Full wwPDB EM Validation Report ⓘ

Apr 10, 2026 – 01:33 PM UTC

PDB ID	:	9HEQ / pdb_00009heq
EMDB ID	:	EMD-52091
Title	:	Open-state RyR1 in 0.01% POPC micelles, in complex with a nanobody and FKBP12
Authors	:	Li, C.; Efremov, R.G.
Deposited on	:	2024-11-14
Resolution	:	3.60 Å(reported)

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

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

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

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

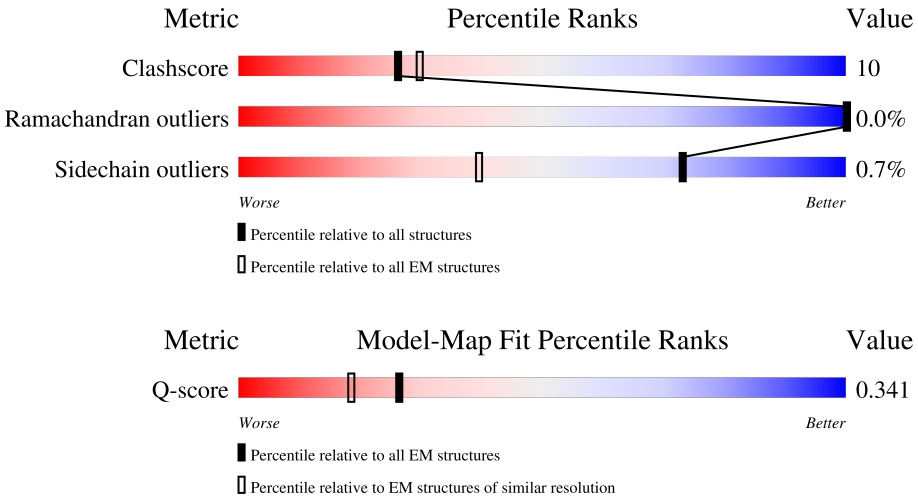
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data 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)	:	2.49

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.60 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	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	12797 (3.10 - 4.10)

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

Mol	Chain	Length	Quality of chain
1	A	5027	5% 66% 20% 14%
1	C	5027	5% 65% 20% 14%
1	G	5027	5% 65% 20% 14%
1	J	5027	5% 66% 20% 14%

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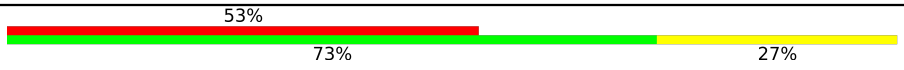
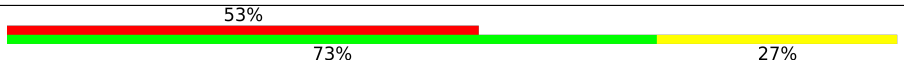
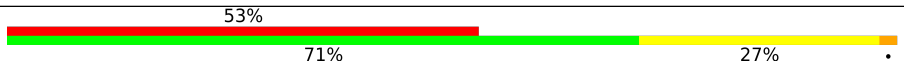
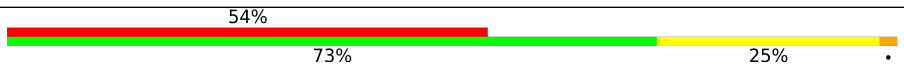
Mol	Chain	Length	Quality of chain
2	B	126	
2	D	126	
2	H	126	
2	K	126	
3	E	107	
3	F	107	
3	I	107	
3	L	107	

2 Entry composition (i)

There are 8 unique types of molecules in this entry. The entry contains 145440 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Ryanodine receptor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4319	Total 34138	C 21741	N 5891	O 6279	S 227	0	0
1	C	4319	Total 34154	C 21753	N 5891	O 6283	S 227	0	0
1	G	4319	Total 34138	C 21741	N 5891	O 6279	S 227	0	0
1	J	4319	Total 34138	C 21741	N 5891	O 6279	S 227	0	0

- Molecule 2 is a protein called Nanobody 9657.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	126	Total 967	C 597	N 170	O 195	S 5	0	0
2	D	126	Total 967	C 597	N 170	O 195	S 5	0	0
2	H	126	Total 967	C 597	N 170	O 195	S 5	0	0
2	K	126	Total 967	C 597	N 170	O 195	S 5	0	0

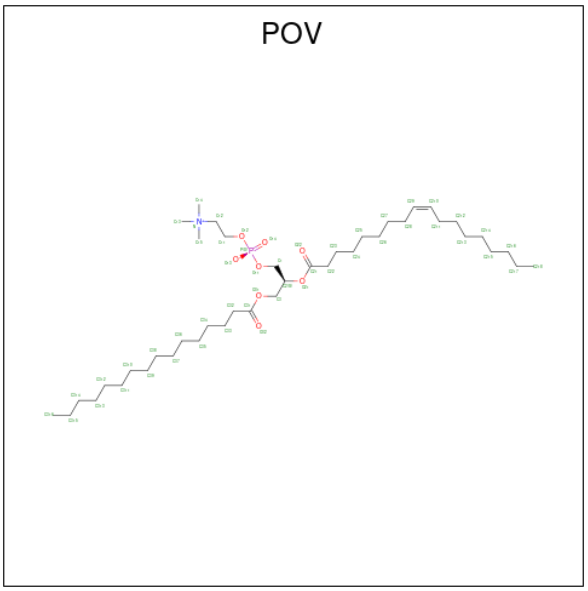
- Molecule 3 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	107	Total 818	C 516	N 144	O 154	S 4	0	0
3	F	107	Total 818	C 516	N 144	O 154	S 4	0	0
3	I	107	Total 818	C 516	N 144	O 154	S 4	0	0
3	L	107	Total 818	C 516	N 144	O 154	S 4	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	100	ASP	GLY	conflict	UNP Q8HYX6
F	100	ASP	GLY	conflict	UNP Q8HYX6
I	100	ASP	GLY	conflict	UNP Q8HYX6
L	100	ASP	GLY	conflict	UNP Q8HYX6

- Molecule 4 is (2S)-3-(hexadecanoyloxy)-2-[(9Z)-octadec-9-enoyloxy]propyl 2-(trimethylammonio)ethyl phosphate (CCD ID: POV) (formula: $C_{42}H_{82}NO_8P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	AltConf
4	A	1	Total C 13 13	0
4	A	1	Total C N O P 47 37 1 8 1	0
4	A	1	Total C N O P 44 34 1 8 1	0
4	A	1	Total C N O P 49 39 1 8 1	0
4	A	1	Total C 13 13	0
4	A	1	Total C N O P 43 33 1 8 1	0
4	A	1	Total C N O P 24 15 1 7 1	0
4	A	1	Total C N O P 39 29 1 8 1	0
4	A	1	Total C N O P 34 24 1 8 1	0

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Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total	C	N	O	P	0
			49	39	1	8	1	
4	A	1	Total	C	N	O	P	0
			41	31	1	8	1	
4	A	1	Total	C	N	O	P	0
			52	42	1	8	1	
4	C	1	Total	C	N	O	P	0
			47	37	1	8	1	
4	C	1	Total	C	N	O	P	0
			44	34	1	8	1	
4	C	1	Total	C	N	O	P	0
			43	33	1	8	1	
4	C	1	Total	C	N	O	P	0
			24	15	1	7	1	
4	C	1	Total	C	N	O	P	0
			39	29	1	8	1	
4	C	1	Total	C	N	O	P	0
			34	24	1	8	1	
4	C	1	Total	C	N	O	P	0
			41	31	1	8	1	
4	C	1	Total	C	N	O	P	0
			52	42	1	8	1	
4	G	1	Total	C	N	O	P	0
			47	37	1	8	1	
4	G	1	Total	C	N	O	P	0
			44	34	1	8	1	
4	G	1	Total	C				0
			13	13				
4	G	1	Total	C	N	O	P	0
			43	33	1	8	1	
4	G	1	Total	C	N	O	P	0
			24	15	1	7	1	
4	G	1	Total	C	N	O	P	0
			39	29	1	8	1	
4	G	1	Total	C	N	O	P	0
			34	24	1	8	1	
4	G	1	Total	C	N	O	P	0
			49	39	1	8	1	
4	G	1	Total	C	N	O	P	0
			41	31	1	8	1	
4	G	1	Total	C	N	O	P	0
			52	42	1	8	1	

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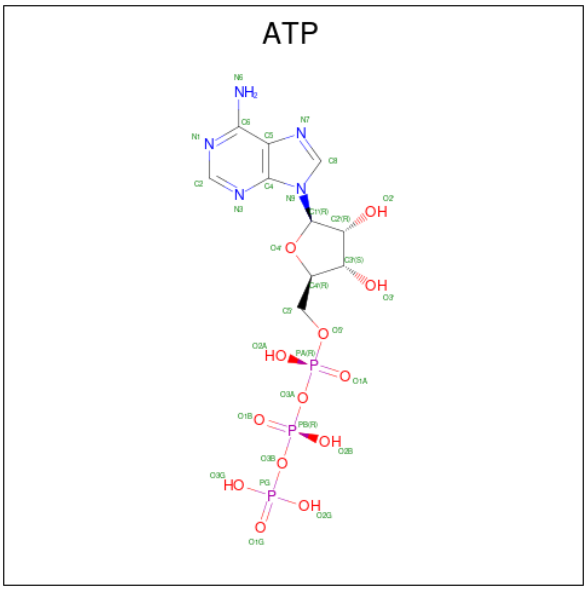
Mol	Chain	Residues	Atoms					AltConf
4	J	1	Total	C	N	O	P	0
			49	39	1	8	1	
4	J	1	Total	C	N	O	P	0
			41	31	1	8	1	
4	J	1	Total	C	N	O	P	0
			52	42	1	8	1	
4	J	1	Total	C	N	O	P	0
			47	37	1	8	1	
4	J	1	Total	C	N	O	P	0
			44	34	1	8	1	
4	J	1	Total	C				0
			13	13				
4	J	1	Total	C	N	O	P	0
			43	33	1	8	1	
4	J	1	Total	C	N	O	P	0
			24	15	1	7	1	
4	J	1	Total	C	N	O	P	0
			39	29	1	8	1	
4	J	1	Total	C	N	O	P	0
			34	24	1	8	1	

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



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

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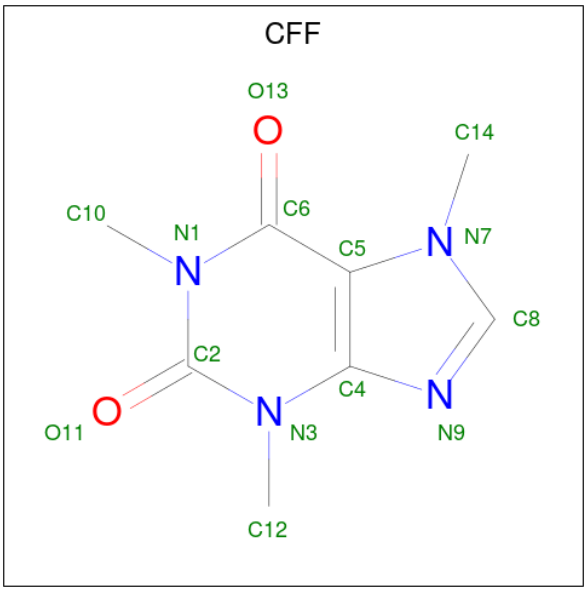
Mol	Chain	Residues	Atoms					AltConf
5	C	1	Total	C	N	O	P	0
			31	10	5	13	3	
5	G	1	Total	C	N	O	P	0
			31	10	5	13	3	
5	J	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 6 is CAFFEINE (CCD ID: CFF) (formula: $C_8H_{10}N_4O_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
6	A	1	Total	C	N	O	0
			14	8	4	2	
6	C	1	Total	C	N	O	0
			14	8	4	2	
6	G	1	Total	C	N	O	0
			14	8	4	2	
6	J	1	Total	C	N	O	0
			14	8	4	2	

- Molecule 7 is CALCIUM ION (CCD ID: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

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

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Mol	Chain	Residues	Atoms	AltConf
7	C	1	Total Ca 1 1	0
7	G	1	Total Ca 1 1	0
7	J	1	Total Ca 1 1	0

- Molecule 8 is ZINC ION (CCD ID: ZN) (formula: Zn).

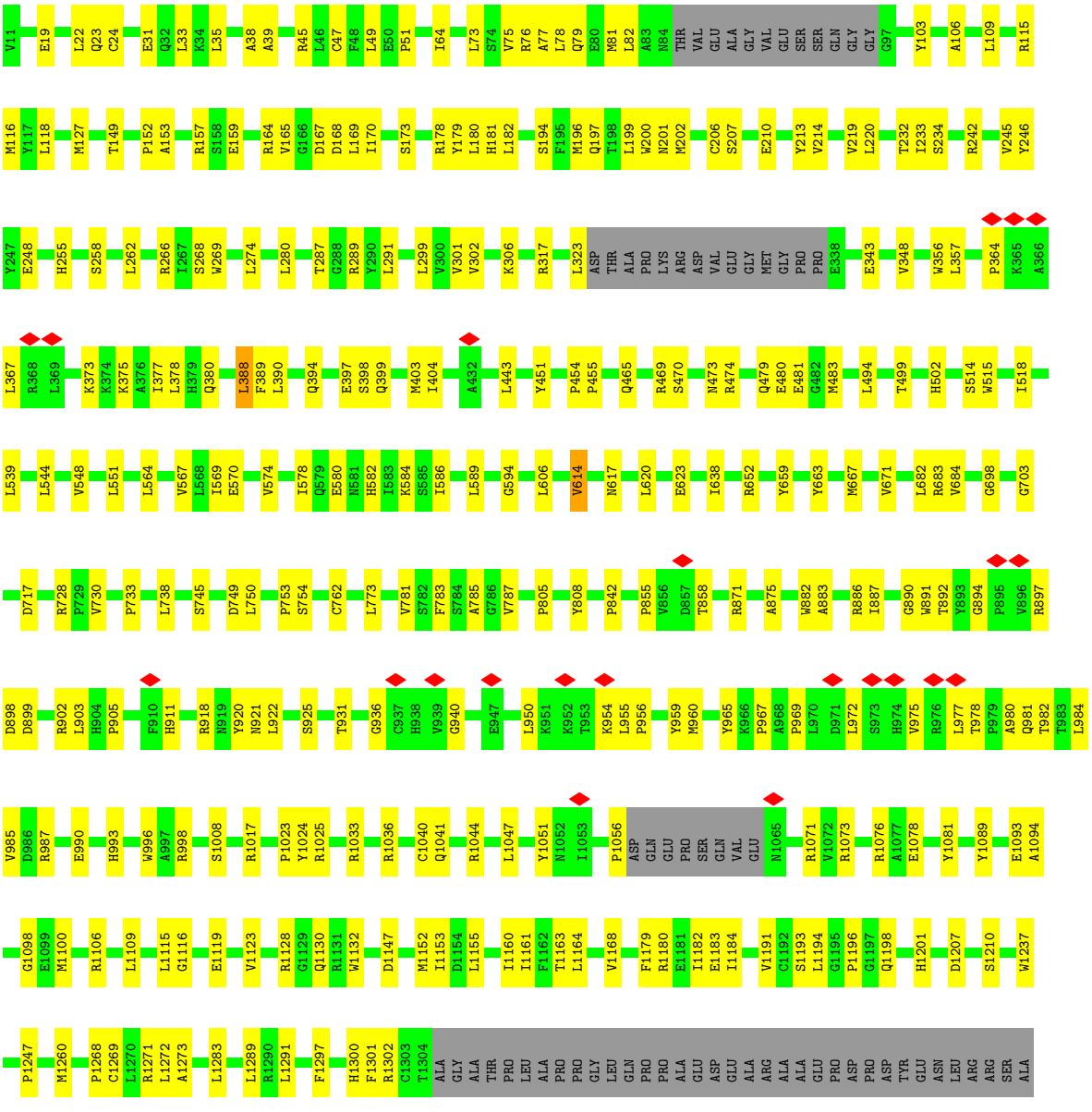
Mol	Chain	Residues	Atoms	AltConf
8	A	1	Total Zn 1 1	0
8	C	1	Total Zn 1 1	0
8	G	1	Total Zn 1 1	0
8	J	1	Total Zn 1 1	0

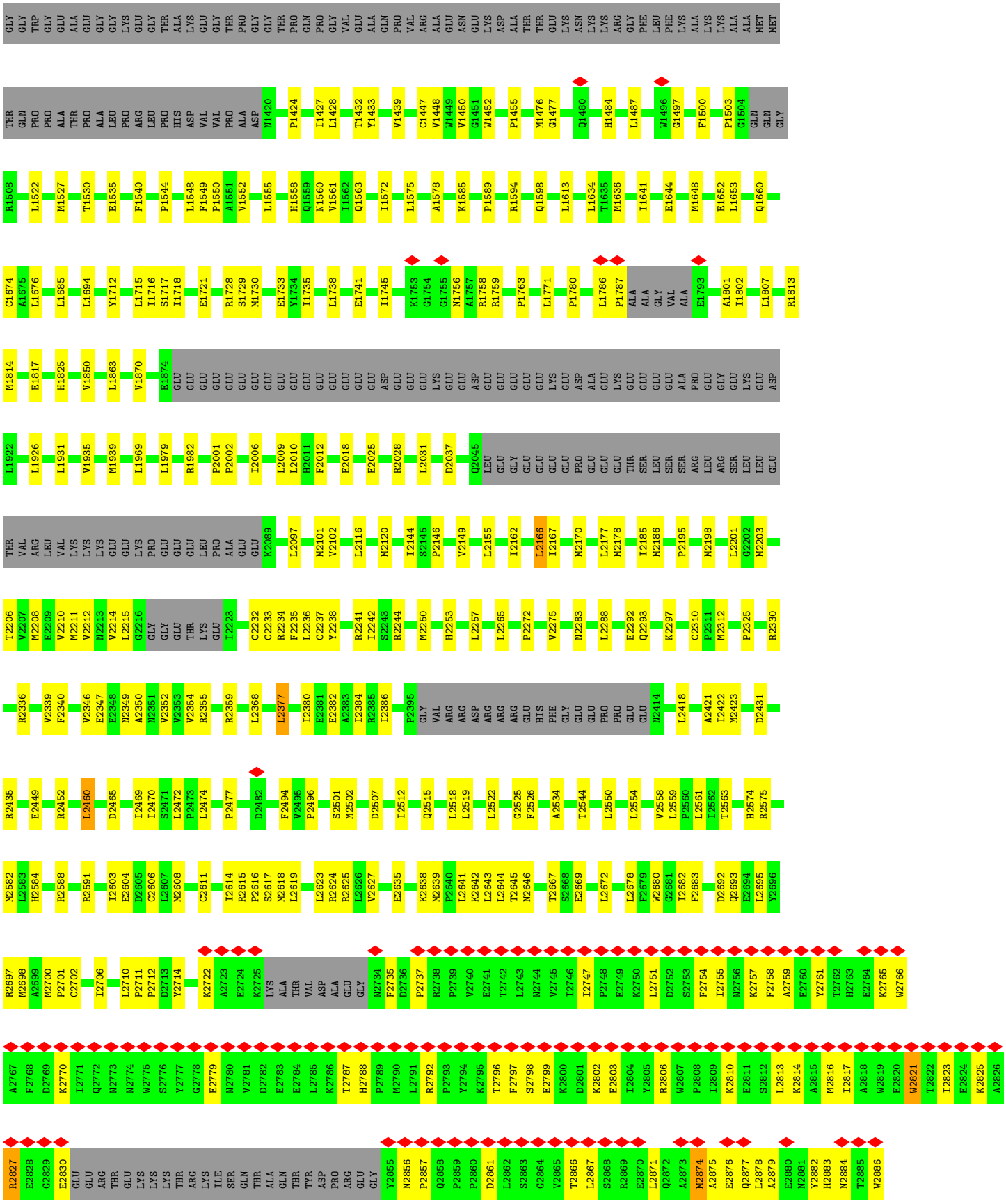
3 Residue-property plots (i)

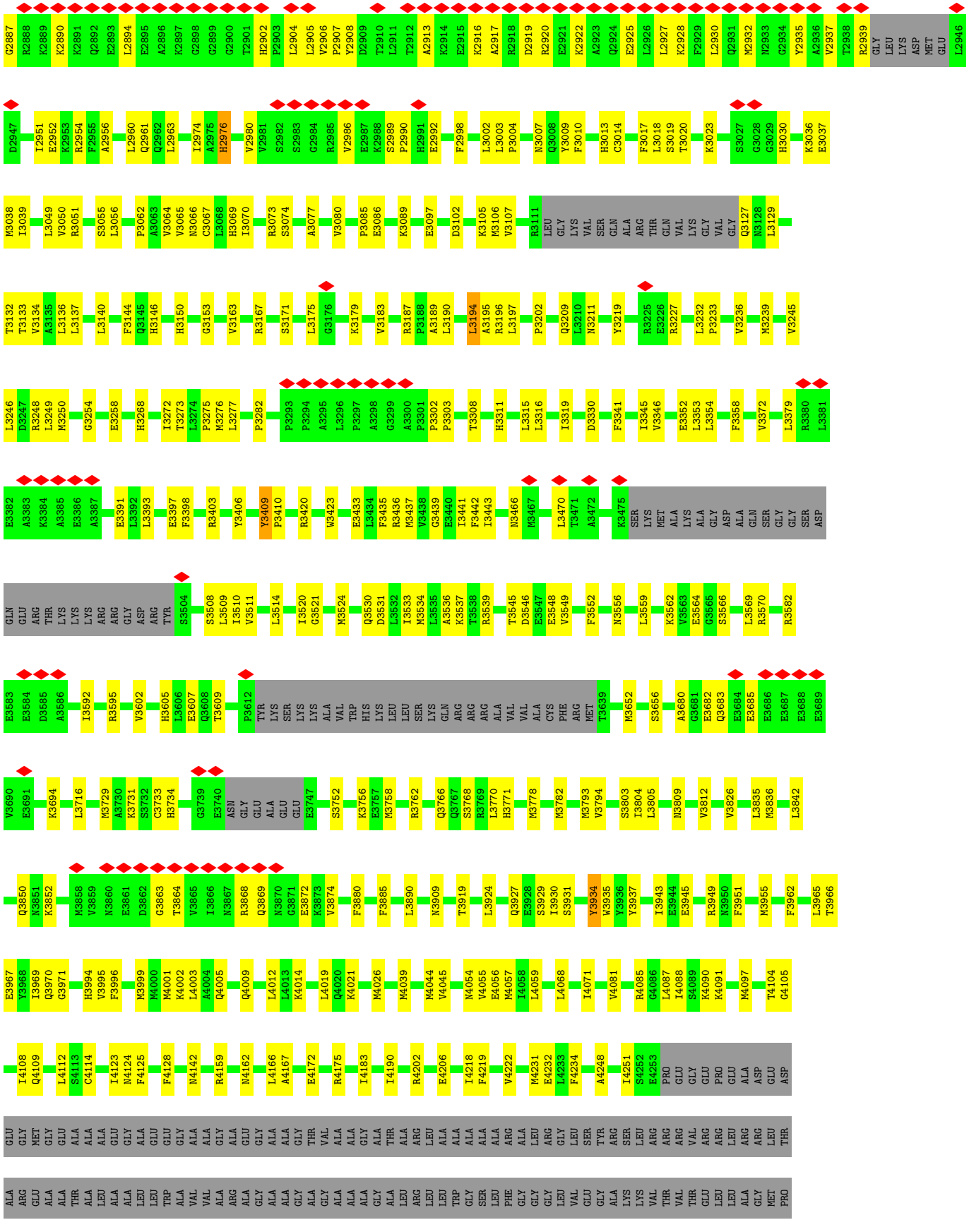
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

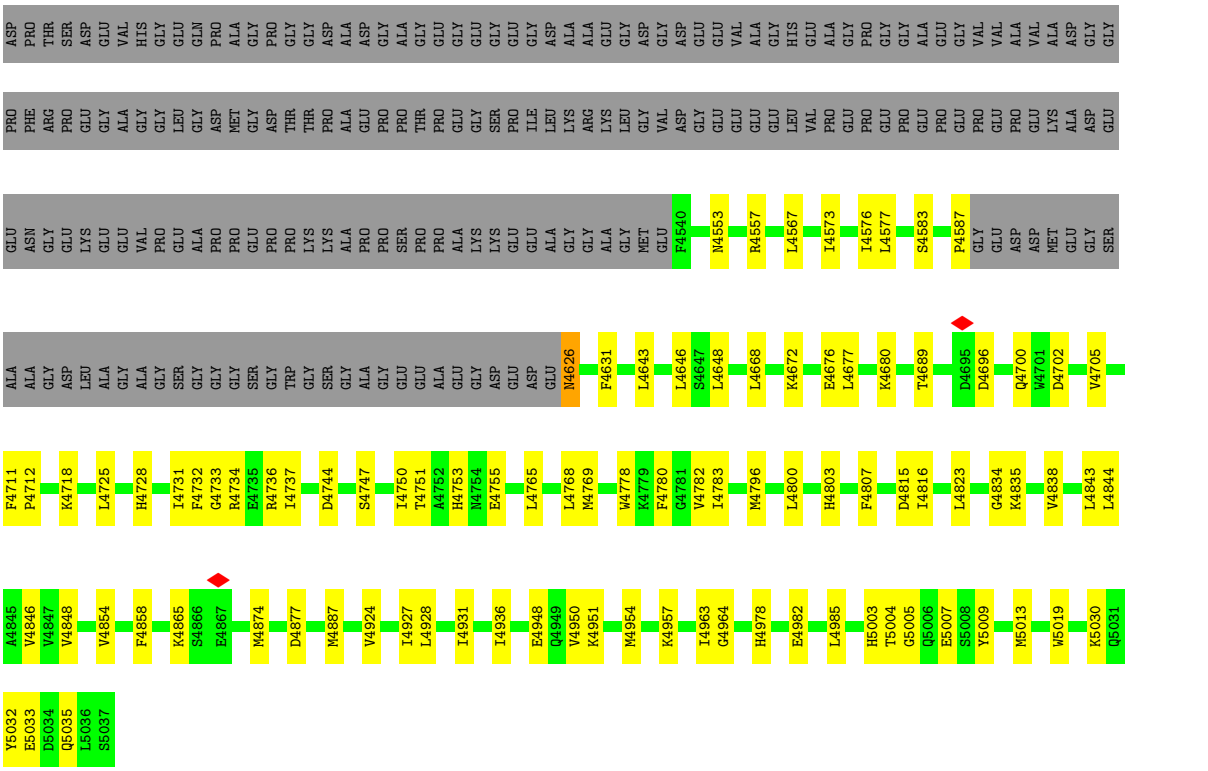
- Molecule 1: Ryanodine receptor 1

Chain A:



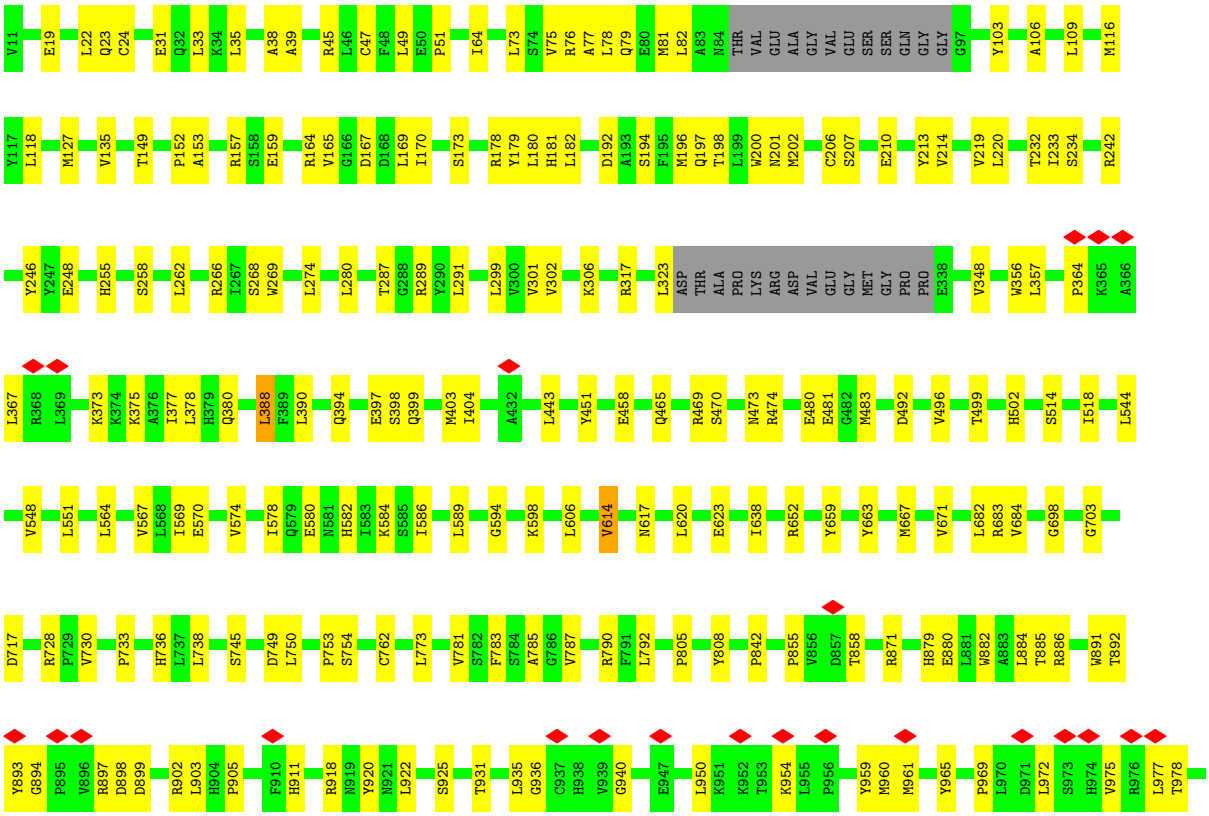


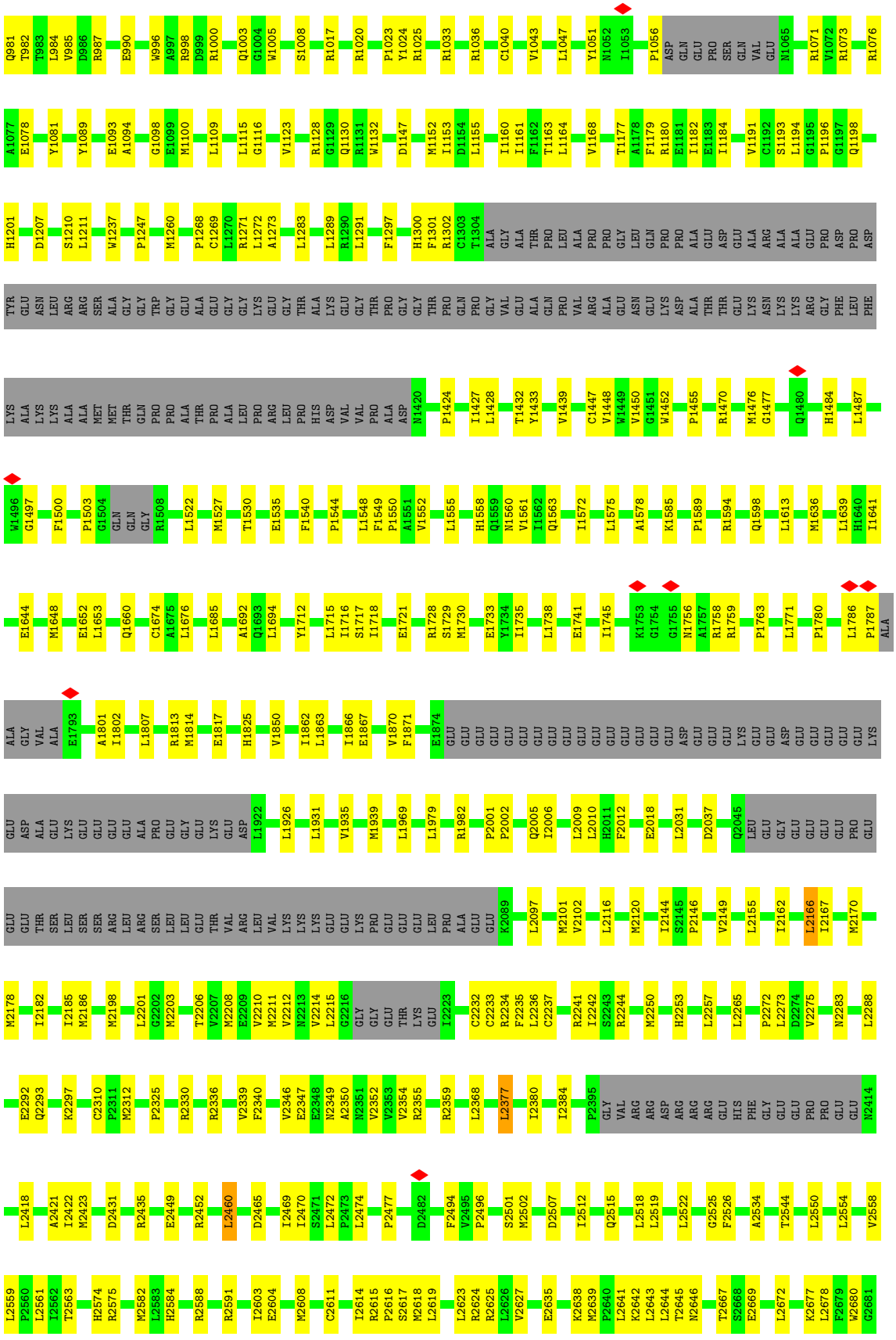

G2887 R2888 K2889 K2890 K2891 Q2892 E2893 L2894 E2895 A2896 K2897 G2898 G2899 G2900 T2901 H2902 P2903 L2904 L2905 V2906 P2907 Y2908 D2909 T2910 L2911 T2912 A2913 K2914 E2915 K2916 A2917 R2918 D2919 R2920 E2921 K2922 A2923 Q2924 E2925 L2926 L2927 K2928 F2929 L2930 Q2931 M2932 N2933 G2934 Y2935 A2936 V2937 T2938 R2939 GLY LEU LYS ASP MET GLU L2946
D2947 I2951 E2952 K2953 R2954 F2955 A2956 L2960 Q2961 Q2962 L2963 I2974 A2975 H2976 V2980 V2981 S2982 S2983 G2984 R2985 V2986 E2987 K2988 S2989 P2990 H2991 E2992 F2998 L3002 L3003 P3004 N3007 Q3008 Y3009 F3010 H3013 C3014 F3017 L3018 S3019 T3020 K3023 S3027 G3028 G3029 H3030 K3036 E3037
M3038 I3039 L3049 V3050 R3051 S3055 L3056 P3062 A3063 V3064 V3065 N3066 C3067 L3068 H3069 I3070 R3073 S3074 A3077 V3080 P3085 E3086 K3089 E3097 D3102 K3105 M3106 V3107 R3111 LEU GLY LYS VAL SER GLN ALA ARG THR GLN VAL LYS GLY VAL GLY Q3127 N3128 L3129
T3132 T3133 V3134 A3135 L3136 L3137 L3140 F3144 Q3145 H3146 H3150 G3153 V3163 R3167 S3171 L3175 G3176 K3179 V3183 R3187 P3188 A3189 L3190 L3194 A3195 R3196 L3197 P3202 Q3209 L3210 N3211 Y3219 R3225 E3226 R3227 L3232 P3233 V3236 M3239 V3245
L3246 D3247 R3248 L3249 M3250 G3254 E3258 H3268 I3272 T3273 L3274 P3275 M3276 L3277 P3282 P3293 P3294 A3295 L3296 P3297 A3298 G3299 A3300 P3301 P3302 P3303 T3308 H3311 L3315 L3316 I3319 D3330 F3341 I3345 V3346 E3352 L3353 L3354 F3358 V3372 L3379 R3380 L3381
E3382 A3383 K3384 A3385 E3386 A3387 E3391 L3392 L3393 E3397 F3398 R3403 Y3406 Y3409 P3410 R3420 W3423 E3433 L3434 F3435 R3436 M3437 V3438 G3439 E3440 I3441 F3442 I3443 N3466 M3467 L3470 T3471 A3472 K3475 SER LYS MET ALA LYS ALA GLY ASP ALA GLN SER GLY GLY SER ASP
GLN GLU ARG THR LYS LYS LYS ARG ARG GLY ASP ARG TYR S3504 S3508 L3509 I3510 V3511 L3514 I3520 G3521 M3524 Q3530 D3531 L3532 I3533 M3534 L3535 A3536 K3537 T3538 R3539 T3545 D3546 E3547 E3548 V3549 F3552 N3556 L3559 K3562 V3563 E3564 G3565 S3566 L3569 R3570 R3582
E3583 E3584 D3585 A3586 I3592 R3595 V3602 H3605 L3606 E3607 Q3608 T3609 P3612 TYR LYS SER LYS LYS ALA VAL TRP HIS LYS LEU LEU SER LYS GLN ARG ARG ARG ALA VAL VAL ALA CYS PHE ARG MET T3639 M3652 S3656 A3680 G3681 E3682 Q3683 E3684 E3685 E3686 E3687 E3688 E3689
V3690 E3691 K3694 L3716 M3729 A3730 K3731 S3732 C3733 H3734 G3739 E3740 ASN GLY GLU ALA GLU GLU E3747 S3752 K3756 E3757 M3758 R3762 Q3766 Q3767 S3768 R3769 L3770 H3771 M3778 M3782 M3793 V3794 S3803 I3804 L3805 N3809 V3812 V3826 L3835 M3836 L3842
Q3850 N3851 K3852 M3858 V3859 N3860 E3861 D3862 G3863 T3864 V3865 I3866 N3867 R3868 Q3869 N3870 G3871 E3872 K3873 V3874 F3880 F3885 L3890 N3909 T3919 L3924 Q3927 E3928 S3929 I3930 S3931 Y3934 W3935 Y3936 Y3937 I3943 E3944 E3945 R3949 N3950 F3951 M3955 F3962 L3965 T3966
E3967 Y3968 I3969 Q3970 G3971 H3994 V3995 F3996 M3999 M4000 M4001 K4002 L4003 A4004 Q4005 Q4009 L4012 L4013 K4014 L4019 Q4020 K4021 M4026 M4039 M4044 V4045 N4054 V4055 E4056 M4057 I4058 L4059 L4068 I4071 V4081 R4085 G4086 L4087 I4088 S4089 K4090 K4091 M4097 T4104 G4105
I4108 Q4109 L4112 S4113 C4114 I4123 N4124 F4125 F4128 N4142 R4159 N4162 L4166 A4167 E4172 R4175 I4183 I4190 R4202 E4206 I4218 F4219 V4222 M4231 E4232 L4233 F4234 A4248 I4251 S4252 E4253 PRO GLU GLY GLU PRO GLU ALA ASP GLU ASP
GLU GLY MET GLY GLU ALA ALA GLU GLY GLU GLY ALA ALA GLY THR VAL ALA ALA GLY ALA GLY THR ALA ARG LEU ALA ALA ALA ALA ARG ALA LEU ARG GLY LEU SER TYR ARG SER LEU ARG ARG ARG ARG VAL ARG ARG ARG LEU LEU ARG ARG LEU THR
ALA ARG GLU ALA ALA THR ALA LEU LEU ALA ALA LEU LEU LEU TRP ALA VAL VAL ALA ARG ALA GLY GLY ALA ALA GLY ALA GLY ALA LEU ARG ALA ALA ALA GLY LEU ALA LEU TRP GLY SER LEU PHE GLY GLY GLY LEU VAL GLU GLY ALA LYS LYS VAL VAL THR VAL THR GLU LEU LEU LEU ALA GLY MET PRO

