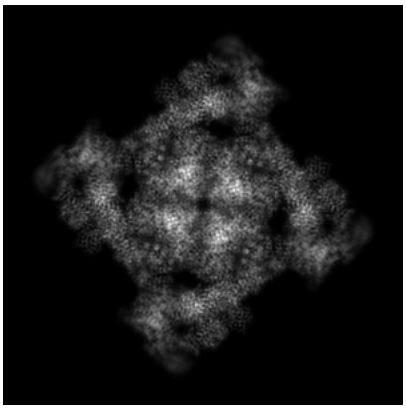
### 6.1.1 Primary map



X

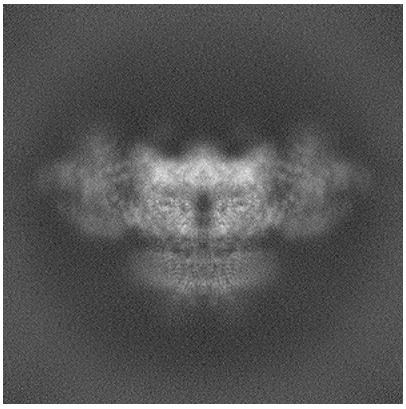


Y

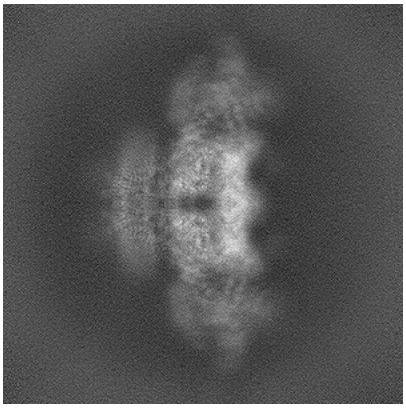


Z

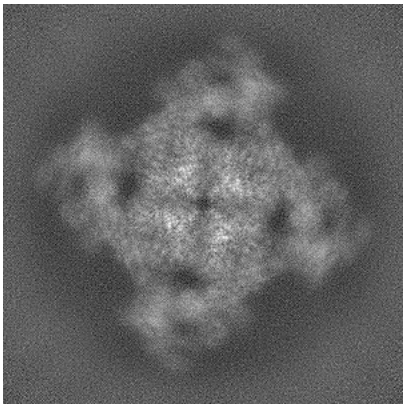
### 6.1.2 Raw map



X



Y



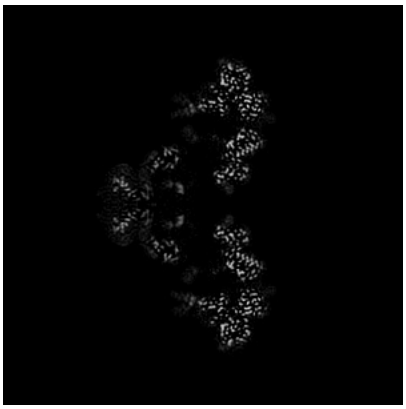
Z

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

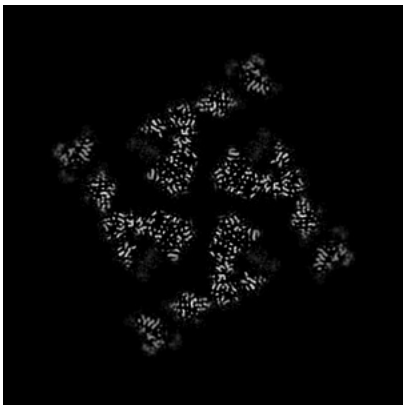
## 6.2 Central slices (i)

### 6.2.1 Primary map

X Index: 256

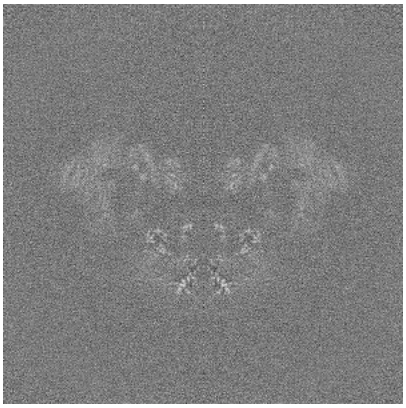


Y Index: 256

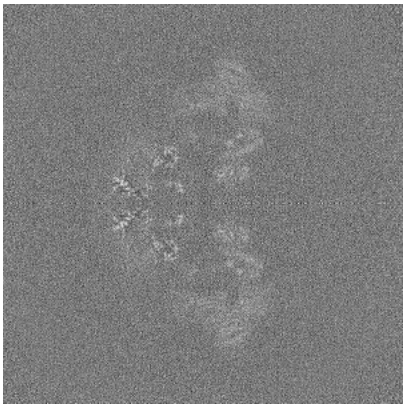


Z Index: 256

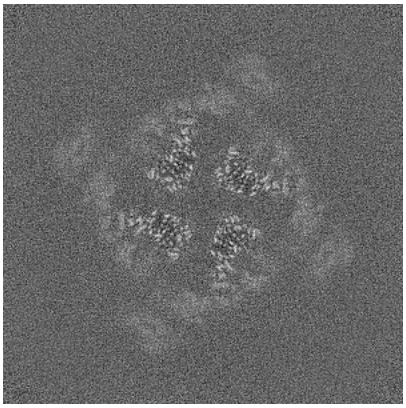
### 6.2.2 Raw map



X Index: 256



Y Index: 256



Z Index: 256

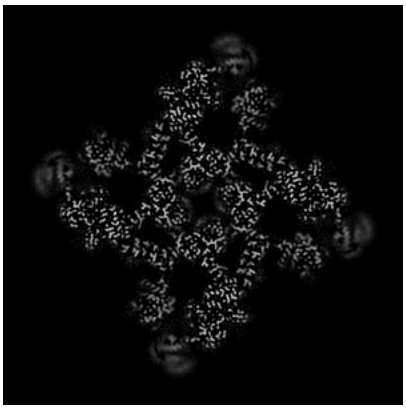
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices (i)

### 6.3.1 Primary map

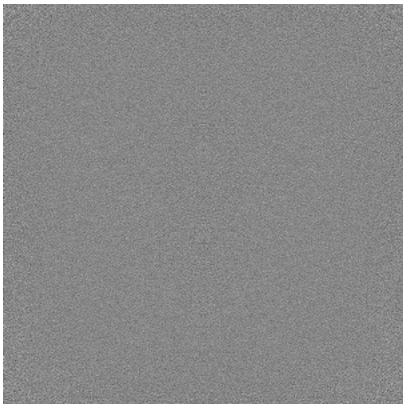
X Index: 238

Y Index: 274

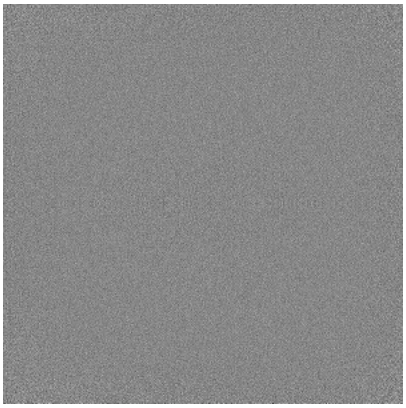


Z Index: 287

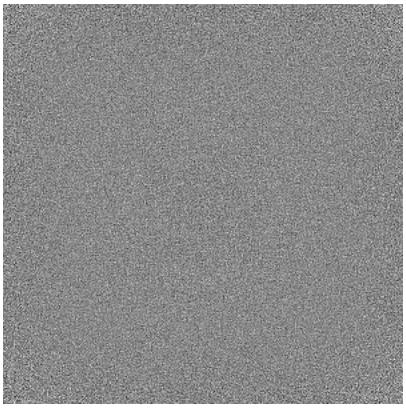
### 6.3.2 Raw map



X Index: 0



Y Index: 0

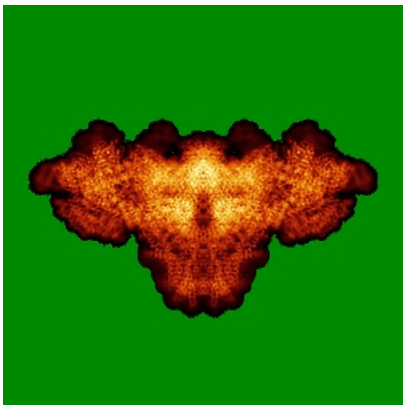


Z Index: 0

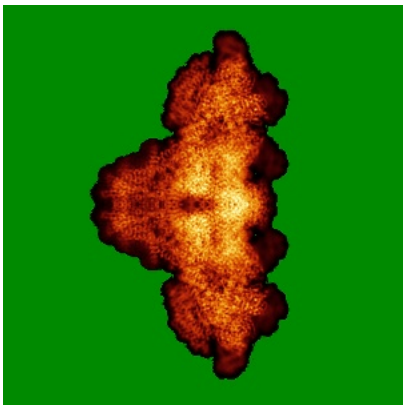
The images above show the largest variance slices of the map in three orthogonal directions.