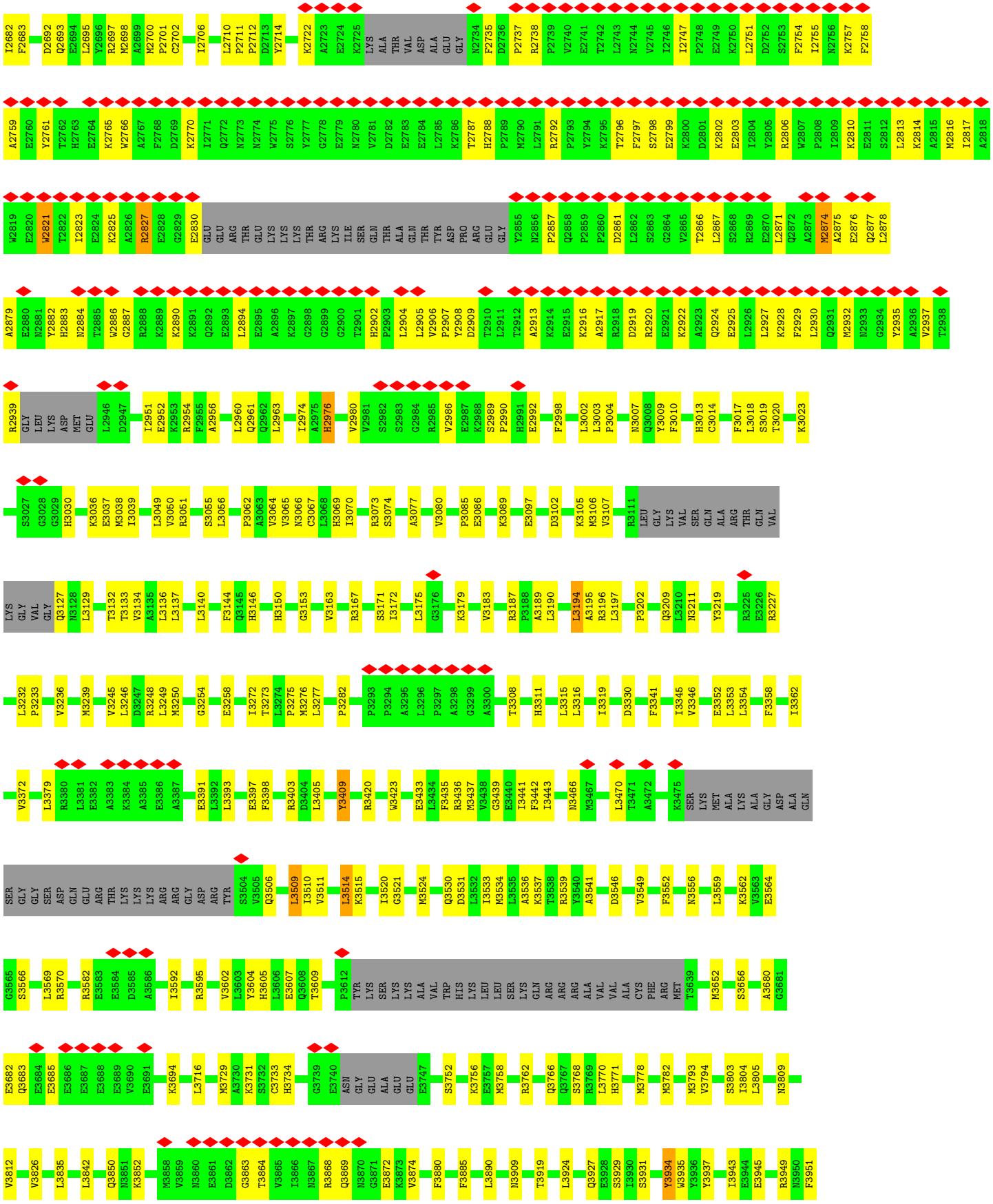


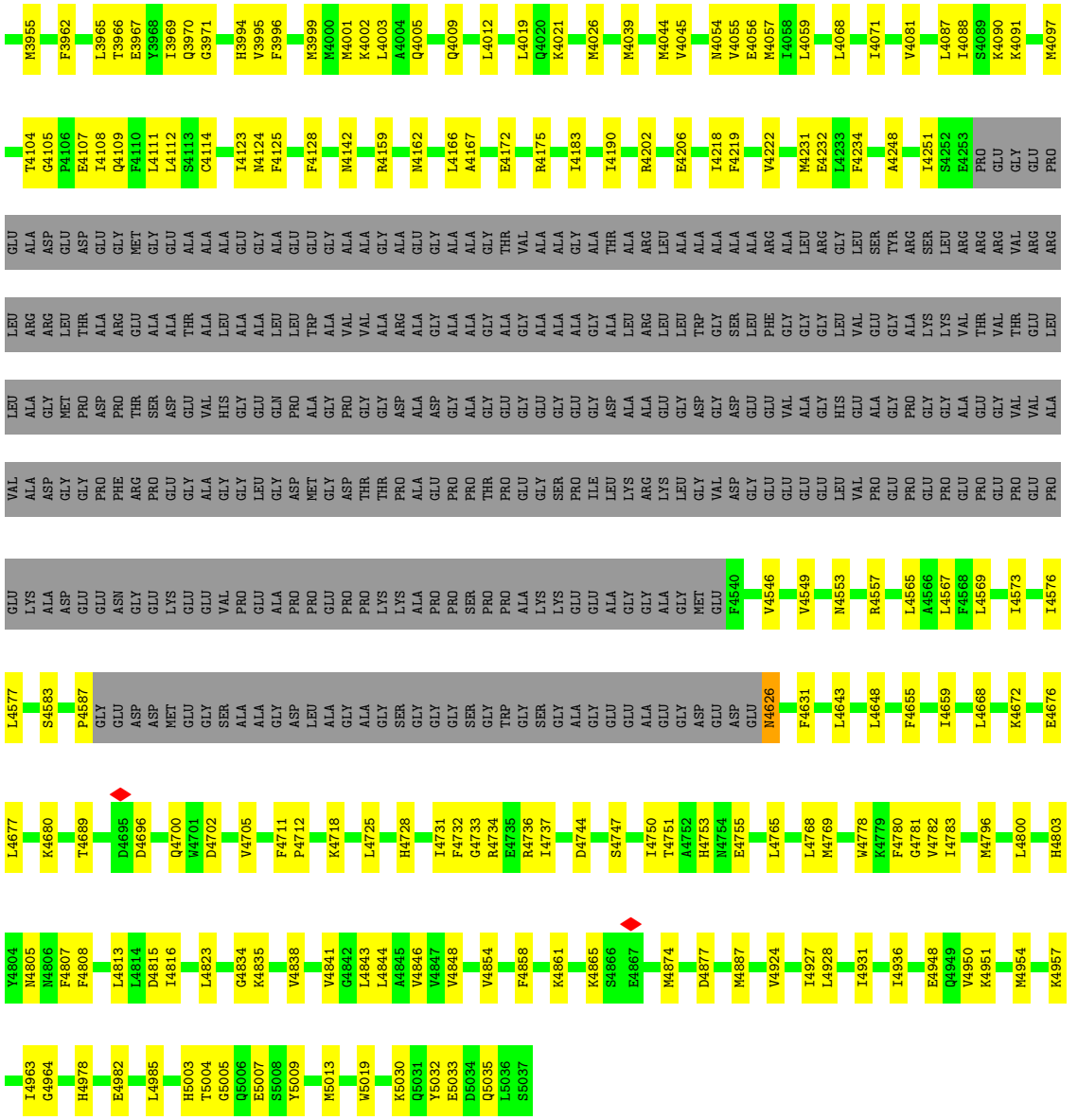
• Molecule 1: Ryanodine receptor 1

Chain C:



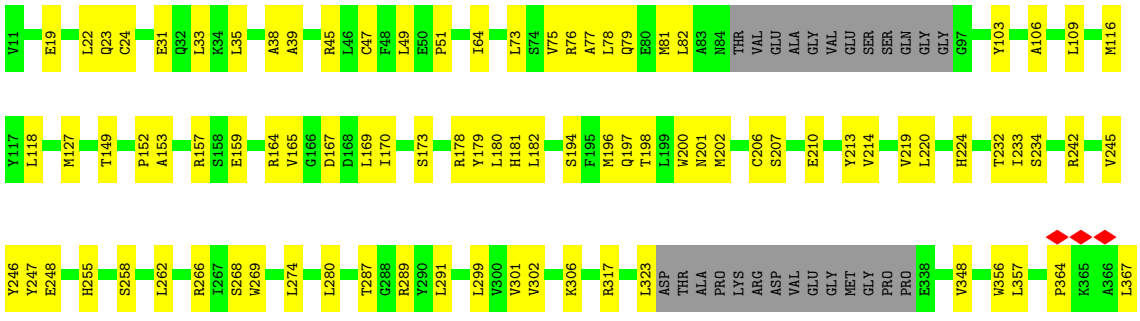


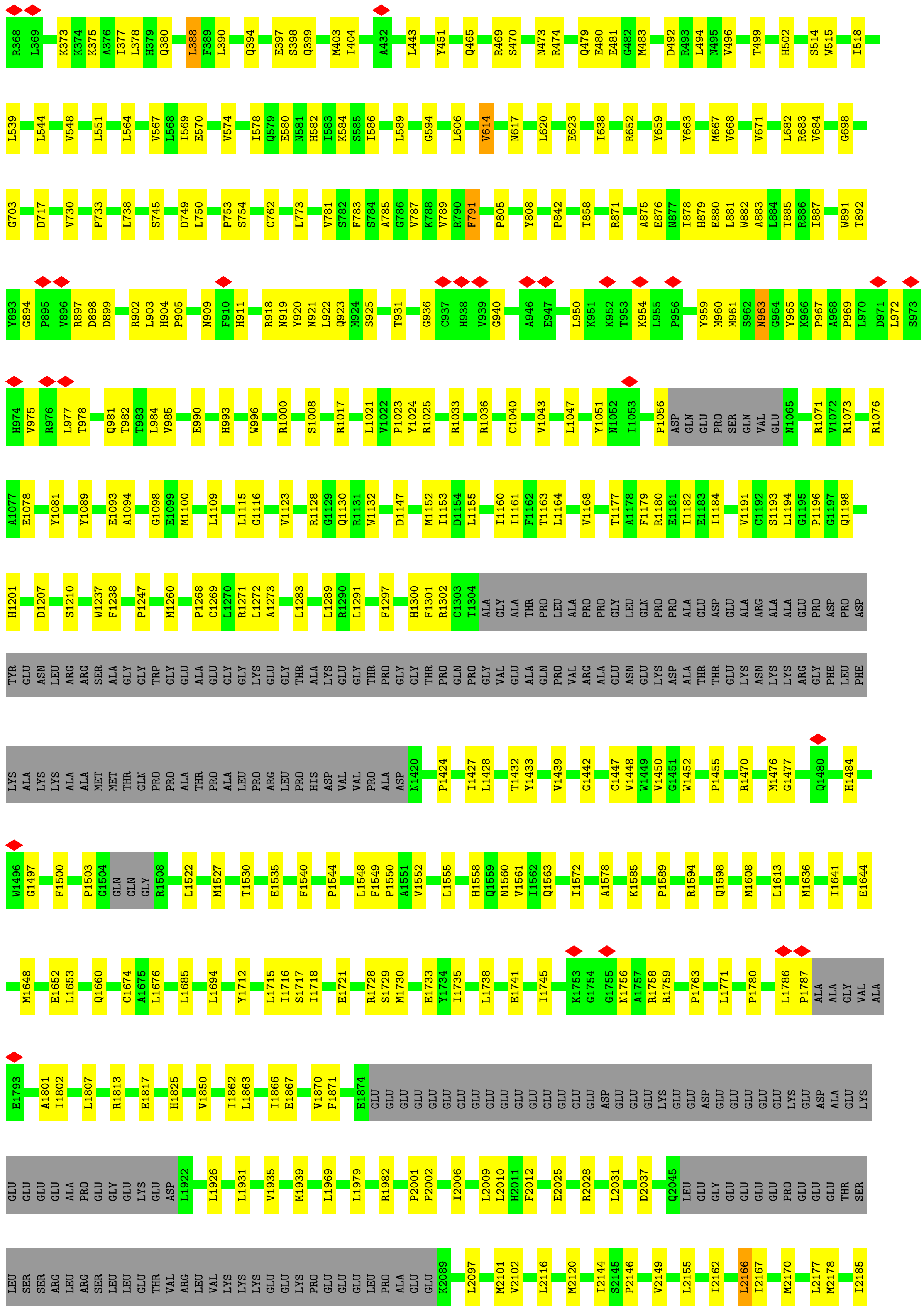




• Molecule 1: Ryanodine receptor 1

Chain G:

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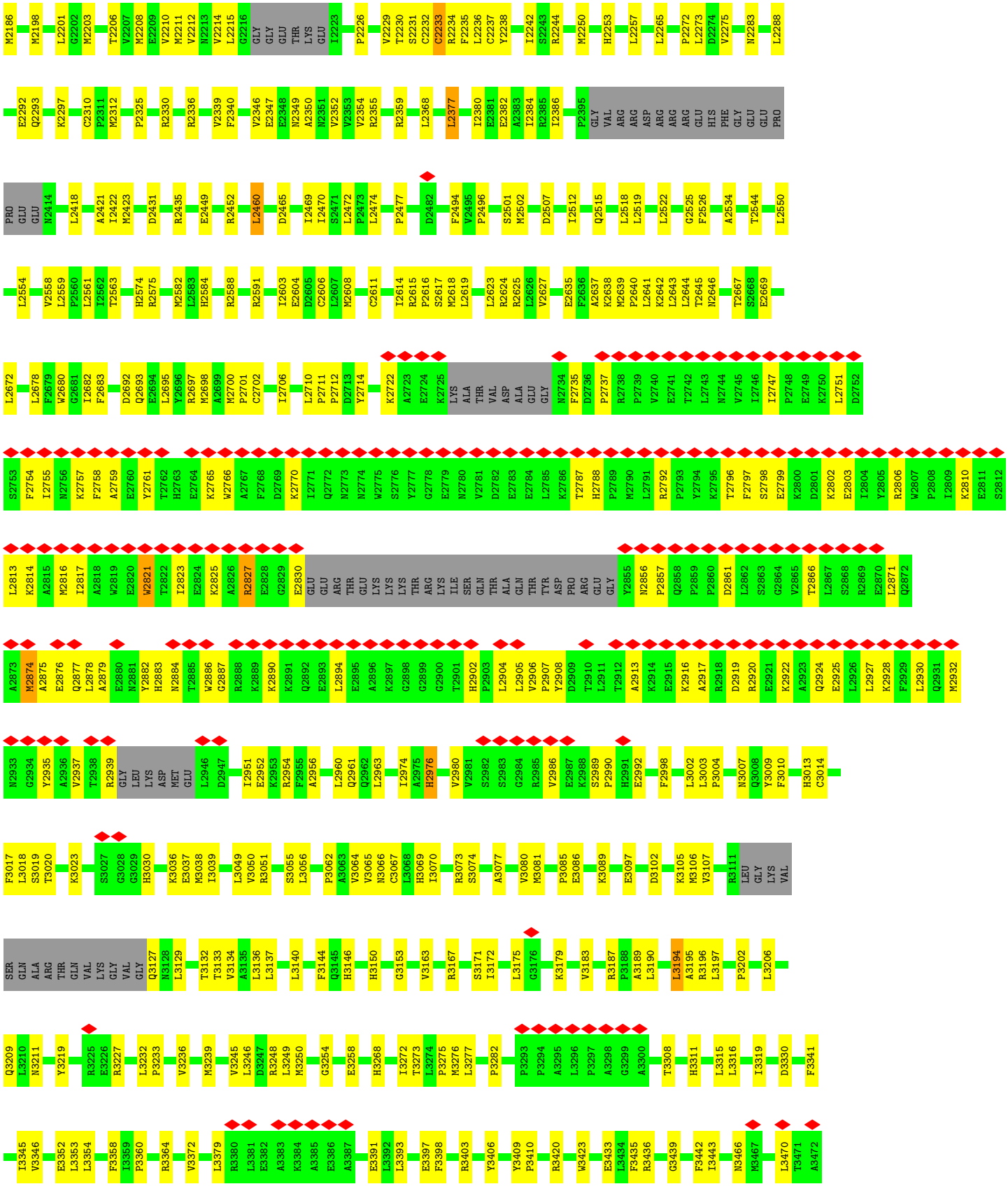
L539 L544 V548 L551 L564 V567 L568 I569 E570 V574 I578 Q579 E580 N581 H582 I583 K584 S585 I586 L589 G594 L606 V614 N617 L620 E623 I638 R652 Y659 Y663 M667 V668 V671 L682 R683 V684 G698
G703 D717 V730 P733 L738 S745 D749 L750 P753 S754 C762 L773 V781 S782 F783 S784 A785 G786 V787 K788 V789 R790 F791 P805 Y808 P842 T858 R871 A875 E876 N877 I878 H879 E880 L881 W882 A883 L884 T885 R886 I887 W891 T892
Y893 G894 P895 V896 R897 D898 D899 R902 L903 H904 P905 N909 F910 H911 R918 N919 Y920 N921 L922 Q923 M924 S925 T931 G936 C937 H938 V939 G940 A946 E947 L950 K951 K952 T953 K954 L955 P956 Y959 M960 M961 S962 N963 G964 Y965 K966 P967 A968 P969 L970 D971 L972 S973
H974 V975 R976 L977 T978 Q981 T982 T983 L984 V985 E990 H993 W996 R1000 S1008 R1017 L1021 V1022 P1023 Y1024 R1025 R1033 R1036 C1040 V1043 L1047 Y1051 N1052 I1053 P1056 ASP GLN GLU PRO SER GLN VAL GLU N1065 R1071 V1072 R1073 R1076
A1077 E1078 Y1081 Y1089 E1093 A1094 G1098 E1099 M1100 L1109 L1115 G1116 V1123 R1128 G1129 Q1130 R1131 W1132 D1147 M1152 I1153 D1154 L1155 I1160 I1161 F1162 T1163 L1164 V1168 T1177 A1178 F1179 R1180 E1181 I1182 E1183 I1184 V1191 C1192 S1193 L1194 G1195 P1196 G1197 Q1198
H1201 D1207 S1210 W1237 F1238 P1247 M1260 P1268 C1269 L1270 R1271 L1272 A1273 L1283 L1289 R1290 L1291 F1297 H1300 F1301 R1302 C1303 T1304 ALA GLY ALA THR PRO LEU ALA PRO PRO GLY LEU GLN PRO PRO ALA GLU ASP GLU ALA ARG ALA ALA GLU PRO ASP PRO ASP
TYR GLU ASN LEU ARG ARG SER ALA GLY GLY TRP GLY GLU ALA GLU GLY GLY LYS GLU GLY THR ALA LYS GLU GLY THR PRO GLY GLY THR PRO GLN PRO GLY VAL GLU ALA GLN PRO VAL ARG ALA GLU ASN GLU LYS ASP ALA THR THR GLU LYS ASN LYS LYS ARG GLY PHE LEU PHE
LYS ALA LYS LYS ALA ALA MET MET THR GLN PRO PRO ALA THR PRO ALA LEU PRO ARG LEU PRO HIS ASP VAL VAL PRO ALA ASP N1420 P1424 I1427 L1428 T1432 Y1433 V1439 G1442 C1447 V1448 W1449 V1450 G1451 W1452 P1455 R1470 M1476 G1477 Q1480 H1484
W1496 G1497 F1500 P1503 G1504 GLN GLN GLY R1508 L1522 M1527 T1530 E1535 F1540 P1544 L1548 F1549 P1550 A1551 V1552 L1555 H1558 Q1559 N1560 V1561 I1562 Q1563 I1572 A1578 K1585 P1589 R1594 Q1598 M1608 L1613 M1636 I1641 E1644
M1648 E1652 L1653 Q1660 C1674 A1675 L1676 L1685 L1694 Y1712 L1715 I1716 S1717 I1718 E1721 R1728 S1729 M1730 E1733 Y1734 I1735 L1738 E1741 I1745 K1753 G1754 G1755 N1756 A1757 R1758 R1759 P1763 L1771 P1780 L1786 P1787 ALA ALA GLY VAL ALA
E1793 A1801 I1802 L1807 R1813 E1817 H1825 V1850 I1862 L1863 I1866 E1867 V1870 F1871 E1874 GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU ASP GLU GLU GLU LYS GLU GLU ASP GLU GLU GLU GLU GLU LYS GLU ASP ALA GLU LYS
GLU GLU GLU GLU ALA PRO GLU GLY GLU LYS GLU ASP L1922 L1926 L1931 V1935 M1939 L1969 L1979 R1982 P2001 P2002 I2006 L2009 L2010 H2011 F2012 E2025 R2028 L2031 D2037 Q2045 LEU GLU GLY GLU GLU GLU GLU PRO GLU GLU THR SER
LEU SER SER ARG LEU ARG SER LEU LEU GLU THR VAL ARG LEU VAL LYS LYS LYS GLU GLU LYS PRO GLU GLU GLU LEU PRO ALA GLU GLU K2089 L2097 M2101 V2102 L2116 M2120 I2144 S2145 P2146 V2149 L2155 I2162 L2166 I2167 M2170 L2177 M2178 I2185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E2292 Q2293 K2297 C2310 P2311 M2312 P2325 R2330 R2336 V2339 F2340 V2346 E2347 E2348 N2349 A2350 N2351 V2352 V2353 V2354 R2355 R2359 L2368 L2377 I2380 E2381 E2382 A2383 I2384 R2385 I2386 P2395 GLY VAL ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU PRO
PRO GLU GLU N2414 L2418 A2421 I2422 M2423 D2431 R2435 E2449 R2452 L2460 D2465 I2469 I2470 S2471 L2472 P2473 L2474 P2477 D2482 F2494 V2495 P2496 S2501 M2502 D2507 I2512 Q2515 L2518 L2519 L2522 G2525 F2526 A2534 T2544 L2550
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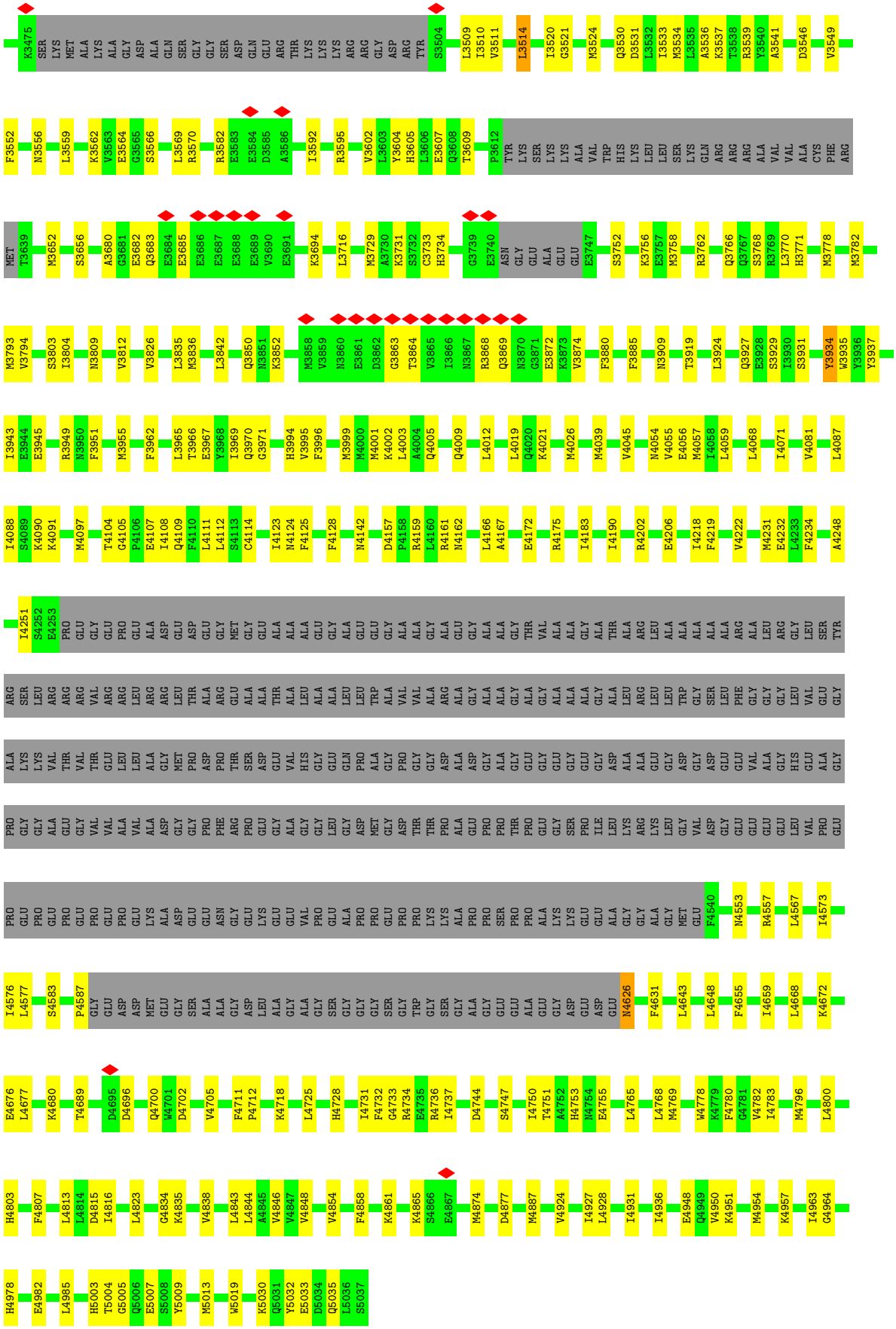
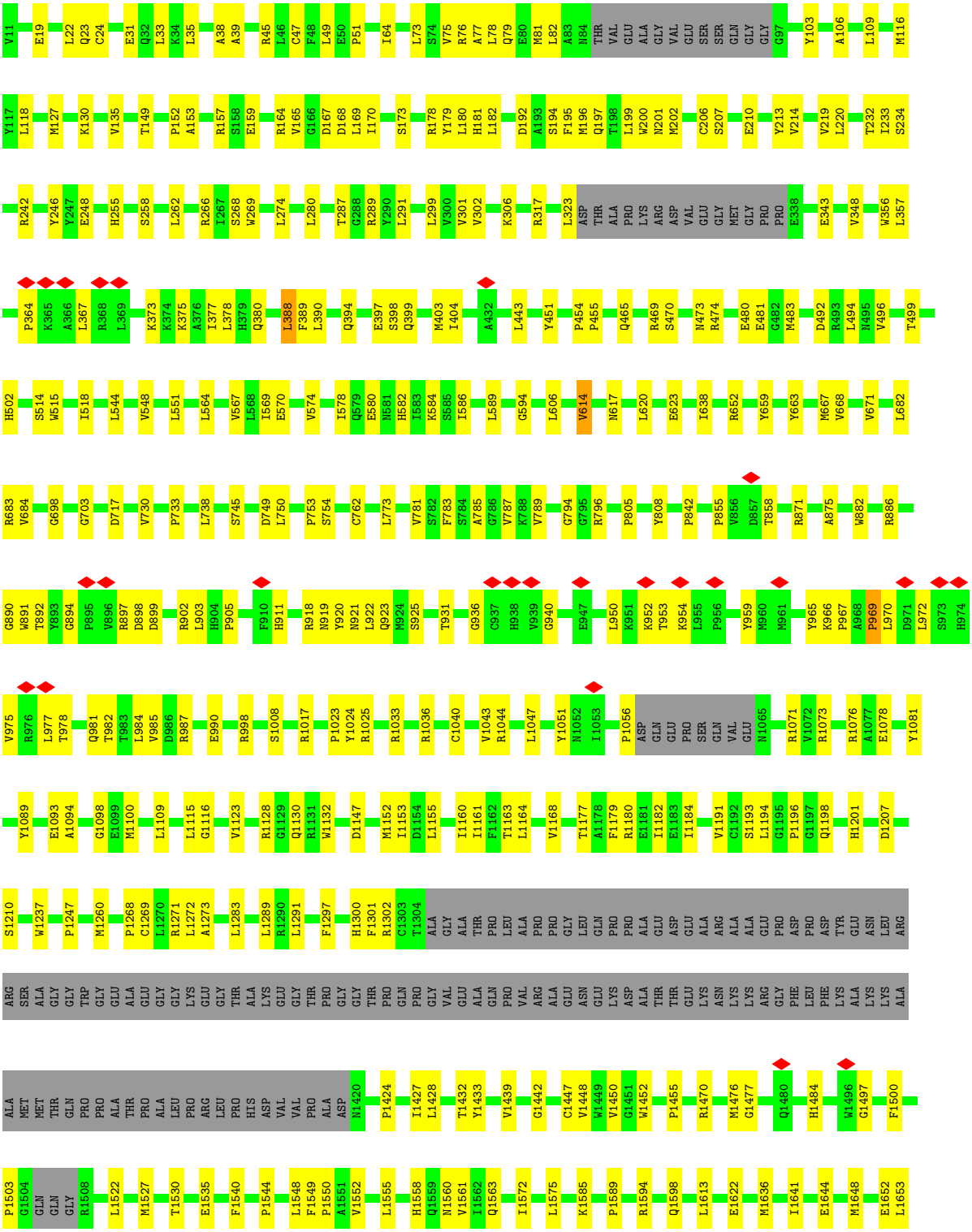
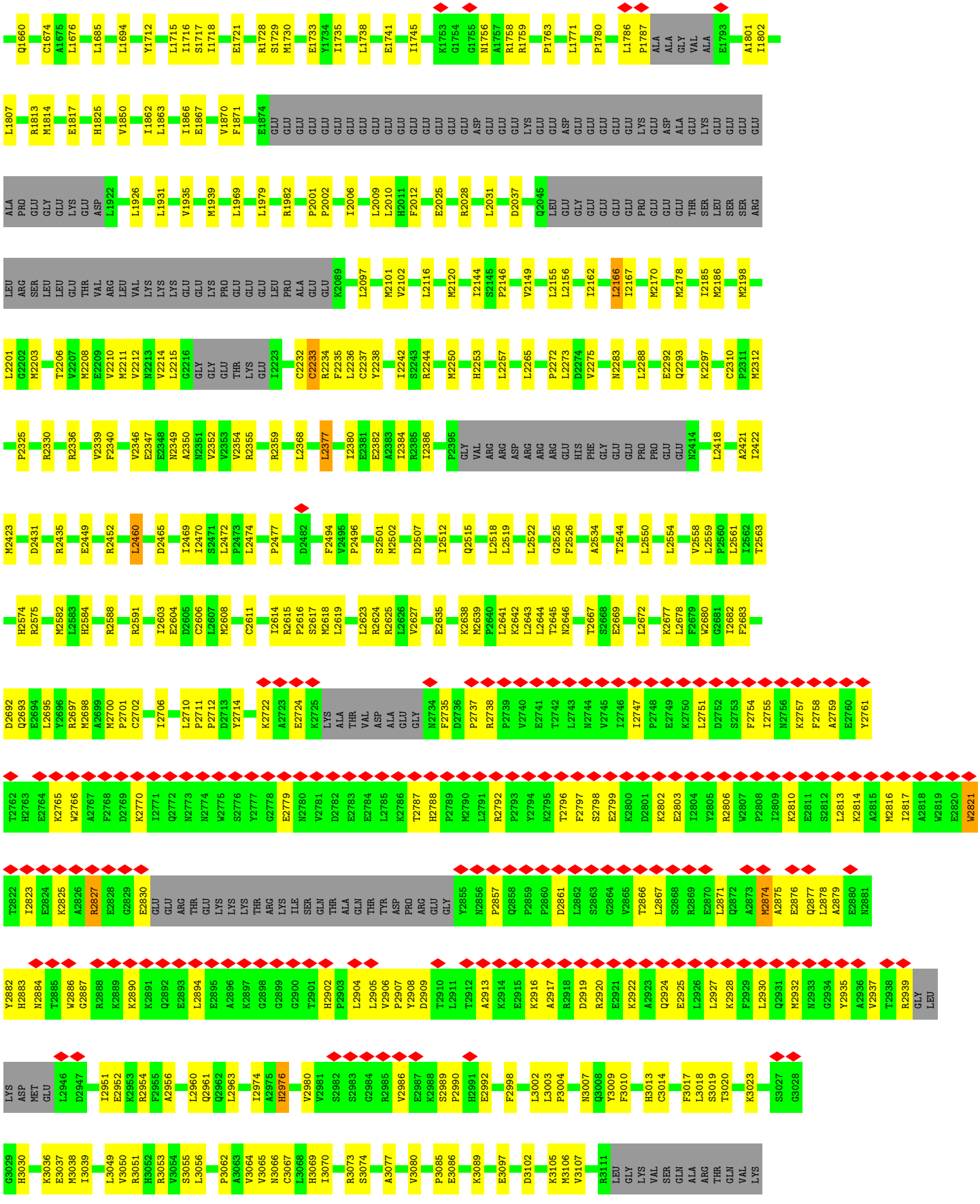
L2672 L2678 F2679 W2680 G2681 I2682 F2683 D2692 Q2693 E2694 L2695 Y2696 R2697 M2698 A2699 M2700 P2701 C2702 I2706 L2710 P2711 P2712 D2713 Y2714 K2722 A2723 E2724 K2725 LYS ALA THR VAL ASP ALA GLU GLY N2734 F2735 D2736 P2737 R2738 P2739 V2740 E2741 T2742 L2743 N2744 V2745 I2746 I2747 P2748 E2749 K2750 L2751 D2752
S2753 F2754 I2755 N2756 K2757 F2758 A2759 E2760 Y2761 T2762 H2763 E2764 K2765 W2766 A2767 F2768 D2769 K2770 I2771 Q2772 N2773 N2774 W2775 S2776 Y2777 G2778 E2779 N2780 V2781 D2782 E2783 E2784 L2785 K2786 T2787 H2788 P2789 M2790 L2791 R2792 P2793 Y2794 K2795 T2796 F2797 S2798 E2799 K2800 D2801 K2802 E2803 I2804 Y2805 R2806 W2807 P2808 I2809 K2810 E2811 S2812
L2813 K2814 A2815 M2816 I2817 A2818 W2819 E2820 W2821 T2822 I2823 E2824 K2825 A2826 R2827 E2828 G2829 E2830 GLU GLU ARG THR GLU LYS LYS LYS THR ARG LYS ILE SER GLN THR ALA GLN THR TYR ASP PRO ARG GLU GLY Y2855 N2856 P2857 Q2858 P2859 P2860 D2861 L2862 S2863 G2864 V2865 T2866 L2867 S2868 R2869 E2870 L2871 Q2872
A2873 M2874 A2875 E2876 Q2877 L2878 A2879 E2880 N2881 Y2882 H2883 N2884 T2885 W2886 G2887 R2888 K2889 K2890 K2891 Q2892 E2893 L2894 E2895 A2896 K2897 G2898 G2899 G2900 T2901 H2902 P2903 L2904 L2905 V2906 P2907 Y2908 D2909 T2910 L2911 T2912 A2913 K2914 E2915 K2916 A2917 R2918 D2919 R2920 E2921 K2922 A2923 Q2924 E2925 L2926 L2927 K2928 F2929 L2930 Q2931 M2932
N2933 G2934 Y2935 A2936 V2937 T2938 R2939 GLY LEU LYS ASP MET GLU L2946 D2947 I2951 E2952 K2953 R2954 F2955 A2956 L2960 Q2961 Q2962 L2963 I2974 A2975 H2976 V2980 V2981 S2982 S2983 G2984 R2985 V2986 E2987 K2988 S2989 P2990 H2991 E2992 F2998 L3002 L3003 P3004 N3007 Q3008 Y3009 F3010 H3013 C3014
F3017 L3018 S3019 T3020 K3023 S3027 G3028 G3029 H3030 K3036 E3037 M3038 I3039 L3049 V3050 R3051 S3055 L3056 P3062 A3063 V3064 V3065 N3066 C3067 L3068 H3069 I3070 R3073 S3074 A3077 V3080 M3081 P3085 E3086 K3089 E3097 D3102 K3105 M3106 V3107 R3111 LEU GLY LYS VAL
SER GLN ALA ARG THR GLN VAL LYS GLY VAL GLY Q3127 N3128 L3129 T3132 T3133 V3134 A3135 L3136 L3137 L3140 F3144 Q3145 H3146 H3150 G3153 V3163 R3167 S3171 I3172 L3175 G3176 K3179 V3183 R3187 P3188 A3189 L3190 L3194 A3195 R3196 L3197 P3202 L3206
Q3209 L3210 N3211 Y3219 R3225 E3226 R3227 L3232 P3233 V3236 M3239 V3245 L3246 D3247 R3248 L3249 M3250 G3254 E3258 H3268 I3272 T3273 L3274 P3275 M3276 L3277 P3282 P3293 P3294 A3295 L3296 P3297 A3298 G3299 A3300 T3308 H3311 L3315 L3316 I3319 D3330 F3341
I3345 V3346 E3352 L3353 L3354 F3358 I3359 P3360 R3364 V3372 L3379 R3380 L3381 E3382 A3383 K3384 A3385 E3386 A3387 E3391 L3392 L3393 E3397 F3398 R3403 Y3406 Y3409 P3410 R3420 W3423 E3433 L3434 F3435 R3436 G3439 F3442 I3443 M3466 M3467 L3470 T3471 A3472

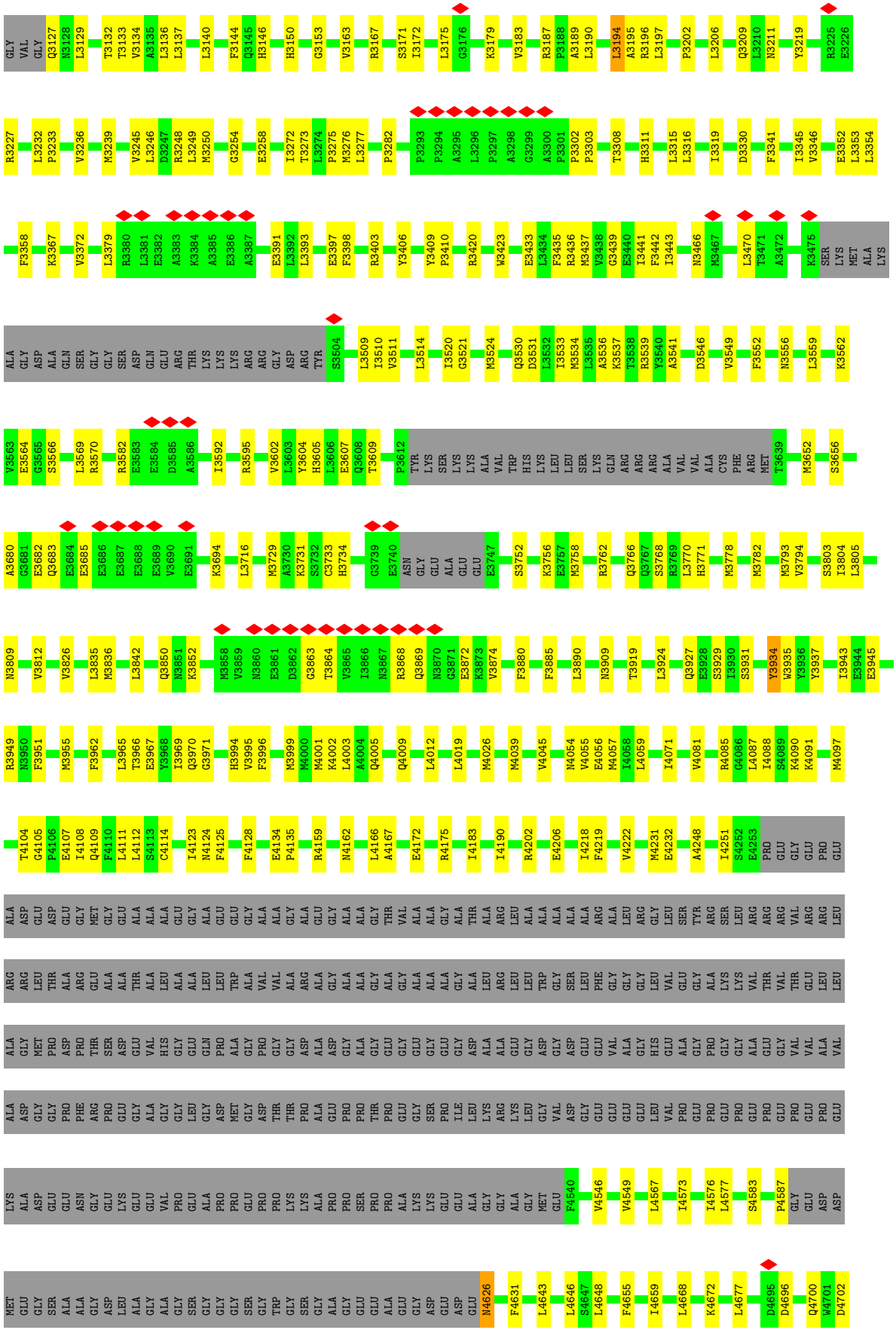


• Molecule 1: Ryanodine receptor 1

Chain J:

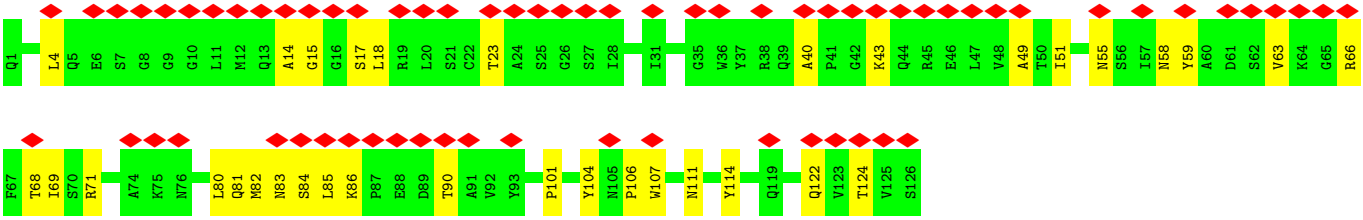






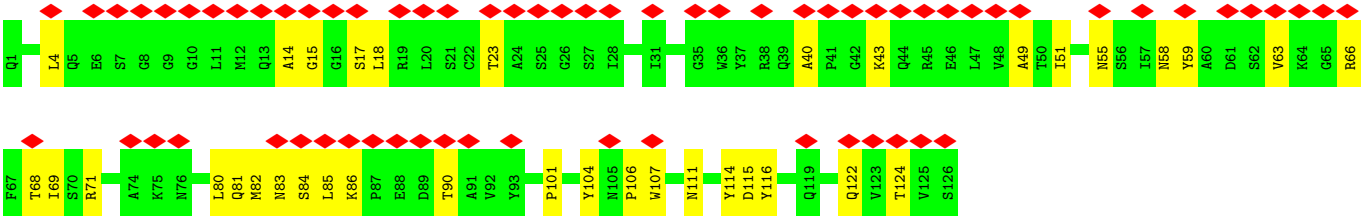
• Molecule 2: Nanobody 9657

Chain B:



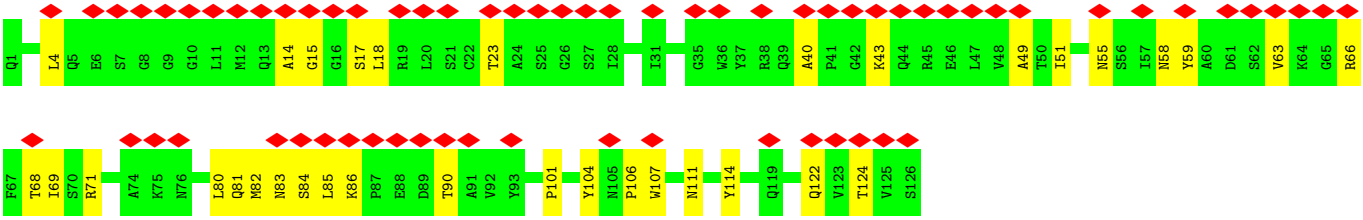
• Molecule 2: Nanobody 9657

Chain D:



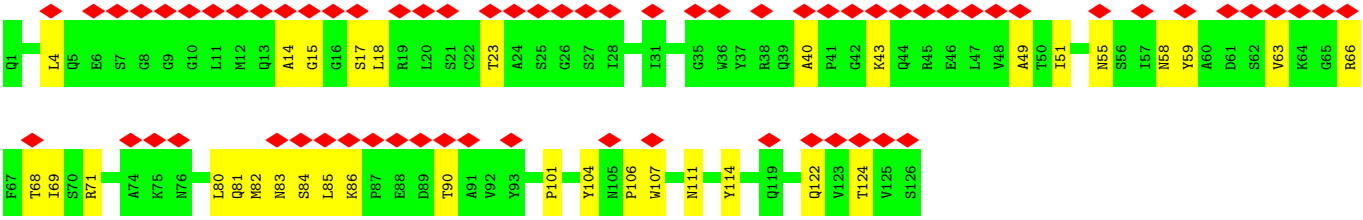
• Molecule 2: Nanobody 9657

Chain H:

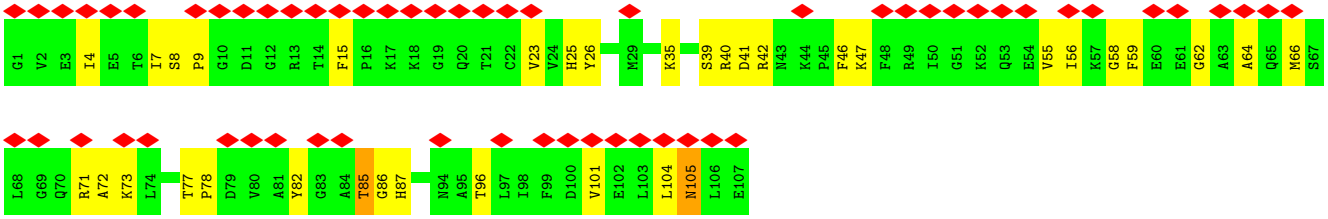


• Molecule 2: Nanobody 9657

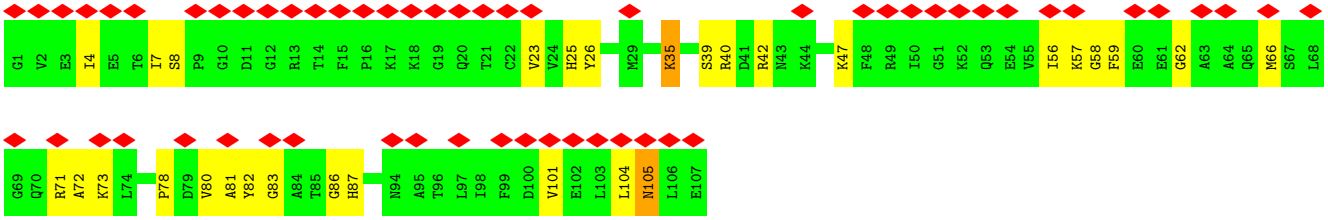
Chain K:



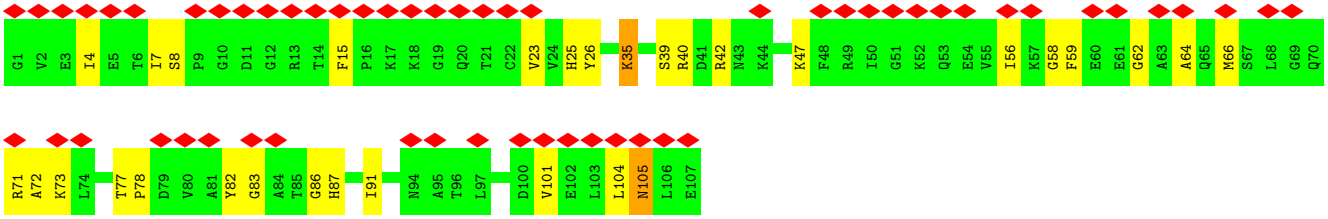
• Molecule 3: Peptidyl-prolyl cis-trans isomerase FKBP1B



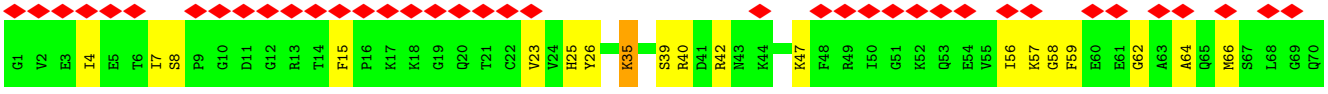
• Molecule 3: Peptidyl-prolyl cis-trans isomerase FKBP1B

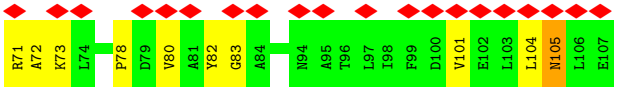


• Molecule 3: Peptidyl-prolyl cis-trans isomerase FKBP1B



• Molecule 3: Peptidyl-prolyl cis-trans isomerase FKBP1B

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L74
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A81
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G83
A84
N94
A95
T96
L97
I98
F99
D100
V101
E102
L103
L104
N105
L106
E107

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	80709	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	4.326	Depositor
Minimum map value	-0.162	Depositor
Average map value	0.056	Depositor
Map value standard deviation	0.123	Depositor
Recommended contour level	0.4	Depositor
Map size (Å)	488.544, 488.544, 488.544	wwPDB
Map dimensions	336, 336, 336	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.454, 1.454, 1.454	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, POV, CA, CFF, ATP

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.22	0/34909	0.44	1/47317 (0.0%)
1	C	0.22	0/34926	0.44	1/47340 (0.0%)
1	G	0.22	0/34909	0.43	1/47317 (0.0%)
1	J	0.23	0/34909	0.44	3/47317 (0.0%)
2	B	0.18	0/987	0.49	0/1340
2	D	0.27	0/987	0.54	0/1340
2	H	0.18	0/987	0.49	0/1340
2	K	0.18	0/987	0.49	0/1340
3	E	0.33	0/834	0.73	0/1123
3	F	0.38	0/834	0.74	0/1123
3	I	0.39	0/834	0.72	0/1123
3	L	0.40	0/834	0.73	0/1123
All	All	0.23	0/146937	0.45	6/199143 (0.0%)

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

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

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	1503	PRO	N-CA-CB	6.00	110.16	103.44
1	G	1503	PRO	N-CA-CB	6.00	110.16	103.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1503	PRO	N-CA-CB	5.98	110.14	103.44
1	J	1503	PRO	N-CA-CB	5.97	110.13	103.44
1	J	794	GLY	CA-C-O	-5.69	118.22	122.37
1	J	969	PRO	N-CA-CB	-5.07	97.92	103.25

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	1020	ARG	Sidechain
1	J	987	ARG	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	34138	0	33528	683	0
1	C	34154	0	33553	690	0
1	G	34138	0	33528	682	0
1	J	34138	0	33528	683	0
2	B	967	0	916	28	0
2	D	967	0	916	28	0
2	H	967	0	916	27	0
2	K	967	0	916	27	0
3	E	818	0	824	25	0
3	F	818	0	824	24	0
3	I	818	0	824	24	0
3	L	818	0	824	23	0
4	A	448	0	640	12	0
4	C	324	0	448	10	0
4	G	386	0	544	9	0
4	J	386	0	544	13	0
5	A	31	0	12	0	0
5	C	31	0	12	0	0
5	G	31	0	12	0	0
5	J	31	0	12	0	0
6	A	14	0	10	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	C	14	0	10	0	0
6	G	14	0	10	0	0
6	J	14	0	10	0	0
7	A	1	0	0	0	0
7	C	1	0	0	0	0
7	G	1	0	0	0	0
7	J	1	0	0	0	0
8	A	1	0	0	0	0
8	C	1	0	0	0	0
8	G	1	0	0	0	0
8	J	1	0	0	0	0
All	All	145440	0	143361	2925	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 10.