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

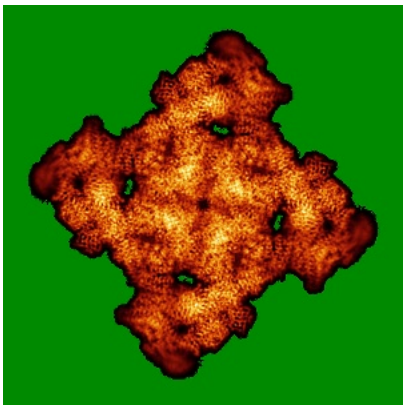
### 6.4.1 Primary map



X

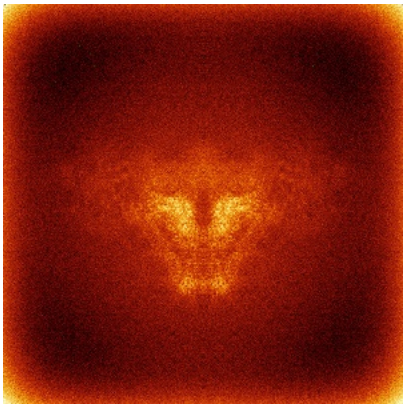


Y

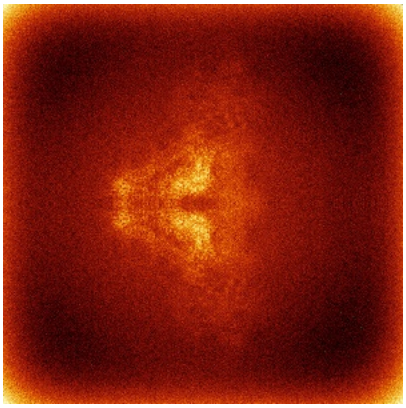


Z

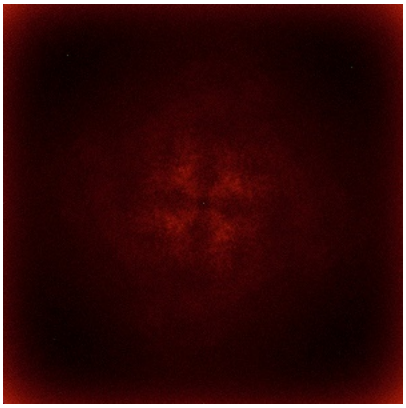
### 6.4.2 Raw map



X



Y

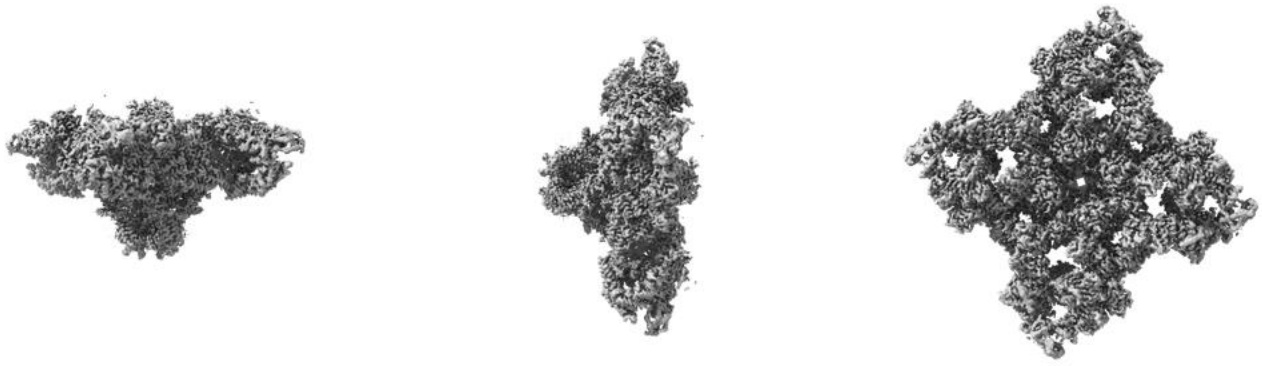


Z

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)

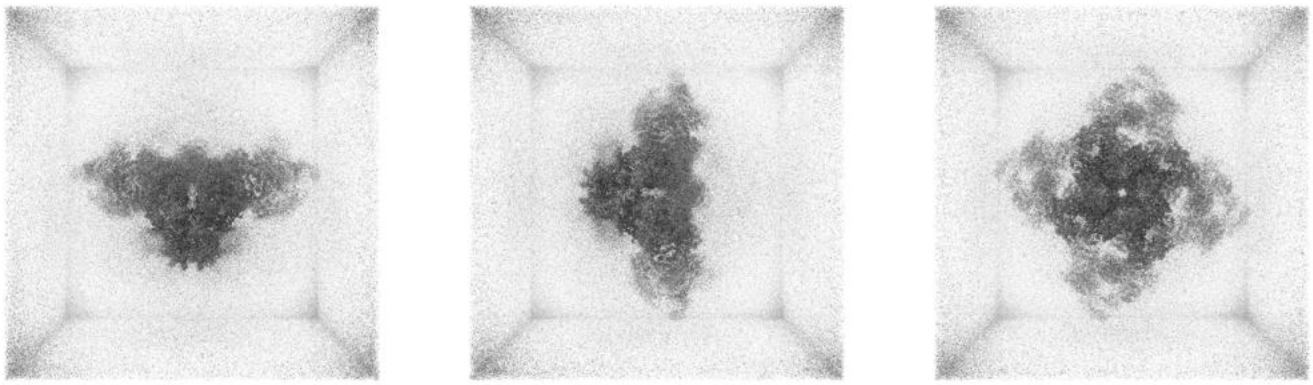
### 6.5.1 Primary map



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.

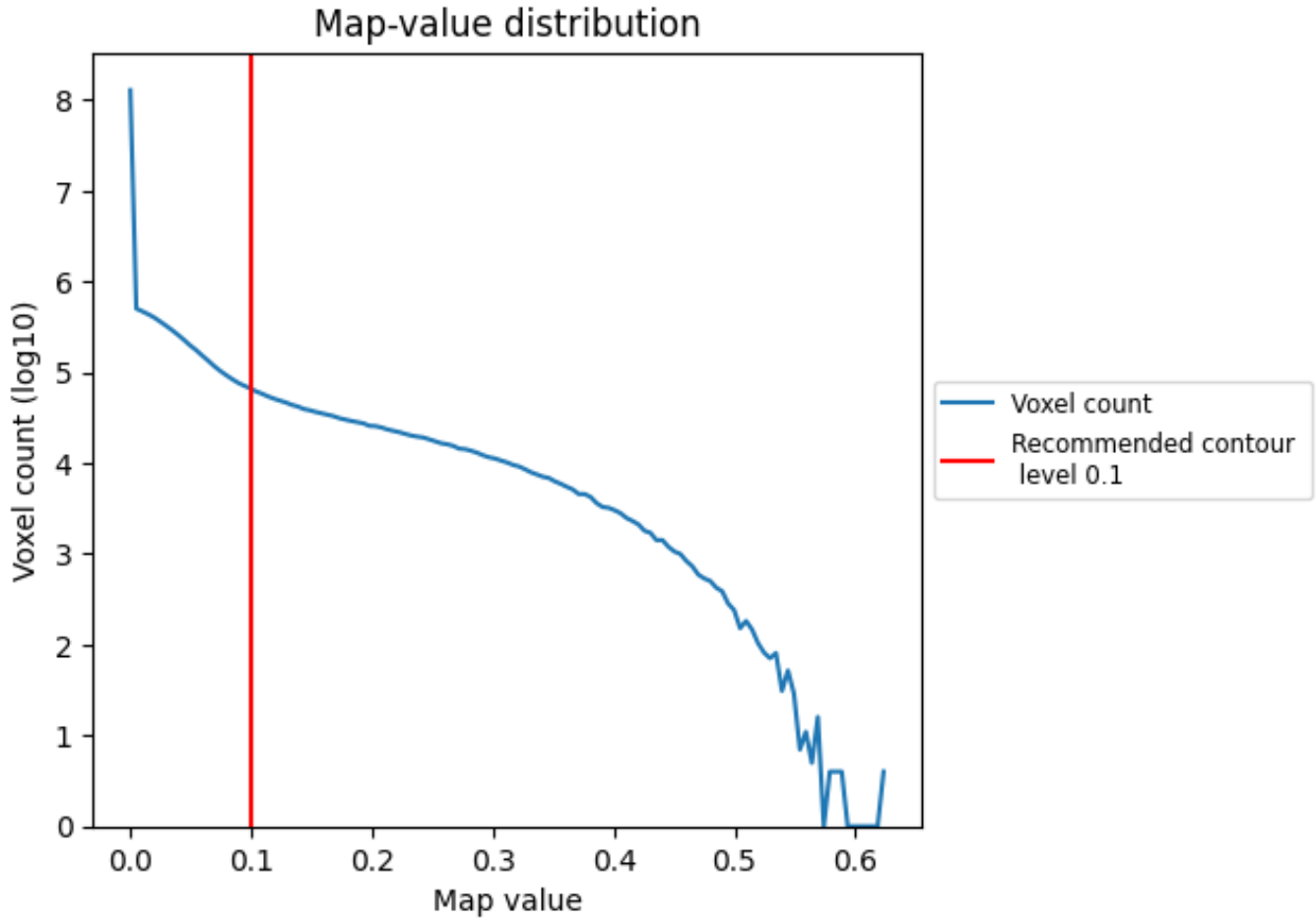
## 6.6 Mask visualisation (i)