All (2925) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:959:TYR:HA	1:J:965:TYR:HA	1.31	1.06
1:A:959:TYR:HA	1:A:965:TYR:HA	1.38	1.05
1:C:181:HIS:HD2	1:C:194:SER:HB2	1.42	0.84
1:A:181:HIS:HD2	1:A:194:SER:HB2	1.41	0.84
1:G:181:HIS:HD2	1:G:194:SER:HB2	1.41	0.83
3:F:78:PRO:HA	3:F:83:GLY:HA3	1.62	0.82
1:G:181:HIS:CD2	1:G:194:SER:HB2	2.17	0.78
2:K:101:PRO:HG2	2:K:104:TYR:HB3	1.65	0.78
1:A:181:HIS:CD2	1:A:194:SER:HB2	2.17	0.78
1:C:2627:VAL:HG22	1:C:2678:LEU:HB2	1.65	0.78
1:J:181:HIS:HD2	1:J:194:SER:HB2	1.48	0.78
1:C:181:HIS:CD2	1:C:194:SER:HB2	2.18	0.78
2:K:122:GLN:HE21	2:K:124:THR:HG22	1.49	0.78
1:A:2627:VAL:HG22	1:A:2678:LEU:HB2	1.65	0.77
2:B:122:GLN:HE21	2:B:124:THR:HG22	1.49	0.77
1:C:3195:ALA:HB2	1:C:3275:PRO:HB3	1.67	0.77
2:D:101:PRO:HG2	2:D:104:TYR:HB3	1.65	0.77
1:J:2627:VAL:HG22	1:J:2678:LEU:HB2	1.65	0.77
1:A:2423:MET:HE1	1:A:2494:PHE:HA	1.68	0.76
2:H:101:PRO:HG2	2:H:104:TYR:HB3	1.65	0.76
1:J:2423:MET:HE1	1:J:2494:PHE:HA	1.68	0.76
1:A:2770:LYS:HD3	1:A:2787:THR:HB	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:101:PRO:HG2	2:B:104:TYR:HB3	1.65	0.76
2:D:122:GLN:HE21	2:D:124:THR:HG22	1.49	0.76
1:G:2627:VAL:HG22	1:G:2678:LEU:HB2	1.65	0.76
1:G:3195:ALA:HB2	1:G:3275:PRO:HB3	1.67	0.76
1:J:2770:LYS:HD3	1:J:2787:THR:HB	1.68	0.76
1:A:3195:ALA:HB2	1:A:3275:PRO:HB3	1.67	0.76
1:G:730:VAL:HA	1:G:1476:MET:HE1	1.66	0.76
1:G:2770:LYS:HD3	1:G:2787:THR:HB	1.68	0.76
1:C:2423:MET:HE1	1:C:2494:PHE:HA	1.67	0.76
1:C:2770:LYS:HD3	1:C:2787:THR:HB	1.68	0.76
1:J:3195:ALA:HB2	1:J:3275:PRO:HB3	1.67	0.76
1:G:2423:MET:HE1	1:G:2494:PHE:HA	1.68	0.75
1:J:730:VAL:HA	1:J:1476:MET:HE1	1.66	0.75
1:C:730:VAL:HA	1:C:1476:MET:HE1	1.66	0.75
1:J:1089:TYR:HD1	1:J:1152:MET:HG2	1.51	0.75
1:J:959:TYR:HA	1:J:965:TYR:CA	2.14	0.75
2:H:122:GLN:HE21	2:H:124:THR:HG22	1.49	0.75
1:C:1089:TYR:HD1	1:C:1152:MET:HG2	1.51	0.75
1:A:2797:PHE:HB3	1:A:2802:LYS:HE3	1.69	0.75
1:C:2797:PHE:HB3	1:C:2802:LYS:HE3	1.69	0.75
1:A:730:VAL:HA	1:A:1476:MET:HE1	1.66	0.75
1:G:2797:PHE:HB3	1:G:2802:LYS:HE3	1.69	0.75
1:J:2797:PHE:HB3	1:J:2802:LYS:HE3	1.69	0.75
1:A:2604:GLU:HB2	1:A:2639:MET:HG3	1.69	0.74
1:C:891:TRP:HA	1:C:902:ARG:HB3	1.67	0.74
1:A:2883:HIS:HD1	1:A:2908:TYR:HB2	1.52	0.74
1:J:2469:ILE:HB	1:J:2502:MET:HE1	1.69	0.74
1:C:2604:GLU:HB2	1:C:2639:MET:HG3	1.69	0.74
1:A:1089:TYR:HD1	1:A:1152:MET:HG2	1.51	0.74
1:C:2469:ILE:HB	1:C:2502:MET:HE1	1.69	0.74
1:G:1089:TYR:HD1	1:G:1152:MET:HG2	1.51	0.74
3:L:78:PRO:HA	3:L:83:GLY:HA3	1.69	0.74
1:C:173:SER:HB3	1:C:178:ARG:H	1.53	0.74
1:A:173:SER:HB3	1:A:178:ARG:H	1.53	0.73
1:J:173:SER:HB3	1:J:178:ARG:H	1.53	0.73
1:J:2604:GLU:HB2	1:J:2639:MET:HG3	1.69	0.73
1:J:181:HIS:CD2	1:J:194:SER:HB2	2.23	0.73
1:J:2883:HIS:HD1	1:J:2908:TYR:HB2	1.52	0.73
1:A:2469:ILE:HB	1:A:2502:MET:HE1	1.69	0.73
1:C:2883:HIS:HD1	1:C:2908:TYR:HB2	1.52	0.73
1:G:2604:GLU:HB2	1:G:2639:MET:HG3	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:858:THR:HG21	1:A:931:THR:HG22	1.71	0.72
1:G:858:THR:HG21	1:G:931:THR:HG22	1.71	0.72
1:G:2883:HIS:HD1	1:G:2908:TYR:HB2	1.52	0.72
1:C:638:ILE:HD11	1:C:1636:MET:HE2	1.71	0.72
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	1.71	0.72
1:C:858:THR:HG21	1:C:931:THR:HG22	1.71	0.72
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.72	0.72
3:F:23:VAL:HG22	3:F:47:LYS:HG2	1.72	0.72
1:G:173:SER:HB3	1:G:178:ARG:H	1.53	0.72
1:G:2231:SER:HA	1:G:2234:ARG:HD2	1.70	0.72
1:A:3106:MET:HG2	1:A:3132:THR:HG21	1.72	0.72
1:G:2469:ILE:HB	1:G:2502:MET:HE1	1.69	0.72
3:I:23:VAL:HG22	3:I:47:LYS:HG2	1.72	0.72
1:J:638:ILE:HD11	1:J:1636:MET:HE2	1.71	0.72
1:J:858:THR:HG21	1:J:931:THR:HG22	1.71	0.72
3:E:23:VAL:HG22	3:E:47:LYS:HG2	1.72	0.71
1:A:638:ILE:HD11	1:A:1636:MET:HE2	1.71	0.71
1:C:246:TYR:HB3	1:C:373:LYS:HB3	1.72	0.71
1:G:246:TYR:HB3	1:G:373:LYS:HB3	1.72	0.71
1:J:246:TYR:HB3	1:J:373:LYS:HB3	1.72	0.71
3:E:105:ASN:C	3:E:105:ASN:HD22	1.99	0.71
1:A:246:TYR:HB3	1:A:373:LYS:HB3	1.72	0.71
1:J:1116:GLY:HA3	1:J:1132:TRP:HB3	1.71	0.71
1:G:3106:MET:HG2	1:G:3132:THR:HG21	1.72	0.71
1:J:891:TRP:HA	1:J:902:ARG:HB3	1.71	0.71
1:G:1116:GLY:HA3	1:G:1132:TRP:HB3	1.71	0.71
3:L:105:ASN:HD22	3:L:105:ASN:C	1.99	0.71
3:I:105:ASN:HD22	3:I:105:ASN:C	1.99	0.71
1:J:3106:MET:HG2	1:J:3132:THR:HG21	1.72	0.70
3:L:23:VAL:HG22	3:L:47:LYS:HG2	1.72	0.70
1:A:891:TRP:HA	1:A:902:ARG:HB3	1.71	0.70
1:G:1738:LEU:HB2	1:G:2146:PRO:HD3	1.73	0.70
3:F:105:ASN:HD22	3:F:105:ASN:C	1.99	0.70
1:G:638:ILE:HD11	1:G:1636:MET:HE2	1.72	0.70
1:A:168:ASP:HB3	1:A:199:LEU:HD12	1.73	0.70
1:C:3106:MET:HG2	1:C:3132:THR:HG21	1.72	0.70
1:G:940:GLY:HA3	1:G:1051:TYR:HA	1.74	0.70
1:J:940:GLY:HA3	1:J:1051:TYR:HA	1.74	0.69
1:J:3250:MET:HE1	1:J:3277:LEU:HD22	1.73	0.69
1:G:3951:PHE:O	1:G:3955:MET:HB2	1.93	0.69
1:A:1738:LEU:HB2	1:A:2146:PRO:HD3	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1738:LEU:HB2	1:C:2146:PRO:HD3	1.73	0.69
1:J:3951:PHE:O	1:J:3955:MET:HB2	1.93	0.69
1:G:127:MET:HE3	1:G:127:MET:H	1.58	0.69
1:C:3951:PHE:O	1:C:3955:MET:HB2	1.93	0.69
2:D:111:ASN:HA	2:D:114:TYR:HD2	1.57	0.69
1:G:3250:MET:HE1	1:G:3277:LEU:HD22	1.73	0.69
1:A:3250:MET:HE1	1:A:3277:LEU:HD22	1.73	0.69
1:A:3951:PHE:O	1:A:3955:MET:HB2	1.93	0.69
1:A:940:GLY:HA3	1:A:1051:TYR:HA	1.74	0.69
1:C:3250:MET:HE1	1:C:3277:LEU:HD22	1.73	0.68
1:J:1738:LEU:HB2	1:J:2146:PRO:HD3	1.73	0.68
1:C:544:LEU:HD11	1:C:574:VAL:HB	1.75	0.68
1:C:940:GLY:HA3	1:C:1051:TYR:HA	1.74	0.68
1:C:3530:GLN:HA	1:C:3533:ILE:HG12	1.76	0.68
1:A:544:LEU:HD11	1:A:574:VAL:HB	1.75	0.68
1:A:984:LEU:HD13	1:A:987:ARG:HD2	1.76	0.68
1:C:127:MET:HE3	1:C:127:MET:H	1.58	0.68
1:G:3530:GLN:HA	1:G:3533:ILE:HG12	1.76	0.68
1:A:3530:GLN:HA	1:A:3533:ILE:HG12	1.76	0.67
1:J:127:MET:HE3	1:J:127:MET:H	1.58	0.67
1:J:2803:GLU:HA	1:J:2806:ARG:HB3	1.77	0.67
1:G:544:LEU:HD11	1:G:574:VAL:HB	1.75	0.67
1:J:544:LEU:HD11	1:J:574:VAL:HB	1.75	0.67
1:J:3530:GLN:HA	1:J:3533:ILE:HG12	1.76	0.67
1:A:127:MET:H	1:A:127:MET:HE3	1.58	0.67
1:G:2803:GLU:HA	1:G:2806:ARG:HB3	1.77	0.67
1:A:2496:PRO:HG3	1:A:2550:LEU:HD22	1.77	0.67
1:G:4071:ILE:HG21	1:G:4097:MET:HE1	1.77	0.67
1:J:2496:PRO:HG3	1:J:2550:LEU:HD22	1.77	0.66
1:A:578:ILE:HG13	1:A:606:LEU:HD11	1.77	0.66
1:C:2803:GLU:HA	1:C:2806:ARG:HB3	1.76	0.66
1:C:4071:ILE:HG21	1:C:4097:MET:HE1	1.76	0.66
1:G:2496:PRO:HG3	1:G:2550:LEU:HD22	1.77	0.66
1:C:578:ILE:HG13	1:C:606:LEU:HD11	1.77	0.66
1:A:985:VAL:HG11	1:A:1040:CYS:SG	2.36	0.66
1:C:2496:PRO:HG3	1:C:2550:LEU:HD22	1.77	0.66
1:A:2874:MET:HE1	1:A:2937:VAL:HB	1.77	0.66
1:C:73:LEU:HD13	1:C:77:ALA:HB1	1.77	0.66
1:C:4090:LYS:HG3	1:C:4112:LEU:HD22	1.78	0.66
1:C:871:ARG:HG3	1:C:925:SER:HB2	1.78	0.66
1:A:1147:ASP:HB3	1:A:1164:LEU:HD11	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2803:GLU:HA	1:A:2806:ARG:HB3	1.77	0.66
1:J:578:ILE:HG13	1:J:606:LEU:HD11	1.77	0.66
1:C:2874:MET:HE1	1:C:2937:VAL:HB	1.77	0.65
1:G:871:ARG:HG3	1:G:925:SER:HB2	1.78	0.65
1:G:1147:ASP:HB3	1:G:1164:LEU:HD11	1.78	0.65
1:J:4081:VAL:HG22	1:J:4088:ILE:HB	1.78	0.65
1:C:4081:VAL:HG22	1:C:4088:ILE:HB	1.78	0.65
1:A:73:LEU:HD13	1:A:77:ALA:HB1	1.77	0.65
1:A:4071:ILE:HG21	1:A:4097:MET:HE1	1.77	0.65
1:C:684:VAL:HG22	1:C:781:VAL:HG12	1.79	0.65
1:J:1786:LEU:HB2	3:L:82:TYR:HB3	1.78	0.65
1:A:4081:VAL:HG22	1:A:4088:ILE:HB	1.78	0.65
1:J:73:LEU:HD13	1:J:77:ALA:HB1	1.77	0.65
1:G:4090:LYS:HG3	1:G:4112:LEU:HD22	1.78	0.65
1:A:684:VAL:HG22	1:A:781:VAL:HG12	1.79	0.65
1:A:3510:ILE:H	1:A:3510:ILE:HD12	1.60	0.65
1:C:1115:LEU:HD23	1:C:1123:VAL:HG11	1.78	0.65
1:C:2208:MET:HA	1:C:2211:MET:HG2	1.79	0.65
1:G:578:ILE:HG13	1:G:606:LEU:HD11	1.77	0.65
1:G:3410:PRO:HD3	1:G:3509:LEU:HD21	1.79	0.65
1:J:2874:MET:HE1	1:J:2937:VAL:HB	1.77	0.65
1:A:4090:LYS:HG3	1:A:4112:LEU:HD22	1.78	0.65
1:J:3410:PRO:HD3	1:J:3509:LEU:HD21	1.79	0.65
1:A:2208:MET:HA	1:A:2211:MET:HG2	1.79	0.65
1:J:2208:MET:HA	1:J:2211:MET:HG2	1.79	0.65
1:J:4071:ILE:HG21	1:J:4097:MET:HE1	1.77	0.65
1:A:3716:LEU:HD21	1:A:3793:MET:HG2	1.79	0.64
1:G:1271:ARG:HH12	1:G:1273:ALA:HB2	1.62	0.64
1:J:3716:LEU:HD21	1:J:3793:MET:HG2	1.79	0.64
1:C:3196:ARG:HH12	1:C:3341:PHE:HE1	1.44	0.64
1:C:3409:TYR:HB2	1:C:3509:LEU:HD11	1.79	0.64
1:C:3716:LEU:HD21	1:C:3793:MET:HG2	1.79	0.64
1:G:73:LEU:HD13	1:G:77:ALA:HB1	1.77	0.64
1:G:2208:MET:HA	1:G:2211:MET:HG2	1.79	0.64
1:J:2155:LEU:HD21	1:J:2198:MET:HE1	1.79	0.64
1:J:3196:ARG:HH12	1:J:3341:PHE:HE1	1.44	0.64
1:C:1147:ASP:HB3	1:C:1164:LEU:HD11	1.78	0.64
1:G:2874:MET:HE1	1:G:2937:VAL:HB	1.77	0.64
1:G:3716:LEU:HD21	1:G:3793:MET:HG2	1.79	0.64
1:J:1147:ASP:HB3	1:J:1164:LEU:HD11	1.78	0.64
1:J:4090:LYS:HG3	1:J:4112:LEU:HD22	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:871:ARG:HG3	1:A:925:SER:HB2	1.78	0.64
1:C:594:GLY:HA2	1:C:1594:ARG:HD3	1.80	0.64
1:C:959:TYR:HA	1:C:965:TYR:HA	1.80	0.64
1:G:2755:ILE:HD12	1:G:2813:LEU:HB3	1.78	0.64
1:G:4081:VAL:HG22	1:G:4088:ILE:HB	1.78	0.64
1:C:2534:ALA:HB1	1:C:2588:ARG:HE	1.62	0.64
1:G:2821:TRP:HB3	1:G:2939:ARG:HB3	1.80	0.64
1:A:2002:PRO:HD2	1:A:3863:GLY:HA2	1.79	0.64
1:A:2155:LEU:HD21	1:A:2198:MET:HE1	1.79	0.64
1:G:1115:LEU:HD23	1:G:1123:VAL:HG11	1.78	0.64
2:H:68:THR:HB	2:H:81:GLN:HB2	1.80	0.64
1:C:2755:ILE:HD12	1:C:2813:LEU:HB3	1.78	0.64
1:G:2534:ALA:HB1	1:G:2588:ARG:HE	1.62	0.64
1:J:684:VAL:HG22	1:J:781:VAL:HG12	1.79	0.64
1:C:2002:PRO:HD2	1:C:3863:GLY:HA2	1.79	0.64
1:G:594:GLY:HA2	1:G:1594:ARG:HD3	1.80	0.64
1:J:1271:ARG:HH12	1:J:1273:ALA:HB2	1.62	0.64
1:A:1115:LEU:HD23	1:A:1123:VAL:HG11	1.78	0.64
1:J:2591:ARG:HH12	1:J:2625:ARG:HH21	1.46	0.64
1:J:2755:ILE:HD12	1:J:2813:LEU:HB3	1.78	0.64
1:C:2155:LEU:HD21	1:C:2198:MET:HE1	1.79	0.63
1:C:2917:ALA:HA	1:C:2920:ARG:HB3	1.80	0.63
1:J:2002:PRO:HD2	1:J:3863:GLY:HA2	1.79	0.63
2:K:68:THR:HB	2:K:81:GLN:HB2	1.80	0.63
1:A:2233:CYS:SG	1:A:2275:VAL:HB	2.38	0.63
1:G:2002:PRO:HD2	1:G:3863:GLY:HA2	1.79	0.63
1:C:1094:ALA:HB1	1:C:1100:MET:HE1	1.80	0.63
1:J:2534:ALA:HB1	1:J:2588:ARG:HE	1.62	0.63
1:J:2821:TRP:HB3	1:J:2939:ARG:HB3	1.80	0.63
1:A:2755:ILE:HD12	1:A:2813:LEU:HB3	1.78	0.63
1:G:684:VAL:HG22	1:G:781:VAL:HG12	1.79	0.63
1:J:1115:LEU:HD23	1:J:1123:VAL:HG11	1.79	0.63
1:G:2155:LEU:HD21	1:G:2198:MET:HE1	1.79	0.63
3:I:78:PRO:HA	3:I:83:GLY:HA3	1.81	0.63
1:J:871:ARG:HG3	1:J:925:SER:HB2	1.78	0.63
1:J:2917:ALA:HA	1:J:2920:ARG:HB3	1.80	0.63
1:A:3196:ARG:HH12	1:A:3341:PHE:HE1	1.44	0.63
1:C:2591:ARG:HH12	1:C:2625:ARG:HH21	1.46	0.63
1:G:1094:ALA:HB1	1:G:1100:MET:HE1	1.79	0.63
1:J:1094:ALA:HB1	1:J:1100:MET:HE1	1.80	0.63
1:J:2001:PRO:HB3	1:J:3864:THR:H	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:66:ARG:HD2	2:K:83:ASN:HB2	1.81	0.63
2:B:68:THR:HB	2:B:81:GLN:HB2	1.80	0.63
1:A:1094:ALA:HB1	1:A:1100:MET:HE1	1.79	0.63
1:A:2821:TRP:HB3	1:A:2939:ARG:HB3	1.80	0.63
1:A:2917:ALA:HA	1:A:2920:ARG:HB3	1.80	0.63
1:G:3196:ARG:HH12	1:G:3341:PHE:HE1	1.44	0.63
1:A:2534:ALA:HB1	1:A:2588:ARG:HE	1.62	0.63
1:C:2233:CYS:SG	1:C:2275:VAL:HB	2.39	0.63
2:D:68:THR:HB	2:D:81:GLN:HB2	1.80	0.63
1:G:894:GLY:HA3	1:G:903:LEU:HD22	1.80	0.63
1:G:3510:ILE:H	1:G:3510:ILE:HD12	1.62	0.63
1:J:936:GLY:H	1:J:1056:PRO:HB3	1.64	0.63
1:A:1271:ARG:HH12	1:A:1273:ALA:HB2	1.62	0.62
1:A:3536:ALA:HA	1:A:3539:ARG:HE	1.64	0.62
2:B:66:ARG:HD2	2:B:83:ASN:HB2	1.81	0.62
1:G:2001:PRO:HB3	1:G:3864:THR:H	1.64	0.62
1:G:2591:ARG:HH12	1:G:2625:ARG:HH21	1.46	0.62
1:G:2876:GLU:HG3	1:G:2908:TYR:HE2	1.64	0.62
1:G:4843:LEU:HD22	1:J:4823:LEU:HD11	1.81	0.62
2:H:66:ARG:HD2	2:H:83:ASN:HB2	1.81	0.62
1:C:936:GLY:H	1:C:1056:PRO:HB3	1.64	0.62
1:C:1271:ARG:HH12	1:C:1273:ALA:HB2	1.62	0.62
1:G:936:GLY:H	1:G:1056:PRO:HB3	1.64	0.62
1:G:2611:CYS:HA	1:G:2614:ILE:HG12	1.81	0.62
1:J:594:GLY:HA2	1:J:1594:ARG:HD3	1.80	0.62
1:A:936:GLY:H	1:A:1056:PRO:HB3	1.64	0.62
1:C:3510:ILE:H	1:C:3510:ILE:HD12	1.63	0.62
1:G:1078:GLU:HG3	1:G:1237:TRP:HE1	1.64	0.62
1:J:3536:ALA:HA	1:J:3539:ARG:HE	1.64	0.62
1:A:594:GLY:HA2	1:A:1594:ARG:HD3	1.80	0.62
2:B:15:GLY:H	2:B:85:LEU:HB2	1.64	0.62
1:A:2876:GLU:HG3	1:A:2908:TYR:HE2	1.64	0.62
1:A:4843:LEU:HD22	1:G:4823:LEU:HD11	1.81	0.62
1:J:1926:LEU:HG	1:J:1939:MET:HE1	1.81	0.62
1:J:2170:MET:HE1	1:J:2178:MET:HE1	1.82	0.62
1:A:2170:MET:HE1	1:A:2178:MET:HE1	1.82	0.62
1:C:3372:VAL:HG11	1:C:3398:PHE:HB3	1.81	0.62
3:E:82:TYR:HB2	3:E:86:GLY:HA2	1.82	0.62
1:G:3069:HIS:HB3	1:G:3073:ARG:HH12	1.65	0.62
1:J:950:LEU:HD11	1:J:972:LEU:HA	1.81	0.62
1:J:2876:GLU:HG3	1:J:2908:TYR:HE2	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2591:ARG:HH12	1:A:2625:ARG:HH21	1.46	0.62
1:C:2001:PRO:HB3	1:C:3864:THR:H	1.64	0.62
1:C:2170:MET:HE1	1:C:2178:MET:HE1	1.82	0.62
1:C:2611:CYS:HA	1:C:2614:ILE:HG12	1.81	0.62
1:G:49:LEU:HD21	1:G:182:LEU:HD11	1.82	0.62
1:J:2611:CYS:HA	1:J:2614:ILE:HG12	1.81	0.62
1:A:2611:CYS:HA	1:A:2614:ILE:HG12	1.81	0.62
2:B:51:ILE:HG13	2:B:71:ARG:HH21	1.64	0.62
2:B:51:ILE:HD11	2:B:71:ARG:HB3	1.82	0.62
1:C:2821:TRP:HB3	1:C:2939:ARG:HB3	1.80	0.62
1:C:2980:VAL:HB	1:C:2986:VAL:HB	1.82	0.62
1:G:2980:VAL:HB	1:G:2986:VAL:HB	1.82	0.62
1:J:3372:VAL:HG11	1:J:3398:PHE:HB3	1.81	0.62
2:K:15:GLY:H	2:K:85:LEU:HB2	1.64	0.62
2:K:51:ILE:HG13	2:K:71:ARG:HH21	1.64	0.62
1:A:3069:HIS:HB3	1:A:3073:ARG:HH12	1.65	0.62
1:G:2519:LEU:HB3	1:G:2575:ARG:HH12	1.64	0.62
1:G:2917:ALA:HA	1:G:2920:ARG:HB3	1.80	0.62
1:J:2615:ARG:HG3	1:J:2617:SER:H	1.65	0.62
1:C:2449:GLU:HA	1:C:2452:ARG:HE	1.65	0.61
1:A:2001:PRO:HB3	1:A:3864:THR:H	1.64	0.61
1:A:3372:VAL:HG11	1:A:3398:PHE:HB3	1.81	0.61
2:D:66:ARG:HD2	2:D:83:ASN:HB2	1.81	0.61
1:G:2170:MET:HE1	1:G:2178:MET:HE1	1.82	0.61
1:G:3372:VAL:HG11	1:G:3398:PHE:HB3	1.81	0.61
1:J:985:VAL:HG22	1:J:1043:VAL:HG21	1.82	0.61
1:J:2519:LEU:HB3	1:J:2575:ARG:HH12	1.64	0.61
1:J:2710:LEU:HD12	1:J:2711:PRO:HD2	1.82	0.61
1:A:2519:LEU:HB3	1:A:2575:ARG:HH12	1.64	0.61
1:A:2710:LEU:HD12	1:A:2711:PRO:HD2	1.82	0.61
1:C:3536:ALA:HA	1:C:3539:ARG:HE	1.64	0.61
2:D:15:GLY:H	2:D:85:LEU:HB2	1.64	0.61
2:D:51:ILE:HG13	2:D:71:ARG:HH21	1.64	0.61
1:G:106:ALA:HA	1:G:149:THR:HA	1.82	0.61
1:G:1926:LEU:HG	1:G:1939:MET:HE1	1.81	0.61
2:H:15:GLY:H	2:H:85:LEU:HB2	1.64	0.61
1:A:1926:LEU:HG	1:A:1939:MET:HE1	1.81	0.61
1:A:2980:VAL:HB	1:A:2986:VAL:HB	1.82	0.61
1:C:1078:GLU:HG3	1:C:1237:TRP:HE1	1.64	0.61
1:C:2615:ARG:HG3	1:C:2617:SER:H	1.64	0.61
1:C:4823:LEU:HD11	1:J:4843:LEU:HD22	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3536:ALA:HA	1:G:3539:ARG:HE	1.64	0.61
1:A:2799:GLU:HA	1:A:2802:LYS:HD2	1.83	0.61
1:C:4834:GLY:HA3	4:C:5106:POV:H1	1.83	0.61
1:A:4823:LEU:HD11	1:C:4843:LEU:HD22	1.83	0.61
1:C:2799:GLU:HA	1:C:2802:LYS:HD2	1.83	0.61
2:H:51:ILE:HG13	2:H:71:ARG:HH21	1.64	0.61
1:J:153:ALA:HB2	1:J:170:ILE:HG13	1.82	0.61
1:C:317:ARG:HH11	1:C:323:LEU:HB2	1.66	0.61
2:D:51:ILE:HD11	2:D:71:ARG:HB3	1.82	0.61
1:G:2799:GLU:HA	1:G:2802:LYS:HD2	1.83	0.61
1:J:317:ARG:HH11	1:J:323:LEU:HB2	1.66	0.61
1:J:1078:GLU:HG3	1:J:1237:TRP:HE1	1.64	0.61
1:J:2980:VAL:HB	1:J:2986:VAL:HB	1.82	0.61
1:J:3510:ILE:HD12	1:J:3510:ILE:H	1.65	0.61
1:A:1078:GLU:HG3	1:A:1237:TRP:HE1	1.64	0.61
1:C:49:LEU:HD21	1:C:182:LEU:HD11	1.82	0.61
1:C:2519:LEU:HB3	1:C:2575:ARG:HH12	1.64	0.61
1:A:2010:LEU:HD22	1:A:3656:SER:HB2	1.82	0.61
1:J:49:LEU:HD21	1:J:182:LEU:HD11	1.82	0.61
1:J:106:ALA:HA	1:J:149:THR:HA	1.82	0.61
1:J:2010:LEU:HD22	1:J:3656:SER:HB2	1.82	0.61
1:C:2876:GLU:HG3	1:C:2908:TYR:HE2	1.64	0.61
2:H:51:ILE:HD11	2:H:71:ARG:HB3	1.82	0.61
1:A:4059:LEU:HD13	1:A:4167:ALA:HB2	1.83	0.60
1:C:153:ALA:HB2	1:C:170:ILE:HG13	1.82	0.60
1:G:2615:ARG:HG3	1:G:2617:SER:H	1.65	0.60
1:J:2799:GLU:HA	1:J:2802:LYS:HD2	1.83	0.60
1:J:3069:HIS:HB3	1:J:3073:ARG:HH12	1.65	0.60
1:A:49:LEU:HD21	1:A:182:LEU:HD11	1.82	0.60
1:A:153:ALA:HB2	1:A:170:ILE:HG13	1.82	0.60
1:A:234:SER:HB2	1:A:242:ARG:HA	1.83	0.60
1:C:106:ALA:HA	1:C:149:THR:HA	1.82	0.60
1:C:234:SER:HB2	1:C:242:ARG:HA	1.83	0.60
1:C:4059:LEU:HD13	1:C:4167:ALA:HB2	1.83	0.60
1:G:2710:LEU:HD12	1:G:2711:PRO:HD2	1.82	0.60
1:G:4059:LEU:HD13	1:G:4167:ALA:HB2	1.83	0.60
1:C:671:VAL:HG22	1:C:787:VAL:HG12	1.83	0.60
1:J:2624:ARG:HD2	1:J:2906:VAL:HG11	1.83	0.60
1:J:4059:LEU:HD13	1:J:4167:ALA:HB2	1.83	0.60
4:J:5101:POV:H23	4:J:5102:POV:H34A	1.83	0.60
1:A:3097:GLU:HG2	1:A:3167:ARG:HH12	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2989:SER:HB2	1:C:2992:GLU:HB2	1.83	0.60
1:C:3097:GLU:HG2	1:C:3167:ARG:HH12	1.66	0.60
4:A:5107:POV:H23	4:C:5111:POV:H34A	1.82	0.60
1:J:671:VAL:HG22	1:J:787:VAL:HG12	1.83	0.60
1:A:299:LEU:HD22	1:A:378:LEU:HG	1.84	0.60
1:A:2615:ARG:HG3	1:A:2617:SER:H	1.65	0.60
1:C:3227:ARG:HG2	1:C:3232:LEU:HD12	1.84	0.60
1:G:22:LEU:HG	1:G:202:MET:HE1	1.84	0.60
1:J:959:TYR:CA	1:J:965:TYR:HA	2.19	0.60
1:C:2010:LEU:HD22	1:C:3656:SER:HB2	1.83	0.60
1:C:2624:ARG:HD2	1:C:2906:VAL:HG11	1.83	0.60
1:G:317:ARG:HH11	1:G:323:LEU:HB2	1.66	0.60
2:K:51:ILE:HD11	2:K:71:ARG:HB3	1.82	0.60
1:A:152:PRO:HA	1:A:169:LEU:HD22	1.84	0.60
1:C:1926:LEU:HG	1:C:1939:MET:HE1	1.81	0.60
1:C:3442:PHE:HE1	1:C:3511:VAL:HG22	1.67	0.60
1:G:299:LEU:HD22	1:G:378:LEU:HG	1.84	0.60
1:G:2272:PRO:HA	1:G:2275:VAL:HG12	1.83	0.60
1:G:2989:SER:HB2	1:G:2992:GLU:HB2	1.83	0.60
1:G:3227:ARG:HG2	1:G:3232:LEU:HD12	1.84	0.60
1:J:2449:GLU:HA	1:J:2452:ARG:HE	1.65	0.60
1:J:3097:GLU:HG2	1:J:3167:ARG:HH12	1.66	0.60
1:A:22:LEU:HG	1:A:202:MET:HE1	1.84	0.60
1:C:152:PRO:HA	1:C:169:LEU:HD22	1.84	0.60
1:C:2710:LEU:HD12	1:C:2711:PRO:HD2	1.82	0.60
1:G:153:ALA:HB2	1:G:170:ILE:HG13	1.82	0.60
1:A:2116:LEU:O	1:A:2120:MET:HG2	2.02	0.60
1:A:2624:ARG:HD2	1:A:2906:VAL:HG11	1.83	0.60
1:J:234:SER:HB2	1:J:242:ARG:HA	1.83	0.60
1:A:106:ALA:HA	1:A:149:THR:HA	1.82	0.59
1:A:317:ARG:HH11	1:A:323:LEU:HB2	1.66	0.59
1:A:2449:GLU:HA	1:A:2452:ARG:HE	1.66	0.59
1:G:3097:GLU:HG2	1:G:3167:ARG:HH12	1.66	0.59
1:A:899:ASP:H	2:B:58:ASN:HD21	1.51	0.59
1:C:3069:HIS:HB3	1:C:3073:ARG:HH12	1.65	0.59
1:G:2116:LEU:O	1:G:2120:MET:HG2	2.02	0.59
1:J:2272:PRO:HA	1:J:2275:VAL:HG12	1.84	0.59
1:A:3227:ARG:HG2	1:A:3232:LEU:HD12	1.84	0.59
1:G:954:LYS:HA	1:G:969:PRO:HG2	1.84	0.59
1:G:2010:LEU:HD22	1:G:3656:SER:HB2	1.83	0.59
1:J:22:LEU:HG	1:J:202:MET:HE1	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1694:LEU:HB3	1:J:1715:LEU:HD12	1.85	0.59
1:A:2989:SER:HB2	1:A:2992:GLU:HB2	1.83	0.59
4:G:5112:POV:H23	4:G:5113:POV:H34A	1.82	0.59
3:I:8:SER:H	3:I:71:ARG:HB2	1.68	0.59
1:J:2477:PRO:HG3	1:J:2544:THR:HG21	1.85	0.59
1:J:3227:ARG:HG2	1:J:3232:LEU:HD12	1.84	0.59
1:C:981:GLN:HG3	1:C:1047:LEU:HD21	1.85	0.59
1:G:152:PRO:HA	1:G:169:LEU:HD22	1.84	0.59
1:A:2272:PRO:HA	1:A:2275:VAL:HG12	1.84	0.59
1:A:3442:PHE:HE1	1:A:3511:VAL:HG22	1.67	0.59
1:G:671:VAL:HG22	1:G:787:VAL:HG12	1.83	0.59
1:G:2477:PRO:HG3	1:G:2544:THR:HG21	1.85	0.59
1:G:2449:GLU:HA	1:G:2452:ARG:HE	1.66	0.59
1:G:2624:ARG:HD2	1:G:2906:VAL:HG11	1.83	0.59
1:J:152:PRO:HA	1:J:169:LEU:HD22	1.84	0.59
1:A:981:GLN:HG3	1:A:1047:LEU:HD21	1.85	0.59
1:C:22:LEU:HG	1:C:202:MET:HE1	1.84	0.59
1:C:2477:PRO:HG3	1:C:2544:THR:HG21	1.85	0.59
1:C:2645:THR:HB	1:C:2702:CYS:HA	1.85	0.59
3:F:8:SER:H	3:F:71:ARG:HB2	1.68	0.59
1:G:3406:TYR:HA	1:G:3509:LEU:HD22	1.84	0.59
1:A:671:VAL:HG22	1:A:787:VAL:HG12	1.83	0.59
2:D:111:ASN:HA	2:D:114:TYR:CD2	2.36	0.59
1:G:234:SER:HB2	1:G:242:ARG:HA	1.83	0.59
1:G:981:GLN:HG3	1:G:1047:LEU:HD21	1.85	0.59
1:J:2989:SER:HB2	1:J:2992:GLU:HB2	1.83	0.59
1:C:4677:LEU:HD21	1:C:4702:ASP:HB3	1.85	0.59
1:J:981:GLN:HG3	1:J:1047:LEU:HD21	1.85	0.59
1:J:2766:TRP:O	1:J:2770:LYS:HG2	2.03	0.59
4:A:5114:POV:H23	4:A:5115:POV:H34A	1.82	0.58
1:C:3683:GLN:HB2	1:C:3694:LYS:HE3	1.85	0.58
1:J:299:LEU:HD22	1:J:378:LEU:HG	1.84	0.58
1:J:2645:THR:HB	1:J:2702:CYS:HA	1.85	0.58
1:J:3219:TYR:HA	1:J:3227:ARG:HD3	1.85	0.58
1:A:2477:PRO:HG3	1:A:2544:THR:HG21	1.84	0.58
1:C:2272:PRO:HA	1:C:2275:VAL:HG12	1.83	0.58
1:J:4567:LEU:HD13	1:J:4815:ASP:HB3	1.85	0.58
1:J:4677:LEU:HD21	1:J:4702:ASP:HB3	1.85	0.58
1:A:1155:LEU:HD12	1:A:1184:ILE:HG13	1.86	0.58
1:C:299:LEU:HD22	1:C:378:LEU:HG	1.84	0.58
1:C:1000:ARG:HH22	2:D:115:ASP:H	1.49	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2766:TRP:O	1:C:2770:LYS:HG2	2.03	0.58
1:G:891:TRP:HA	1:G:902:ARG:HB3	1.84	0.58
1:J:2894:LEU:HD22	1:J:2905:LEU:HD12	1.86	0.58
1:A:2645:THR:HB	1:A:2702:CYS:HA	1.85	0.58
1:A:2766:TRP:O	1:A:2770:LYS:HG2	2.03	0.58
1:A:4677:LEU:HD21	1:A:4702:ASP:HB3	1.85	0.58
1:C:3219:TYR:HA	1:C:3227:ARG:HD3	1.86	0.58
3:E:8:SER:H	3:E:71:ARG:HB2	1.68	0.58
1:G:2894:LEU:HD22	1:G:2905:LEU:HD12	1.86	0.58
1:G:4677:LEU:HD21	1:G:4702:ASP:HB3	1.85	0.58
1:J:220:LEU:HD23	1:J:390:LEU:HB3	1.86	0.58
1:J:899:ASP:H	2:K:58:ASN:HD21	1.51	0.58
3:L:8:SER:H	3:L:71:ARG:HB2	1.68	0.58
1:A:2894:LEU:HD22	1:A:2905:LEU:HD12	1.86	0.58
1:G:1694:LEU:HB3	1:G:1715:LEU:HD12	1.85	0.58
1:G:4567:LEU:HD13	1:G:4815:ASP:HB3	1.85	0.58
1:A:683:ARG:HG2	1:A:717:ASP:HB3	1.85	0.58
1:A:1694:LEU:HB3	1:A:1715:LEU:HD12	1.85	0.58
1:A:3219:TYR:HA	1:A:3227:ARG:HD3	1.85	0.58
1:J:2116:LEU:O	1:J:2120:MET:HG2	2.02	0.58
1:C:1694:LEU:HB3	1:C:1715:LEU:HD12	1.85	0.58
1:G:220:LEU:HD23	1:G:390:LEU:HB3	1.86	0.58
1:G:683:ARG:HG2	1:G:717:ASP:HB3	1.85	0.58
1:A:2554:LEU:HA	1:A:2558:VAL:HG22	1.86	0.58
1:A:2644:LEU:HD21	1:A:2678:LEU:HD21	1.86	0.58
1:A:3406:TYR:HA	1:A:3509:LEU:HD22	1.86	0.58
1:C:1447:CYS:HB3	1:C:1555:LEU:HB3	1.86	0.58
1:C:2644:LEU:HD21	1:C:2678:LEU:HD21	1.86	0.58
1:C:2894:LEU:HD22	1:C:2905:LEU:HD12	1.86	0.58
1:A:1780:PRO:HD3	1:A:1801:ALA:H	1.69	0.58
1:C:899:ASP:H	2:D:58:ASN:HD21	1.51	0.58
1:G:899:ASP:H	2:H:58:ASN:HD21	1.51	0.58
1:J:683:ARG:HG2	1:J:717:ASP:HB3	1.85	0.58
1:G:1780:PRO:HD3	1:G:1801:ALA:H	1.69	0.57
1:C:1780:PRO:HD3	1:C:1801:ALA:H	1.69	0.57
3:F:39:SER:HA	3:F:42:ARG:HE	1.69	0.57
1:G:2340:PHE:HB2	1:G:2435:ARG:HD3	1.86	0.57
1:C:683:ARG:HG2	1:C:717:ASP:HB3	1.85	0.57
1:C:1694:LEU:HD22	1:C:1715:LEU:HB2	1.86	0.57
1:C:2116:LEU:O	1:C:2120:MET:HG2	2.02	0.57
2:D:40:ALA:HB3	2:D:43:LYS:HB3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3514:LEU:HD11	1:C:3602:VAL:HG13	1.87	0.57
1:G:3683:GLN:HB2	1:G:3694:LYS:HE3	1.85	0.57