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

# 7 Map analysis

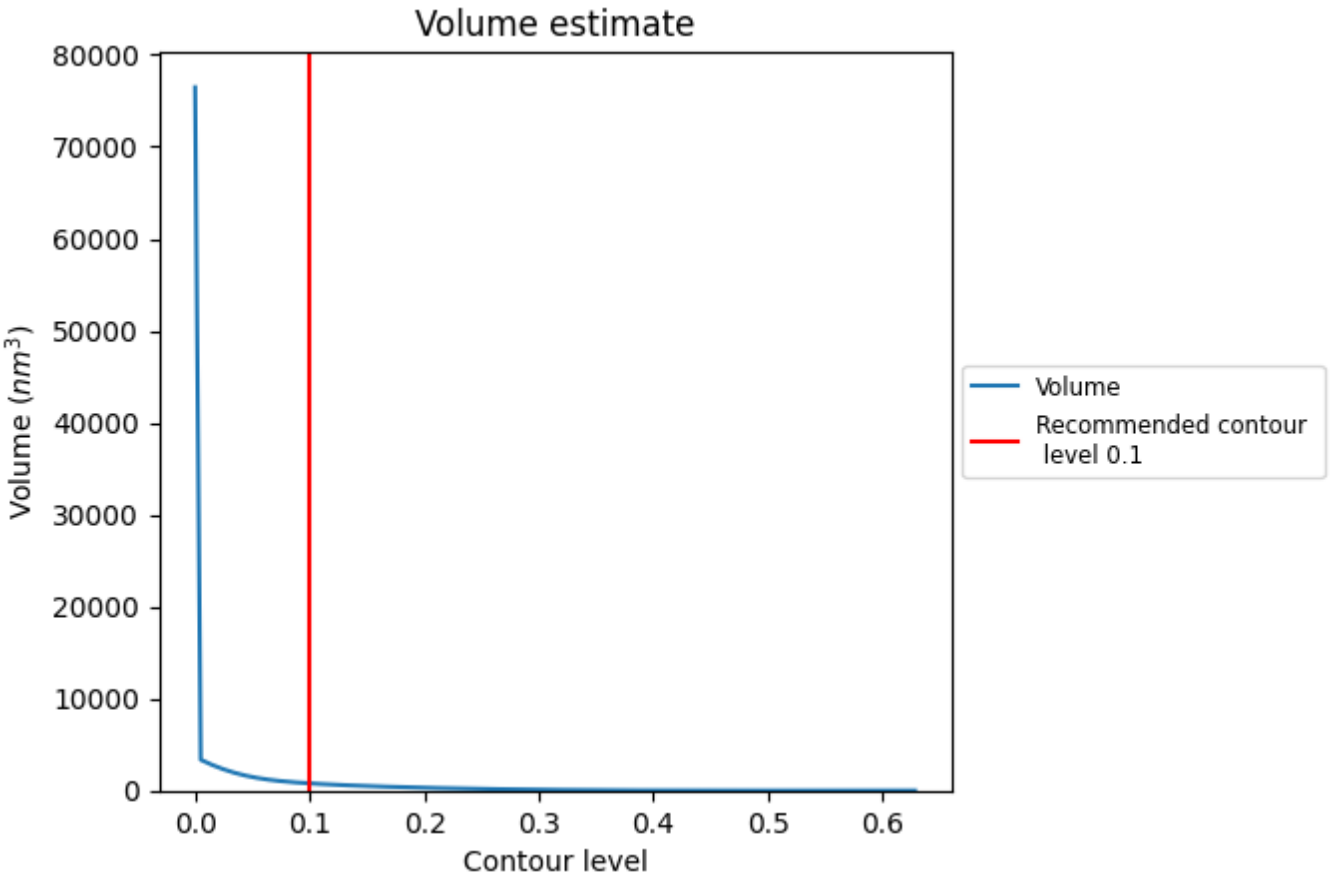
This section contains the results of statistical analysis of the map.

## 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.

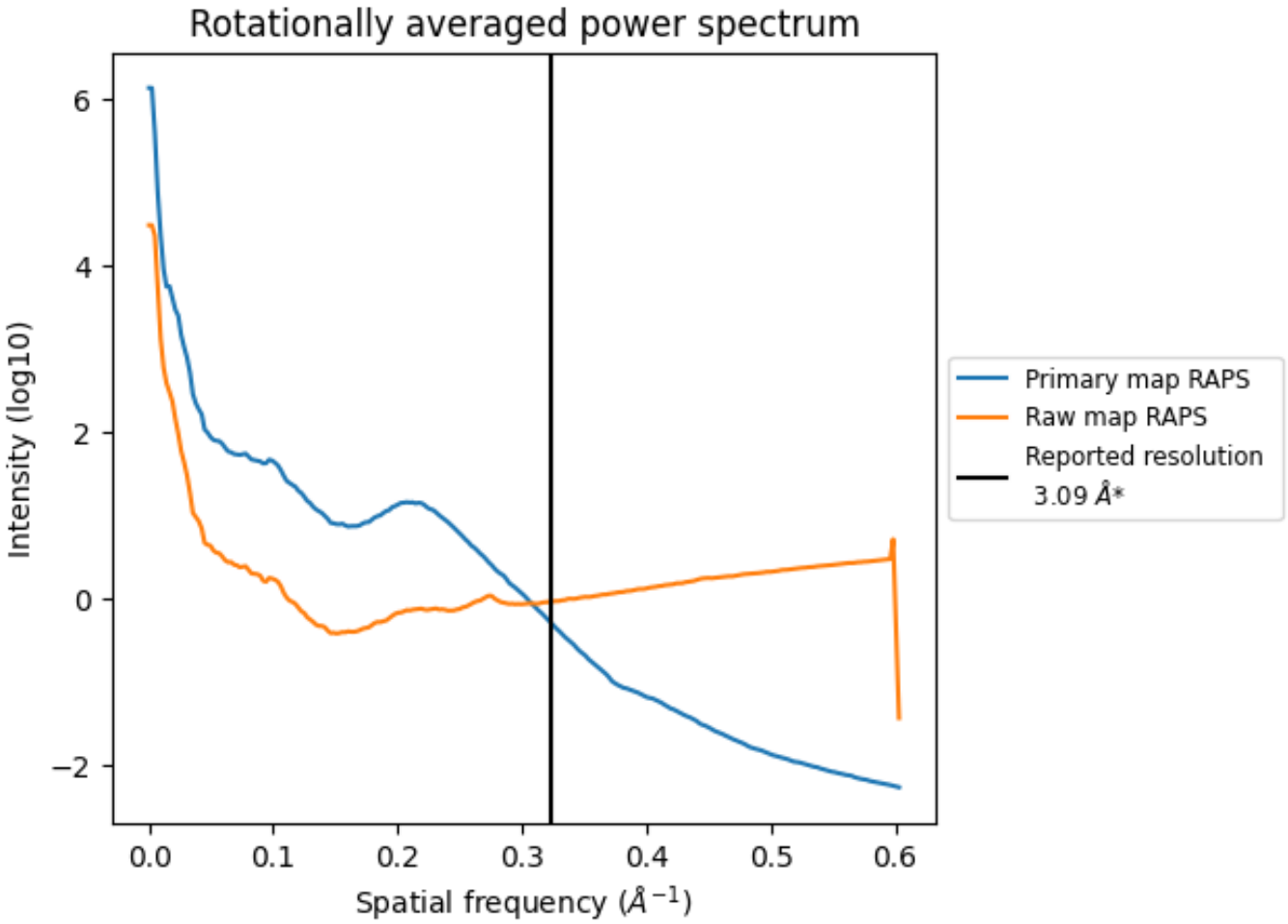
## 7.2 Volume estimate




The volume at the recommended contour level is 783 $nm^3$; this corresponds to an approximate mass of 707 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)