2:H:40:ALA:HB3	2:H:43:LYS:HB3	1.87	0.57
2:B:40:ALA:HB3	2:B:43:LYS:HB3	1.87	0.57
1:G:3219:TYR:HA	1:G:3227:ARG:HD3	1.86	0.57
1:J:1155:LEU:HD12	1:J:1184:ILE:HG13	1.85	0.57
1:J:3406:TYR:HA	1:J:3509:LEU:HD22	1.85	0.57
2:K:40:ALA:HB3	2:K:43:LYS:HB3	1.87	0.57
1:A:3683:GLN:HB2	1:A:3694:LYS:HE3	1.85	0.57
1:A:4567:LEU:HD13	1:A:4815:ASP:HB3	1.85	0.57
1:C:4648:LEU:HD12	1:C:4803:HIS:HE1	1.70	0.57
1:C:4848:VAL:HG11	1:C:4887:MET:HG2	1.86	0.57
1:G:2554:LEU:HA	1:G:2558:VAL:HG22	1.86	0.57
1:G:2644:LEU:HD21	1:G:2678:LEU:HD21	1.86	0.57
1:J:1447:CYS:HB3	1:J:1555:LEU:HB3	1.86	0.57
1:J:3316:LEU:HD11	1:J:3346:VAL:HA	1.87	0.57
1:A:220:LEU:HD23	1:A:390:LEU:HB3	1.86	0.57
1:A:4780:PHE:HA	1:A:4783:ILE:HG22	1.87	0.57
1:G:1694:LEU:HD22	1:G:1715:LEU:HB2	1.87	0.57
1:G:2766:TRP:O	1:G:2770:LYS:HG2	2.03	0.57
1:J:2642:LYS:HE3	1:J:2646:ASN:HD21	1.70	0.57
1:A:1694:LEU:HD22	1:A:1715:LEU:HB2	1.86	0.57
1:A:4648:LEU:HD12	1:A:4803:HIS:HE1	1.70	0.57
1:G:2645:THR:HB	1:G:2702:CYS:HA	1.85	0.57
3:I:39:SER:HA	3:I:42:ARG:HE	1.69	0.57
1:J:2554:LEU:HA	1:J:2558:VAL:HG22	1.86	0.57
1:C:4567:LEU:HD13	1:C:4815:ASP:HB3	1.85	0.57
1:G:2861:ASP:HA	1:G:2932:MET:HE1	1.87	0.57
1:J:3683:GLN:HB2	1:J:3694:LYS:HE3	1.85	0.57
1:J:4848:VAL:HG11	1:J:4887:MET:HG2	1.87	0.57
1:C:3316:LEU:HD11	1:C:3346:VAL:HA	1.87	0.57
1:G:4780:PHE:HA	1:G:4783:ILE:HG22	1.87	0.57
1:J:1780:PRO:HD3	1:J:1801:ALA:H	1.69	0.57
1:J:2615:ARG:HD3	1:J:2616:PRO:HD2	1.87	0.57
1:J:4648:LEU:HD12	1:J:4803:HIS:HE1	1.70	0.57
1:J:2644:LEU:HD21	1:J:2678:LEU:HD21	1.86	0.56
1:A:1447:CYS:HB3	1:A:1555:LEU:HB3	1.86	0.56
1:A:2097:LEU:O	1:A:2101:MET:HB2	2.06	0.56
1:A:2642:LYS:HE3	1:A:2646:ASN:HD21	1.70	0.56
1:C:220:LEU:HD23	1:C:390:LEU:HB3	1.86	0.56
1:C:2340:PHE:HB2	1:C:2435:ARG:HD3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2554:LEU:HA	1:C:2558:VAL:HG22	1.86	0.56
1:J:2861:ASP:HA	1:J:2932:MET:HE1	1.87	0.56
1:A:2340:PHE:HB2	1:A:2435:ARG:HD3	1.86	0.56
1:A:3282:PRO:HG3	1:A:3345:ILE:HD13	1.87	0.56
1:C:2097:LEU:O	1:C:2101:MET:HB2	2.06	0.56
1:C:2615:ARG:HD3	1:C:2616:PRO:HD2	1.87	0.56
1:C:3733:CYS:HA	1:C:3766:GLN:HB3	1.87	0.56
1:C:4677:LEU:HD13	1:C:4711:PHE:HE1	1.71	0.56
1:G:348:VAL:HB	1:G:357:LEU:HD21	1.88	0.56
1:G:985:VAL:HG11	1:G:1040:CYS:SG	2.46	0.56
1:G:2642:LYS:HE3	1:G:2646:ASN:HD21	1.70	0.56
1:G:3733:CYS:HA	1:G:3766:GLN:HB3	1.87	0.56
1:J:3282:PRO:HG3	1:J:3345:ILE:HD13	1.87	0.56
1:A:2238:TYR:HA	1:A:2241:ARG:HD2	1.87	0.56
1:A:3086:GLU:HA	1:A:3089:LYS:HE2	1.88	0.56
1:C:2635:GLU:HA	1:C:2638:LYS:HZ3	1.71	0.56
1:C:4780:PHE:HA	1:C:4783:ILE:HG22	1.87	0.56
1:G:2097:LEU:O	1:G:2101:MET:HB2	2.06	0.56
1:G:2615:ARG:HD3	1:G:2616:PRO:HD2	1.87	0.56
1:G:2960:LEU:HD22	1:G:3038:MET:HE1	1.88	0.56
1:G:4648:LEU:HD12	1:G:4803:HIS:HE1	1.70	0.56
1:J:1694:LEU:HD22	1:J:1715:LEU:HB2	1.86	0.56
1:J:2340:PHE:HB2	1:J:2435:ARG:HD3	1.86	0.56
3:L:39:SER:HA	3:L:42:ARG:HE	1.69	0.56
1:J:4712:PRO:HB2	1:J:4718:LYS:HA	1.88	0.56
1:A:2861:ASP:HA	1:A:2932:MET:HE1	1.87	0.56
1:A:2960:LEU:HD22	1:A:3038:MET:HE1	1.88	0.56
1:C:954:LYS:HA	1:C:969:PRO:HG2	1.88	0.56
1:J:2097:LEU:O	1:J:2101:MET:HB2	2.06	0.56
1:A:348:VAL:HB	1:A:357:LEU:HD21	1.88	0.56
1:A:954:LYS:HA	1:A:969:PRO:HG2	1.88	0.56
1:A:2233:CYS:O	1:A:2237:CYS:N	2.39	0.56
1:A:4848:VAL:HG11	1:A:4887:MET:HG2	1.86	0.56
3:E:39:SER:HA	3:E:42:ARG:HE	1.69	0.56
1:J:2960:LEU:HD22	1:J:3038:MET:HE1	1.88	0.56
1:J:4677:LEU:HD13	1:J:4711:PHE:HE1	1.71	0.56
1:A:2615:ARG:HD3	1:A:2616:PRO:HD2	1.87	0.56
2:B:111:ASN:HA	2:B:114:TYR:HD1	1.71	0.56
1:C:3086:GLU:HA	1:C:3089:LYS:HE2	1.88	0.56
1:C:4712:PRO:HB2	1:C:4718:LYS:HA	1.88	0.56
1:G:4848:VAL:HG11	1:G:4887:MET:HG2	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:82:TYR:HB2	3:I:86:GLY:HA2	1.88	0.56
1:J:3733:CYS:HA	1:J:3766:GLN:HB3	1.87	0.56
2:K:111:ASN:HA	2:K:114:TYR:HD1	1.71	0.56
1:C:1179:PHE:HB2	1:C:1182:ILE:HD11	1.88	0.56
1:G:578:ILE:HG21	1:G:606:LEU:HD21	1.88	0.56
1:G:1447:CYS:HB3	1:G:1555:LEU:HB3	1.86	0.56
1:G:3514:LEU:HD11	1:G:3602:VAL:HG13	1.87	0.56
1:A:4677:LEU:HD13	1:A:4711:PHE:HE1	1.71	0.55
1:C:2233:CYS:O	1:C:2237:CYS:N	2.37	0.55
1:C:2507:ASP:HB3	1:C:2561:LEU:HD12	1.88	0.55
1:G:3316:LEU:HD11	1:G:3346:VAL:HA	1.87	0.55
1:G:4712:PRO:HB2	1:G:4718:LYS:HA	1.88	0.55
1:J:4780:PHE:HA	1:J:4783:ILE:HG22	1.87	0.55
1:J:4874:MET:HB3	1:J:4877:ASP:HB2	1.88	0.55
1:A:4712:PRO:HB2	1:A:4718:LYS:HA	1.88	0.55
1:C:1155:LEU:HD12	1:C:1184:ILE:HG13	1.88	0.55
1:C:2642:LYS:HE3	1:C:2646:ASN:HD21	1.70	0.55
1:C:3945:GLU:HG3	1:C:3949:ARG:HH11	1.71	0.55
1:G:1155:LEU:HD12	1:G:1184:ILE:HG13	1.88	0.55
1:J:3406:TYR:HA	1:J:3509:LEU:CD2	2.36	0.55
1:A:3316:LEU:HD11	1:A:3346:VAL:HA	1.87	0.55
1:C:2861:ASP:HA	1:C:2932:MET:HE1	1.87	0.55
1:G:3524:MET:HA	1:G:3582:ARG:HH22	1.72	0.55
1:G:3945:GLU:HG3	1:G:3949:ARG:HH11	1.71	0.55
1:J:348:VAL:HB	1:J:357:LEU:HD21	1.88	0.55
1:J:578:ILE:HG21	1:J:606:LEU:HD21	1.88	0.55
1:J:952:LYS:HE2	1:J:969:PRO:HD2	1.88	0.55
1:J:2974:ILE:HD11	1:J:3049:LEU:HD22	1.88	0.55
1:A:3733:CYS:HA	1:A:3766:GLN:HB3	1.87	0.55
1:C:3282:PRO:HG3	1:C:3345:ILE:HD13	1.87	0.55
1:G:1179:PHE:HB2	1:G:1182:ILE:HD11	1.88	0.55
1:G:4948:GLU:HA	1:G:4951:LYS:HE2	1.88	0.55
1:J:4039:MET:HE2	1:J:4039:MET:HA	1.89	0.55
1:G:2507:ASP:HB3	1:G:2561:LEU:HD12	1.88	0.55
1:G:2974:ILE:HD11	1:G:3049:LEU:HD22	1.88	0.55
1:J:3945:GLU:HG3	1:J:3949:ARG:HH11	1.71	0.55
1:A:1735:ILE:HG22	1:A:1771:LEU:HD13	1.89	0.55
1:A:2233:CYS:HA	1:A:2236:LEU:HB2	1.89	0.55
1:C:2960:LEU:HD22	1:C:3038:MET:HE1	1.88	0.55
1:G:4874:MET:HB3	1:G:4877:ASP:HB2	1.88	0.55
1:A:1100:MET:HA	1:A:1193:SER:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1098:GLY:HA3	1:C:1198:GLN:NE2	2.22	0.55
1:C:1100:MET:HA	1:C:1193:SER:O	2.07	0.55
1:C:1786:LEU:HB2	3:E:82:TYR:HB3	1.89	0.55
1:G:2751:LEU:O	1:G:2755:ILE:HG12	2.07	0.55
1:J:2507:ASP:HB3	1:J:2561:LEU:HD12	1.88	0.55
1:A:3524:MET:HA	1:A:3582:ARG:HH22	1.72	0.55
1:G:1098:GLY:HA3	1:G:1198:GLN:NE2	2.22	0.55
1:G:4039:MET:HE2	1:G:4039:MET:HA	1.89	0.55
2:H:111:ASN:HA	2:H:114:TYR:HD1	1.71	0.55
1:A:1098:GLY:HA3	1:A:1198:GLN:NE2	2.22	0.55
1:C:1558:HIS:CD2	1:C:1560:ASN:H	2.25	0.55
1:C:2449:GLU:HB3	1:C:2452:ARG:HH21	1.72	0.55
1:C:2758:PHE:HD2	1:C:2813:LEU:HD11	1.72	0.55
1:C:4039:MET:HA	1:C:4039:MET:HE2	1.89	0.55
1:G:1735:ILE:HG22	1:G:1771:LEU:HD13	1.89	0.55
1:G:2758:PHE:HD2	1:G:2813:LEU:HD11	1.72	0.55
1:G:3282:PRO:HG3	1:G:3345:ILE:HD13	1.87	0.55
1:J:3524:MET:HA	1:J:3582:ARG:HH22	1.72	0.55
1:C:348:VAL:HB	1:C:357:LEU:HD21	1.88	0.55
1:C:578:ILE:HG21	1:C:606:LEU:HD21	1.88	0.55
1:J:1098:GLY:HA3	1:J:1198:GLN:NE2	2.22	0.55
1:J:2758:PHE:HD2	1:J:2813:LEU:HD11	1.72	0.55
3:L:56:ILE:HB	3:L:59:PHE:HB2	1.89	0.55
1:A:1530:THR:HG22	1:A:1535:GLU:HA	1.90	0.54
1:C:1735:ILE:HG22	1:C:1771:LEU:HD13	1.89	0.54
1:G:1100:MET:HA	1:G:1193:SER:O	2.07	0.54
1:G:2765:LYS:HG2	1:G:2857:PRO:HG2	1.90	0.54
1:G:3086:GLU:HA	1:G:3089:LYS:HE2	1.88	0.54
1:J:1735:ILE:HG22	1:J:1771:LEU:HD13	1.89	0.54
1:J:2635:GLU:HA	1:J:2638:LYS:HZ3	1.72	0.54
1:J:2765:LYS:HG2	1:J:2857:PRO:HG2	1.90	0.54
1:A:4005:GLN:HA	1:A:4114:CYS:HA	1.89	0.54
1:C:985:VAL:HG22	1:C:1043:VAL:HG21	1.88	0.54
1:J:2702:CYS:O	1:J:2706:ILE:HG12	2.08	0.54
1:J:4948:GLU:HA	1:J:4951:LYS:HE2	1.88	0.54
1:A:164:ARG:HB2	1:A:167:ASP:HB2	1.90	0.54
1:A:1093:GLU:HB3	1:A:1201:HIS:HB3	1.90	0.54
1:A:2758:PHE:HD2	1:A:2813:LEU:HD11	1.72	0.54
1:C:2233:CYS:HA	1:C:2236:LEU:HB2	1.89	0.54
1:C:4874:MET:HB3	1:C:4877:ASP:HB2	1.88	0.54
1:G:894:GLY:O	1:G:903:LEU:HB3	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1093:GLU:HB3	1:G:1201:HIS:HB3	1.90	0.54
1:G:1558:HIS:CD2	1:G:1560:ASN:H	2.25	0.54
1:J:1093:GLU:HB3	1:J:1201:HIS:HB3	1.89	0.54
1:J:1558:HIS:CD2	1:J:1560:ASN:H	2.25	0.54
1:J:3086:GLU:HA	1:J:3089:LYS:HE2	1.88	0.54
1:A:1694:LEU:HD11	1:A:1718:ILE:HD11	1.90	0.54
1:A:3410:PRO:HD3	1:A:3509:LEU:HD21	1.89	0.54
1:C:1530:THR:HG22	1:C:1535:GLU:HA	1.90	0.54
1:C:4005:GLN:HA	1:C:4114:CYS:HA	1.89	0.54
1:G:753:PRO:HG3	1:G:773:LEU:HD21	1.90	0.54
1:A:1558:HIS:CD2	1:A:1560:ASN:H	2.25	0.54
1:A:2507:ASP:HB3	1:A:2561:LEU:HD12	1.88	0.54
1:A:4948:GLU:HA	1:A:4951:LYS:HE2	1.88	0.54
1:C:2751:LEU:O	1:C:2755:ILE:HG12	2.07	0.54
1:G:164:ARG:HB2	1:G:167:ASP:HB2	1.90	0.54
1:G:2702:CYS:O	1:G:2706:ILE:HG12	2.08	0.54
1:G:2816:MET:HB2	1:G:2878:LEU:HD13	1.90	0.54
1:J:2751:LEU:O	1:J:2755:ILE:HG12	2.07	0.54
1:A:39:ALA:HB2	1:A:47:CYS:HA	1.90	0.54
1:A:4874:MET:HB3	1:A:4877:ASP:HB2	1.88	0.54
1:C:39:ALA:HB2	1:C:47:CYS:HA	1.90	0.54
3:E:56:ILE:HB	3:E:59:PHE:HB2	1.89	0.54
1:G:4677:LEU:HD13	1:G:4711:PHE:HE1	1.71	0.54
1:J:2792:ARG:HB3	1:J:2796:THR:HG23	1.90	0.54
1:A:578:ILE:HG21	1:A:606:LEU:HD21	1.88	0.54
1:A:753:PRO:HG3	1:A:773:LEU:HD21	1.90	0.54
1:A:2449:GLU:HB3	1:A:2452:ARG:HH21	1.72	0.54
1:A:2751:LEU:O	1:A:2755:ILE:HG12	2.07	0.54
1:A:2974:ILE:HD11	1:A:3049:LEU:HD22	1.89	0.54
1:A:4039:MET:HE2	1:A:4039:MET:HA	1.89	0.54
1:C:4948:GLU:HA	1:C:4951:LYS:HE2	1.88	0.54
2:K:111:ASN:HA	2:K:114:TYR:CD1	2.43	0.54
1:C:1093:GLU:HB3	1:C:1201:HIS:HB3	1.90	0.54
1:G:2823:ILE:HD13	1:G:2937:VAL:HG22	1.89	0.54
1:G:3971:GLY:HA2	1:G:5005:GLY:HA3	1.90	0.54
1:J:39:ALA:HB2	1:J:47:CYS:HA	1.90	0.54
1:J:1100:MET:HA	1:J:1193:SER:O	2.07	0.54
1:J:2816:MET:HB2	1:J:2878:LEU:HD13	1.90	0.54
1:A:364:PRO:HD2	1:A:367:LEU:HD12	1.90	0.54
1:A:1786:LEU:HB2	3:F:82:TYR:HB3	1.90	0.54
1:A:2816:MET:HB2	1:A:2878:LEU:HD13	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3971:GLY:HA2	1:A:5005:GLY:HA3	1.90	0.54
1:C:364:PRO:HD2	1:C:367:LEU:HD12	1.90	0.54
1:C:2702:CYS:O	1:C:2706:ILE:HG12	2.08	0.54
1:C:2974:ILE:HD11	1:C:3049:LEU:HD22	1.89	0.54
1:G:918:ARG:O	1:G:922:LEU:HG	2.08	0.54
1:G:1694:LEU:HD11	1:G:1718:ILE:HD11	1.90	0.54
1:J:364:PRO:HD2	1:J:367:LEU:HD12	1.90	0.54
1:A:2722:LYS:HD3	1:A:2877:GLN:HE21	1.73	0.54
1:A:2792:ARG:HB3	1:A:2796:THR:HG23	1.90	0.54
1:G:3768:SER:HA	1:G:3771:HIS:CD2	2.43	0.54
2:H:111:ASN:HA	2:H:114:TYR:CD1	2.43	0.54
1:J:753:PRO:HG3	1:J:773:LEU:HD21	1.90	0.54
1:J:1694:LEU:HD11	1:J:1718:ILE:HD11	1.90	0.54
1:J:4045:VAL:HG12	1:J:4159:ARG:HH21	1.73	0.54
2:K:55:ASN:H	2:K:71:ARG:HH22	1.56	0.54
1:A:918:ARG:O	1:A:922:LEU:HG	2.08	0.53
1:A:2470:ILE:HG22	1:A:2525:GLY:HA3	1.90	0.53
1:A:2765:LYS:HG2	1:A:2857:PRO:HG2	1.90	0.53
1:A:3945:GLU:HG3	1:A:3949:ARG:HH11	1.71	0.53
1:C:2470:ILE:HG22	1:C:2525:GLY:HA3	1.90	0.53
1:C:2765:LYS:HG2	1:C:2857:PRO:HG2	1.90	0.53
1:C:2792:ARG:HB3	1:C:2796:THR:HG23	1.90	0.53
1:C:3245:VAL:HG12	1:C:3248:ARG:HG2	1.90	0.53
1:G:4045:VAL:HG12	1:G:4159:ARG:HH21	1.73	0.53
1:J:2759:ALA:HB1	1:J:2806:ARG:HG3	1.89	0.53
1:A:977:LEU:HD23	1:A:982:THR:HG22	1.91	0.53
1:A:3406:TYR:HA	1:A:3509:LEU:CD2	2.38	0.53
2:B:111:ASN:HA	2:B:114:TYR:CD1	2.43	0.53
1:C:2883:HIS:ND1	1:C:2908:TYR:HB2	2.23	0.53
1:G:1530:THR:HG22	1:G:1535:GLU:HA	1.90	0.53
1:G:1786:LEU:HD12	1:G:1787:PRO:HD2	1.91	0.53
3:I:56:ILE:HB	3:I:59:PHE:HB2	1.89	0.53
1:J:2887:GLY:HA2	1:J:2890:LYS:HD3	1.91	0.53
1:A:2702:CYS:O	1:A:2706:ILE:HG12	2.08	0.53
1:A:3768:SER:HA	1:A:3771:HIS:CD2	2.44	0.53
1:C:3524:MET:HA	1:C:3582:ARG:HH22	1.72	0.53
1:C:4765:LEU:HA	1:C:4768:LEU:HD12	1.91	0.53
1:G:364:PRO:HD2	1:G:367:LEU:HD12	1.90	0.53
1:J:1758:ARG:HH12	1:J:2037:ASP:HA	1.73	0.53
1:J:1786:LEU:HD12	1:J:1787:PRO:HD2	1.91	0.53
1:J:2470:ILE:HG22	1:J:2525:GLY:HA3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2882:TYR:HD2	1:J:2919:ASP:HB3	1.74	0.53
1:J:3794:VAL:HG21	1:J:3835:LEU:HD21	1.91	0.53
1:A:4045:VAL:HG12	1:A:4159:ARG:HH21	1.73	0.53
1:C:2722:LYS:HD3	1:C:2877:GLN:HE21	1.73	0.53
1:C:2759:ALA:HB1	1:C:2806:ARG:HG3	1.89	0.53
1:G:977:LEU:HD23	1:G:982:THR:HG22	1.91	0.53
1:G:2449:GLU:HB3	1:G:2452:ARG:HH21	1.72	0.53
1:J:2823:ILE:HD13	1:J:2937:VAL:HG22	1.89	0.53
1:A:1786:LEU:HD12	1:A:1787:PRO:HD2	1.91	0.53
1:C:3794:VAL:HG21	1:C:3835:LEU:HD21	1.91	0.53
1:C:3971:GLY:HA2	1:C:5005:GLY:HA3	1.90	0.53
1:G:2759:ALA:HB1	1:G:2806:ARG:HG3	1.89	0.53
1:J:3245:VAL:HG12	1:J:3248:ARG:HG2	1.91	0.53
1:A:2823:ILE:HD13	1:A:2937:VAL:HG22	1.89	0.53
1:C:935:LEU:HD11	1:C:987:ARG:HD2	1.91	0.53
1:C:1272:LEU:HD22	1:C:1289:LEU:HD11	1.91	0.53
1:C:2882:TYR:HD2	1:C:2919:ASP:HB3	1.74	0.53
1:C:2902:HIS:CE1	1:C:2904:LEU:HB2	2.44	0.53
1:G:882:TRP:HH2	2:H:104:TYR:HA	1.72	0.53
1:J:918:ARG:O	1:J:922:LEU:HG	2.08	0.53
1:J:1530:THR:HG22	1:J:1535:GLU:HA	1.90	0.53
1:J:4765:LEU:HA	1:J:4768:LEU:HD12	1.91	0.53
1:A:2759:ALA:HB1	1:A:2806:ARG:HG3	1.89	0.53
1:A:2902:HIS:CE1	1:A:2904:LEU:HB2	2.44	0.53
2:B:55:ASN:H	2:B:71:ARG:HH22	1.56	0.53
1:C:164:ARG:HB2	1:C:167:ASP:HB2	1.90	0.53
1:C:977:LEU:HD23	1:C:982:THR:HG22	1.91	0.53
1:C:1758:ARG:HH12	1:C:2037:ASP:HA	1.73	0.53
1:G:2882:TYR:HD2	1:G:2919:ASP:HB3	1.74	0.53
1:G:3794:VAL:HG21	1:G:3835:LEU:HD21	1.91	0.53
1:G:4005:GLN:HA	1:G:4114:CYS:HA	1.89	0.53
1:A:1813:ARG:O	1:A:1817:GLU:HG2	2.09	0.53
1:A:2882:TYR:HD2	1:A:2919:ASP:HB3	1.74	0.53
1:C:753:PRO:HG3	1:C:773:LEU:HD21	1.90	0.53
1:C:1694:LEU:HD11	1:C:1718:ILE:HD11	1.90	0.53
1:C:1786:LEU:HD12	1:C:1787:PRO:HD2	1.91	0.53
1:C:1813:ARG:O	1:C:1817:GLU:HG2	2.09	0.53
1:C:2816:MET:HB2	1:C:2878:LEU:HD13	1.90	0.53
1:C:3768:SER:HA	1:C:3771:HIS:CD2	2.43	0.53
1:C:4725:LEU:HD21	1:C:4734:ARG:HG3	1.91	0.53
1:G:1758:ARG:HH12	1:G:2037:ASP:HA	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4765:LEU:HA	1:G:4768:LEU:HD12	1.91	0.53
1:J:2449:GLU:HB3	1:J:2452:ARG:HH21	1.72	0.53
1:J:3768:SER:HA	1:J:3771:HIS:CD2	2.44	0.53
1:A:4765:LEU:HA	1:A:4768:LEU:HD12	1.91	0.53
1:C:548:VAL:HG21	1:C:582:HIS:HD2	1.74	0.53
3:F:56:ILE:HB	3:F:59:PHE:HB2	1.89	0.53
1:G:39:ALA:HB2	1:G:47:CYS:HA	1.90	0.53
1:G:1813:ARG:O	1:G:1817:GLU:HG2	2.09	0.53
1:C:638:ILE:HD13	1:C:703:GLY:HA2	1.91	0.53
1:G:45:ARG:HE	1:G:116:MET:HE1	1.74	0.53
2:H:55:ASN:H	2:H:71:ARG:HH22	1.56	0.53
1:J:45:ARG:HE	1:J:116:MET:HE1	1.74	0.53
1:J:164:ARG:HB2	1:J:167:ASP:HB2	1.90	0.53
1:J:548:VAL:HG21	1:J:582:HIS:HD2	1.74	0.53
1:J:638:ILE:HD13	1:J:703:GLY:HA2	1.91	0.53
1:J:2722:LYS:HD3	1:J:2877:GLN:HE21	1.73	0.53
1:J:4005:GLN:HA	1:J:4114:CYS:HA	1.89	0.53
1:A:548:VAL:HG21	1:A:582:HIS:HD2	1.74	0.52
1:C:181:HIS:NE2	1:C:196:MET:HB3	2.24	0.52
1:C:2559:LEU:HG	1:C:2603:ILE:HD13	1.91	0.52
1:C:2823:ILE:HD13	1:C:2937:VAL:HG22	1.89	0.52
1:C:2887:GLY:HA2	1:C:2890:LYS:HD3	1.91	0.52
1:G:891:TRP:HE1	1:G:904:HIS:HA	1.75	0.52
1:G:2722:LYS:HD3	1:G:2877:GLN:HE21	1.73	0.52
1:G:2902:HIS:CE1	1:G:2904:LEU:HB2	2.44	0.52
1:J:1272:LEU:HD22	1:J:1289:LEU:HD11	1.91	0.52
1:A:2887:GLY:HA2	1:A:2890:LYS:HD3	1.90	0.52
1:A:3794:VAL:HG21	1:A:3835:LEU:HD21	1.91	0.52
1:G:4087:LEU:HA	1:G:4125:PHE:HE1	1.74	0.52
1:G:4725:LEU:HD21	1:G:4734:ARG:HG3	1.91	0.52
1:J:3971:GLY:HA2	1:J:5005:GLY:HA3	1.90	0.52
1:A:1758:ARG:HH12	1:A:2037:ASP:HA	1.73	0.52
1:A:2418:LEU:O	1:A:2422:ILE:HG12	2.10	0.52
1:A:3245:VAL:HG12	1:A:3248:ARG:HG2	1.91	0.52
1:C:45:ARG:HE	1:C:116:MET:HE1	1.74	0.52
1:C:892:THR:HB	1:C:903:LEU:HD23	1.91	0.52
1:C:3951:PHE:HB3	1:C:4012:LEU:HD11	1.92	0.52
1:J:2928:LYS:O	1:J:2932:MET:HG3	2.10	0.52
1:A:45:ARG:HE	1:A:116:MET:HE1	1.74	0.52
1:A:1272:LEU:HD22	1:A:1289:LEU:HD11	1.91	0.52
1:A:5032:TYR:HB3	1:A:5035:GLN:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:348:VAL:HG23	1:C:388:LEU:HD23	1.91	0.52
1:C:3106:MET:HA	1:C:3106:MET:HE2	1.92	0.52
1:C:4750:ILE:HA	1:C:4753:HIS:CD2	2.45	0.52
1:G:1676:LEU:HD22	1:G:2167:ILE:HD12	1.92	0.52
1:G:2470:ILE:HG22	1:G:2525:GLY:HA3	1.90	0.52
1:G:2792:ARG:HB3	1:G:2796:THR:HG23	1.90	0.52
3:I:86:GLY:O	3:I:87:HIS:C	2.51	0.52
1:J:977:LEU:HD23	1:J:982:THR:HG22	1.91	0.52
1:J:1676:LEU:HD22	1:J:2167:ILE:HD12	1.92	0.52
1:J:2902:HIS:CE1	1:J:2904:LEU:HB2	2.44	0.52
1:C:985:VAL:HG11	1:C:1040:CYS:SG	2.49	0.52
1:C:4045:VAL:HG12	1:C:4159:ARG:HH21	1.73	0.52
2:D:55:ASN:H	2:D:71:ARG:HH22	1.56	0.52
1:G:2418:LEU:O	1:G:2422:ILE:HG12	2.10	0.52
1:G:2866:THR:HA	1:G:2928:LYS:HZ2	1.74	0.52
1:G:3354:LEU:HA	1:G:3358:PHE:CD1	2.45	0.52
1:G:3937:TYR:HB3	1:G:4002:LYS:HZ1	1.75	0.52
1:G:4750:ILE:HA	1:G:4753:HIS:CD2	2.45	0.52
1:J:3937:TYR:HB3	1:J:4002:LYS:HZ1	1.75	0.52
1:A:3106:MET:HE2	1:A:3106:MET:HA	1.92	0.52
1:A:3536:ALA:HB2	1:A:3539:ARG:HH21	1.75	0.52
1:C:3937:TYR:HB3	1:C:4002:LYS:HZ1	1.75	0.52
1:G:3245:VAL:HG12	1:G:3248:ARG:HG2	1.91	0.52
1:J:897:ARG:HG2	1:J:905:PRO:HA	1.91	0.52
1:J:2559:LEU:HG	1:J:2603:ILE:HD13	1.92	0.52
1:J:3106:MET:HE2	1:J:3106:MET:HA	1.92	0.52
1:A:638:ILE:HD13	1:A:703:GLY:HA2	1.91	0.52
1:G:2928:LYS:O	1:G:2932:MET:HG3	2.10	0.52
1:C:897:ARG:HG2	1:C:905:PRO:HA	1.91	0.52
1:G:348:VAL:HG23	1:G:388:LEU:HD23	1.91	0.52
1:G:1786:LEU:HB2	3:I:82:TYR:HB3	1.92	0.52
1:G:2883:HIS:ND1	1:G:2908:TYR:HB2	2.23	0.52
1:G:3406:TYR:HA	1:G:3509:LEU:CD2	2.39	0.52
1:J:783:PHE:HB2	1:J:787:VAL:HG21	1.92	0.52
1:J:1813:ARG:O	1:J:1817:GLU:HG2	2.09	0.52
1:J:4183:ILE:O	1:J:4190:ILE:HA	2.10	0.52
1:A:2928:LYS:O	1:A:2932:MET:HG3	2.10	0.52
1:A:4854:VAL:HG11	4:A:5114:POV:H21B	1.92	0.52
4:A:5107:POV:H21B	1:C:4854:VAL:HG11	1.91	0.52
1:C:3051:ARG:HH22	1:C:3102:ASP:HB2	1.75	0.52
1:C:4808:PHE:HZ	4:C:5105:POV:H32A	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2012:PHE:CZ	1:G:2031:LEU:HD23	2.45	0.52
1:G:3051:ARG:HH22	1:G:3102:ASP:HB2	1.75	0.52
1:G:3106:MET:HE2	1:G:3106:MET:HA	1.92	0.52
1:G:4854:VAL:HG11	4:G:5112:POV:H21B	1.92	0.52
1:J:985:VAL:HG11	1:J:1040:CYS:SG	2.49	0.52
1:J:2377:LEU:HD22	1:J:2465:ASP:HA	1.92	0.52
1:J:3354:LEU:HA	1:J:3358:PHE:CD1	2.45	0.52
1:A:897:ARG:HG2	1:A:905:PRO:HA	1.91	0.52
1:A:2233:CYS:O	1:A:2234:ARG:C	2.53	0.52
1:A:4750:ILE:HA	1:A:4753:HIS:CD2	2.45	0.52
1:C:2233:CYS:O	1:C:2234:ARG:C	2.53	0.52
1:C:4087:LEU:HA	1:C:4125:PHE:HE1	1.74	0.52
1:C:4088:ILE:HG23	1:C:4123:ILE:HG22	1.92	0.52
1:C:4183:ILE:O	1:C:4190:ILE:HA	2.10	0.52
1:C:4781:GLY:HA2	4:C:5109:POV:H28	1.92	0.52
1:G:638:ILE:HD13	1:G:703:GLY:HA2	1.91	0.52
1:G:3931:SER:O	1:G:3935:TRP:HB3	2.11	0.52
1:J:3951:PHE:HB3	1:J:4012:LEU:HD11	1.92	0.52
1:J:4087:LEU:HA	1:J:4125:PHE:HE1	1.74	0.52
1:A:4219:PHE:HA	1:A:4950:VAL:HG11	1.92	0.51
1:A:4725:LEU:HD21	1:A:4734:ARG:HG3	1.91	0.51
1:C:3055:SER:HB2	1:C:3127:GLN:HG2	1.92	0.51
1:G:1272:LEU:HD22	1:G:1289:LEU:HD11	1.91	0.51
1:G:2755:ILE:HG23	1:G:2813:LEU:HB2	1.92	0.51
1:G:3962:PHE:O	1:G:3966:THR:HG23	2.10	0.51
1:J:348:VAL:HG23	1:J:388:LEU:HD23	1.91	0.51
1:J:3187:ARG:HG2	1:J:3272:ILE:HD11	1.93	0.51
1:J:4088:ILE:HG23	1:J:4123:ILE:HG22	1.92	0.51
1:A:2012:PHE:CZ	1:A:2031:LEU:HD23	2.45	0.51
1:A:3354:LEU:HA	1:A:3358:PHE:CD1	2.45	0.51
1:A:3962:PHE:O	1:A:3966:THR:HG23	2.10	0.51
1:G:2887:GLY:HA2	1:G:2890:LYS:HD3	1.91	0.51
1:G:5032:TYR:HB3	1:G:5035:GLN:HB2	1.91	0.51
1:J:3051:ARG:HH22	1:J:3102:ASP:HB2	1.75	0.51
1:J:4750:ILE:HA	1:J:4753:HIS:CD2	2.45	0.51
1:A:3466:ASN:O	1:A:3470:LEU:HD22	2.11	0.51
1:A:4087:LEU:HA	1:A:4125:PHE:HE1	1.74	0.51
1:C:918:ARG:O	1:C:922:LEU:HG	2.08	0.51
1:C:3931:SER:O	1:C:3935:TRP:HB3	2.11	0.51
3:E:105:ASN:C	3:E:105:ASN:ND2	2.68	0.51
1:G:548:VAL:HG21	1:G:582:HIS:HD2	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2257:LEU:HD13	1:G:2275:VAL:HG13	1.93	0.51
1:G:3187:ARG:HG2	1:G:3272:ILE:HD11	1.93	0.51
1:J:289:ARG:HB3	1:J:301:VAL:HB	1.92	0.51
1:J:2012:PHE:CZ	1:J:2031:LEU:HD23	2.45	0.51
1:J:2866:THR:HA	1:J:2928:LYS:HZ2	1.75	0.51
1:J:3962:PHE:O	1:J:3966:THR:HG23	2.10	0.51
1:A:1676:LEU:HD22	1:A:2167:ILE:HD12	1.92	0.51
1:A:2559:LEU:HG	1:A:2603:ILE:HD13	1.91	0.51
1:C:3536:ALA:HB2	1:C:3539:ARG:HH21	1.75	0.51
1:G:181:HIS:NE2	1:G:196:MET:HB2	2.26	0.51
1:G:897:ARG:HG2	1:G:905:PRO:HA	1.91	0.51
1:G:2559:LEU:HG	1:G:2603:ILE:HD13	1.91	0.51
1:G:3466:ASN:O	1:G:3470:LEU:HD22	2.11	0.51
3:I:86:GLY:HA3	3:I:91:ILE:HB	1.92	0.51
1:A:4183:ILE:O	1:A:4190:ILE:HA	2.10	0.51
1:C:2257:LEU:HD13	1:C:2275:VAL:HG13	1.93	0.51
1:C:3962:PHE:O	1:C:3966:THR:HG23	2.10	0.51
1:G:4183:ILE:O	1:G:4190:ILE:HA	2.10	0.51
1:A:2257:LEU:HD13	1:A:2275:VAL:HG13	1.92	0.51
1:A:2883:HIS:ND1	1:A:2908:TYR:HB2	2.23	0.51
1:A:3055:SER:HB2	1:A:3127:GLN:HG2	1.92	0.51
1:C:2012:PHE:CZ	1:C:2031:LEU:HD23	2.45	0.51
1:C:2377:LEU:HD22	1:C:2465:ASP:HA	1.92	0.51
1:C:2418:LEU:O	1:C:2422:ILE:HG12	2.10	0.51
1:G:1428:LEU:HD13	1:G:1585:LYS:HE2	1.93	0.51
1:G:3056:LEU:H	1:G:3056:LEU:HD23	1.76	0.51
1:J:4219:PHE:HA	1:J:4950:VAL:HG11	1.92	0.51
1:J:5032:TYR:HB3	1:J:5035:GLN:HB2	1.91	0.51
1:A:289:ARG:HB3	1:A:301:VAL:HB	1.92	0.51
1:A:3539:ARG:HB3	1:A:3549:VAL:HG12	1.93	0.51
1:C:2928:LYS:O	1:C:2932:MET:HG3	2.10	0.51
1:C:5032:TYR:HB3	1:C:5035:GLN:HB2	1.91	0.51
1:G:289:ARG:HB3	1:G:301:VAL:HB	1.92	0.51
1:G:499:THR:HG23	1:G:502:HIS:H	1.76	0.51
1:G:783:PHE:HB2	1:G:787:VAL:HG21	1.92	0.51
1:G:3539:ARG:HB3	1:G:3549:VAL:HG12	1.93	0.51
1:J:3931:SER:O	1:J:3935:TRP:HB3	2.11	0.51
1:A:499:THR:HG23	1:A:502:HIS:H	1.76	0.51
1:A:783:PHE:HB2	1:A:787:VAL:HG21	1.92	0.51
1:A:3951:PHE:HB3	1:A:4012:LEU:HD11	1.91	0.51
1:C:1152:MET:HE3	1:C:1161:ILE:HB	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1676:LEU:HD22	1:C:2167:ILE:HD12	1.92	0.51
1:C:3245:VAL:O	1:C:3249:LEU:HD12	2.11	0.51
1:C:3354:LEU:HA	1:C:3358:PHE:CD1	2.45	0.51
1:G:2792:ARG:NH2	1:G:2798:SER:H	2.08	0.51
1:G:3682:GLU:HA	1:G:3685:GLU:HB3	1.93	0.51
1:G:4219:PHE:HA	1:G:4950:VAL:HG11	1.92	0.51
1:J:1152:MET:HE3	1:J:1161:ILE:HB	1.92	0.51
1:J:2755:ILE:HG23	1:J:2813:LEU:HB2	1.92	0.51
1:J:3055:SER:HB2	1:J:3127:GLN:HG2	1.92	0.51
1:J:3466:ASN:O	1:J:3470:LEU:HD22	2.11	0.51
1:J:3682:GLU:HA	1:J:3685:GLU:HB3	1.93	0.51
1:A:348:VAL:HG23	1:A:388:LEU:HD23	1.91	0.51
1:A:3056:LEU:HD23	1:A:3056:LEU:H	1.76	0.51
1:A:3245:VAL:O	1:A:3249:LEU:HD12	2.11	0.51
1:A:3931:SER:O	1:A:3935:TRP:HB3	2.11	0.51
1:A:3967:GLU:HA	1:A:3970:GLN:HG2	1.93	0.51
1:C:990:GLU:CD	1:C:1024:TYR:HB3	2.36	0.51
1:C:2347:GLU:CD	1:C:2347:GLU:H	2.19	0.51
1:C:3770:LEU:HD12	1:C:3804:ILE:HD11	1.93	0.51
1:G:2377:LEU:HD22	1:G:2465:ASP:HA	1.92	0.51
1:J:499:THR:HG23	1:J:502:HIS:H	1.76	0.51
1:J:1428:LEU:HD13	1:J:1585:LYS:HE2	1.92	0.51
1:J:2770:LYS:HD3	1:J:2788:HIS:H	1.76	0.51
1:J:3536:ALA:HB2	1:J:3539:ARG:HH21	1.75	0.51
1:A:3682:GLU:HA	1:A:3685:GLU:HB3	1.93	0.51
1:A:3937:TYR:HB3	1:A:4002:LYS:HZ1	1.75	0.51