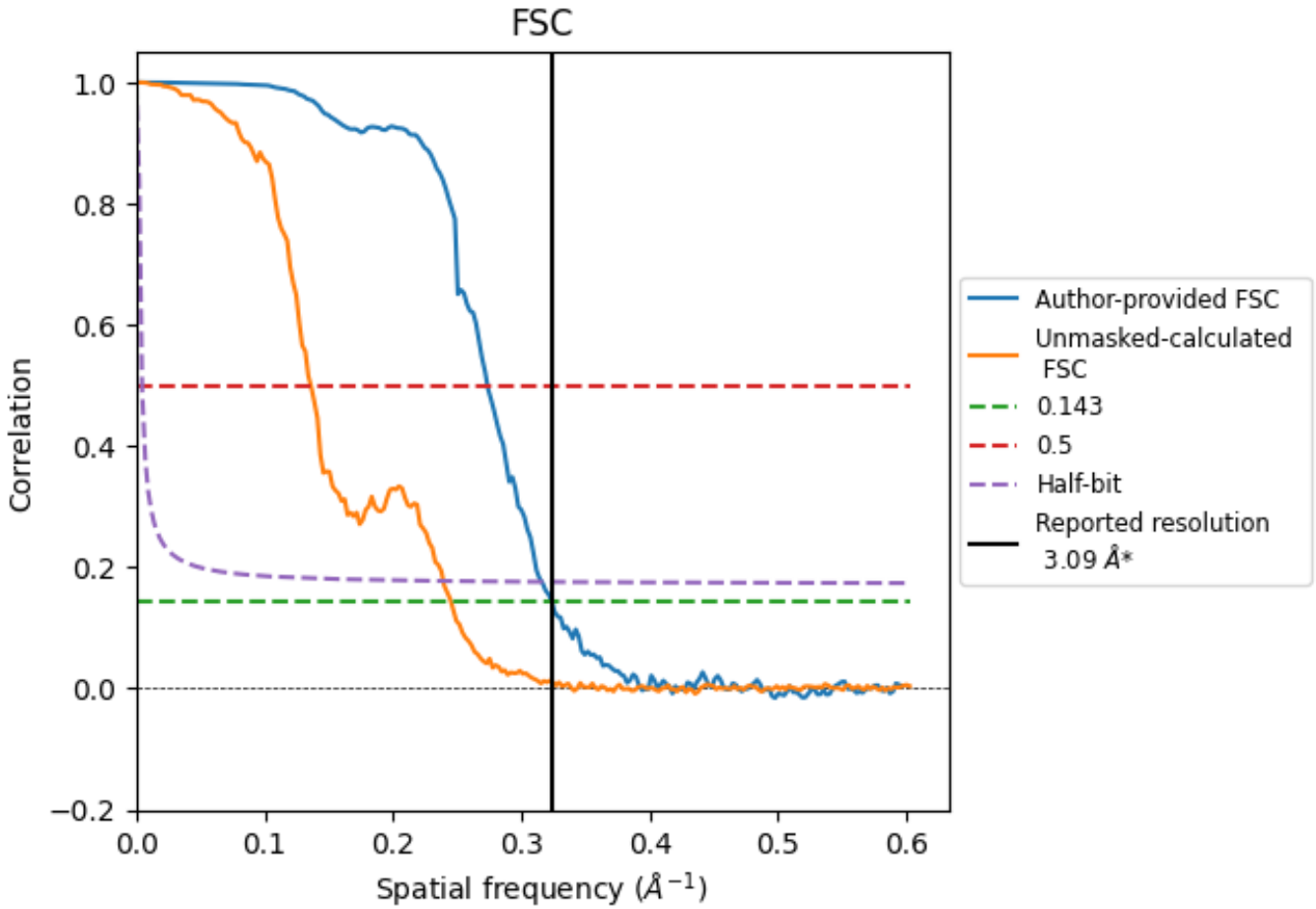



*Reported resolution corresponds to spatial frequency of 0.324 Å$^{-1}$

# 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 0.324 $Å^{-1}$

## 8.2 Resolution estimates (i)

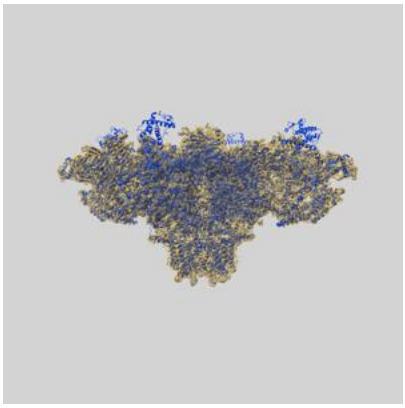
| Resolution estimate (Å) | Estimation criterion (FSC cut-off) | | |
|---|---|---|---|
| | 0.143 | 0.5 | Half-bit |
| Reported by author | 3.09 | - | - |
| Author-provided FSC curve | 3.09 | 3.65 | 3.16 |
| Unmasked-calculated* | 4.08 | 7.35 | 4.18 |

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.08 differs from the reported value 3.09 by more than 10 %

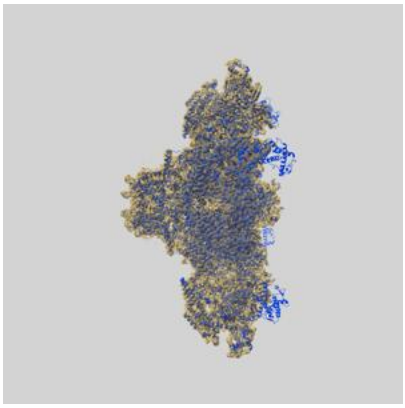
# 9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-49536 and PDB model 9NMP. Per-residue inclusion information can be found in section 3 on page 9.

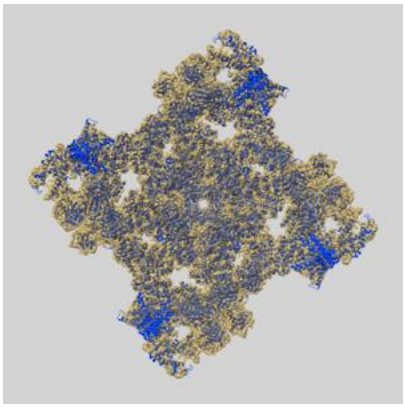
## 9.1 Map-model overlay



X



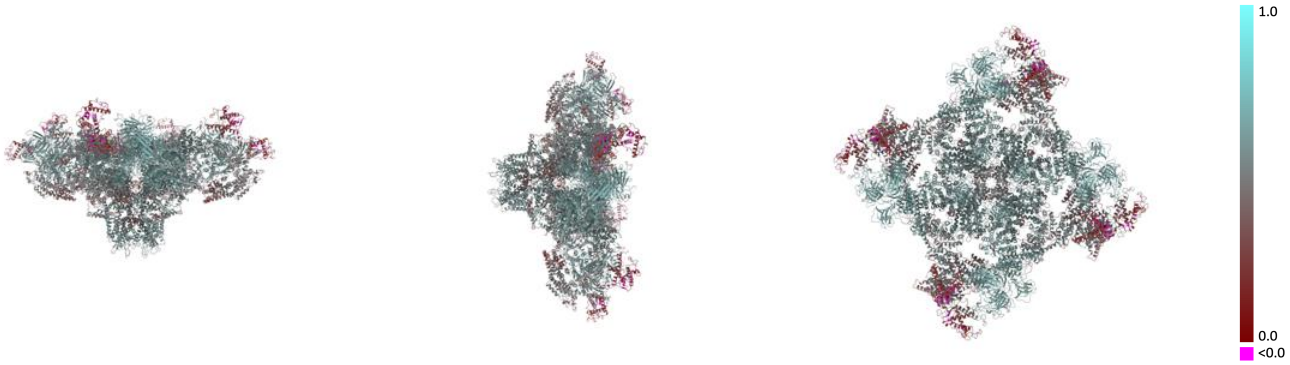
Y



Z

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

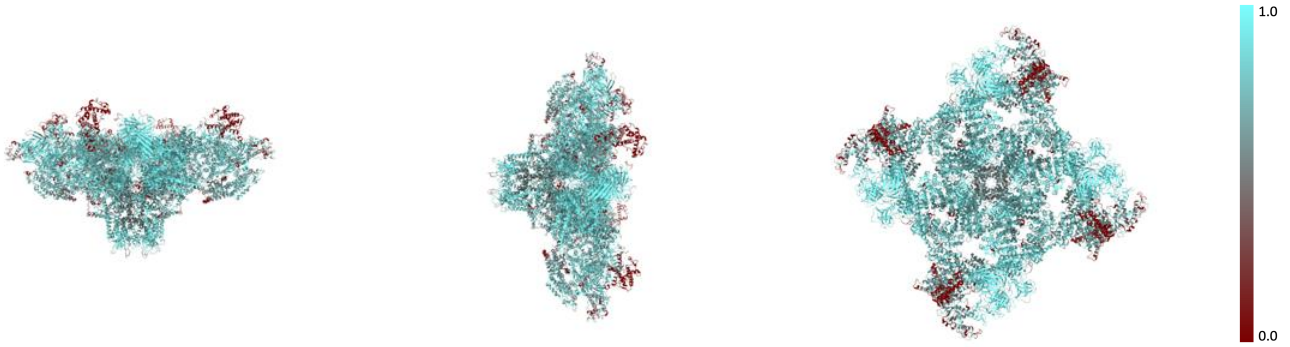
## 9.2 Q-score mapped to coordinate model (i)