1:C:2792:ARG:NH2	1:C:2798:SER:H	2.08	0.51
1:C:3038:MET:C	1:C:3038:MET:HE2	2.36	0.51
1:G:2233:CYS:O	1:G:2237:CYS:N	2.36	0.51
1:G:3967:GLU:HA	1:G:3970:GLN:HG2	1.93	0.51
2:H:90:THR:HG23	2:H:124:THR:HA	1.93	0.51
1:J:2418:LEU:O	1:J:2422:ILE:HG12	2.10	0.51
1:J:2792:ARG:NH2	1:J:2798:SER:H	2.08	0.51
1:J:3770:LEU:HD12	1:J:3804:ILE:HD11	1.93	0.51
1:A:1450:VAL:HA	1:A:1552:VAL:HG12	1.93	0.50
1:A:2792:ARG:NH2	1:A:2798:SER:H	2.08	0.50
1:A:3038:MET:C	1:A:3038:MET:HE2	2.36	0.50
2:B:90:THR:HG23	2:B:124:THR:HA	1.93	0.50
1:C:783:PHE:HB2	1:C:787:VAL:HG21	1.92	0.50
2:D:90:THR:HG23	2:D:124:THR:HA	1.93	0.50
1:G:3055:SER:HB2	1:G:3127:GLN:HG2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3951:PHE:HB3	1:G:4012:LEU:HD11	1.91	0.50
1:J:2960:LEU:HD23	1:J:2963:LEU:HD21	1.94	0.50
1:J:4725:LEU:HD21	1:J:4734:ARG:HG3	1.91	0.50
1:A:2755:ILE:HG23	1:A:2813:LEU:HB2	1.92	0.50
1:A:3511:VAL:HG21	1:A:3609:THR:HG21	1.92	0.50
1:C:3187:ARG:HG2	1:C:3272:ILE:HD11	1.93	0.50
1:C:3995:VAL:O	1:C:3999:MET:HB2	2.12	0.50
1:G:3038:MET:C	1:G:3038:MET:HE2	2.36	0.50
1:J:1527:MET:HE2	1:J:1540:PHE:HB2	1.94	0.50
1:A:1152:MET:HE3	1:A:1161:ILE:HB	1.92	0.50
1:A:3187:ARG:HG2	1:A:3272:ILE:HD11	1.93	0.50
1:A:4088:ILE:HG23	1:A:4123:ILE:HG22	1.92	0.50
1:C:289:ARG:HB3	1:C:301:VAL:HB	1.92	0.50
1:C:2615:ARG:HG2	1:C:2618:MET:HE3	1.94	0.50
1:C:4219:PHE:HA	1:C:4950:VAL:HG11	1.92	0.50
1:C:4887:MET:HE2	4:J:5103:POV:H210	1.92	0.50
1:G:2347:GLU:H	1:G:2347:GLU:CD	2.19	0.50
1:G:3245:VAL:O	1:G:3249:LEU:HD12	2.11	0.50
1:J:4769:MET:HE3	1:J:4769:MET:O	2.12	0.50
1:A:2347:GLU:CD	1:A:2347:GLU:H	2.19	0.50
1:C:1477:GLY:HA2	1:C:1484:HIS:H	1.77	0.50
1:C:3466:ASN:O	1:C:3470:LEU:HD22	2.11	0.50
1:C:4841:VAL:HG12	4:J:5103:POV:H21D	1.94	0.50
1:G:2960:LEU:HD23	1:G:2963:LEU:HD21	1.94	0.50
1:G:3007:ASN:HB2	1:G:3067:CYS:SG	2.51	0.50
1:G:3536:ALA:HB2	1:G:3539:ARG:HH21	1.75	0.50
2:K:90:THR:HG23	2:K:124:THR:HA	1.93	0.50
1:A:959:TYR:CA	1:A:965:TYR:HA	2.26	0.50
1:A:2377:LEU:HD22	1:A:2465:ASP:HA	1.92	0.50
1:A:2770:LYS:HD3	1:A:2788:HIS:H	1.76	0.50
1:A:3007:ASN:HB2	1:A:3067:CYS:SG	2.51	0.50
1:G:1152:MET:HE3	1:G:1161:ILE:HB	1.92	0.50
1:G:1450:VAL:HA	1:G:1552:VAL:HG12	1.94	0.50
1:G:1527:MET:HE2	1:G:1540:PHE:HB2	1.94	0.50
1:G:2203:MET:HG3	1:G:2235:PHE:HZ	1.76	0.50
1:A:1428:LEU:HD13	1:A:1585:LYS:HE2	1.93	0.50
1:A:3051:ARG:HH22	1:A:3102:ASP:HB2	1.75	0.50
1:A:3107:VAL:HA	1:A:3175:LEU:HD21	1.94	0.50
1:C:1428:LEU:HD13	1:C:1585:LYS:HE2	1.92	0.50
1:C:2755:ILE:HG23	1:C:2813:LEU:HB2	1.93	0.50
1:G:3770:LEU:HD12	1:G:3804:ILE:HD11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4088:ILE:HG23	1:G:4123:ILE:HG22	1.92	0.50
4:G:5110:POV:H32	4:G:5110:POV:H13B	1.94	0.50
1:J:2257:LEU:HD13	1:J:2275:VAL:HG13	1.93	0.50
1:A:181:HIS:NE2	1:A:196:MET:HB2	2.27	0.50
1:A:2635:GLU:HA	1:A:2638:LYS:HZ3	1.77	0.50
1:A:3995:VAL:O	1:A:3999:MET:HB2	2.11	0.50
1:C:179:TYR:CB	1:C:197:GLN:HA	2.41	0.50
1:C:894:GLY:HA3	1:C:903:LEU:HD22	1.93	0.50
1:C:2960:LEU:HD23	1:C:2963:LEU:HD21	1.94	0.50
1:C:3539:ARG:HB3	1:C:3549:VAL:HG12	1.93	0.50
1:G:959:TYR:HD1	1:G:965:TYR:HA	1.75	0.50
1:G:1477:GLY:HA2	1:G:1484:HIS:H	1.77	0.50
1:G:2693:GLN:HG3	1:G:2697:ARG:HH21	1.77	0.50
1:J:2186:MET:HA	1:J:2186:MET:HE3	1.94	0.50
1:J:2211:MET:SD	1:J:2232:CYS:HB3	2.52	0.50
3:L:105:ASN:C	3:L:105:ASN:ND2	2.69	0.50
1:A:3153:GLY:O	1:A:3202:PRO:HG3	2.12	0.50
1:A:3943:ILE:HD11	1:A:4002:LYS:HE2	1.94	0.50
1:G:4769:MET:O	1:G:4769:MET:HE3	2.12	0.50
1:J:614:VAL:HG22	1:J:617:ASN:H	1.77	0.50
1:J:3245:VAL:O	1:J:3249:LEU:HD12	2.11	0.50
1:J:3539:ARG:HB3	1:J:3549:VAL:HG12	1.93	0.50
1:A:614:VAL:HG22	1:A:617:ASN:H	1.77	0.50
1:A:1477:GLY:HA2	1:A:1484:HIS:H	1.77	0.50
1:A:2615:ARG:HG2	1:A:2618:MET:HE3	1.94	0.50
1:A:3107:VAL:HG21	1:A:3171:SER:HB2	1.94	0.50
1:C:499:THR:HG23	1:C:502:HIS:H	1.76	0.50
1:C:614:VAL:HG22	1:C:617:ASN:H	1.77	0.50
1:C:3682:GLU:HA	1:C:3685:GLU:HB3	1.93	0.50
1:G:2823:ILE:HD11	1:G:2935:TYR:HB3	1.94	0.50
1:G:3943:ILE:HD11	1:G:4002:LYS:HE2	1.94	0.50
1:G:3995:VAL:O	1:G:3999:MET:HB2	2.11	0.50
1:J:2823:ILE:HD11	1:J:2935:TYR:HB3	1.94	0.50
1:J:3943:ILE:HD11	1:J:4002:LYS:HE2	1.94	0.50
1:A:2186:MET:HE3	1:A:2186:MET:HA	1.94	0.49
1:A:2211:MET:HA	1:A:2211:MET:HE3	1.94	0.49
1:C:960:MET:O	1:C:961:MET:C	2.55	0.49
1:C:1439:VAL:HG21	1:C:1448:VAL:HG11	1.94	0.49
1:C:1527:MET:HE2	1:C:1540:PHE:HB2	1.94	0.49
1:C:3211:ASN:HD22	1:C:3236:VAL:HG23	1.77	0.49
3:I:105:ASN:C	3:I:105:ASN:ND2	2.69	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2347:GLU:H	1:J:2347:GLU:CD	2.19	0.49
1:J:3038:MET:C	1:J:3038:MET:HE2	2.36	0.49
1:J:3211:ASN:HD22	1:J:3236:VAL:HG23	1.77	0.49
1:A:3770:LEU:HD12	1:A:3804:ILE:HD11	1.93	0.49
1:C:1450:VAL:HA	1:C:1552:VAL:HG12	1.94	0.49
1:C:1802:ILE:HD13	1:C:1807:LEU:HD11	1.93	0.49
1:C:3007:ASN:HB2	1:C:3067:CYS:SG	2.51	0.49
1:C:3056:LEU:HD23	1:C:3056:LEU:H	1.76	0.49
1:C:3107:VAL:HG21	1:C:3171:SER:HB2	1.94	0.49
1:C:3943:ILE:HD11	1:C:4002:LYS:HE2	1.94	0.49
3:E:105:ASN:ND2	3:E:105:ASN:O	2.35	0.49
1:G:990:GLU:CD	1:G:1024:TYR:HB3	2.38	0.49
1:G:2211:MET:HA	1:G:2211:MET:HE3	1.94	0.49
1:J:990:GLU:CD	1:J:1024:TYR:HB3	2.37	0.49
1:J:1450:VAL:HA	1:J:1552:VAL:HG12	1.94	0.49
1:J:3353:LEU:HG	1:J:3358:PHE:HE1	1.76	0.49
1:A:2693:GLN:HG3	1:A:2697:ARG:HH21	1.77	0.49
1:A:2960:LEU:HD23	1:A:2963:LEU:HD21	1.94	0.49
1:C:2211:MET:HA	1:C:2211:MET:HE3	1.94	0.49
1:C:2770:LYS:HD3	1:C:2788:HIS:H	1.76	0.49
1:G:614:VAL:HG22	1:G:617:ASN:H	1.77	0.49
1:G:2770:LYS:HD3	1:G:2788:HIS:H	1.76	0.49
1:G:3107:VAL:HA	1:G:3175:LEU:HD21	1.94	0.49
1:J:274:LEU:HD13	1:J:280:LEU:HD22	1.95	0.49
1:J:1439:VAL:HG21	1:J:1448:VAL:HG11	1.94	0.49
1:J:2211:MET:HE3	1:J:2211:MET:HA	1.94	0.49
1:J:2615:ARG:HG2	1:J:2618:MET:HE3	1.94	0.49
1:J:3007:ASN:HB2	1:J:3067:CYS:SG	2.51	0.49
1:G:3353:LEU:HG	1:G:3358:PHE:HE1	1.76	0.49
1:J:1802:ILE:HD13	1:J:1807:LEU:HD11	1.93	0.49
1:J:3995:VAL:O	1:J:3999:MET:HB2	2.12	0.49
1:A:2208:MET:O	1:A:2212:VAL:HG23	2.13	0.49
1:A:2431:ASP:HB2	1:A:2501:SER:HB2	1.93	0.49
1:A:4769:MET:O	1:A:4769:MET:HE3	2.12	0.49
1:C:894:GLY:O	1:C:903:LEU:HB3	2.12	0.49
1:C:1297:PHE:HE1	1:C:1548:LEU:HD12	1.77	0.49
1:G:2584:HIS:CE1	1:G:2588:ARG:HH22	2.31	0.49
1:G:4957:LYS:HG2	1:G:4964:GLY:HA2	1.95	0.49
1:J:1297:PHE:HE1	1:J:1548:LEU:HD12	1.77	0.49
1:J:2380:ILE:O	1:J:2384:ILE:HG12	2.13	0.49
1:J:3056:LEU:HD23	1:J:3056:LEU:H	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3967:GLU:HA	1:J:3970:GLN:HG2	1.93	0.49
1:A:179:TYR:CB	1:A:197:GLN:HA	2.43	0.49
1:A:2195:PRO:HB3	1:A:2242:ILE:CG2	2.41	0.49
1:C:2431:ASP:HB2	1:C:2501:SER:HB2	1.94	0.49
1:C:3967:GLU:HA	1:C:3970:GLN:HG2	1.93	0.49
1:C:4978:HIS:HA	1:C:4982:GLU:HG3	1.95	0.49
1:G:38:ALA:HB1	1:G:64:ILE:HG13	1.94	0.49
1:G:2208:MET:O	1:G:2212:VAL:HG23	2.13	0.49
1:J:45:ARG:NE	1:J:116:MET:HE1	2.28	0.49
1:J:953:THR:O	1:J:969:PRO:HG3	2.12	0.49
1:J:3153:GLY:O	1:J:3202:PRO:HG3	2.12	0.49
4:J:5113:POV:H32	4:J:5113:POV:H13B	1.94	0.49
1:A:614:VAL:HG11	1:A:617:ASN:HD22	1.78	0.49
1:A:1802:ILE:HD13	1:A:1807:LEU:HD11	1.93	0.49
1:A:3435:PHE:CD2	1:A:3521:GLY:HA3	2.48	0.49
1:A:4744:ASP:HB3	1:A:4747:SER:HB3	1.95	0.49
1:C:3107:VAL:HA	1:C:3175:LEU:HD21	1.94	0.49
1:C:4769:MET:O	1:C:4769:MET:HE3	2.12	0.49
1:G:1297:PHE:HE1	1:G:1548:LEU:HD12	1.77	0.49
1:G:2265:LEU:HB2	1:G:2330:ARG:HD2	1.94	0.49
1:G:4978:HIS:HA	1:G:4982:GLU:HG3	1.95	0.49
1:J:1477:GLY:HA2	1:J:1484:HIS:H	1.77	0.49
1:A:2380:ILE:O	1:A:2384:ILE:HG12	2.13	0.49
1:C:3153:GLY:O	1:C:3202:PRO:HG3	2.12	0.49
2:D:59:TYR:HD2	2:D:63:VAL:HG11	1.78	0.49
1:G:3183:VAL:O	1:G:3187:ARG:HG3	2.12	0.49
1:J:1979:LEU:HG	1:J:1982:ARG:HH21	1.78	0.49
1:J:2208:MET:O	1:J:2212:VAL:HG23	2.13	0.49
1:J:2265:LEU:HB2	1:J:2330:ARG:HD2	1.94	0.49
1:J:3107:VAL:HA	1:J:3175:LEU:HD21	1.94	0.49
2:K:59:TYR:HD2	2:K:63:VAL:HG11	1.78	0.49
1:A:1527:MET:HE2	1:A:1540:PHE:HB2	1.94	0.49
1:A:3140:LEU:HG	1:A:3144:PHE:CE2	2.48	0.49
4:A:5112:POV:H13B	4:A:5112:POV:H32	1.94	0.49
1:C:2380:ILE:O	1:C:2384:ILE:HG12	2.13	0.49
1:C:4957:LYS:HG2	1:C:4964:GLY:HA2	1.95	0.49
4:C:5109:POV:H32	4:C:5109:POV:H13B	1.94	0.49
1:G:2615:ARG:HG2	1:G:2618:MET:HE3	1.94	0.49
1:J:3183:VAL:O	1:J:3187:ARG:HG3	2.12	0.49
1:J:3435:PHE:CD2	1:J:3521:GLY:HA3	2.48	0.49
1:A:75:VAL:O	1:A:78:LEU:HB3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1297:PHE:HE1	1:A:1548:LEU:HD12	1.78	0.49
1:A:3353:LEU:HG	1:A:3358:PHE:HE1	1.76	0.49
1:A:4978:HIS:HA	1:A:4982:GLU:HG3	1.95	0.49
1:C:3435:PHE:CD2	1:C:3521:GLY:HA3	2.48	0.49
1:G:75:VAL:O	1:G:78:LEU:HB3	2.13	0.49
1:G:3107:VAL:HG21	1:G:3171:SER:HB2	1.94	0.49
1:J:614:VAL:HG11	1:J:617:ASN:HD22	1.78	0.49
1:J:2693:GLN:HG3	1:J:2697:ARG:HH21	1.77	0.49
1:J:3592:ILE:HG12	1:J:3595:ARG:HH21	1.78	0.49
1:J:4744:ASP:HB3	1:J:4747:SER:HB3	1.95	0.49
1:J:4978:HIS:HA	1:J:4982:GLU:HG3	1.95	0.49
1:A:274:LEU:HD13	1:A:280:LEU:HD22	1.95	0.48
1:A:652:ARG:HB2	1:A:750:LEU:HD13	1.95	0.48
1:A:842:PRO:HD3	1:A:1073:ARG:HB2	1.95	0.48
1:A:3592:ILE:HG12	1:A:3595:ARG:HH21	1.78	0.48
1:C:652:ARG:HB2	1:C:750:LEU:HD13	1.95	0.48
1:C:2186:MET:HA	1:C:2186:MET:HE3	1.94	0.48
1:C:2823:ILE:HD11	1:C:2935:TYR:HB3	1.94	0.48
1:C:3353:LEU:HG	1:C:3358:PHE:HE1	1.76	0.48
3:F:26:TYR:HB3	3:F:101:VAL:HG12	1.95	0.48
1:G:1439:VAL:HG21	1:G:1448:VAL:HG11	1.94	0.48
1:G:1979:LEU:HG	1:G:1982:ARG:HH21	1.78	0.48
1:G:3211:ASN:HD22	1:G:3236:VAL:HG23	1.77	0.48
2:H:59:TYR:HD2	2:H:63:VAL:HG11	1.78	0.48
1:J:2431:ASP:HB2	1:J:2501:SER:HB2	1.94	0.48
1:J:3140:LEU:HG	1:J:3144:PHE:CE2	2.48	0.48
1:A:157:ARG:HH21	1:A:164:ARG:HG3	1.78	0.48
1:C:614:VAL:HG11	1:C:617:ASN:HD22	1.78	0.48
1:C:3354:LEU:HA	1:C:3358:PHE:HD1	1.78	0.48
1:C:4744:ASP:HB3	1:C:4747:SER:HB3	1.95	0.48
1:C:4936:ILE:HD12	1:J:4927:ILE:HD11	1.96	0.48
1:G:2380:ILE:O	1:G:2384:ILE:HG12	2.13	0.48
1:J:38:ALA:HB1	1:J:64:ILE:HG13	1.94	0.48
1:J:842:PRO:HD3	1:J:1073:ARG:HB2	1.95	0.48
1:J:2883:HIS:ND1	1:J:2908:TYR:HB2	2.23	0.48
1:A:38:ALA:HB1	1:A:64:ILE:HG13	1.94	0.48
1:A:1439:VAL:HG21	1:A:1448:VAL:HG11	1.94	0.48
1:A:1729:SER:O	1:A:1730:MET:HG2	2.14	0.48
1:A:2211:MET:SD	1:A:2232:CYS:HB3	2.53	0.48
1:A:2584:HIS:CE1	1:A:2588:ARG:HH22	2.31	0.48
1:A:2823:ILE:HD11	1:A:2935:TYR:HB3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3211:ASN:HD22	1:A:3236:VAL:HG23	1.77	0.48
1:A:4577:LEU:HD13	1:A:4807:PHE:HD1	1.79	0.48
1:C:1979:LEU:HG	1:C:1982:ARG:HH21	1.78	0.48
1:C:2102:VAL:HG13	1:C:2120:MET:HB2	1.96	0.48
1:C:4577:LEU:HD13	1:C:4807:PHE:HD1	1.79	0.48
1:G:45:ARG:NE	1:G:116:MET:HE1	2.28	0.48
1:G:2635:GLU:HA	1:G:2638:LYS:HZ3	1.78	0.48
1:J:1729:SER:O	1:J:1730:MET:HG2	2.14	0.48
1:J:2102:VAL:HG13	1:J:2120:MET:HB2	1.96	0.48
1:J:3514:LEU:HD11	1:J:3602:VAL:HG13	1.94	0.48
1:J:4696:ASP:O	1:J:4700:GLN:HG2	2.14	0.48
1:A:1071:ARG:HG2	1:A:1196:PRO:HD3	1.95	0.48
1:A:2866:THR:HA	1:A:2928:LYS:HZ2	1.78	0.48
1:C:274:LEU:HD13	1:C:280:LEU:HD22	1.95	0.48
1:G:1071:ARG:HG2	1:G:1196:PRO:HD3	1.96	0.48
1:G:2186:MET:HA	1:G:2186:MET:HE3	1.94	0.48
1:G:3153:GLY:O	1:G:3202:PRO:HG3	2.12	0.48
1:G:3996:PHE:HZ	1:G:4019:LEU:HG	1.78	0.48
1:J:181:HIS:CD2	1:J:196:MET:HB2	2.48	0.48
1:J:966:LYS:N	1:J:967:PRO:HD3	2.27	0.48
1:A:45:ARG:NE	1:A:116:MET:HE1	2.28	0.48
1:A:698:GLY:H	1:A:1636:MET:HE1	1.79	0.48
1:C:38:ALA:HB1	1:C:64:ILE:HG13	1.94	0.48
1:C:3183:VAL:O	1:C:3187:ARG:HG3	2.12	0.48
1:C:3592:ILE:HG12	1:C:3595:ARG:HH21	1.78	0.48
1:C:3850:GLN:HE22	1:C:3872:GLU:HA	1.79	0.48
1:G:1802:ILE:HD13	1:G:1807:LEU:HD11	1.93	0.48
1:G:3140:LEU:HG	1:G:3144:PHE:CE2	2.48	0.48
3:I:26:TYR:HB3	3:I:101:VAL:HG12	1.95	0.48
1:J:75:VAL:O	1:J:78:LEU:HB3	2.13	0.48
1:J:232:THR:HG22	1:J:258:SER:HB3	1.96	0.48
1:J:404:ILE:HD13	1:J:481:GLU:HG3	1.95	0.48
1:J:2584:HIS:CE1	1:J:2588:ARG:HH22	2.31	0.48
1:J:3680:ALA:HB1	1:J:3683:GLN:HG2	1.96	0.48
1:A:2203:MET:HG3	1:A:2235:PHE:HZ	1.78	0.48
1:A:2265:LEU:HB2	1:A:2330:ARG:HD2	1.94	0.48
1:A:3850:GLN:HE22	1:A:3872:GLU:HA	1.79	0.48
1:A:3996:PHE:HZ	1:A:4019:LEU:HG	1.78	0.48
2:B:59:TYR:HD2	2:B:63:VAL:HG11	1.78	0.48
1:C:75:VAL:O	1:C:78:LEU:HB3	2.13	0.48
1:C:1071:ARG:HG2	1:C:1196:PRO:HD3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2265:LEU:HB2	1:C:2330:ARG:HD2	1.94	0.48
1:C:4696:ASP:O	1:C:4700:GLN:HG2	2.14	0.48
1:G:79:GLN:HA	1:G:82:LEU:HD12	1.96	0.48
1:G:2431:ASP:HB2	1:G:2501:SER:HB2	1.93	0.48
1:G:3066:ASN:O	1:G:3070:ILE:HG12	2.14	0.48
1:G:3435:PHE:CD2	1:G:3521:GLY:HA3	2.48	0.48
1:G:3680:ALA:HB1	1:G:3683:GLN:HG2	1.96	0.48
1:G:4577:LEU:HD13	1:G:4807:PHE:HD1	1.79	0.48
1:G:4744:ASP:HB3	1:G:4747:SER:HB3	1.95	0.48
1:J:1071:ARG:HG2	1:J:1196:PRO:HD3	1.95	0.48
1:J:3354:LEU:HA	1:J:3358:PHE:HD1	1.79	0.48
1:J:3850:GLN:HE22	1:J:3872:GLU:HA	1.79	0.48
1:J:4577:LEU:HD13	1:J:4807:PHE:HD1	1.78	0.48
1:A:232:THR:HG22	1:A:258:SER:HB3	1.96	0.48
1:C:842:PRO:HD3	1:C:1073:ARG:HB2	1.95	0.48
1:C:1301:PHE:CG	1:C:1544:PRO:HG3	2.49	0.48
1:C:2693:GLN:HG3	1:C:2697:ARG:HH21	1.77	0.48
1:G:274:LEU:HD13	1:G:280:LEU:HD22	1.95	0.48
1:G:2233:CYS:O	1:G:2234:ARG:C	2.57	0.48
1:G:4696:ASP:O	1:G:4700:GLN:HG2	2.14	0.48
1:J:157:ARG:HH21	1:J:164:ARG:HG3	1.78	0.48
1:J:954:LYS:HB2	1:J:967:PRO:HA	1.96	0.48
1:J:3209:GLN:CD	1:J:3209:GLN:H	2.21	0.48
1:J:4957:LYS:HG2	1:J:4964:GLY:HA2	1.95	0.48
4:J:5101:POV:H21A	4:J:5102:POV:H313	1.95	0.48
1:A:3183:VAL:O	1:A:3187:ARG:HG3	2.12	0.48
1:C:2584:HIS:CE1	1:C:2588:ARG:HH22	2.31	0.48
1:C:2952:GLU:HG2	1:C:2961:GLN:HE22	1.78	0.48
1:G:698:GLY:H	1:G:1636:MET:HE1	1.79	0.48
1:G:984:LEU:HD21	1:G:1056:PRO:HD2	1.95	0.48
1:J:3107:VAL:HG21	1:J:3171:SER:HB2	1.94	0.48
1:A:1979:LEU:HG	1:A:1982:ARG:HH21	1.78	0.48
1:C:45:ARG:NE	1:C:116:MET:HE1	2.28	0.48
1:C:698:GLY:H	1:C:1636:MET:HE1	1.79	0.48
1:C:3996:PHE:HZ	1:C:4019:LEU:HG	1.78	0.48
1:G:4733:GLY:O	1:G:4737:ILE:HG12	2.14	0.48
4:G:5112:POV:H21A	4:G:5113:POV:H313	1.95	0.48
1:J:3066:ASN:O	1:J:3070:ILE:HG12	2.14	0.48
3:L:26:TYR:HB3	3:L:101:VAL:HG12	1.95	0.48
1:A:2922:LYS:O	1:A:2925:GLU:HG3	2.14	0.48
1:A:3680:ALA:HB1	1:A:3683:GLN:HG2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1729:SER:O	1:C:1730:MET:HG2	2.14	0.48
1:C:2922:LYS:O	1:C:2925:GLU:HG3	2.14	0.48
3:E:26:TYR:HB3	3:E:101:VAL:HG12	1.95	0.48
1:G:232:THR:HG22	1:G:258:SER:HB3	1.96	0.48
1:G:842:PRO:HD3	1:G:1073:ARG:HB2	1.95	0.48
1:J:698:GLY:H	1:J:1636:MET:HE1	1.79	0.48
1:J:1179:PHE:HB2	1:J:1182:ILE:HD11	1.96	0.48
1:J:2233:CYS:O	1:J:2237:CYS:N	2.39	0.48
1:A:404:ILE:HD13	1:A:481:GLU:HG3	1.95	0.47
4:A:5114:POV:H21A	4:A:5115:POV:H313	1.95	0.47
1:C:3209:GLN:H	1:C:3209:GLN:CD	2.21	0.47
1:C:4844:LEU:HD11	1:C:4924:VAL:HG13	1.96	0.47
1:G:1729:SER:O	1:G:1730:MET:HG2	2.14	0.47
1:J:1301:PHE:CG	1:J:1544:PRO:HG3	2.49	0.47
1:J:2669:GLU:HG2	1:J:2714:TYR:HE1	1.79	0.47
1:J:4733:GLY:O	1:J:4737:ILE:HG12	2.14	0.47
1:A:357:LEU:HD23	1:A:357:LEU:H	1.79	0.47
1:A:1969:LEU:HD12	1:A:2009:LEU:HD13	1.96	0.47
4:A:5107:POV:H21A	4:C:5111:POV:H313	1.95	0.47
2:B:82:MET:HG3	2:B:84:SER:O	2.14	0.47
1:C:1000:ARG:NH2	2:D:115:ASP:H	2.11	0.47
1:C:2208:MET:O	1:C:2212:VAL:HG23	2.13	0.47
1:C:2758:PHE:HA	1:C:2761:TYR:HB3	1.97	0.47
1:C:3066:ASN:O	1:C:3070:ILE:HG12	2.14	0.47
1:C:3680:ALA:HB1	1:C:3683:GLN:HG2	1.96	0.47
3:F:82:TYR:HB2	3:F:86:GLY:HA2	1.96	0.47
1:J:2758:PHE:HA	1:J:2761:TYR:HB3	1.97	0.47
1:J:5009:TYR:O	1:J:5013:MET:HG2	2.14	0.47
1:A:1424:PRO:HA	1:A:1427:ILE:HG22	1.97	0.47
1:A:2669:GLU:HG2	1:A:2714:TYR:HE1	1.79	0.47
1:A:3564:GLU:HA	1:A:3570:ARG:HH12	1.80	0.47
1:C:404:ILE:HD13	1:C:481:GLU:HG3	1.95	0.47
1:C:1283:LEU:HD23	1:C:1283:LEU:H	1.80	0.47
1:C:3140:LEU:HG	1:C:3144:PHE:CE2	2.48	0.47
2:D:69:ILE:HB	2:D:80:LEU:HD13	1.96	0.47
1:G:357:LEU:H	1:G:357:LEU:HD23	1.79	0.47
1:G:614:VAL:HG11	1:G:617:ASN:HD22	1.78	0.47
1:G:3752:SER:O	1:G:3756:LYS:HG3	2.14	0.47
1:J:2512:ILE:HG21	1:J:2518:LEU:HD13	1.97	0.47
1:J:2922:LYS:O	1:J:2925:GLU:HG3	2.14	0.47
1:J:2960:LEU:HA	1:J:2963:LEU:HG	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3009:TYR:HE1	1:J:3017:PHE:HZ	1.63	0.47
1:J:4231:MET:HE3	1:J:4231:MET:HA	1.97	0.47
3:L:105:ASN:ND2	3:L:105:ASN:O	2.35	0.47
1:A:2952:GLU:HG2	1:A:2961:GLN:HE22	1.79	0.47
1:C:357:LEU:HD23	1:C:357:LEU:H	1.79	0.47
1:C:3511:VAL:HG21	1:C:3609:THR:HG21	1.95	0.47
1:C:3564:GLU:HA	1:C:3570:ARG:HH12	1.80	0.47
1:C:3752:SER:O	1:C:3756:LYS:HG3	2.14	0.47
1:C:5009:TYR:O	1:C:5013:MET:HG2	2.14	0.47
1:G:920:TYR:HE2	2:H:106:PRO:HD2	1.80	0.47
1:G:1301:PHE:CG	1:G:1544:PRO:HG3	2.49	0.47
1:G:2669:GLU:HG2	1:G:2714:TYR:HE1	1.79	0.47
1:G:2737:PRO:HB3	1:G:2884:ASN:HA	1.96	0.47
1:G:2952:GLU:HG2	1:G:2961:GLN:HE22	1.79	0.47
1:G:3209:GLN:CD	1:G:3209:GLN:H	2.21	0.47
1:G:3354:LEU:HA	1:G:3358:PHE:HD1	1.78	0.47
1:G:3850:GLN:HE22	1:G:3872:GLU:HA	1.79	0.47
1:G:5009:TYR:O	1:G:5013:MET:HG2	2.14	0.47
1:J:652:ARG:HB2	1:J:750:LEU:HD13	1.95	0.47
1:A:79:GLN:HA	1:A:82:LEU:HD12	1.96	0.47
1:A:4733:GLY:O	1:A:4737:ILE:HG12	2.14	0.47
1:A:4927:ILE:HD11	1:G:4936:ILE:HD12	1.97	0.47
1:A:4957:LYS:HG2	1:A:4964:GLY:HA2	1.95	0.47
1:C:1424:PRO:HA	1:C:1427:ILE:HG22	1.97	0.47
1:C:2737:PRO:HB3	1:C:2884:ASN:HA	1.96	0.47
1:C:4162:ASN:O	1:C:4166:LEU:HG	2.15	0.47
1:G:157:ARG:HH21	1:G:164:ARG:HG3	1.78	0.47
1:G:404:ILE:HD13	1:G:481:GLU:HG3	1.95	0.47
1:G:3009:TYR:HE1	1:G:3017:PHE:HZ	1.63	0.47
1:J:1128:ARG:HD2	1:J:1130:GLN:HE21	1.80	0.47
1:A:1301:PHE:CG	1:A:1544:PRO:HG3	2.49	0.47
1:A:1939:MET:HE3	1:A:1939:MET:HB2	1.72	0.47
1:A:2512:ILE:HG21	1:A:2518:LEU:HD13	1.97	0.47
1:A:2667:THR:HG21	1:A:2672:LEU:HD21	1.96	0.47
1:A:3409:TYR:HB2	1:A:3509:LEU:HD21	1.96	0.47
1:A:3729:MET:HE1	1:A:3778:MET:HE1	1.96	0.47
1:A:4104:THR:O	1:A:4108:ILE:HG13	2.14	0.47
2:B:69:ILE:HB	2:B:80:LEU:HD13	1.96	0.47
1:C:157:ARG:HH21	1:C:164:ARG:HG3	1.78	0.47
1:C:219:VAL:HG21	1:C:398:SER:HB2	1.96	0.47
1:C:892:THR:N	1:C:902:ARG:O	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1128:ARG:HD2	1:C:1130:GLN:HE21	1.80	0.47
1:C:2211:MET:SD	1:C:2232:CYS:HB3	2.55	0.47
1:C:3409:TYR:CB	1:C:3509:LEU:HD11	2.43	0.47
1:G:1424:PRO:HA	1:G:1427:ILE:HG22	1.97	0.47
1:G:2102:VAL:HG13	1:G:2120:MET:HB2	1.96	0.47
1:G:3885:PHE:HE1	1:G:3919:THR:HG23	1.80	0.47
1:J:79:GLN:HA	1:J:82:LEU:HD12	1.96	0.47
1:J:2737:PRO:HB3	1:J:2884:ASN:HA	1.96	0.47
1:J:3018:LEU:HD21	1:J:3150:HIS:NE2	2.30	0.47
1:J:3996:PHE:HZ	1:J:4019:LEU:HG	1.78	0.47
1:J:4104:THR:O	1:J:4108:ILE:HG13	2.14	0.47
1:J:4912:TYR:CD1	4:J:5101:POV:H25	2.49	0.47
1:A:659:TYR:HB2	1:A:1017:ARG:HH12	1.79	0.47
1:A:2241:ARG:O	1:A:2242:ILE:C	2.57	0.47
1:A:2737:PRO:HB3	1:A:2884:ASN:HA	1.96	0.47
1:A:3354:LEU:HA	1:A:3358:PHE:HD1	1.79	0.47
1:A:4648:LEU:HG	4:A:5105:POV:H27A	1.97	0.47
1:A:4696:ASP:O	1:A:4700:GLN:HG2	2.14	0.47
1:C:2336:ARG:HB3	1:C:2435:ARG:HH11	1.80	0.47
1:C:2512:ILE:HG21	1:C:2518:LEU:HD13	1.97	0.47
1:C:3536:ALA:HA	1:C:3539:ARG:NE	2.30	0.47
1:C:4733:GLY:O	1:C:4737:ILE:HG12	2.14	0.47
3:F:4:ILE:HG23	3:F:72:ALA:HB1	1.97	0.47
3:F:56:ILE:HG22	3:F:59:PHE:H	1.80	0.47
1:G:652:ARG:HB2	1:G:750:LEU:HD13	1.95	0.47
1:G:1741:GLU:O	1:G:1745:ILE:HG13	2.15	0.47
1:G:2667:THR:HG21	1:G:2672:LEU:HD21	1.96	0.47
1:G:2722:LYS:HD3	1:G:2877:GLN:HG2	1.97	0.47
1:G:3018:LEU:HD21	1:G:3150:HIS:NE2	2.30	0.47
1:G:3062:PRO:HA	1:G:3065:VAL:HG22	1.97	0.47
1:G:3564:GLU:HA	1:G:3570:ARG:HH12	1.80	0.47
1:G:3592:ILE:HG12	1:G:3595:ARG:HH21	1.78	0.47
2:H:4:LEU:HA	2:H:23:THR:O	2.15	0.47
2:H:82:MET:HG3	2:H:84:SER:O	2.14	0.47
3:I:56:ILE:HG22	3:I:59:PHE:H	1.80	0.47
1:J:45:ARG:NH1	1:J:443:LEU:HD11	2.30	0.47
1:J:181:HIS:NE2	1:J:196:MET:HB2	2.30	0.47
1:J:357:LEU:H	1:J:357:LEU:HD23	1.79	0.47
1:J:2233:CYS:O	1:J:2234:ARG:C	2.58	0.47
1:J:2238:TYR:O	1:J:2242:ILE:HG12	2.15	0.47
1:J:2952:GLU:HG2	1:J:2961:GLN:HE22	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3062:PRO:HA	1:J:3065:VAL:HG22	1.97	0.47
1:J:3536:ALA:HA	1:J:3539:ARG:NE	2.30	0.47
2:K:69:ILE:HB	2:K:80:LEU:HD13	1.96	0.47
1:A:219:VAL:HG21	1:A:398:SER:HB2	1.96	0.47
1:A:3066:ASN:O	1:A:3070:ILE:HG12	2.14	0.47
1:A:3209:GLN:H	1:A:3209:GLN:CD	2.21	0.47
1:A:3935:TRP:CZ3	1:C:76:ARG:HB3	2.50	0.47
1:C:210:GLU:HG3	1:C:213:TYR:HB2	1.97	0.47
1:C:2608:MET:HA	1:C:2643:LEU:HD13	1.97	0.47
1:C:2960:LEU:HA	1:C:2963:LEU:HG	1.96	0.47
1:G:682:LEU:HG	1:G:738:LEU:HD12	1.96	0.47
1:G:2512:ILE:HG21	1:G:2518:LEU:HD13	1.97	0.47
1:G:2908:TYR:CZ	1:G:2916:LYS:HE2	2.50	0.47
1:J:3003:LEU:HB3	1:J:3004:PRO:HD3	1.97	0.47
1:J:3868:ARG:HH12	1:J:3869:GLN:HB3	1.80	0.47
1:A:109:LEU:HD12	1:A:118:LEU:HD23	1.97	0.47
1:A:1078:GLU:HB3	1:A:1081:TYR:CD2	2.50	0.47
1:A:2102:VAL:HG13	1:A:2120:MET:HB2	1.96	0.47
1:A:3868:ARG:HH12	1:A:3869:GLN:HB3	1.80	0.47
1:A:4162:ASN:O	1:A:4166:LEU:HG	2.15	0.47
1:C:232:THR:HG22	1:C:258:SER:HB3	1.96	0.47
1:C:1969:LEU:HD12	1:C:2009:LEU:HD13	1.96	0.47
1:C:2582:MET:HE3	1:C:2582:MET:HB3	1.86	0.47
1:G:659:TYR:HB2	1:G:1017:ARG:HH12	1.80	0.47
1:G:2922:LYS:O	1:G:2925:GLU:HG3	2.14	0.47
1:G:3868:ARG:HH12	1:G:3869:GLN:HB3	1.80	0.47
1:J:1283:LEU:HD23	1:J:1283:LEU:H	1.80	0.47
1:J:1969:LEU:HD12	1:J:2009:LEU:HD13	1.96	0.47
1:J:3885:PHE:HE1	1:J:3919:THR:HG23	1.80	0.47
1:J:5013:MET:HE2	1:J:5013:MET:HB3	1.74	0.47
2:K:107:TRP:HB3	2:K:111:ASN:HB3	1.97	0.47
1:A:892:THR:N	1:A:902:ARG:O	2.48	0.47
1:A:1128:ARG:HD2	1:A:1130:GLN:HE21	1.80	0.47
1:A:3003:LEU:HB3	1:A:3004:PRO:HD3	1.97	0.47
1:A:3209:GLN:HE22	1:A:3245:VAL:HG21	1.80	0.47
1:A:3533:ILE:O	1:A:3537:LYS:HG3	2.15	0.47
1:C:1023:PRO:HB3	1:C:1025:ARG:HH21	1.80	0.47
1:C:2722:LYS:HD3	1:C:2877:GLN:HG2	1.97	0.47
1:C:3868:ARG:HH12	1:C:3869:GLN:HB3	1.80	0.47
1:C:3885:PHE:HE1	1:C:3919:THR:HG23	1.80	0.47
1:C:4104:THR:O	1:C:4108:ILE:HG13	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1128:ARG:HD2	1:G:1130:GLN:HE21	1.80	0.47
1:G:1756:ASN:HA	1:G:1759:ARG:HB2	1.97	0.47
1:G:2758:PHE:HA	1:G:2761:TYR:HB3	1.97	0.47
1:G:3442:PHE:HE1	1:G:3511:VAL:HG22	1.80	0.47
3:I:4:ILE:HD11	3:I:62:GLY:HA2	1.97	0.47
1:J:2722:LYS:HD3	1:J:2877:GLN:HG2	1.97	0.47
1:J:4834:GLY:O	1:J:4838:VAL:HG22	2.15	0.47
3:L:56:ILE:HG22	3:L:59:PHE:H	1.80	0.47
1:A:45:ARG:NH1	1:A:443:LEU:HD11	2.30	0.46
1:A:993:HIS:CE1	1:A:996:TRP:HZ3	2.34	0.46
1:A:1741:GLU:O	1:A:1745:ILE:HG13	2.15	0.46
1:A:2960:LEU:HA	1:A:2963:LEU:HG	1.96	0.46
1:A:4834:GLY:O	1:A:4838:VAL:HG22	2.16	0.46
1:A:5009:TYR:O	1:A:5013:MET:HG2	2.14	0.46
2:B:4:LEU:HA	2:B:23:THR:O	2.15	0.46
1:C:79:GLN:HA	1:C:82:LEU:HD12	1.96	0.46
1:C:790:ARG:NH1	1:C:792:LEU:HD21	2.30	0.46
1:C:1078:GLU:HB3	1:C:1081:TYR:CD2	2.50	0.46
1:C:3003:LEU:HB3	1:C:3004:PRO:HD3	1.97	0.46
1:C:3209:GLN:HE22	1:C:3245:VAL:HG21	1.80	0.46
2:D:82:MET:HG3	2:D:84:SER:O	2.14	0.46
3:E:56:ILE:HG22	3:E:59:PHE:H	1.80	0.46
1:G:45:ARG:NH1	1:G:443:LEU:HD11	2.30	0.46
1:G:109:LEU:HD12	1:G:118:LEU:HD23	1.97	0.46
1:G:214:VAL:HG13	1:G:220:LEU:HD21	1.97	0.46
1:G:219:VAL:HG21	1:G:398:SER:HB2	1.96	0.46
1:G:3137:LEU:HD22	1:G:3189:ALA:HB1	1.97	0.46
1:G:4162:ASN:O	1:G:4166:LEU:HG	2.14	0.46
1:G:4231:MET:HA	1:G:4231:MET:HE3	1.97	0.46
2:H:107:TRP:HB3	2:H:111:ASN:HB3	1.97	0.46
1:J:733:PRO:HG2	1:J:762:CYS:HB3	1.97	0.46
1:J:920:TYR:HE2	2:K:106:PRO:HD2	1.80	0.46
1:J:1023:PRO:HB3	1:J:1025:ARG:HH21	1.81	0.46
1:J:3752:SER:O	1:J:3756:LYS:HG3	2.14	0.46
3:L:4:ILE:HG23	3:L:72:ALA:HB1	1.97	0.46
1:A:214:VAL:HG13	1:A:220:LEU:HD21	1.97	0.46
1:A:955:LEU:HD12	1:A:956:PRO:HD2	1.97	0.46
1:A:3752:SER:O	1:A:3756:LYS:HG3	2.14	0.46
1:A:3966:THR:HG22	1:A:4026:MET:HA	1.97	0.46
1:C:659:TYR:HB2	1:C:1017:ARG:HH12	1.79	0.46
1:C:950:LEU:HD11	1:C:972:LEU:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3062:PRO:HA	1:C:3065:VAL:HG22	1.97	0.46
3:F:105:ASN:C	3:F:105:ASN:ND2	2.68	0.46
1:G:210:GLU:HG3	1:G:213:TYR:HB2	1.97	0.46
1:G:1078:GLU:HB3	1:G:1081:TYR:CD2	2.50	0.46
1:G:2336:ARG:HB3	1:G:2435:ARG:HH11	1.80	0.46
1:G:3019:SER:HB3	1:G:3030:HIS:HA	1.97	0.46
1:G:3077:ALA:HA	1:G:3080:VAL:HG12	1.97	0.46
1:G:3533:ILE:O	1:G:3537:LYS:HG3	2.15	0.46
1:G:4576:ILE:HG21	1:G:4643:LEU:HB2	1.97	0.46
1:G:4844:LEU:HD11	1:G:4924:VAL:HG13	1.96	0.46
1:G:4927:ILE:HD11	1:J:4936:ILE:HD12	1.97	0.46
1:J:31:GLU:HG3	1:J:33:LEU:HD21	1.98	0.46
1:J:3019:SER:HB3	1:J:3030:HIS:HA	1.97	0.46
3:L:4:ILE:HD11	3:L:62:GLY:HA2	1.97	0.46
1:A:682:LEU:HG	1:A:738:LEU:HD12	1.96	0.46
1:A:950:LEU:HD11	1:A:972:LEU:HA	1.97	0.46
1:A:2368:LEU:HD13	1:A:2460:LEU:HD12	1.98	0.46
4:A:5116:POV:H38	4:A:5116:POV:H311	1.68	0.46
1:C:214:VAL:HG13	1:C:220:LEU:HD21	1.97	0.46
1:C:2325:PRO:HB2	1:C:2421:ALA:HB1	1.98	0.46
1:C:3009:TYR:CZ	1:C:3013:HIS:HD2	2.33	0.46
2:D:17:SER:HA	2:D:83:ASN:HA	1.98	0.46
1:G:781:VAL:HG22	1:G:791:PHE:HE2	1.80	0.46
1:G:1076:ARG:HB3	1:G:1191:VAL:HG23	1.98	0.46
1:G:4104:THR:O	1:G:4108:ILE:HG13	2.14	0.46
1:J:1076:ARG:HB3	1:J:1191:VAL:HG23	1.98	0.46
1:J:1424:PRO:HA	1:J:1427:ILE:HG22	1.97	0.46
1:J:2667:THR:HG21	1:J:2672:LEU:HD21	1.96	0.46
1:J:3077:ALA:HA	1:J:3080:VAL:HG12	1.97	0.46
1:J:4728:HIS:HD2	1:J:4731:ILE:HD12	1.81	0.46
1:A:31:GLU:HG3	1:A:33:LEU:HD21	1.98	0.46
1:A:2758:PHE:HA	1:A:2761:TYR:HB3	1.97	0.46
1:A:2908:TYR:CZ	1:A:2916:LYS:HE2	2.50	0.46
1:A:4576:ILE:HG21	1:A:4643:LEU:HB2	1.97	0.46
1:A:4844:LEU:HD11	1:A:4924:VAL:HG13	1.96	0.46
1:A:4936:ILE:HD12	1:C:4927:ILE:HD11	1.97	0.46
1:C:682:LEU:HG	1:C:738:LEU:HD12	1.96	0.46
1:C:2927:LEU:HA	1:C:2930:LEU:HD12	1.97	0.46
1:C:3018:LEU:HD21	1:C:3150:HIS:NE2	2.30	0.46
1:C:3019:SER:HB3	1:C:3030:HIS:HA	1.97	0.46
1:G:1283:LEU:HD23	1:G:1283:LEU:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2960:LEU:HA	1:G:2963:LEU:HG	1.96	0.46
3:I:4:ILE:HG23	3:I:72:ALA:HB1	1.97	0.46
1:J:219:VAL:HG21	1:J:398:SER:HB2	1.96	0.46
1:J:3533:ILE:O	1:J:3537:LYS:HG3	2.15	0.46
1:J:4844:LEU:HD11	1:J:4924:VAL:HG13	1.96	0.46
2:K:4:LEU:HA	2:K:23:THR:O	2.15	0.46
1:A:733:PRO:HG2	1:A:762:CYS:HB3	1.96	0.46
1:A:1023:PRO:HB3	1:A:1025:ARG:HH21	1.80	0.46
1:A:1730:MET:HE2	1:A:1730:MET:HB3	1.77	0.46
1:A:1756:ASN:HA	1:A:1759:ARG:HB2	1.97	0.46
1:A:3009:TYR:HE1	1:A:3017:PHE:HZ	1.63	0.46
1:A:3062:PRO:HA	1:A:3065:VAL:HG22	1.97	0.46
1:A:4001:MET:HG3	1:A:4057:MET:HE2	1.97	0.46
1:C:2667:THR:HG21	1:C:2672:LEU:HD21	1.97	0.46
1:C:2908:TYR:CZ	1:C:2916:LYS:HE2	2.50	0.46
1:C:3009:TYR:HE1	1:C:3017:PHE:HZ	1.63	0.46
1:C:4803:HIS:CE1	4:C:5104:POV:H23A	2.51	0.46
1:G:993:HIS:CE1	1:G:996:TRP:HZ3	2.34	0.46
1:G:1730:MET:HE2	1:G:1730:MET:HB3	1.77	0.46
1:G:1969:LEU:HD12	1:G:2009:LEU:HD13	1.96	0.46
1:J:214:VAL:HG13	1:J:220:LEU:HD21	1.98	0.46
1:J:659:TYR:HB2	1:J:1017:ARG:HH12	1.79	0.46
1:J:2325:PRO:HB2	1:J:2421:ALA:HB1	1.98	0.46
1:J:2368:LEU:HD13	1:J:2460:LEU:HD12	1.98	0.46
1:J:3564:GLU:HA	1:J:3570:ARG:HH12	1.80	0.46
2:K:59:TYR:HB2	2:K:63:VAL:HG21	1.98	0.46
2:K:82:MET:HG3	2:K:84:SER:O	2.14	0.46
1:A:2325:PRO:HB2	1:A:2421:ALA:HB1	1.98	0.46
1:A:2998:PHE:HA	1:A:3002:LEU:HB2	1.98	0.46
1:A:3885:PHE:HE1	1:A:3919:THR:HG23	1.80	0.46
1:A:4728:HIS:HD2	1:A:4731:ILE:HD12	1.81	0.46
1:C:2669:GLU:HG2	1:C:2714:TYR:HE1	1.79	0.46
1:C:3533:ILE:O	1:C:3537:LYS:HG3	2.15	0.46
1:G:3003:LEU:HB3	1:G:3004:PRO:HD3	1.97	0.46
1:G:4728:HIS:HD2	1:G:4731:ILE:HD12	1.81	0.46
2:H:59:TYR:HB2	2:H:63:VAL:HG21	1.98	0.46
2:H:69:ILE:HB	2:H:80:LEU:HD13	1.96	0.46
1:J:1078:GLU:HB3	1:J:1081:TYR:HD2	1.81	0.46
1:J:1756:ASN:HA	1:J:1759:ARG:HB2	1.97	0.46
1:J:3209:GLN:HE22	1:J:3245:VAL:HG21	1.80	0.46
1:J:3966:THR:HG22	1:J:4026:MET:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1432:THR:HG23	1:A:1572:ILE:HG23	1.98	0.46
1:A:2336:ARG:HB3	1:A:2435:ARG:HH11	1.80	0.46
1:A:3273:THR:HA	1:A:3276:MET:HG2	1.98	0.46
1:A:3514:LEU:HD11	1:A:3602:VAL:HG13	1.97	0.46
1:C:31:GLU:HG3	1:C:33:LEU:HD21	1.98	0.46
1:C:2368:LEU:HD13	1:C:2460:LEU:HD12	1.98	0.46
1:C:2866:THR:HA	1:C:2928:LYS:HZ2	1.81	0.46
2:D:4:LEU:HA	2:D:23:THR:O	2.15	0.46
3:E:4:ILE:HA	3:E:73:LYS:O	2.16	0.46
1:G:31:GLU:HG3	1:G:33:LEU:HD21	1.98	0.46
1:G:2368:LEU:HD13	1:G:2460:LEU:HD12	1.98	0.46
1:G:3729:MET:HE1	1:G:3778:MET:HE1	1.96	0.46
1:J:2908:TYR:CZ	1:J:2916:LYS:HE2	2.50	0.46
1:J:3009:TYR:CZ	1:J:3013:HIS:HD2	2.34	0.46
1:J:3137:LEU:HD22	1:J:3189:ALA:HB1	1.97	0.46
1:A:887:ILE:HG12	1:A:960:MET:SD	2.56	0.46
1:A:978:THR:HB	1:A:981:GLN:HG2	1.98	0.46
1:A:2608:MET:HA	1:A:2643:LEU:HD13	1.97	0.46
1:A:2722:LYS:HD3	1:A:2877:GLN:HG2	1.97	0.46
1:A:3009:TYR:CZ	1:A:3013:HIS:HD2	2.33	0.46
1:C:233:ILE:HD13	1:C:287:THR:HG21	1.98	0.46
1:C:470:SER:HA	1:C:473:ASN:HD21	1.80	0.46
1:C:733:PRO:HG2	1:C:762:CYS:HB3	1.97	0.46
1:C:1078:GLU:HB3	1:C:1081:TYR:HD2	1.81	0.46
1:C:1741:GLU:O	1:C:1745:ILE:HG13	2.15	0.46
1:C:3435:PHE:CG	1:C:3521:GLY:HA3	2.51	0.46
1:G:233:ILE:HD13	1:G:287:THR:HG21	1.98	0.46
1:G:1023:PRO:HB3	1:G:1025:ARG:HH21	1.80	0.46
1:G:1078:GLU:HB3	1:G:1081:TYR:HD2	1.81	0.46
1:G:3209:GLN:HE22	1:G:3245:VAL:HG21	1.80	0.46
1:J:168:ASP:HB3	1:J:199:LEU:HD12	1.98	0.46
1:J:470:SER:HA	1:J:473:ASN:ND2	2.31	0.46
1:J:892:THR:N	1:J:902:ARG:O	2.48	0.46
1:J:1470:ARG:HD3	1:J:1470:ARG:HA	1.72	0.46
1:J:2927:LEU:HA	1:J:2930:LEU:HD12	1.98	0.46
1:J:3729:MET:HE1	1:J:3778:MET:HE1	1.96	0.46
1:C:19:GLU:HB3	1:C:206:CYS:HB2	1.98	0.46
1:C:45:ARG:NH1	1:C:443:LEU:HD11	2.30	0.46
1:C:109:LEU:HD12	1:C:118:LEU:HD23	1.97	0.46
1:C:2754:PHE:HA	1:C:2757:LYS:HB3	1.98	0.46
1:C:2998:PHE:HA	1:C:3002:LEU:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3273:THR:HA	1:C:3276:MET:HG2	1.98	0.46
1:C:3511:VAL:HG12	1:C:3515:LYS:HE3	1.97	0.46
1:C:3546:ASP:HA	1:C:3549:VAL:HG22	1.97	0.46
1:C:3966:THR:HG22	1:C:4026:MET:HA	1.97	0.46
1:C:4231:MET:HA	1:C:4231:MET:HE3	1.97	0.46
1:C:4834:GLY:O	1:C:4838:VAL:HG22	2.15	0.46
1:G:733:PRO:HG2	1:G:762:CYS:HB3	1.97	0.46
1:G:1432:THR:HG23	1:G:1572:ILE:HG23	1.98	0.46
1:G:2325:PRO:HB2	1:G:2421:ALA:HB1	1.98	0.46
1:G:2355:ARG:O	1:G:2359:ARG:HG2	2.16	0.46
1:G:2608:MET:HA	1:G:2643:LEU:HD13	1.97	0.46
1:G:3423:TRP:HB2	1:G:3520:ILE:HD12	1.98	0.46
1:G:3966:THR:HG22	1:G:4026:MET:HA	1.97	0.46
1:G:4001:MET:HG3	1:G:4057:MET:HE2	1.97	0.46
2:H:17:SER:HA	2:H:83:ASN:HA	1.97	0.46
1:J:1008:SER:HB2	1:J:1017:ARG:CZ	2.46	0.46
1:J:1078:GLU:HB3	1:J:1081:TYR:CD2	2.50	0.46
1:J:2336:ARG:HB3	1:J:2435:ARG:HH11	1.80	0.46
1:J:2902:HIS:HE1	1:J:2904:LEU:HB2	1.81	0.46
1:J:4750:ILE:HA	1:J:4753:HIS:HD2	1.81	0.46
1:A:210:GLU:HG3	1:A:213:TYR:HB2	1.97	0.46
1:A:470:SER:HA	1:A:473:ASN:ND2	2.31	0.46
1:A:920:TYR:HE2	2:B:106:PRO:HD2	1.80	0.46
1:A:990:GLU:CD	1:A:1024:TYR:HB3	2.41	0.46
1:A:1179:PHE:HB2	1:A:1182:ILE:HD11	1.97	0.46
1:A:1283:LEU:HD23	1:A:1283:LEU:H	1.80	0.46
1:A:2875:ALA:HB2	1:A:2927:LEU:HD22	1.98	0.46
1:A:2902:HIS:HE1	1:A:2904:LEU:HB2	1.81	0.46
2:B:59:TYR:HB2	2:B:63:VAL:HG21	1.98	0.46
1:C:1756:ASN:HA	1:C:1759:ARG:HB2	1.98	0.46
1:C:3729:MET:HE1	1:C:3778:MET:HE1	1.96	0.46
1:C:4001:MET:HG3	1:C:4057:MET:HE2	1.97	0.46
1:C:4576:ILE:HG21	1:C:4643:LEU:HB2	1.98	0.46
3:E:4:ILE:HG23	3:E:72:ALA:HB1	1.97	0.46
1:G:19:GLU:HB3	1:G:206:CYS:HB2	1.98	0.46
1:G:179:TYR:CB	1:G:197:GLN:HA	2.46	0.46
1:G:1008:SER:HB2	1:G:1017:ARG:CZ	2.46	0.46
1:G:2765:LYS:HA	1:G:2765:LYS:HD3	1.73	0.46
1:G:2998:PHE:HA	1:G:3002:LEU:HB2	1.98	0.46
1:J:210:GLU:HG3	1:J:213:TYR:HB2	1.97	0.46
1:J:470:SER:HA	1:J:473:ASN:HD21	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:659:TYR:HB2	1:J:1017:ARG:NH1	2.31	0.46
1:J:682:LEU:HG	1:J:738:LEU:HD12	1.96	0.46
1:J:1432:THR:HG23	1:J:1572:ILE:HG23	1.98	0.46
1:J:2754:PHE:HA	1:J:2757:LYS:HB3	1.98	0.46
1:A:898:ASP:H	1:A:903:LEU:HB2	1.81	0.45
1:A:3018:LEU:HD21	1:A:3150:HIS:NE2	2.30	0.45
1:A:4231:MET:HA	1:A:4231:MET:HE3	1.97	0.45
2:B:17:SER:HA	2:B:83:ASN:HA	1.97	0.45
1:C:551:LEU:HD11	1:C:564:LEU:HD22	1.99	0.45
1:C:1008:SER:HB2	1:C:1017:ARG:CZ	2.46	0.45
1:C:1076:ARG:HB3	1:C:1191:VAL:HG23	1.98	0.45
1:C:4805:ASN:HD22	4:C:5105:POV:P	2.39	0.45
2:D:59:TYR:HB2	2:D:63:VAL:HG21	1.98	0.45
2:D:107:TRP:HB3	2:D:111:ASN:HB3	1.97	0.45
1:G:76:ARG:HB3	1:J:3935:TRP:CZ3	2.52	0.45
1:G:883:ALA:O	1:G:887:ILE:HG13	2.16	0.45
1:G:1098:GLY:HA3	1:G:1198:GLN:HE22	1.81	0.45
1:G:3009:TYR:CZ	1:G:3013:HIS:HD2	2.33	0.45
1:G:4648:LEU:HG	4:G:5104:POV:H27A	1.97	0.45
1:J:109:LEU:HD12	1:J:118:LEU:HD23	1.97	0.45
1:J:4162:ASN:O	1:J:4166:LEU:HG	2.15	0.45
1:A:233:ILE:HD13	1:A:287:THR:HG21	1.98	0.45
1:A:2913:ALA:HA	1:A:2916:LYS:HG2	1.98	0.45
1:A:3852:LYS:HE3	1:A:3852:LYS:HB2	1.79	0.45
1:C:179:TYR:HB2	1:C:197:GLN:HA	1.97	0.45
1:C:898:ASP:H	1:C:903:LEU:HB2	1.81	0.45
1:C:4218:ILE:O	1:C:4222:VAL:HG23	2.16	0.45
3:E:4:ILE:HD11	3:E:62:GLY:HA2	1.97	0.45
1:G:2902:HIS:HE1	1:G:2904:LEU:HB2	1.81	0.45
1:G:3511:VAL:HG21	1:G:3609:THR:HG21	1.98	0.45
1:G:4834:GLY:O	1:G:4838:VAL:HG22	2.16	0.45
1:J:2913:ALA:HA	1:J:2916:LYS:HG2	1.98	0.45
1:J:4001:MET:HG3	1:J:4057:MET:HE2	1.97	0.45
1:A:3019:SER:HB3	1:A:3030:HIS:HA	1.97	0.45
1:A:3137:LEU:HD22	1:A:3189:ALA:HB1	1.97	0.45
1:C:1432:THR:HG23	1:C:1572:ILE:HG23	1.98	0.45
1:G:551:LEU:HD11	1:G:564:LEU:HD22	1.99	0.45
1:G:898:ASP:H	1:G:903:LEU:HB2	1.81	0.45
1:G:1300:HIS:HB3	1:G:1302:ARG:NE	2.31	0.45
1:G:2871:LEU:HA	1:G:2874:MET:HE3	1.99	0.45
1:G:3435:PHE:CG	1:G:3521:GLY:HA3	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3566:SER:HB3	1:G:3569:LEU:HD12	1.99	0.45
3:I:4:ILE:HA	3:I:73:LYS:O	2.16	0.45
1:J:24:CYS:HB2	1:J:200:TRP:CE3	2.51	0.45
1:J:220:LEU:HD13	1:J:262:LEU:HG	1.98	0.45
1:J:551:LEU:HD11	1:J:564:LEU:HD22	1.99	0.45
1:J:1741:GLU:O	1:J:1745:ILE:HG13	2.15	0.45
1:J:3423:TRP:HB2	1:J:3520:ILE:HD12	1.98	0.45
1:A:1076:ARG:HB3	1:A:1191:VAL:HG23	1.98	0.45
1:A:1078:GLU:HB3	1:A:1081:TYR:HD2	1.81	0.45
1:A:1098:GLY:HA3	1:A:1198:GLN:HE22	1.82	0.45
1:A:2871:LEU:HA	1:A:2874:MET:HE3	1.99	0.45
1:A:3423:TRP:HB2	1:A:3520:ILE:HD12	1.98	0.45
1:A:3435:PHE:CG	1:A:3521:GLY:HA3	2.51	0.45
1:A:3536:ALA:HA	1:A:3539:ARG:NE	2.30	0.45
1:A:4750:ILE:HA	1:A:4753:HIS:HD2	1.81	0.45
1:A:5003:HIS:HD2	1:A:5007:GLU:HB3	1.82	0.45
1:C:2875:ALA:HB2	1:C:2927:LEU:HD22	1.98	0.45
1:C:3010:PHE:O	1:C:3014:CYS:HB3	2.16	0.45
1:C:4108:ILE:O	1:C:4112:LEU:HG	2.17	0.45
3:F:4:ILE:HD11	3:F:62:GLY:HA2	1.97	0.45
1:G:4835:LYS:H	1:G:4835:LYS:HD2	1.82	0.45
1:G:5003:HIS:HD2	1:G:5007:GLU:HB3	1.82	0.45
2:H:14:ALA:HA	2:H:85:LEU:HB2	1.99	0.45
1:J:2006:ILE:HG21	1:J:3652:MET:HB3	1.99	0.45
1:J:3010:PHE:O	1:J:3014:CYS:HB3	2.16	0.45
1:J:3546:ASP:HA	1:J:3549:VAL:HG22	1.97	0.45
1:J:4218:ILE:O	1:J:4222:VAL:HG23	2.16	0.45
1:A:1008:SER:HB2	1:A:1017:ARG:CZ	2.46	0.45
1:A:1455:PRO:HG3	1:A:1549:PHE:HE1	1.82	0.45
1:A:3077:ALA:HA	1:A:3080:VAL:HG12	1.97	0.45
1:A:3546:ASP:HA	1:A:3549:VAL:HG22	1.98	0.45
1:A:4218:ILE:HD13	1:A:4954:MET:HE2	1.97	0.45
1:C:1455:PRO:HG3	1:C:1549:PHE:HE1	1.82	0.45
1:C:2754:PHE:CE2	1:C:2825:LYS:HB3	2.52	0.45
1:C:2902:HIS:HE1	1:C:2904:LEU:HB2	1.81	0.45
1:C:3137:LEU:HD22	1:C:3189:ALA:HB1	1.97	0.45
1:C:3423:TRP:HB2	1:C:3520:ILE:HD12	1.98	0.45
1:C:4750:ILE:HA	1:C:4753:HIS:HD2	1.81	0.45
1:G:3536:ALA:HA	1:G:3539:ARG:NE	2.30	0.45
1:G:4218:ILE:O	1:G:4222:VAL:HG23	2.16	0.45
1:G:4218:ILE:HD13	1:G:4954:MET:HE2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:233:ILE:HD13	1:J:287:THR:HG21	1.98	0.45
1:J:1300:HIS:HB3	1:J:1302:ARG:NE	2.31	0.45
1:J:2608:MET:HA	1:J:2643:LEU:HD13	1.97	0.45
1:A:19:GLU:HB3	1:A:206:CYS:HB2	1.98	0.45
1:A:551:LEU:HD11	1:A:564:LEU:HD22	1.99	0.45
1:A:3018:LEU:HD13	1:A:3074:SER:HA	1.98	0.45
1:A:4108:ILE:O	1:A:4112:LEU:HG	2.17	0.45
2:B:107:TRP:HB3	2:B:111:ASN:HB3	1.97	0.45
1:C:181:HIS:CD2	1:C:196:MET:HB3	2.52	0.45
1:C:987:ARG:HD3	1:C:987:ARG:C	2.42	0.45
1:C:2867:LEU:H	1:C:2928:LYS:HZ2	1.65	0.45
1:C:3352:GLU:H	1:C:3352:GLU:CD	2.25	0.45
1:C:3935:TRP:CZ3	1:J:76:ARG:HB3	2.51	0.45
4:C:5112:POV:H311	4:C:5112:POV:H38	1.68	0.45
1:G:181:HIS:CD2	1:G:196:MET:HB2	2.52	0.45
1:G:470:SER:HA	1:G:473:ASN:HD21	1.80	0.45
1:G:887:ILE:HG12	1:G:960:MET:SD	2.57	0.45
1:G:2913:ALA:HA	1:G:2916:LYS:HG2	1.98	0.45
1:J:19:GLU:HB3	1:J:206:CYS:HB2	1.98	0.45
1:J:1455:PRO:HG3	1:J:1549:PHE:HE1	1.82	0.45
1:J:2355:ARG:O	1:J:2359:ARG:HG2	2.16	0.45
1:J:2871:LEU:HA	1:J:2874:MET:HE3	1.99	0.45
1:J:4648:LEU:HG	4:J:5107:POV:H27A	1.97	0.45
1:A:659:TYR:HB2	1:A:1017:ARG:NH1	2.31	0.45
1:A:2238:TYR:HD1	1:A:2241:ARG:HD2	1.81	0.45
1:A:4835:LYS:H	1:A:4835:LYS:HD2	1.82	0.45
1:C:3018:LEU:HD13	1:C:3074:SER:HA	1.98	0.45
1:G:659:TYR:HB2	1:G:1017:ARG:NH1	2.31	0.45
1:G:2226:PRO:O	1:G:2230:THR:HG23	2.16	0.45
1:G:3010:PHE:O	1:G:3014:CYS:HB3	2.16	0.45
1:G:3133:THR:HG22	1:G:3134:VAL:HG13	1.99	0.45
1:J:2998:PHE:HA	1:J:3002:LEU:HB2	1.98	0.45
1:J:3435:PHE:CG	1:J:3521:GLY:HA3	2.51	0.45
1:J:4576:ILE:HG21	1:J:4643:LEU:HB2	1.97	0.45
1:C:180:LEU:HD23	1:C:200:TRP:CE2	2.52	0.45
1:C:4728:HIS:HD2	1:C:4731:ILE:HD12	1.81	0.45
3:F:4:ILE:HA	3:F:73:LYS:O	2.16	0.45
1:G:3273:THR:HA	1:G:3276:MET:HG2	1.98	0.45
1:G:3546:ASP:HA	1:G:3549:VAL:HG22	1.98	0.45
2:H:82:MET:HE2	2:H:82:MET:HA	1.98	0.45
1:J:551:LEU:HD13	1:J:589:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1674:CYS:HB3	1:J:1685:LEU:HD12	1.99	0.45
1:J:1931:LEU:HD22	1:J:1935:VAL:HG11	1.99	0.45
2:K:86:LYS:HE2	2:K:86:LYS:HB2	1.84	0.45
1:A:470:SER:HA	1:A:473:ASN:HD21	1.80	0.45
1:A:1247:PRO:HA	1:A:1598:GLN:HG2	1.99	0.45
1:A:2355:ARG:O	1:A:2359:ARG:HG2	2.16	0.45
1:C:920:TYR:HE2	2:D:106:PRO:HD2	1.81	0.45
1:C:2355:ARG:O	1:C:2359:ARG:HG2	2.16	0.45
1:C:2619:LEU:O	1:C:2623:LEU:HB3	2.17	0.45
1:C:2871:LEU:HA	1:C:2874:MET:HE3	1.99	0.45
1:C:3077:ALA:HA	1:C:3080:VAL:HG12	1.97	0.45
1:G:470:SER:HA	1:G:473:ASN:ND2	2.31	0.45
1:G:950:LEU:HD11	1:G:972:LEU:HA	1.97	0.45
1:G:1931:LEU:HD22	1:G:1935:VAL:HG11	1.99	0.45
1:G:2927:LEU:HD23	1:G:2928:LYS:HZ1	1.81	0.45
1:G:3556:ASN:HA	1:G:3559:LEU:HD13	1.99	0.45
1:G:3842:LEU:HB2	1:G:3929:SER:HB2	1.99	0.45
1:J:978:THR:HB	1:J:981:GLN:HG2	1.98	0.45
1:J:1433:TYR:CE2	1:J:1522:LEU:HD22	2.52	0.45
1:J:1730:MET:HE2	1:J:1730:MET:HB3	1.77	0.45
1:J:2156:LEU:HD23	1:J:2156:LEU:HA	1.86	0.45
1:J:2875:ALA:HB2	1:J:2927:LEU:HD22	1.98	0.45
1:J:3133:THR:HG22	1:J:3134:VAL:HG13	1.99	0.45
1:J:3442:PHE:HE1	1:J:3511:VAL:HG22	1.82	0.45
3:L:4:ILE:HA	3:L:73:LYS:O	2.16	0.45
1:A:76:ARG:HB3	1:G:3935:TRP:CZ3	2.52	0.45
1:A:180:LEU:HD23	1:A:200:TRP:CE2	2.52	0.45
1:A:1728:ARG:HH11	1:A:1850:VAL:HG21	1.82	0.45
1:A:2927:LEU:HA	1:A:2930:LEU:HD12	1.97	0.45
1:C:470:SER:HA	1:C:473:ASN:ND2	2.31	0.45
1:C:1300:HIS:HB3	1:C:1302:ARG:NE	2.31	0.45
1:C:1433:TYR:CE2	1:C:1522:LEU:HD22	2.52	0.45
1:C:2913:ALA:HA	1:C:2916:LYS:HG2	1.98	0.45
1:C:3133:THR:HG22	1:C:3134:VAL:HG13	1.99	0.45
1:C:3835:LEU:HG	1:C:3880:PHE:HZ	1.82	0.45
1:C:5003:HIS:HD2	1:C:5007:GLU:HB3	1.82	0.45
1:C:5004:THR:HG22	1:C:5007:GLU:HG3	1.99	0.45
1:G:1247:PRO:HA	1:G:1598:GLN:HG2	1.99	0.45
1:G:1433:TYR:CE2	1:G:1522:LEU:HD22	2.52	0.45
1:G:2288:LEU:HD21	1:G:3852:LYS:HB3	1.99	0.45
1:J:2288:LEU:HD21	1:J:3852:LYS:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3556:ASN:HA	1:J:3559:LEU:HD13	1.99	0.45
1:J:3835:LEU:HG	1:J:3880:PHE:HZ	1.82	0.45
2:K:82:MET:HE2	2:K:82:MET:HA	1.98	0.45
1:A:1433:TYR:CE2	1:A:1522:LEU:HD22	2.52	0.44
1:A:2619:LEU:O	1:A:2623:LEU:HB3	2.17	0.44
1:A:2882:TYR:HA	1:A:2886:TRP:CD1	2.52	0.44
1:A:3556:ASN:HA	1:A:3559:LEU:HD13	1.99	0.44
1:A:3566:SER:HB3	1:A:3569:LEU:HD12	1.99	0.44
2:B:14:ALA:HA	2:B:85:LEU:HB2	1.99	0.44
1:C:659:TYR:HB2	1:C:1017:ARG:NH1	2.31	0.44
1:C:2288:LEU:HD21	1:C:3852:LYS:HB3	1.99	0.44
1:C:2735:PHE:O	1:C:2737:PRO:HD3	2.17	0.44
1:C:2765:LYS:HA	1:C:2765:LYS:HD3	1.73	0.44
1:C:3556:ASN:HA	1:C:3559:LEU:HD13	1.99	0.44
2:D:82:MET:HE2	2:D:82:MET:HA	1.98	0.44
3:F:23:VAL:HB	3:F:104:LEU:O	2.17	0.44
1:G:978:THR:HB	1:G:981:GLN:HG2	1.98	0.44
1:G:2006:ILE:HG21	1:G:3652:MET:HB3	1.99	0.44
1:G:2166:LEU:HD21	1:G:2206:THR:HG23	1.99	0.44
1:G:2754:PHE:CE2	1:G:2825:LYS:HB3	2.52	0.44
1:G:3537:LYS:NZ	1:G:3607:GLU:HG2	2.32	0.44
1:G:3835:LEU:HG	1:G:3880:PHE:HZ	1.82	0.44
1:J:2359:ARG:NH1	1:J:2359:ARG:HA	2.33	0.44
1:J:2559:LEU:O	1:J:2563:THR:HG23	2.17	0.44
1:J:2619:LEU:O	1:J:2623:LEU:HB3	2.17	0.44
1:J:2735:PHE:O	1:J:2737:PRO:HD3	2.17	0.44
1:J:3273:THR:HA	1:J:3276:MET:HG2	1.98	0.44
1:J:3537:LYS:NZ	1:J:3607:GLU:HG2	2.32	0.44
1:J:4108:ILE:O	1:J:4112:LEU:HG	2.17	0.44
1:J:4218:ILE:HD13	1:J:4954:MET:HE2	1.97	0.44
1:J:5003:HIS:HD2	1:J:5007:GLU:HB3	1.82	0.44
2:K:17:SER:HA	2:K:83:ASN:HA	1.97	0.44
1:A:220:LEU:HD13	1:A:262:LEU:HG	1.98	0.44
1:A:3994:HIS:HA	1:A:4054:ASN:OD1	2.18	0.44
1:A:4068:LEU:HD12	1:A:4068:LEU:HA	1.81	0.44
1:C:978:THR:HB	1:C:981:GLN:HG2	1.98	0.44
1:C:2692:ASP:HB3	1:C:2695:LEU:HD23	2.00	0.44
1:C:3852:LYS:HB2	1:C:3852:LYS:HE3	1.79	0.44
1:C:4218:ILE:HD13	1:C:4954:MET:HE2	1.98	0.44
1:G:180:LEU:HD23	1:G:200:TRP:CE2	2.52	0.44
1:G:551:LEU:HD13	1:G:589:LEU:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1939:MET:HE3	1:G:1939:MET:HB2	1.72	0.44
1:G:2559:LEU:O	1:G:2563:THR:HG23	2.17	0.44
1:G:5013:MET:HE2	1:G:5013:MET:HB3	1.74	0.44
1:J:1247:PRO:HA	1:J:1598:GLN:HG2	1.99	0.44
1:J:2882:TYR:HA	1:J:2886:TRP:CD1	2.52	0.44
1:J:4705:VAL:HB	1:J:4778:TRP:CG	2.53	0.44
3:L:23:VAL:HB	3:L:104:LEU:O	2.17	0.44
1:A:894:GLY:H	1:A:903:LEU:HD22	1.81	0.44
1:A:1078:GLU:HG3	1:A:1237:TRP:NE1	2.32	0.44
1:A:1300:HIS:HB3	1:A:1302:ARG:NE	2.31	0.44
1:A:2519:LEU:HA	1:A:2522:LEU:HD12	2.00	0.44
1:A:2930:LEU:HB3	1:A:2935:TYR:HB2	1.99	0.44
1:A:3010:PHE:O	1:A:3014:CYS:HB3	2.16	0.44
1:A:3352:GLU:H	1:A:3352:GLU:CD	2.25	0.44
1:A:3393:LEU:O	1:A:3397:GLU:HB2	2.18	0.44
1:A:3842:LEU:HB2	1:A:3929:SER:HB2	1.99	0.44
1:C:1931:LEU:HD22	1:C:1935:VAL:HG11	1.99	0.44
1:C:3443:ILE:HG22	1:C:3605:HIS:CG	2.53	0.44
2:D:14:ALA:HA	2:D:85:LEU:HB2	1.99	0.44
3:F:105:ASN:ND2	3:F:105:ASN:O	2.35	0.44
1:G:103:TYR:HB2	1:G:159:GLU:HA	1.99	0.44
1:G:892:THR:N	1:G:902:ARG:O	2.50	0.44
1:G:2210:VAL:O	1:G:2214:VAL:HG12	2.18	0.44
1:G:2519:LEU:HA	1:G:2522:LEU:HD12	2.00	0.44
1:G:2754:PHE:HA	1:G:2757:LYS:HB3	1.98	0.44
1:G:4705:VAL:HB	1:G:4778:TRP:CG	2.53	0.44
1:G:4796:MET:HE3	1:G:4800:LEU:HG	1.99	0.44
4:G:5114:POV:H311	4:G:5114:POV:H38	1.68	0.44
1:J:1476:MET:HE3	1:J:1476:MET:HB3	1.85	0.44
1:J:2210:VAL:O	1:J:2214:VAL:HG12	2.18	0.44
1:J:2214:VAL:HG13	1:J:2215:LEU:HD13	2.00	0.44
1:J:2692:ASP:HB3	1:J:2695:LEU:HD23	2.00	0.44
1:J:2754:PHE:CE2	1:J:2825:LYS:HB3	2.52	0.44
1:J:3352:GLU:CD	1:J:3352:GLU:H	2.25	0.44
1:A:1931:LEU:HD22	1:A:1935:VAL:HG11	1.99	0.44
1:A:2162:ILE:O	1:A:2166:LEU:HD13	2.18	0.44
1:A:2754:PHE:CE2	1:A:2825:LYS:HB3	2.52	0.44
1:A:2754:PHE:HA	1:A:2757:LYS:HB3	1.98	0.44
1:A:3531:ASP:HA	1:A:3534:MET:HE1	2.00	0.44
1:A:3537:LYS:NZ	1:A:3607:GLU:HG2	2.32	0.44
1:A:4218:ILE:O	1:A:4222:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:551:LEU:HD13	1:C:589:LEU:HD11	1.99	0.44
1:C:855:PRO:HD2	1:C:998:ARG:CZ	2.46	0.44
1:C:1098:GLY:HA3	1:C:1198:GLN:HE22	1.81	0.44
1:C:2214:VAL:HG13	1:C:2215:LEU:HD13	2.00	0.44
1:C:2882:TYR:HA	1:C:2886:TRP:CD1	2.52	0.44
1:C:2882:TYR:O	1:C:2886:TRP:HB2	2.18	0.44
1:C:4705:VAL:HB	1:C:4778:TRP:CG	2.53	0.44
1:C:4835:LYS:H	1:C:4835:LYS:HD2	1.82	0.44
1:G:2162:ILE:O	1:G:2166:LEU:HD13	2.18	0.44
1:G:2619:LEU:O	1:G:2623:LEU:HB3	2.17	0.44
1:G:2875:ALA:HB2	1:G:2927:LEU:HD22	1.98	0.44
1:G:3758:MET:O	1:G:3762:ARG:HG3	2.18	0.44
1:J:4835:LYS:H	1:J:4835:LYS:HD2	1.82	0.44
1:A:750:LEU:HD23	1:A:750:LEU:HA	1.75	0.44
1:A:4705:VAL:HB	1:A:4778:TRP:CG	2.53	0.44
2:B:82:MET:HE2	2:B:82:MET:HA	1.98	0.44
1:C:1939:MET:HE3	1:C:1939:MET:HB2	1.72	0.44
1:C:2930:LEU:HB3	1:C:2935:TYR:HB2	1.99	0.44
1:C:3842:LEU:HB2	1:C:3929:SER:HB2	1.99	0.44
1:G:220:LEU:HD13	1:G:262:LEU:HG	1.98	0.44
1:G:1033:ARG:HA	1:G:1036:ARG:HG2	2.00	0.44
1:G:2214:VAL:HG13	1:G:2215:LEU:HD13	2.00	0.44
1:G:2882:TYR:HA	1:G:2886:TRP:CD1	2.52	0.44
1:G:2927:LEU:HA	1:G:2930:LEU:HD12	1.97	0.44
1:G:3206:LEU:HD23	1:G:3206:LEU:HA	1.75	0.44
3:I:23:VAL:HB	3:I:104:LEU:O	2.17	0.44
1:J:3566:SER:HB3	1:J:3569:LEU:HD12	1.99	0.44
1:J:3809:ASN:OD1	1:J:3812:VAL:HG12	2.18	0.44
1:J:4003:LEU:HD22	1:J:4009:GLN:HB3	2.00	0.44
2:B:18:LEU:HB2	2:B:82:MET:HB3	2.00	0.44
1:C:220:LEU:HD13	1:C:262:LEU:HG	1.98	0.44
1:C:248:GLU:HG3	1:C:373:LYS:HG2	2.00	0.44
1:C:1247:PRO:HA	1:C:1598:GLN:HG2	1.99	0.44
1:C:2359:ARG:NH1	1:C:2359:ARG:HA	2.33	0.44
1:C:2559:LEU:O	1:C:2563:THR:HG23	2.17	0.44
1:G:3994:HIS:HA	1:G:4054:ASN:OD1	2.18	0.44
1:G:4750:ILE:HA	1:G:4753:HIS:HD2	1.81	0.44
1:G:4813:LEU:HD23	1:G:4813:LEU:HA	1.88	0.44
1:J:248:GLU:HG3	1:J:373:LYS:HG2	2.00	0.44
1:J:855:PRO:HD2	1:J:998:ARG:CZ	2.48	0.44