X Y Z

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

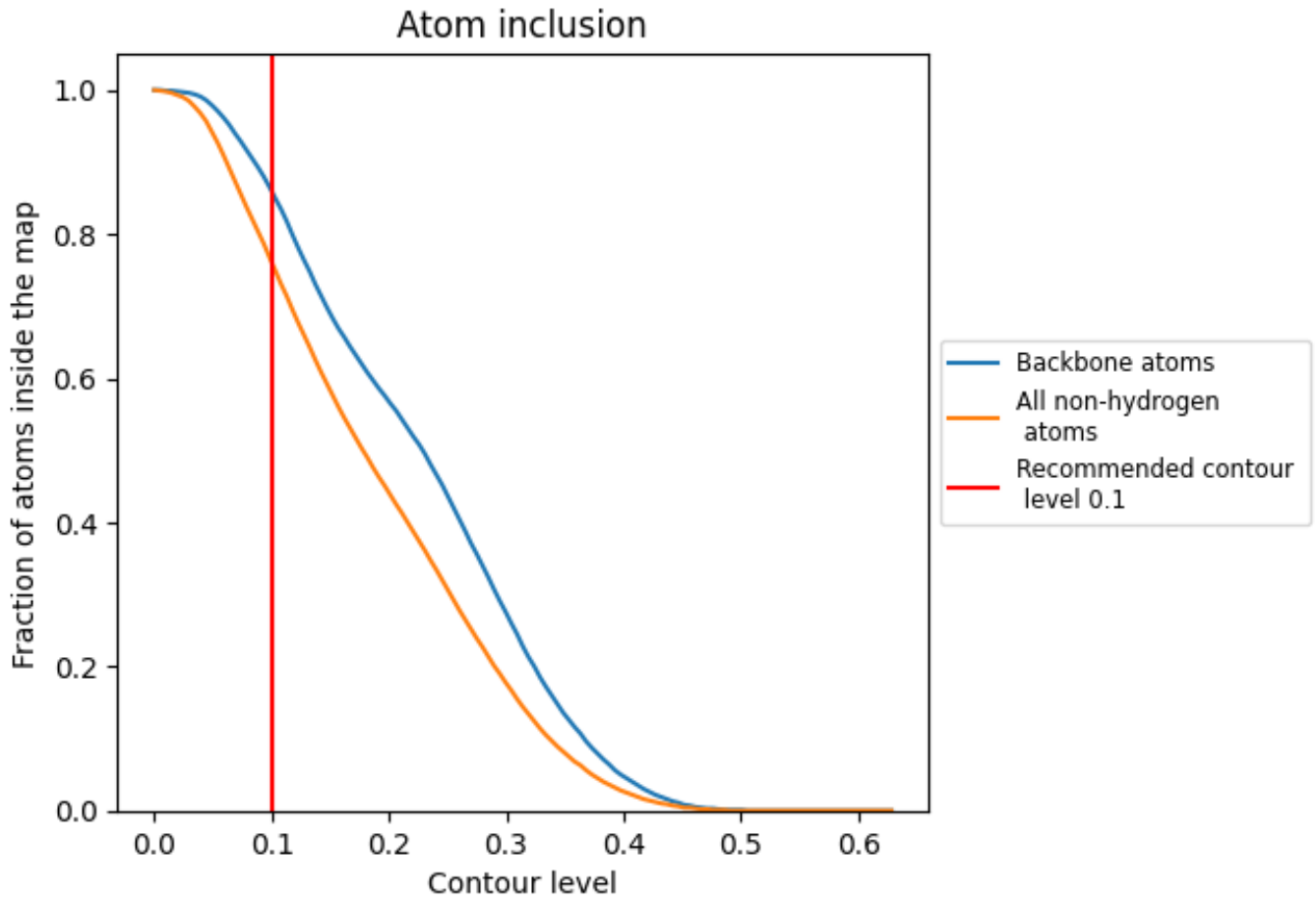
## 9.3 Atom inclusion mapped to coordinate model (i)




X Y Z

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

## 9.4 Atom inclusion (i)




At the recommended contour level, 86% of all backbone atoms, 76% 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 | 0.7610 | 0.5090 |
| A | 0.7600 | 0.5080 |
| B | 0.7580 | 0.5070 |
| C | 0.7580 | 0.5070 |
| D | 0.7580 | 0.5070 |
| E | 0.8810 | 0.5870 |
| F | 0.8840 | 0.5890 |
| G | 0.8770 | 0.5850 |
| H | 0.8840 | 0.5910 |