1:J:898:ASP:H	1:J:903:LEU:HB2	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2166:LEU:HD21	1:J:2206:THR:HG23	2.00	0.44
1:J:2882:TYR:O	1:J:2886:TRP:HB2	2.18	0.44
1:A:2210:VAL:O	1:A:2214:VAL:HG12	2.18	0.44
1:A:2293:GLN:O	1:A:2297:LYS:HG3	2.18	0.44
1:A:3133:THR:HG22	1:A:3134:VAL:HG13	1.99	0.44
1:A:3758:MET:O	1:A:3762:ARG:HG3	2.18	0.44
1:A:3924:LEU:O	1:A:3927:GLN:HG3	2.18	0.44
1:C:1674:CYS:HB3	1:C:1685:LEU:HD12	1.99	0.44
1:C:2359:ARG:NH1	1:J:195:PHE:O	2.43	0.44
1:G:248:GLU:HG3	1:G:373:LYS:HG2	2.00	0.44
1:G:663:TYR:CE1	1:G:745:SER:HB3	2.53	0.44
1:G:985:VAL:HG22	1:G:1043:VAL:HG21	2.00	0.44
1:G:1728:ARG:HH11	1:G:1850:VAL:HG21	1.82	0.44
1:G:3352:GLU:CD	1:G:3352:GLU:H	2.25	0.44
1:G:3393:LEU:O	1:G:3397:GLU:HB2	2.18	0.44
1:J:1098:GLY:HA3	1:J:1198:GLN:HE22	1.82	0.44
1:J:1153:ILE:HG13	1:J:1160:ILE:HG12	2.00	0.44
1:J:1728:ARG:HH11	1:J:1850:VAL:HG21	1.82	0.44
1:J:2293:GLN:O	1:J:2297:LYS:HG3	2.18	0.44
1:J:3511:VAL:HG21	1:J:3609:THR:HG21	2.00	0.44
1:J:3852:LYS:HB2	1:J:3852:LYS:HE3	1.79	0.44
1:J:4124:ASN:HB2	1:J:4128:PHE:HB2	2.00	0.44
1:A:115:ARG:HD2	1:A:115:ARG:HA	1.88	0.44
1:A:302:VAL:HB	1:A:306:LYS:HE3	2.00	0.44
1:A:663:TYR:CE1	1:A:745:SER:HB3	2.53	0.44
1:A:2006:ILE:HG21	1:A:3652:MET:HB3	1.99	0.44
1:A:2759:ALA:HB2	1:A:2810:LYS:HG3	2.00	0.44
1:A:3074:SER:H	1:A:3146:HIS:CD2	2.36	0.44
1:A:3570:ARG:HH21	1:C:1825:HIS:CE1	2.36	0.44
1:C:663:TYR:CE1	1:C:745:SER:HB3	2.53	0.44
1:C:1728:ARG:HH11	1:C:1850:VAL:HG21	1.82	0.44
1:C:3010:PHE:HE1	1:C:3074:SER:HB2	1.83	0.44
1:C:3074:SER:H	1:C:3146:HIS:CD2	2.36	0.44
1:C:3994:HIS:HA	1:C:4054:ASN:OD1	2.18	0.44
1:C:4003:LEU:HD22	1:C:4009:GLN:HB3	2.00	0.44
1:C:4796:MET:HE3	1:C:4800:LEU:HG	1.99	0.44
1:C:5013:MET:HE2	1:C:5013:MET:HB3	1.74	0.44
3:E:23:VAL:HB	3:E:104:LEU:O	2.17	0.44
1:G:2735:PHE:O	1:G:2737:PRO:HD3	2.17	0.44
1:G:2951:ILE:H	1:G:2951:ILE:HD12	1.83	0.44
1:G:4108:ILE:O	1:G:4112:LEU:HG	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:663:TYR:CE1	1:J:745:SER:HB3	2.53	0.44
1:J:882:TRP:CH2	2:K:104:TYR:HA	2.53	0.44
1:J:2928:LYS:HA	1:J:2928:LYS:HD3	1.80	0.44
2:K:14:ALA:HA	2:K:85:LEU:HB2	1.99	0.44
1:A:179:TYR:HB2	1:A:197:GLN:HA	1.99	0.44
1:A:181:HIS:CD2	1:A:196:MET:HB2	2.53	0.44
1:A:1291:LEU:HD12	1:A:1550:PRO:HB2	2.00	0.44
1:A:1825:HIS:CE1	1:G:3570:ARG:HH21	2.36	0.44
1:A:2288:LEU:HD21	1:A:3852:LYS:HB3	1.99	0.44
1:A:2559:LEU:O	1:A:2563:THR:HG23	2.17	0.44
1:A:2735:PHE:O	1:A:2737:PRO:HD3	2.17	0.44
1:A:5004:THR:HG22	1:A:5007:GLU:HG3	1.99	0.44
2:B:86:LYS:HB2	2:B:86:LYS:HE2	1.84	0.44
1:C:1733:GLU:HG2	1:C:2201:LEU:HD23	2.00	0.44
1:C:2162:ILE:O	1:C:2166:LEU:HD13	2.18	0.44
1:C:2928:LYS:HA	1:C:2928:LYS:HD3	1.80	0.44
1:C:3393:LEU:O	1:C:3397:GLU:HB2	2.18	0.44
1:C:3970:GLN:OE1	1:C:5004:THR:HA	2.18	0.44
1:C:4124:ASN:HB2	1:C:4128:PHE:HB2	2.00	0.44
1:G:302:VAL:HB	1:G:306:LYS:HE3	2.00	0.44
1:J:894:GLY:H	1:J:903:LEU:HD22	1.81	0.44
1:J:984:LEU:HD21	1:J:1056:PRO:HD2	1.99	0.44
1:J:3018:LEU:HD13	1:J:3074:SER:HA	1.98	0.44
1:A:551:LEU:HD13	1:A:589:LEU:HD11	1.99	0.43
1:A:2882:TYR:O	1:A:2886:TRP:HB2	2.18	0.43
1:A:3835:LEU:HG	1:A:3880:PHE:HZ	1.82	0.43
1:A:4124:ASN:HB2	1:A:4128:PHE:HB2	2.00	0.43
1:A:4626:ASN:HD22	1:A:4626:ASN:N	2.16	0.43
1:C:2519:LEU:HA	1:C:2522:LEU:HD12	2.00	0.43
1:C:2747:ILE:HG13	1:C:2814:LYS:HG2	1.99	0.43
1:C:3433:GLU:HA	1:C:3436:ARG:HD2	2.00	0.43
1:C:4091:LYS:HE2	1:C:4091:LYS:HA	2.00	0.43
1:C:4626:ASN:HD22	1:C:4626:ASN:N	2.16	0.43
1:G:182:LEU:HB2	1:G:198:THR:HG21	2.00	0.43
1:G:1455:PRO:HG3	1:G:1549:PHE:HE1	1.82	0.43
1:G:1674:CYS:HB3	1:G:1685:LEU:HD12	1.99	0.43
1:G:2211:MET:SD	1:G:2232:CYS:HB3	2.58	0.43
1:G:2747:ILE:HG13	1:G:2814:LYS:HG2	1.99	0.43
1:G:3010:PHE:HE1	1:G:3074:SER:HB2	1.83	0.43
1:G:3018:LEU:HD13	1:G:3074:SER:HA	1.98	0.43
1:G:3924:LEU:O	1:G:3927:GLN:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1452:TRP:CZ3	1:J:1550:PRO:HG3	2.53	0.43
1:J:3010:PHE:HE1	1:J:3074:SER:HB2	1.83	0.43
1:A:3562:LYS:HB3	1:A:3564:GLU:OE1	2.19	0.43
1:C:103:TYR:HB2	1:C:159:GLU:HA	2.00	0.43
1:C:2241:ARG:O	1:C:2242:ILE:C	2.60	0.43
1:C:2292:GLU:HB2	1:C:2352:VAL:HG11	2.00	0.43
1:C:2876:GLU:HG3	1:C:2908:TYR:CE2	2.51	0.43
1:C:3924:LEU:O	1:C:3927:GLN:HG3	2.18	0.43
2:D:18:LEU:HB2	2:D:82:MET:HB3	2.00	0.43
1:G:3734:HIS:HB3	1:G:3803:SER:HB2	2.00	0.43
1:G:4003:LEU:HD22	1:G:4009:GLN:HB3	2.00	0.43
1:G:4626:ASN:HD22	1:G:4626:ASN:N	2.16	0.43
1:G:5030:LYS:HA	1:G:5033:GLU:HG3	2.00	0.43
2:H:86:LYS:HE2	2:H:86:LYS:HB2	1.84	0.43
1:J:1100:MET:HB3	1:J:1194:LEU:HG	2.00	0.43
1:J:2930:LEU:HB3	1:J:2935:TYR:HB2	1.99	0.43
1:J:2951:ILE:H	1:J:2951:ILE:HD12	1.83	0.43
1:J:5004:THR:HG22	1:J:5007:GLU:HG3	1.99	0.43
1:A:248:GLU:HG3	1:A:373:LYS:HG2	2.00	0.43
1:A:886:ARG:HB3	1:A:891:TRP:CD1	2.53	0.43
1:A:2166:LEU:HD21	1:A:2206:THR:HG23	2.00	0.43
1:A:2214:VAL:HG13	1:A:2215:LEU:HD13	2.00	0.43
1:A:2292:GLU:HB2	1:A:2352:VAL:HG11	2.00	0.43
1:A:3245:VAL:HG22	1:A:3246:LEU:HD23	2.01	0.43
1:A:4003:LEU:HD22	1:A:4009:GLN:HB3	2.00	0.43
1:C:77:ALA:O	1:C:81:MET:HG3	2.18	0.43
1:C:1033:ARG:HA	1:C:1036:ARG:HG2	2.00	0.43
1:C:1291:LEU:HD12	1:C:1550:PRO:HB2	2.00	0.43
1:C:1452:TRP:CZ3	1:C:1550:PRO:HG3	2.54	0.43
1:C:3537:LYS:NZ	1:C:3607:GLU:HG2	2.32	0.43
1:C:3809:ASN:OD1	1:C:3812:VAL:HG12	2.18	0.43
1:C:5030:LYS:HA	1:C:5033:GLU:HG3	2.00	0.43
1:G:875:ALA:HB1	1:G:921:ASN:HB3	2.00	0.43
1:G:876:GLU:O	1:G:880:GLU:HG3	2.18	0.43
1:G:1291:LEU:HD12	1:G:1550:PRO:HB2	2.00	0.43
1:G:1470:ARG:HA	1:G:1470:ARG:HD3	1.71	0.43
1:G:2359:ARG:NH1	1:G:2359:ARG:HA	2.33	0.43
1:G:3245:VAL:HG22	1:G:3246:LEU:HD23	2.01	0.43
1:J:785:ALA:HB2	1:J:1613:LEU:HD11	2.00	0.43
1:J:972:LEU:HD11	1:J:1044:ARG:HG3	2.00	0.43
1:J:2519:LEU:HA	1:J:2522:LEU:HD12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3758:MET:O	1:J:3762:ARG:HG3	2.18	0.43
1:J:3994:HIS:HA	1:J:4054:ASN:OD1	2.18	0.43
1:A:2951:ILE:H	1:A:2951:ILE:HD12	1.83	0.43
1:A:3443:ILE:HG22	1:A:3605:HIS:CG	2.53	0.43
1:A:3734:HIS:HB3	1:A:3803:SER:HB2	2.00	0.43
1:A:3809:ASN:OD1	1:A:3812:VAL:HG12	2.18	0.43
1:A:4796:MET:HE3	1:A:4800:LEU:HG	1.99	0.43
1:C:3531:ASP:HA	1:C:3534:MET:HE1	2.00	0.43
1:C:4105:GLY:O	1:C:4109:GLN:HG2	2.19	0.43
3:E:7:ILE:HB	3:E:71:ARG:HD2	2.00	0.43
3:F:7:ILE:HB	3:F:71:ARG:HD2	2.00	0.43
1:G:785:ALA:HB2	1:G:1613:LEU:HD11	2.00	0.43
1:G:2293:GLN:O	1:G:2297:LYS:HG3	2.18	0.43
1:G:2591:ARG:HH22	1:G:2625:ARG:NH2	2.17	0.43
1:G:2678:LEU:O	1:G:2682:ILE:HG12	2.19	0.43
1:G:2758:PHE:CD2	1:G:2813:LEU:HD11	2.53	0.43
1:G:3081:MET:HE2	1:G:3081:MET:HB3	1.88	0.43
1:G:3443:ILE:HG22	1:G:3605:HIS:CG	2.53	0.43
1:G:3934:TYR:CE2	1:G:3935:TRP:HB2	2.54	0.43
1:J:179:TYR:CD2	1:J:197:GLN:HG2	2.53	0.43
1:J:2678:LEU:O	1:J:2682:ILE:HG12	2.19	0.43
1:J:2747:ILE:HG13	1:J:2814:LYS:HG2	1.99	0.43
1:J:3132:THR:HA	1:J:3136:LEU:HB3	2.00	0.43
1:J:4909:TYR:HE1	4:J:5101:POV:H22A	1.82	0.43
1:A:1674:CYS:HB3	1:A:1685:LEU:HD12	1.99	0.43
1:A:4091:LYS:HE2	1:A:4091:LYS:HA	2.00	0.43
1:A:4232:GLU:HG3	1:A:5019:TRP:CD1	2.54	0.43
1:C:598:LYS:HE2	1:C:598:LYS:HB2	1.90	0.43
1:C:3566:SER:HB3	1:C:3569:LEU:HD12	1.99	0.43
1:C:3758:MET:O	1:C:3762:ARG:HG3	2.18	0.43
1:G:77:ALA:O	1:G:81:MET:HG3	2.18	0.43
1:G:668:VAL:HA	1:G:789:VAL:HG12	2.00	0.43
1:G:1497:GLY:HA2	1:G:1500:PHE:HB2	2.01	0.43
1:G:1733:GLU:HG2	1:G:2201:LEU:HD23	2.00	0.43
1:G:1825:HIS:CE1	1:J:3570:ARG:HH21	2.36	0.43
1:G:3562:LYS:HB3	1:G:3564:GLU:OE1	2.18	0.43
3:I:7:ILE:HB	3:I:71:ARG:HD2	2.00	0.43
1:J:2759:ALA:HB2	1:J:2810:LYS:HG3	2.00	0.43
1:J:3179:LYS:HG2	1:J:3187:ARG:HH22	1.84	0.43
1:J:3433:GLU:HA	1:J:3436:ARG:HD2	2.00	0.43
1:J:3934:TYR:CE2	1:J:3935:TRP:HB2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:4105:GLY:O	1:J:4109:GLN:HG2	2.19	0.43
1:A:77:ALA:O	1:A:81:MET:HG3	2.18	0.43
1:A:399:GLN:O	1:A:403:MET:HG3	2.19	0.43
1:A:1100:MET:HB3	1:A:1194:LEU:HG	2.01	0.43
1:A:2346:VAL:HG13	1:A:2349:ASN:HB2	2.00	0.43
1:A:3233:PRO:HG2	1:A:3239:MET:HA	2.01	0.43
1:C:302:VAL:HB	1:C:306:LYS:HE3	2.00	0.43
1:C:2006:ILE:HG21	1:C:3652:MET:HB3	1.99	0.43
1:C:2293:GLN:O	1:C:2297:LYS:HG3	2.18	0.43
1:C:2827:ARG:HH22	1:C:2830:GLU:HB3	1.83	0.43
1:C:4778:TRP:O	1:C:4782:VAL:HG13	2.19	0.43
1:C:4816:ILE:HD11	1:J:4846:VAL:HG21	2.00	0.43
1:G:750:LEU:HD23	1:G:750:LEU:HA	1.75	0.43
1:G:2759:ALA:HB2	1:G:2810:LYS:HG3	2.00	0.43
1:G:3233:PRO:HG2	1:G:3239:MET:HA	2.01	0.43
1:G:4056:GLU:HG2	1:G:4166:LEU:HD12	2.01	0.43
1:G:4124:ASN:HB2	1:G:4128:PHE:HB2	2.00	0.43
1:G:4567:LEU:HD21	1:G:4816:ILE:HG22	2.01	0.43
2:H:18:LEU:HB2	2:H:82:MET:HB3	2.00	0.43
1:J:2827:ARG:HH22	1:J:2830:GLU:HB3	1.83	0.43
1:J:3443:ILE:HG22	1:J:3605:HIS:CG	2.53	0.43
1:J:3531:ASP:HA	1:J:3534:MET:HE1	2.00	0.43
1:J:3842:LEU:HB2	1:J:3929:SER:HB2	1.99	0.43
1:J:3924:LEU:O	1:J:3927:GLN:HG3	2.18	0.43
1:A:1153:ILE:HG13	1:A:1160:ILE:HG12	2.00	0.43
1:A:2692:ASP:HB3	1:A:2695:LEU:HD23	2.00	0.43
1:A:3433:GLU:HA	1:A:3436:ARG:HD2	2.00	0.43
1:A:4567:LEU:HD21	1:A:4816:ILE:HG22	2.01	0.43
1:A:4778:TRP:O	1:A:4782:VAL:HG13	2.19	0.43
1:C:1100:MET:HB3	1:C:1194:LEU:HG	2.01	0.43
1:C:1153:ILE:HG13	1:C:1160:ILE:HG12	2.00	0.43
1:C:1163:THR:HG22	1:C:1168:VAL:HA	2.01	0.43
1:C:2210:VAL:O	1:C:2214:VAL:HG12	2.18	0.43
1:C:2678:LEU:O	1:C:2682:ILE:HG12	2.19	0.43
1:C:3562:LYS:HB3	1:C:3564:GLU:OE1	2.19	0.43
1:G:911:HIS:CD2	1:G:918:ARG:HG2	2.54	0.43
1:G:1153:ILE:HG13	1:G:1160:ILE:HG12	2.00	0.43
1:G:1163:THR:HG22	1:G:1168:VAL:HA	2.01	0.43
1:G:1452:TRP:CZ3	1:G:1550:PRO:HG3	2.53	0.43
1:G:2692:ASP:HB3	1:G:2695:LEU:HD23	2.00	0.43
1:G:2930:LEU:HB3	1:G:2935:TYR:HB2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3809:ASN:OD1	1:G:3812:VAL:HG12	2.18	0.43
1:G:4963:ILE:HD13	1:G:5030:LYS:HD2	2.01	0.43
1:J:103:TYR:HB2	1:J:159:GLU:HA	2.00	0.43
1:J:1033:ARG:HA	1:J:1036:ARG:HG2	2.00	0.43
1:J:2738:ARG:H	1:J:2738:ARG:HG3	1.57	0.43
1:J:3074:SER:H	1:J:3146:HIS:CD2	2.36	0.43
1:J:4056:GLU:HG2	1:J:4166:LEU:HD12	2.01	0.43
1:J:4778:TRP:O	1:J:4782:VAL:HG13	2.18	0.43
4:J:5112:POV:H31E	4:J:5112:POV:H311	1.88	0.43
1:A:103:TYR:HB2	1:A:159:GLU:HA	2.00	0.43
1:A:356:TRP:H	1:A:380:GLN:HA	1.83	0.43
1:A:1452:TRP:CZ3	1:A:1550:PRO:HG3	2.53	0.43
1:A:2359:ARG:NH1	1:A:2359:ARG:HA	2.33	0.43
1:A:2678:LEU:O	1:A:2682:ILE:HG12	2.19	0.43
1:A:3010:PHE:HE1	1:A:3074:SER:HB2	1.83	0.43
1:A:3163:VAL:O	1:A:3167:ARG:HG2	2.19	0.43
1:A:4202:ARG:O	1:A:4206:GLU:HG2	2.19	0.43
1:C:35:LEU:HG	1:C:51:PRO:HA	2.01	0.43
1:C:399:GLN:O	1:C:403:MET:HG3	2.19	0.43
1:C:984:LEU:HD21	1:C:1056:PRO:HD2	1.99	0.43
1:C:1123:VAL:HG23	1:C:1132:TRP:HB2	2.01	0.43
1:C:2166:LEU:HD21	1:C:2206:THR:HG23	1.99	0.43
1:C:2346:VAL:HG13	1:C:2349:ASN:HB2	2.01	0.43
1:C:2700:MET:HE3	1:C:2701:PRO:HD3	2.01	0.43
1:C:2823:ILE:HA	1:C:2937:VAL:HA	2.01	0.43
1:C:2951:ILE:HD12	1:C:2951:ILE:H	1.83	0.43
1:G:1100:MET:HB3	1:G:1194:LEU:HG	2.01	0.43
1:G:2582:MET:HE3	1:G:2582:MET:HB3	1.86	0.43
1:G:2735:PHE:CE1	1:G:2907:PRO:HG3	2.54	0.43
1:G:2827:ARG:HH22	1:G:2830:GLU:HB3	1.83	0.43
1:G:3074:SER:H	1:G:3146:HIS:CD2	2.36	0.43
1:G:3965:LEU:O	1:G:3969:ILE:HG12	2.19	0.43
1:G:4861:LYS:HE2	1:G:4861:LYS:HB3	1.89	0.43
1:J:465:GLN:O	1:J:469:ARG:HG3	2.18	0.43
1:J:1291:LEU:HD12	1:J:1550:PRO:HB2	2.00	0.43
1:J:1497:GLY:HA2	1:J:1500:PHE:HB2	2.01	0.43
1:J:3379:LEU:HD11	1:J:3391:GLU:HB2	2.01	0.43
1:J:3970:GLN:OE1	1:J:5004:THR:HA	2.18	0.43
1:A:24:CYS:HB2	1:A:200:TRP:CE3	2.54	0.43
1:A:1575:LEU:HD23	1:A:1575:LEU:HA	1.77	0.43
1:A:1634:LEU:HD12	1:A:1634:LEU:HA	1.90	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1733:GLU:HG2	1:A:2201:LEU:HD23	2.00	0.43
1:A:2700:MET:HE3	1:A:2701:PRO:HD3	2.01	0.43
1:A:2747:ILE:HG13	1:A:2814:LYS:HG2	1.99	0.43
1:A:3934:TYR:CE2	1:A:3935:TRP:HB2	2.54	0.43
1:A:4105:GLY:O	1:A:4109:GLN:HG2	2.19	0.43
1:C:291:LEU:HD11	1:C:299:LEU:HD12	2.00	0.43
1:C:2604:GLU:O	1:C:2608:MET:HG3	2.19	0.43
1:C:3163:VAL:O	1:C:3167:ARG:HG2	2.19	0.43
1:C:3379:LEU:HD11	1:C:3391:GLU:HB2	2.01	0.43
1:C:3570:ARG:HH21	1:J:1825:HIS:CE1	2.37	0.43
1:C:4202:ARG:O	1:C:4206:GLU:HG2	2.19	0.43
1:G:266:ARG:HG3	1:G:268:SER:HB3	2.01	0.43
1:G:394:GLN:HB2	1:G:397:GLU:OE1	2.19	0.43
1:G:1237:TRP:CH2	1:G:1652:GLU:HG3	2.54	0.43
1:G:2380:ILE:HG13	1:G:2469:ILE:HD13	2.01	0.43
1:G:3179:LYS:HG2	1:G:3187:ARG:HH22	1.84	0.43
1:G:4091:LYS:HE2	1:G:4091:LYS:HA	2.00	0.43
1:G:4232:GLU:HG3	1:G:5019:TRP:CD1	2.54	0.43
1:J:302:VAL:HB	1:J:306:LYS:HE3	2.00	0.43
1:J:1237:TRP:CH2	1:J:1652:GLU:HG3	2.54	0.43
1:J:1733:GLU:HG2	1:J:2201:LEU:HD23	2.00	0.43
1:J:2591:ARG:HH22	1:J:2625:ARG:NH2	2.17	0.43
1:A:404:ILE:HG23	1:A:483:MET:SD	2.59	0.43
1:A:1033:ARG:HA	1:A:1036:ARG:HG2	2.00	0.43
1:A:1163:THR:HG22	1:A:1168:VAL:HA	2.01	0.43
1:A:1717:SER:HA	1:A:1721:GLU:HB2	2.01	0.43
1:A:2515:GLN:HE22	1:A:2574:HIS:HE1	1.67	0.43
1:A:3282:PRO:HG3	1:A:3345:ILE:CD1	2.49	0.43
1:A:3420:ARG:HG3	1:A:3520:ILE:HD11	2.00	0.43
1:A:4056:GLU:HG2	1:A:4166:LEU:HD12	2.01	0.43
1:A:4172:GLU:HA	1:A:4175:ARG:HH12	1.84	0.43
1:C:207:SER:HB3	1:C:269:TRP:HE1	1.84	0.43
1:C:451:TYR:CZ	1:C:474:ARG:HD3	2.54	0.43
1:C:2474:LEU:HD13	1:C:2494:PHE:HD2	1.84	0.43
1:C:2515:GLN:HE22	1:C:2574:HIS:HE1	1.67	0.43
1:C:2759:ALA:HB2	1:C:2810:LYS:HG3	2.00	0.43
1:C:3039:ILE:HD12	1:C:3039:ILE:HA	1.88	0.43
1:C:3050:VAL:HG21	1:C:3064:VAL:HG11	2.01	0.43
1:G:2604:GLU:O	1:G:2608:MET:HG3	2.19	0.43
1:G:2882:TYR:O	1:G:2886:TRP:HB2	2.18	0.43
1:G:3020:THR:HB	1:G:3023:LYS:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3107:VAL:HG22	1:G:3175:LEU:HG	2.01	0.43
1:G:3379:LEU:HD11	1:G:3391:GLU:HB2	2.01	0.43
1:G:3826:VAL:HA	1:G:3909:ASN:HD21	1.84	0.43
1:G:4105:GLY:O	1:G:4109:GLN:HG2	2.19	0.43
1:G:4202:ARG:O	1:G:4206:GLU:HG2	2.19	0.43
1:G:4778:TRP:O	1:G:4782:VAL:HG13	2.19	0.43
1:J:2162:ILE:O	1:J:2166:LEU:HD13	2.18	0.43
1:J:2380:ILE:HG13	1:J:2469:ILE:HD13	2.01	0.43
1:J:3233:PRO:HG2	1:J:3239:MET:HA	2.01	0.43
1:J:3393:LEU:O	1:J:3397:GLU:HB2	2.18	0.43
1:J:3420:ARG:HG3	1:J:3520:ILE:HD11	2.00	0.43
1:J:3965:LEU:O	1:J:3969:ILE:HG12	2.19	0.43
4:J:5103:POV:H38	4:J:5103:POV:H311	1.68	0.43
1:A:35:LEU:HG	1:A:51:PRO:HA	2.01	0.42
1:A:465:GLN:O	1:A:469:ARG:HG3	2.18	0.42
1:A:580:GLU:HG2	1:A:584:LYS:HE2	2.01	0.42
1:A:875:ALA:HB1	1:A:921:ASN:HB3	2.00	0.42
1:A:2144:ILE:HD11	1:A:2149:VAL:HG12	2.01	0.42
1:A:2534:ALA:HB1	1:A:2588:ARG:NE	2.33	0.42
1:A:2758:PHE:CD2	1:A:2813:LEU:HD11	2.53	0.42
1:A:2867:LEU:H	1:A:2928:LYS:HZ2	1.66	0.42
1:A:3050:VAL:HG21	1:A:3064:VAL:HG11	2.01	0.42
1:A:3179:LYS:HG2	1:A:3187:ARG:HH22	1.84	0.42
1:A:5030:LYS:HA	1:A:5033:GLU:HG3	2.00	0.42
1:C:356:TRP:H	1:C:380:GLN:HA	1.83	0.42
1:C:569:ILE:HG13	1:C:570:GLU:HG2	2.01	0.42
1:C:1177:THR:O	1:C:1180:ARG:NH2	2.52	0.42
1:C:1260:MET:HE2	1:C:1269:CYS:SG	2.59	0.42
1:C:1268:PRO:HD2	1:C:1589:PRO:HB2	2.01	0.42
1:C:2758:PHE:CD2	1:C:2813:LEU:HD11	2.53	0.42
1:C:3934:TYR:CE2	1:C:3935:TRP:HB2	2.54	0.42
1:G:465:GLN:O	1:G:469:ARG:HG3	2.18	0.42
1:G:1123:VAL:HG23	1:G:1132:TRP:HB2	2.01	0.42
1:G:3039:ILE:HD12	1:G:3039:ILE:HA	1.88	0.42
1:G:3190:LEU:O	1:G:3194:LEU:HB3	2.19	0.42
1:G:3420:ARG:HG3	1:G:3520:ILE:HD11	2.00	0.42
1:G:3531:ASP:HA	1:G:3534:MET:HE1	2.00	0.42
1:G:4172:GLU:HA	1:G:4175:ARG:HH12	1.84	0.42
1:J:77:ALA:O	1:J:81:MET:HG3	2.18	0.42
1:J:451:TYR:CZ	1:J:474:ARG:HD3	2.54	0.42
1:J:1163:THR:HG22	1:J:1168:VAL:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1260:MET:HE2	1:J:1269:CYS:SG	2.59	0.42
1:J:3020:THR:HB	1:J:3023:LYS:HG3	2.00	0.42
1:J:3353:LEU:HG	1:J:3358:PHE:CE1	2.54	0.42
1:J:4733:GLY:H	1:J:4736:ARG:HD2	1.84	0.42
1:J:4796:MET:HE3	1:J:4800:LEU:HG	1.99	0.42
2:K:18:LEU:HB2	2:K:82:MET:HB3	2.00	0.42
1:A:291:LEU:HD11	1:A:299:LEU:HD12	2.00	0.42
1:A:569:ILE:HG13	1:A:570:GLU:HG2	2.01	0.42
1:A:785:ALA:HB2	1:A:1613:LEU:HD11	2.00	0.42
1:A:855:PRO:HD2	1:A:998:ARG:CZ	2.48	0.42
1:A:2195:PRO:HB3	1:A:2242:ILE:HG21	2.00	0.42
1:A:2339:VAL:O	1:A:2346:VAL:HG12	2.19	0.42
1:A:2735:PHE:CE1	1:A:2907:PRO:HG3	2.54	0.42
1:A:3965:LEU:O	1:A:3969:ILE:HG12	2.19	0.42
1:A:3970:GLN:OE1	1:A:5004:THR:HA	2.18	0.42
1:C:24:CYS:HB2	1:C:200:TRP:CE3	2.54	0.42
1:C:394:GLN:HB2	1:C:397:GLU:OE1	2.19	0.42
1:C:1641:ILE:HG22	1:C:1644:GLU:H	1.84	0.42
1:C:2735:PHE:CE1	1:C:2907:PRO:HG3	2.54	0.42
1:C:4865:LYS:HE2	1:C:4865:LYS:HB3	1.87	0.42
1:G:24:CYS:HB2	1:G:200:TRP:CE3	2.54	0.42
1:G:404:ILE:HG23	1:G:483:MET:SD	2.59	0.42
1:G:881:LEU:O	1:G:885:THR:HG23	2.18	0.42
1:G:2144:ILE:HD11	1:G:2149:VAL:HG12	2.01	0.42
1:G:3050:VAL:HG21	1:G:3064:VAL:HG11	2.01	0.42
1:G:3132:THR:HA	1:G:3136:LEU:HB3	2.00	0.42
1:G:4248:ALA:HA	1:G:4251:ILE:HG12	2.02	0.42
1:G:5004:THR:HG22	1:G:5007:GLU:HG3	1.99	0.42
1:J:255:HIS:CD2	1:J:480:GLU:HG3	2.55	0.42
1:J:356:TRP:H	1:J:380:GLN:HA	1.83	0.42
1:J:569:ILE:HG13	1:J:570:GLU:HG2	2.01	0.42
1:J:875:ALA:HB1	1:J:921:ASN:HB3	2.00	0.42
1:J:2292:GLU:HB2	1:J:2352:VAL:HG11	2.00	0.42
1:J:2339:VAL:O	1:J:2346:VAL:HG12	2.19	0.42
1:J:2474:LEU:HD13	1:J:2494:PHE:HD2	1.84	0.42
1:J:2735:PHE:CE1	1:J:2907:PRO:HG3	2.54	0.42
1:J:2823:ILE:HA	1:J:2937:VAL:HA	2.01	0.42
1:J:3245:VAL:HG22	1:J:3246:LEU:HD23	2.01	0.42
1:J:4172:GLU:HA	1:J:4175:ARG:NH1	2.35	0.42
1:A:1123:VAL:HG23	1:A:1132:TRP:HB2	2.01	0.42
1:A:1237:TRP:CH2	1:A:1652:GLU:HG3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1763:PRO:HD2	1:A:1863:LEU:HD21	2.01	0.42
1:A:3132:THR:HA	1:A:3136:LEU:HB3	2.01	0.42
1:A:3850:GLN:NE2	1:A:3874:VAL:HG12	2.34	0.42
1:A:4846:VAL:HG21	1:G:4816:ILE:HD11	2.01	0.42
1:C:1717:SER:HA	1:C:1721:GLU:HB2	2.01	0.42
1:C:3245:VAL:HG22	1:C:3246:LEU:HD23	2.01	0.42
1:C:3353:LEU:HG	1:C:3358:PHE:CE1	2.54	0.42
1:C:3965:LEU:O	1:C:3969:ILE:HG12	2.19	0.42
1:C:4232:GLU:HG3	1:C:5019:TRP:CD1	2.54	0.42
1:G:569:ILE:HG13	1:G:570:GLU:HG2	2.01	0.42
1:G:1078:GLU:HG3	1:G:1237:TRP:NE1	2.32	0.42
1:G:3850:GLN:NE2	1:G:3874:VAL:HG12	2.35	0.42
3:I:62:GLY:O	3:I:66:MET:HG3	2.19	0.42
1:J:404:ILE:HG23	1:J:483:MET:SD	2.59	0.42
1:J:749:ASP:OD2	1:J:754:SER:HB3	2.20	0.42
1:J:1078:GLU:HG3	1:J:1237:TRP:NE1	2.32	0.42
1:J:2680:TRP:CE3	1:J:2683:PHE:HB3	2.54	0.42
1:J:3562:LYS:HB3	1:J:3564:GLU:OE1	2.19	0.42
1:J:4232:GLU:HG3	1:J:5019:TRP:CD1	2.54	0.42
1:J:4567:LEU:HD21	1:J:4816:ILE:HG22	2.01	0.42
1:A:394:GLN:HB2	1:A:397:GLU:OE1	2.19	0.42
1:A:2680:TRP:CE3	1:A:2683:PHE:HB3	2.54	0.42
1:A:3107:VAL:HG22	1:A:3175:LEU:HG	2.01	0.42
1:A:3379:LEU:HD11	1:A:3391:GLU:HB2	2.01	0.42
1:A:3826:VAL:HA	1:A:3909:ASN:HD21	1.84	0.42
1:A:3836:MET:HE2	1:A:3836:MET:HB2	1.89	0.42
1:A:4085:ARG:HD2	1:A:4085:ARG:HA	1.88	0.42
1:A:4172:GLU:HA	1:A:4175:ARG:NH1	2.35	0.42
1:C:1003:GLN:HB2	1:C:1005:TRP:HD1	1.83	0.42
1:C:1237:TRP:CH2	1:C:1652:GLU:HG3	2.54	0.42
1:C:1763:PRO:HD2	1:C:1863:LEU:HD21	2.01	0.42
1:C:2339:VAL:O	1:C:2346:VAL:HG12	2.19	0.42
1:C:2680:TRP:CE3	1:C:2683:PHE:HB3	2.54	0.42
3:F:62:GLY:O	3:F:66:MET:HG3	2.19	0.42
1:G:399:GLN:O	1:G:403:MET:HG3	2.19	0.42
1:G:1297:PHE:HA	1:G:1522:LEU:HG	2.01	0.42
1:G:3282:PRO:HG3	1:G:3345:ILE:CD1	2.49	0.42
1:G:3353:LEU:HG	1:G:3358:PHE:CE1	2.54	0.42
1:G:4823:LEU:HD12	1:G:4823:LEU:HA	1.75	0.42
1:J:35:LEU:HG	1:J:51:PRO:HA	2.01	0.42
1:J:394:GLN:HB2	1:J:397:GLU:OE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:890:GLY:O	1:J:891:TRP:C	2.62	0.42
1:J:1109:LEU:HD21	1:J:1115:LEU:HD11	2.02	0.42
1:J:2250:MET:HE2	1:J:2250:MET:HA	2.01	0.42
1:J:2582:MET:HE3	1:J:2582:MET:HB3	1.86	0.42
1:J:3367:LYS:HE2	1:J:3367:LYS:HB2	1.93	0.42
1:J:3850:GLN:NE2	1:J:3874:VAL:HG12	2.34	0.42
1:J:4091:LYS:HE2	1:J:4091:LYS:HA	2.01	0.42
1:J:4172:GLU:HA	1:J:4175:ARG:HH12	1.84	0.42
3:L:62:GLY:O	3:L:66:MET:HG3	2.19	0.42
1:A:451:TYR:CZ	1:A:474:ARG:HD3	2.54	0.42
1:A:883:ALA:O	1:A:887:ILE:HG13	2.20	0.42
1:A:911:HIS:CD2	1:A:918:ARG:HG2	2.54	0.42
1:A:2765:LYS:HD3	1:A:2765:LYS:HA	1.73	0.42
1:A:2799:GLU:O	1:A:2803:GLU:HG2	2.20	0.42
1:A:2827:ARG:HH22	1:A:2830:GLU:HB3	1.83	0.42
1:C:255:HIS:CD2	1:C:480:GLU:HG3	2.55	0.42
1:C:1476:MET:HE3	1:C:1476:MET:HB3	1.85	0.42
1:C:3132:THR:HA	1:C:3136:LEU:HB3	2.01	0.42
1:C:3233:PRO:HG2	1:C:3239:MET:HA	2.01	0.42
1:C:4172:GLU:HA	1:C:4175:ARG:NH1	2.35	0.42
1:C:4668:LEU:O	1:C:4672:LYS:HG2	2.19	0.42
1:G:255:HIS:CD2	1:G:480:GLU:HG3	2.55	0.42
1:G:1653:LEU:HD23	1:G:1660:GLN:HA	2.02	0.42
1:G:2250:MET:HE2	1:G:2250:MET:HA	2.01	0.42
1:G:2292:GLU:HB2	1:G:2352:VAL:HG11	2.00	0.42
1:G:2339:VAL:O	1:G:2346:VAL:HG12	2.19	0.42
1:G:2623:LEU:O	1:G:2627:VAL:HG23	2.20	0.42
1:G:2680:TRP:CE3	1:G:2683:PHE:HB3	2.54	0.42
1:G:2816:MET:SD	1:G:2878:LEU:HD22	2.60	0.42
1:G:3163:VAL:O	1:G:3167:ARG:HG2	2.19	0.42
1:G:4846:VAL:HG21	1:J:4816:ILE:HD11	2.01	0.42
1:J:2346:VAL:HG13	1:J:2349:ASN:HB2	2.01	0.42
1:J:3163:VAL:O	1:J:3167:ARG:HG2	2.19	0.42
1:J:3190:LEU:O	1:J:3194:LEU:HB3	2.19	0.42
1:J:3734:HIS:HB3	1:J:3803:SER:HB2	2.00	0.42
1:J:4626:ASN:HD22	1:J:4626:ASN:N	2.16	0.42
1:A:1653:LEU:HD23	1:A:1660:GLN:HA	2.02	0.42
1:A:2816:MET:SD	1:A:2878:LEU:HD22	2.60	0.42
1:A:3353:LEU:HG	1:A:3358:PHE:CE1	2.54	0.42
1:A:3782:MET:HA	1:A:3782:MET:HE3	2.02	0.42
1:A:4248:ALA:HA	1:A:4251:ILE:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4963:ILE:HD13	1:A:5030:LYS:HD2	2.01	0.42
1:C:465:GLN:O	1:C:469:ARG:HG3	2.18	0.42
1:C:785:ALA:HB2	1:C:1613:LEU:HD11	2.00	0.42
1:C:911:HIS:CD2	1:C:918:ARG:HG2	2.54	0.42
1:C:2250:MET:HA	1:C:2250:MET:HE2	2.01	0.42
1:C:3020:THR:HB	1:C:3023:LYS:HG3	2.00	0.42
1:C:3129:LEU:HD23	1:C:3129:LEU:H	1.85	0.42
2:D:49:ALA:HB2	2:D:63:VAL:HG23	2.01	0.42
1:G:179:TYR:HB2	1:G:197:GLN:HA	2.00	0.42
1:G:214:VAL:HG21	1:G:390:LEU:HD12	2.02	0.42
1:G:291:LEU:HD11	1:G:299:LEU:HD12	2.00	0.42
1:G:1476:MET:HE3	1:G:1476:MET:HB3	1.85	0.42
1:G:2515:GLN:HE22	1:G:2574:HIS:HE1	1.67	0.42
1:G:2976:HIS:CE1	1:G:2990:PRO:HD2	2.55	0.42
1:G:3433:GLU:HA	1:G:3436:ARG:HD2	2.01	0.42
1:G:4172:GLU:HA	1:G:4175:ARG:NH1	2.35	0.42
1:G:4733:GLY:H	1:G:4736:ARG:HD2	1.84	0.42
2:H:49:ALA:HB2	2:H:63:VAL:HG23	2.01	0.42
1:J:399:GLN:O	1:J:403:MET:HG3	2.19	0.42
1:J:668:VAL:HA	1:J:789:VAL:HG12	2.02	0.42
1:J:1641:ILE:HG22	1:J:1644:GLU:H	1.84	0.42
1:J:2700:MET:HE3	1:J:2701:PRO:HD3	2.01	0.42
1:A:454:PRO:HA	1:A:455:PRO:HD3	1.97	0.42
1:A:1207:ASP:HB2	1:A:1210:SER:HB2	2.02	0.42
1:A:1297:PHE:HA	1:A:1522:LEU:HG	2.01	0.42
1:A:2474:LEU:HD13	1:A:2494:PHE:HD2	1.84	0.42
1:A:2623:LEU:O	1:A:2627:VAL:HG23	2.20	0.42
1:A:2823:ILE:HA	1:A:2937:VAL:HA	2.01	0.42
1:A:4668:LEU:O	1:A:4672:LYS:HG2	2.19	0.42
1:A:4816:ILE:HD11	1:C:4846:VAL:HG21	2.01	0.42
2:B:49:ALA:HB2	2:B:63:VAL:HG23	2.01	0.42
1:C:404:ILE:HG23	1:C:483:MET:SD	2.59	0.42
1:C:2816:MET:SD	1:C:2878:LEU:HD22	2.60	0.42
1:C:2976:HIS:CE1	1:C:2990:PRO:HD2	2.55	0.42
1:C:3179:LYS:HG2	1:C:3187:ARG:HH22	1.84	0.42
1:C:3850:GLN:NE2	1:C:3874:VAL:HG12	2.35	0.42
1:G:35:LEU:HG	1:G:51:PRO:HA	2.01	0.42
1:G:207:SER:HB3	1:G:269:TRP:HE1	1.84	0.42
1:G:883:ALA:HB1	1:G:967:PRO:HG2	2.01	0.42
1:G:1558:HIS:HD2	1:G:1560:ASN:H	1.67	0.42
1:G:2236:LEU:HD23	1:G:2236:LEU:HA	1.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:266:ARG:HG3	1:J:268:SER:HB3	2.01	0.42
1:J:2350:ALA:O	1:J:2354:VAL:HG12	2.20	0.42
1:J:2976:HIS:CE1	1:J:2990:PRO:HD2	2.55	0.42
1:J:3826:VAL:HA	1:J:3909:ASN:HD21	1.84	0.42
1:J:4668:LEU:O	1:J:4672:LYS:HG2	2.19	0.42
1:J:5030:LYS:HA	1:J:5033:GLU:HG3	2.00	0.42
1:A:73:LEU:HA	1:A:73:LEU:HD23	1.84	0.42
1:A:207:SER:HB3	1:A:269:TRP:HE1	1.84	0.42
1:A:1260:MET:HE2	1:A:1269:CYS:SG	2.59	0.42
1:A:1268:PRO:HD2	1:A:1589:PRO:HB2	2.01	0.42
1:A:1641:ILE:HG22	1:A:1644:GLU:H	1.84	0.42
1:A:2591:ARG:HH22	1:A:2625:ARG:NH2	2.17	0.42
1:A:5013:MET:HE2	1:A:5013:MET:HB3	1.74	0.42
4:A:5115:POV:H25A	4:A:5115:POV:H22	1.94	0.42
1:C:580:GLU:HG2	1:C:584:LYS:HE2	2.01	0.42
1:C:1207:ASP:HB2	1:C:1210:SER:HB2	2.02	0.42
1:C:2380:ILE:HG13	1:C:2469:ILE:HD13	2.01	0.42
1:C:3420:ARG:HG3	1:C:3520:ILE:HD11	2.00	0.42
1:C:4055:VAL:O	1:C:4059:LEU:HG	2.20	0.42
1:C:4056:GLU:HG2	1:C:4166:LEU:HD12	2.01	0.42
1:C:4567:LEU:HD21	1:C:4816:ILE:HG22	2.01	0.42
3:E:56:ILE:HG22	3:E:58:GLY:N	2.35	0.42
3:F:56:ILE:HG22	3:F:58:GLY:N	2.35	0.42
3:F:58:GLY:HA3	3:F:80:VAL:HG11	2.02	0.42
1:G:451:TYR:CZ	1:G:474:ARG:HD3	2.54	0.42
1:G:1109:LEU:HD21	1:G:1115:LEU:HD11	2.02	0.42
1:G:2238:TYR:O	1:G:2242:ILE:HG12	2.20	0.42
1:G:2346:VAL:HG13	1:G:2349:ASN:HB2	2.01	0.42
1:G:2700:MET:HE3	1:G:2701:PRO:HD3	2.01	0.42
1:G:3868:ARG:NH1	1:G:3869:GLN:HB3	2.35	0.42
1:G:4668:LEU:O	1:G:4672:LYS:HG2	2.19	0.42
1:J:882:TRP:O	1:J:886:ARG:HG2	2.20	0.42
1:J:1297:PHE:HA	1:J:1522:LEU:HG	2.01	0.42
1:J:3330:ASP:HA	1:J:3403:ARG:HH22	1.85	0.42
1:A:214:VAL:HG21	1:A:390:LEU:HD12	2.02	0.42
1:A:2185:ILE:HD12	1:A:2203:MET:HE1	2.02	0.42
1:A:3330:ASP:HA	1:A:3403:ARG:HH22	1.85	0.42
1:A:4044:MET:HE3	1:A:4044:MET:HB3	1.82	0.42
1:C:882:TRP:O	1:C:885:THR:OG1	2.37	0.42
1:C:2208:MET:HE1	1:C:2253:HIS:ND1	2.35	0.42
1:C:3564:GLU:HA	1:C:3570:ARG:NH1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1641:ILE:HG22	1:G:1644:GLU:H	1.84	0.42
1:G:2185:ILE:HD12	1:G:2203:MET:HE1	2.02	0.42
1:G:2208:MET:HE1	1:G:2253:HIS:ND1	2.35	0.42
1:G:2522:LEU:HA	1:G:2526:PHE:HB2	2.02	0.42
1:G:2799:GLU:O	1:G:2803:GLU:HG2	2.20	0.42
1:G:3782:MET:HA	1:G:3782:MET:HE3	2.02	0.42
1:G:3970:GLN:OE1	1:G:5004:THR:HA	2.18	0.42
1:J:291:LEU:HD11	1:J:299:LEU:HD12	2.00	0.42
1:J:911:HIS:CD2	1:J:918:ARG:HG2	2.54	0.42
1:J:1862:ILE:O	1:J:1866:ILE:HG12	2.20	0.42
1:J:2515:GLN:HE22	1:J:2574:HIS:HE1	1.67	0.42
1:J:3050:VAL:HG21	1:J:3064:VAL:HG11	2.01	0.42
1:J:3966:THR:O	1:J:3970:GLN:HG2	2.20	0.42
3:L:7:ILE:HB	3:L:71:ARG:HD2	2.00	0.42
1:A:890:GLY:O	1:A:891:TRP:C	2.62	0.42
1:A:2177:LEU:HD13	1:A:2177:LEU:HA	1.96	0.42
1:A:2380:ILE:HG13	1:A:2469:ILE:HD13	2.01	0.42
1:A:2515:GLN:HE22	1:A:2574:HIS:CE1	2.38	0.42
1:A:2976:HIS:CE1	1:A:2990:PRO:HD2	2.55	0.42
1:A:3020:THR:HB	1:A:3023:LYS:HG3	2.00	0.42
1:A:3868:ARG:NH1	1:A:3869:GLN:HB3	2.35	0.42
1:C:1692:ALA:HB2	3:E:41:ASP:HB2	2.02	0.42
1:C:3506:GLN:H	1:C:3506:GLN:HG3	1.67	0.42
1:C:3734:HIS:HB3	1:C:3803:SER:HB2	2.00	0.42
1:C:4813:LEU:HA	1:C:4813:LEU:HD23	1.88	0.42
1:G:1758:ARG:HD3	1:G:1758:ARG:HA	1.85	0.42
1:G:2474:LEU:HD13	1:G:2494:PHE:HD2	1.84	0.42
4:G:5104:POV:H38A	4:G:5104:POV:H31B	1.78	0.42
1:J:567:VAL:HG12	1:J:574:VAL:HG21	2.02	0.42
1:J:2623:LEU:O	1:J:2627:VAL:HG23	2.20	0.42
1:J:3282:PRO:HG3	1:J:3345:ILE:CD1	2.49	0.42
1:J:3782:MET:HA	1:J:3782:MET:HE3	2.02	0.42
1:J:4583:SER:HB3	1:J:4631:PHE:HE1	1.85	0.42
1:J:4834:GLY:HA3	4:J:5110:POV:H1	2.02	0.42
1:A:266:ARG:HG3	1:A:268:SER:HB3	2.01	0.41
1:A:4928:LEU:HD23	1:A:4931:ILE:HD12	2.02	0.41
1:C:805:PRO:HB2	1:C:808:TYR:CD1	2.55	0.41
1:C:1497:GLY:HA2	1:C:1500:PHE:HB2	2.01	0.41
1:C:1862:ILE:O	1:C:1866:ILE:HG12	2.20	0.41
1:C:2144:ILE:HD11	1:C:2149:VAL:HG12	2.01	0.41
1:C:2522:LEU:HA	1:C:2526:PHE:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4963:ILE:HD13	1:C:5030:LYS:HD2	2.01	0.41
1:G:356:TRP:H	1:G:380:GLN:HA	1.83	0.41
1:G:749:ASP:OD2	1:G:754:SER:HB3	2.20	0.41
1:G:2350:ALA:O	1:G:2354:VAL:HG12	2.20	0.41
1:G:3330:ASP:HA	1:G:3403:ARG:HH22	1.85	0.41
1:G:4068:LEU:HD12	1:G:4068:LEU:HA	1.81	0.41
1:J:981:GLN:O	1:J:985:VAL:HG23	2.20	0.41
1:J:1123:VAL:HG23	1:J:1132:TRP:HB2	2.01	0.41
1:J:1717:SER:HA	1:J:1721:GLU:HB2	2.01	0.41
1:J:2469:ILE:HA	1:J:2472:LEU:HB2	2.02	0.41
1:J:2604:GLU:O	1:J:2608:MET:HG3	2.19	0.41
1:J:2816:MET:SD	1:J:2878:LEU:HD22	2.60	0.41
1:J:2879:ALA:HA	1:J:2882:TYR:CD2	2.55	0.41
1:J:3107:VAL:HG22	1:J:3175:LEU:HG	2.01	0.41
1:J:3129:LEU:HD23	1:J:3129:LEU:H	1.85	0.41
1:J:4085:ARG:HD2	1:J:4085:ARG:HA	1.88	0.41
4:J:5103:POV:H13B	4:J:5103:POV:H11A	1.89	0.41
2:K:49:ALA:HB2	2:K:63:VAL:HG23	2.01	0.41
3:L:56:ILE:HG22	3:L:58:GLY:N	2.35	0.41
1:A:255:HIS:CD2	1:A:480:GLU:HG3	2.55	0.41
1:A:567:VAL:HG12	1:A:574:VAL:HG21	2.02	0.41
1:A:882:TRP:CH2	2:B:104:TYR:HA	2.55	0.41
1:A:2244:ARG:HH21	1:A:2283:ASN:HA	1.85	0.41
1:A:2350:ALA:O	1:A:2354:VAL:HG12	2.20	0.41
1:A:4646:LEU:HD13	1:A:4646:LEU:HA	1.91	0.41
1:C:1109:LEU:HD21	1:C:1115:LEU:HD11	2.02	0.41
1:C:2515:GLN:HE22	1:C:2574:HIS:CE1	2.38	0.41
1:C:3107:VAL:HG22	1:C:3175:LEU:HG	2.01	0.41
1:C:3539:ARG:HD3	1:C:3552:PHE:CD2	2.56	0.41
1:C:4583:SER:HB3	1:C:4631:PHE:HE1	1.85	0.41
1:C:4733:GLY:H	1:C:4736:ARG:HD2	1.84	0.41
2:D:86:LYS:HE2	2:D:86:LYS:HB2	1.84	0.41
1:G:1177:THR:O	1:G:1180:ARG:NH2	2.53	0.41
1:G:1260:MET:HE2	1:G:1269:CYS:SG	2.59	0.41
1:G:1717:SER:HA	1:G:1721:GLU:HB2	2.01	0.41
1:G:2823:ILE:HA	1:G:2937:VAL:HA	2.01	0.41
1:G:2954:ARG:HG2	1:G:2956:ALA:H	1.85	0.41
1:G:3731:LYS:HA	1:G:3734:HIS:ND1	2.36	0.41
1:G:4573:ILE:O	1:G:4577:LEU:HG	2.20	0.41
3:I:56:ILE:HG22	3:I:58:GLY:N	2.35	0.41
1:J:23:GLN:HG3	1:J:201:ASN:OD1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:514:SER:O	1:J:518:ILE:HG13	2.21	0.41
1:J:1268:PRO:HD2	1:J:1589:PRO:HB2	2.01	0.41
1:J:1763:PRO:HD2	1:J:1863:LEU:HD21	2.01	0.41
1:J:2025:GLU:HA	1:J:2028:ARG:HG2	2.02	0.41
1:J:4573:ILE:O	1:J:4577:LEU:HG	2.20	0.41
1:A:23:GLN:HG3	1:A:201:ASN:OD1	2.21	0.41
1:A:1476:MET:HE3	1:A:1476:MET:HB3	1.85	0.41
1:A:1497:GLY:HA2	1:A:1500:PHE:HB2	2.01	0.41
1:A:3276:MET:HA	1:A:3276:MET:HE3	2.02	0.41
1:A:3439:GLY:O	1:A:3443:ILE:HG12	2.20	0.41
1:A:4587:PRO:HG3	1:A:4631:PHE:HB3	2.02	0.41
1:C:182:LEU:HB2	1:C:198:THR:HG21	2.00	0.41
1:C:567:VAL:HG12	1:C:574:VAL:HG21	2.02	0.41
1:C:614:VAL:HG13	1:C:617:ASN:HB2	2.03	0.41
1:C:1863:LEU:HD12	1:C:1863:LEU:HA	1.93	0.41
1:C:2712:PRO:HD3	1:C:3013:HIS:CE1	2.56	0.41
1:C:2799:GLU:O	1:C:2803:GLU:HG2	2.20	0.41
1:C:3172:ILE:HD12	1:C:3194:LEU:HB2	2.02	0.41
1:C:3276:MET:HA	1:C:3276:MET:HE3	2.02	0.41
1:C:3782:MET:HA	1:C:3782:MET:HE3	2.02	0.41
1:C:4172:GLU:HA	1:C:4175:ARG:HH12	1.84	0.41
1:C:4928:LEU:HD23	1:C:4931:ILE:HD12	2.02	0.41
3:E:62:GLY:O	3:E:66:MET:HG3	2.19	0.41
1:G:567:VAL:HG12	1:G:574:VAL:HG21	2.02	0.41
1:G:580:GLU:HG2	1:G:584:LYS:HE2	2.01	0.41
1:G:614:VAL:HG13	1:G:617:ASN:HB2	2.03	0.41
1:G:1763:PRO:HD2	1:G:1863:LEU:HD21	2.01	0.41
1:G:2712:PRO:HD3	1:G:3013:HIS:CE1	2.56	0.41
1:G:2879:ALA:HA	1:G:2882:TYR:CD2	2.55	0.41
1:G:3037:GLU:CD	1:G:3085:PRO:HG2	2.45	0.41
3:I:25:HIS:HB3	3:I:40:ARG:CZ	2.50	0.41
1:J:180:LEU:HD23	1:J:200:TRP:CE2	2.55	0.41
1:J:614:VAL:HG13	1:J:617:ASN:HB2	2.03	0.41
1:J:620:LEU:HA	1:J:623:GLU:HG2	2.02	0.41
1:J:620:LEU:HA	1:J:620:LEU:HD23	1.87	0.41
1:J:2522:LEU:HA	1:J:2526:PHE:HB2	2.02	0.41
1:J:2799:GLU:O	1:J:2803:GLU:HG2	2.20	0.41
1:J:2867:LEU:H	1:J:2928:LYS:HZ2	1.68	0.41
1:J:3439:GLY:O	1:J:3443:ILE:HG12	2.20	0.41
1:A:582:HIS:O	1:A:586:ILE:HG13	2.21	0.41
1:A:1106:ARG:HH22	1:A:1183:GLU:HG3	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3190:LEU:O	1:A:3194:LEU:HB3	2.19	0.41
1:A:3539:ARG:HD3	1:A:3552:PHE:CD2	2.56	0.41
1:C:266:ARG:HG3	1:C:268:SER:HB3	2.01	0.41
1:C:1639:LEU:HD12	1:C:1639:LEU:HA	1.94	0.41
1:C:1648:MET:HG3	1:C:1652:GLU:HB3	2.02	0.41
1:C:2623:LEU:O	1:C:2627:VAL:HG23	2.20	0.41
1:C:3731:LYS:HA	1:C:3734:HIS:ND1	2.36	0.41
1:C:4248:ALA:HA	1:C:4251:ILE:HG12	2.02	0.41
3:E:78:PRO:HD3	3:E:96:THR:OG1	2.21	0.41
1:G:1268:PRO:HD2	1:G:1589:PRO:HB2	2.01	0.41
1:G:1648:MET:HG3	1:G:1652:GLU:HB3	2.02	0.41
1:G:2177:LEU:HD13	1:G:2177:LEU:HA	1.96	0.41
1:G:2641:LEU:HD11	1:G:2698:MET:SD	2.61	0.41
1:G:3194:LEU:HA	1:G:3197:LEU:HG	2.03	0.41
1:G:3564:GLU:HA	1:G:3570:ARG:NH1	2.35	0.41
1:J:207:SER:HB3	1:J:269:TRP:HE1	1.84	0.41
1:J:796:ARG:HB3	1:J:1622:GLU:OE1	2.20	0.41
1:J:805:PRO:HB2	1:J:808:TYR:CD1	2.55	0.41
1:J:2144:ILE:HD11	1:J:2149:VAL:HG12	2.01	0.41
1:J:2203:MET:HG3	1:J:2235:PHE:HZ	1.85	0.41
1:J:2954:ARG:HG2	1:J:2956:ALA:H	1.85	0.41
1:J:3206:LEU:HD23	1:J:3206:LEU:HA	1.75	0.41
1:J:3564:GLU:HA	1:J:3570:ARG:NH1	2.35	0.41
1:A:494:LEU:HD22	1:A:515:TRP:CD1	2.56	0.41
1:A:749:ASP:OD2	1:A:754:SER:HB3	2.20	0.41
1:A:805:PRO:HB2	1:A:808:TYR:CD1	2.55	0.41
1:A:2250:MET:HE2	1:A:2250:MET:HA	2.01	0.41
1:A:2604:GLU:O	1:A:2608:MET:HG3	2.19	0.41
1:A:2856:ASN:HA	1:A:2857:PRO:HD3	1.96	0.41
1:A:3731:LYS:HA	1:A:3734:HIS:ND1	2.36	0.41
1:A:4014:LYS:HB2	1:A:4014:LYS:HE3	1.85	0.41
1:A:4573:ILE:O	1:A:4577:LEU:HG	2.20	0.41
1:A:4583:SER:HB3	1:A:4631:PHE:HE1	1.86	0.41
1:C:214:VAL:HG21	1:C:390:LEU:HD12	2.02	0.41
1:C:1297:PHE:HA	1:C:1522:LEU:HG	2.01	0.41
1:C:1575:LEU:HD23	1:C:1575:LEU:HA	1.77	0.41
1:C:1653:LEU:HD23	1:C:1660:GLN:HA	2.02	0.41
1:C:2244:ARG:HH21	1:C:2283:ASN:HA	1.85	0.41
1:C:3194:LEU:HA	1:C:3197:LEU:HG	2.03	0.41
3:F:25:HIS:HB3	3:F:40:ARG:CZ	2.50	0.41
1:G:4583:SER:HB3	1:G:4631:PHE:HE1	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1271:ARG:HG3	1:J:1563:GLN:HB2	2.03	0.41
1:J:2382:GLU:O	1:J:2386:ILE:HG13	2.21	0.41
1:J:2641:LEU:HD11	1:J:2698:MET:SD	2.61	0.41
1:J:3036:LYS:O	1:J:3039:ILE:HG22	2.20	0.41
1:J:3194:LEU:HA	1:J:3197:LEU:HG	2.03	0.41
1:J:3539:ARG:HD3	1:J:3552:PHE:CD2	2.56	0.41
1:J:4055:VAL:O	1:J:4059:LEU:HG	2.20	0.41
1:J:4107:GLU:O	1:J:4111:LEU:HG	2.21	0.41
1:J:4202:ARG:O	1:J:4206:GLU:HG2	2.19	0.41
1:A:2469:ILE:HA	1:A:2472:LEU:HB2	2.02	0.41
1:A:3302:PRO:HA	1:A:3303:PRO:HD3	1.97	0.41
1:A:3564:GLU:HA	1:A:3570:ARG:NH1	2.35	0.41
1:A:3966:THR:O	1:A:3970:GLN:HG2	2.20	0.41
1:A:4021:LYS:HG3	1:A:4142:ASN:ND2	2.36	0.41
1:A:4733:GLY:H	1:A:4736:ARG:HD2	1.84	0.41
1:A:4928:LEU:HD23	1:A:4928:LEU:HA	1.88	0.41
1:C:620:LEU:HA	1:C:623:GLU:HG2	2.02	0.41
1:C:736:HIS:HB2	3:E:9:PRO:CG	2.50	0.41
1:C:996:TRP:O	1:C:1000:ARG:HG2	2.21	0.41
1:C:1271:ARG:HG3	1:C:1563:GLN:HB2	2.03	0.41
1:C:2641:LEU:HD11	1:C:2698:MET:SD	2.61	0.41
1:C:2924:GLN:O	1:C:2928:LYS:HG2	2.21	0.41
1:C:3362:ILE:HD12	1:C:3362:ILE:HA	1.95	0.41
1:C:3439:GLY:O	1:C:3443:ILE:HG12	2.20	0.41
1:C:4107:GLU:O	1:C:4111:LEU:HG	2.21	0.41
1:G:23:GLN:HG3	1:G:201:ASN:OD1	2.21	0.41
1:G:514:SER:O	1:G:518:ILE:HG13	2.21	0.41
1:G:582:HIS:O	1:G:586:ILE:HG13	2.21	0.41
1:G:2310:CYS:SG	1:G:2312:MET:HG2	2.61	0.41
1:G:2856:ASN:HA	1:G:2857:PRO:HD3	1.96	0.41
1:G:3276:MET:HE3	1:G:3276:MET:HA	2.02	0.41
1:G:3316:LEU:HD21	1:G:3345:ILE:O	2.21	0.41
1:G:3966:THR:O	1:G:3970:GLN:HG2	2.20	0.41
1:G:4055:VAL:O	1:G:4059:LEU:HG	2.20	0.41
1:G:4689:THR:HA	1:G:4732:PHE:CZ	2.55	0.41
1:G:4751:THR:O	1:G:4755:GLU:HG2	2.20	0.41
3:I:35:LYS:H	3:I:35:LYS:HD2	1.86	0.41
1:J:582:HIS:O	1:J:586:ILE:HG13	2.21	0.41
1:J:1207:ASP:HB2	1:J:1210:SER:HB2	2.02	0.41
1:J:2208:MET:HE1	1:J:2253:HIS:ND1	2.35	0.41
1:J:2336:ARG:HB3	1:J:2435:ARG:NH1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:2534:ALA:HB1	1:J:2588:ARG:NE	2.33	0.41
1:J:3172:ILE:HD12	1:J:3194:LEU:HB2	2.02	0.41
1:J:3308:THR:H	1:J:3311:HIS:CE1	2.39	0.41
1:J:3868:ARG:NH1	1:J:3869:GLN:HB3	2.35	0.41
3:L:25:HIS:HB3	3:L:40:ARG:CZ	2.50	0.41
1:A:2025:GLU:HA	1:A:2028:ARG:HG2	2.02	0.41
1:A:2641:LEU:HD11	1:A:2698:MET:SD	2.61	0.41
1:A:2712:PRO:HD3	1:A:3013:HIS:CE1	2.56	0.41
1:A:2876:GLU:HG3	1:A:2908:TYR:CE2	2.51	0.41
1:A:3254:GLY:O	1:A:3258:GLU:HG2	2.21	0.41
1:A:4751:THR:O	1:A:4755:GLU:HG2	2.20	0.41
1:C:749:ASP:OD2	1:C:754:SER:HB3	2.20	0.41
1:C:886:ARG:HD3	1:C:891:TRP:CD1	2.56	0.41
1:C:3190:LEU:O	1:C:3194:LEU:HB3	2.19	0.41
1:C:3405:LEU:HD12	1:C:3509:LEU:HD12	2.03	0.41
1:C:3826:VAL:HA	1:C:3909:ASN:HD21	1.84	0.41
1:C:3868:ARG:NH1	1:C:3869:GLN:HB3	2.35	0.41
1:C:4573:ILE:O	1:C:4577:LEU:HG	2.20	0.41
1:G:805:PRO:HB2	1:G:808:TYR:CD1	2.55	0.41
1:G:3254:GLY:O	1:G:3258:GLU:HG2	2.21	0.41
1:G:3308:THR:H	1:G:3311:HIS:CE1	2.39	0.41
1:G:4234:PHE:CE1	1:G:4985:LEU:HG	2.56	0.41
1:G:4587:PRO:HG3	1:G:4631:PHE:HB3	2.02	0.41
1:J:580:GLU:HG2	1:J:584:LYS:HE2	2.01	0.41
1:J:2677:LYS:HE3	1:J:2909:ASP:HB2	2.03	0.41
1:J:3276:MET:HA	1:J:3276:MET:HE3	2.02	0.41
1:J:4587:PRO:HG3	1:J:4631:PHE:HB3	2.02	0.41
1:J:4963:ILE:HD13	1:J:5030:LYS:HD2	2.01	0.41
3:L:35:LYS:HD2	3:L:35:LYS:H	1.86	0.41
1:A:2916:LYS:NZ	1:A:2920:ARG:HE	2.19	0.41
1:A:3194:LEU:HA	1:A:3197:LEU:HG	2.03	0.41
1:A:3308:THR:H	1:A:3311:HIS:CE1	2.39	0.41
1:A:4055:VAL:O	1:A:4059:LEU:HG	2.20	0.41
1:C:514:SER:O	1:C:518:ILE:HG13	2.21	0.41
1:C:582:HIS:O	1:C:586:ILE:HG13	2.21	0.41
1:C:977:LEU:HD12	1:C:1047:LEU:HD22	2.03	0.41
1:C:2012:PHE:HB2	1:C:2018:GLU:HA	2.03	0.41
1:C:2182:ILE:HD13	1:C:2182:ILE:HA	1.91	0.41
1:C:2591:ARG:HH22	1:C:2625:ARG:NH2	2.17	0.41
3:F:56:ILE:HG23	3:F:81:ALA:CB	2.50	0.41
1:G:1207:ASP:HB2	1:G:1210:SER:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2382:GLU:O	1:G:2386:ILE:HG13	2.21	0.41
1:G:2563:THR:HG22	1:G:2606:CYS:HA	2.03	0.41
1:G:4021:LYS:HG3	1:G:4142:ASN:ND2	2.36	0.41
1:G:4834:GLY:HA3	4:G:5107:POV:H1	2.02	0.41
4:G:5113:POV:H25	4:G:5113:POV:H35A	2.03	0.41
1:J:2515:GLN:HE22	1:J:2574:HIS:CE1	2.38	0.41
1:J:2916:LYS:NZ	1:J:2920:ARG:HE	2.19	0.41
1:J:3277:LEU:H	1:J:3277:LEU:HG	1.68	0.41
1:J:3731:LYS:HA	1:J:3734:HIS:ND1	2.36	0.41
1:J:4655:PHE:O	1:J:4659:ILE:HG12	2.21	0.41
1:J:4813:LEU:HD23	1:J:4813:LEU:HA	1.88	0.41
1:A:614:VAL:HG13	1:A:617:ASN:HB2	2.03	0.41
1:A:977:LEU:HD12	1:A:1047:LEU:HD22	2.03	0.41
1:A:1433:TYR:CD1	1:A:1578:ALA:HB2	2.56	0.41
1:A:2208:MET:HE1	1:A:2253:HIS:ND1	2.35	0.41
1:A:2233:CYS:C	1:A:2235:PHE:N	2.78	0.41
1:A:2310:CYS:SG	1:A:2312:MET:HG2	2.61	0.41
1:A:2336:ARG:HB3	1:A:2435:ARG:NH1	2.36	0.41
1:A:2522:LEU:HA	1:A:2526:PHE:HB2	2.02	0.41
1:A:3129:LEU:HD23	1:A:3129:LEU:H	1.85	0.41
1:A:3316:LEU:HD21	1:A:3345:ILE:O	2.21	0.41
1:A:4689:THR:HA	1:A:4732:PHE:CZ	2.56	0.41
1:A:4834:GLY:HA3	4:A:5109:POV:H1	2.02	0.41
1:C:135:VAL:HG22	1:C:192:ASP:HA	2.03	0.41
1:C:388:LEU:HD13	1:C:388:LEU:HA	1.88	0.41
1:C:1433:TYR:CD1	1:C:1578:ALA:HB2	2.56	0.41
1:C:2185:ILE:HD12	1:C:2203:MET:HE1	2.02	0.41
1:C:2233:CYS:C	1:C:2235:PHE:N	2.77	0.41
1:C:2310:CYS:SG	1:C:2312:MET:HG2	2.61	0.41
1:C:2350:ALA:O	1:C:2354:VAL:HG12	2.20	0.41
1:C:2469:ILE:HA	1:C:2472:LEU:HB2	2.02	0.41
1:C:3282:PRO:HG3	1:C:3345:ILE:CD1	2.49	0.41
1:C:3308:THR:H	1:C:3311:HIS:CE1	2.39	0.41
1:C:3966:THR:O	1:C:3970:GLN:HG2	2.20	0.41
1:C:4044:MET:HE3	1:C:4044:MET:HB3	1.82	0.41
3:E:15:PHE:HB3	3:E:64:ALA:O	2.21	0.41
3:E:25:HIS:HB3	3:E:40:ARG:CZ	2.50	0.41
1:G:959:TYR:CE2	1:G:961:MET:HA	2.56	0.41
1:G:1271:ARG:HG3	1:G:1563:GLN:HB2	2.03	0.41
1:G:2025:GLU:HA	1:G:2028:ARG:HG2	2.02	0.41
1:G:2916:LYS:NZ	1:G:2920:ARG:HE	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2924:GLN:O	1:G:2928:LYS:HG2	2.21	0.41
1:G:3129:LEU:HD23	1:G:3129:LEU:H	1.85	0.41
1:G:3315:LEU:HD12	1:G:3319:ILE:HD13	2.03	0.41
1:G:3439:GLY:O	1:G:3443:ILE:HG12	2.20	0.41
1:G:4107:GLU:O	1:G:4111:LEU:HG	2.21	0.41
1:G:4655:PHE:O	1:G:4659:ILE:HG12	2.21	0.41
1:G:4928:LEU:HD23	1:G:4931:ILE:HD12	2.02	0.41
1:J:492:ASP:O	1:J:496:VAL:HG23	2.21	0.41
1:J:894:GLY:HA3	1:J:903:LEU:HD22	2.03	0.41
1:J:1177:THR:O	1:J:1180:ARG:NH2	2.53	0.41
1:J:1442:GLY:HA3	1:J:1558:HIS:CG	2.56	0.41
1:J:1648:MET:HG3	1:J:1652:GLU:HB3	2.02	0.41
1:J:1712:TYR:O	1:J:1716:ILE:HG13	2.21	0.41
1:J:1867:GLU:O	1:J:1871:PHE:HB2	2.21	0.41
1:J:2186:MET:HE2	1:J:2238:TYR:HD2	1.85	0.41
1:J:2273:LEU:HD23	1:J:2330:ARG:HB3	2.03	0.41
1:J:2310:CYS:SG	1:J:2312:MET:HG2	2.61	0.41
1:J:2765:LYS:HD3	1:J:2765:LYS:HA	1.73	0.41
1:J:3037:GLU:CD	1:J:3085:PRO:HG2	2.45	0.41
1:J:3315:LEU:HD12	1:J:3319:ILE:HD13	2.03	0.41
1:J:3582:ARG:HD3	1:J:3582:ARG:HA	1.89	0.41
1:J:4837:LEU:HD23	1:J:4837:LEU:HA	1.96	0.41
1:A:620:LEU:HA	1:A:623:GLU:HG2	2.01	0.41
1:A:728:ARG:HE	1:A:1487:LEU:HD11	1.87	0.41
1:A:2382:GLU:O	1:A:2386:ILE:HG13	2.21	0.41
1:A:2779:GLU:HG3	1:A:2792:ARG:HG2	2.02	0.41
1:A:3036:LYS:O	1:A:3039:ILE:HG22	2.20	0.41
1:A:3437:MET:O	1:A:3441:ILE:HG13	2.21	0.41
1:A:4676:GLU:HG2	1:A:4680:LYS:HE2	2.03	0.41
1:C:1470:ARG:HD3	1:C:1470:ARG:HA	1.72	0.41
1:C:1786:LEU:HD22	3:E:85:THR:O	2.21	0.41
1:C:2954:ARG:HG2	1:C:2956:ALA:H	1.85	0.41
1:C:3037:GLU:CD	1:C:3085:PRO:HG2	2.45	0.41
1:C:3541:ALA:HA	1:C:3604:TYR:OH	2.21	0.41
1:C:4021:LYS:HG3	1:C:4142:ASN:ND2	2.36	0.41
1:C:4676:GLU:HG2	1:C:4680:LYS:HE2	2.03	0.41
1:G:1427:ILE:HD12	1:G:1427:ILE:HA	1.95	0.41
1:G:1712:TYR:O	1:G:1716:ILE:HG13	2.21	0.41
1:G:1867:GLU:O	1:G:1871:PHE:HB2	2.21	0.41
1:G:2336:ARG:HB3	1:G:2435:ARG:NH1	2.36	0.41
1:G:2876:GLU:HG3	1:G:2908:TYR:CE2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3036:LYS:O	1:G:3039:ILE:HG22	2.20	0.41
1:G:3172:ILE:HD12	1:G:3194:LEU:HB2	2.02	0.41
1:G:4676:GLU:HG2	1:G:4680:LYS:HE2	2.03	0.41
1:J:977:LEU:HD12	1:J:1047:LEU:HD22	2.03	0.41
1:J:1653:LEU:HD23	1:J:1660:GLN:HA	2.02	0.41
1:J:2185:ILE:HD12	1:J:2203:MET:HE1	2.02	0.41
1:J:2236:LEU:HD23	1:J:2236:LEU:HA	1.89	0.41
1:J:2806:ARG:HG2	1:J:2810:LYS:HE2	2.03	0.41
1:J:2924:GLN:O	1:J:2928:LYS:HG2	2.21	0.41
1:J:4751:THR:O	1:J:4755:GLU:HG2	2.20	0.41
4:J:5102:POV:H25	4:J:5102:POV:H35A	2.03	0.41
3:L:15:PHE:HB3	3:L:64:ALA:O	2.21	0.41
1:A:479:GLN:HE21	1:A:539:LEU:HD22	1.86	0.40
1:A:514:SER:O	1:A:518:ILE:HG13	2.21	0.40
1:A:920:TYR:CZ	2:B:107:TRP:HD1	2.39	0.40
1:A:1109:LEU:HD21	1:A:1115:LEU:HD11	2.02	0.40
1:A:1271:ARG:HG3	1:A:1563:GLN:HB2	2.03	0.40
1:A:2879:ALA:HA	1:A:2882:TYR:CD2	2.55	0.40
1:A:4234:PHE:CE1	1:A:4985:LEU:HG	2.56	0.40
1:A:4553:ASN:O	1:A:4557:ARG:HG3	2.21	0.40
1:C:880:GLU:O	1:C:884:LEU:HG	2.20	0.40
1:C:1078:GLU:HG3	1:C:1237:TRP:NE1	2.32	0.40
1:C:1211:LEU:HD23	1:C:1211:LEU:HA	1.89	0.40
1:C:1712:TYR:O	1:C:1716:ILE:HG13	2.21	0.40
1:C:2336:ARG:HB3	1:C:2435:ARG:NH1	2.36	0.40
1:C:4068:LEU:HD12	1:C:4068:LEU:HA	1.81	0.40
1:C:4751:THR:O	1:C:4755:GLU:HG2	2.20	0.40
1:C:4800:LEU:HD13	4:C:5104:POV:H38	2.02	0.40
1:C:4861:LYS:HE2	1:C:4861:LYS:HB3	1.89	0.40
3:F:35:LYS:HD2	3:F:35:LYS:H	1.86	0.40
1:G:224:HIS:CE1	1:G:247:TYR:HE1	2.40	0.40
1:G:479:GLN:HE21	1:G:539:LEU:HD22	1.86	0.40
1:G:1442:GLY:HA3	1:G:1558:HIS:CG	2.56	0.40
1:G:2515:GLN:HE22	1:G:2574:HIS:CE1	2.38	0.40
1:G:3102:ASP:HA	1:G:3105:LYS:HE2	2.02	0.40
1:G:3539:ARG:HD3	1:G:3552:PHE:CD2	2.56	0.40
1:G:3541:ALA:HA	1:G:3604:TYR:OH	2.21	0.40
1:G:4865:LYS:HE2	1:G:4865:LYS:HB3	1.87	0.40
3:I:105:ASN:ND2	3:I:105:ASN:O	2.35	0.40
1:J:1558:HIS:HD2	1:J:1560:ASN:H	1.67	0.40
1:J:3102:ASP:HA	1:J:3105:LYS:HE2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3302:PRO:HA	1:J:3303:PRO:HD3	1.97	0.40
1:A:980:ALA:O	1:A:984:LEU:HD23	2.22	0.40
1:A:1041:GLN:HA	1:A:1044:ARG:HE	1.86	0.40
1:A:1712:TYR:O	1:A:1716:ILE:HG13	2.21	0.40
1:A:2012:PHE:HB2	1:A:2018:GLU:HA	2.03	0.40
1:A:3102:ASP:HA	1:A:3105:LYS:HE2	2.02	0.40
1:A:3232:LEU:HA	1:A:3233:PRO:HD3	1.96	0.40
1:A:3315:LEU:HD12	1:A:3319:ILE:HD13	2.03	0.40
1:A:3805:LEU:HB3	1:A:3890:LEU:HB3	2.03	0.40
1:A:4865:LYS:HE2	1:A:4865:LYS:HB3	1.87	0.40
1:C:23:GLN:HG3	1:C:201:ASN:OD1	2.21	0.40
1:C:458:GLU:H	1:C:458:GLU:HG3	1.70	0.40
1:C:2871:LEU:HD23	1:C:2927:LEU:HD11	2.03	0.40
1:C:2879:ALA:HA	1:C:2882:TYR:CD2	2.55	0.40
1:C:3254:GLY:O	1:C:3258:GLU:HG2	2.21	0.40
1:C:4234:PHE:CE1	1:C:4985:LEU:HG	2.56	0.40
1:C:4587:PRO:HG3	1:C:4631:PHE:HB3	2.02	0.40
1:C:4655:PHE:O	1:C:4659:ILE:HG12	2.21	0.40
1:C:4689:THR:HA	1:C:4732:PHE:CZ	2.56	0.40
1:C:4928:LEU:HD23	1:C:4928:LEU:HA	1.88	0.40
3:F:57:LYS:HE3	3:F:80:VAL:HG22	2.03	0.40
1:G:494:LEU:HD22	1:G:515:TRP:CD1	2.56	0.40
1:G:1238:PHE:HD1	1:G:1608:MET:HG3	1.87	0.40
1:G:1433:TYR:CD1	1:G:1578:ALA:HB2	2.56	0.40
1:J:214:VAL:HG21	1:J:390:LEU:HD12	2.02	0.40
1:J:919:ASN:O	1:J:923:GLN:HG2	2.22	0.40
1:J:1575:LEU:HD23	1:J:1575:LEU:HA	1.77	0.40
1:J:2779:GLU:HG3	1:J:2792:ARG:HG2	2.02	0.40
1:J:3437:MET:O	1:J:3441:ILE:HG13	2.21	0.40
1:J:4248:ALA:HA	1:J:4251:ILE:HG12	2.01	0.40
1:A:1648:MET:HG3	1:A:1652:GLU:HB3	2.02	0.40
1:A:2563:THR:HG22	1:A:2606:CYS:HA	2.03	0.40
1:A:2954:ARG:HG2	1:A:2956:ALA:H	1.85	0.40
4:A:5111:POV:H31E	4:A:5111:POV:H311	1.88	0.40
1:C:73:LEU:HA	1:C:73:LEU:HD23	1.84	0.40
1:C:2738:ARG:H	1:C:2738:ARG:HG3	1.57	0.40
1:C:2806:ARG:HG2	1:C:2810:LYS:HE2	2.03	0.40
1:C:3036:LYS:O	1:C:3039:ILE:HG22	2.20	0.40
1:C:3330:ASP:HA	1:C:3403:ARG:HH22	1.85	0.40
1:C:3437:MET:O	1:C:3441:ILE:HG13	2.21	0.40
1:C:4546:VAL:HA	1:C:4549:VAL:HG22	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:232:THR:O	1:G:245:VAL:HG23	2.22	0.40
1:G:909:ASN:HA	1:G:963:ASN:HD21	1.87	0.40
1:G:919:ASN:O	1:G:923:GLN:HG2	2.22	0.40
1:G:2244:ARG:HH21	1:G:2283:ASN:HA	1.85	0.40
1:G:2534:ALA:HB1	1:G:2588:ARG:NE	2.33	0.40
1:G:2637:ALA:C	1:G:2640:PRO:HD2	2.46	0.40
1:G:2806:ARG:HG2	1:G:2810:LYS:HE2	2.03	0.40
3:I:15:PHE:HB3	3:I:64:ALA:O	2.21	0.40
1:J:494:LEU:HD22	1:J:515:TRP:CD1	2.56	0.40
1:J:894:GLY:O	1:J:903:LEU:HB3	2.21	0.40
1:J:2712:PRO:HD3	1:J:3013:HIS:CE1	2.56	0.40
1:J:3053:ARG:HG3	1:J:3056:LEU:HG	2.04	0.40
1:J:3254:GLY:O	1:J:3258:GLU:HG2	2.21	0.40
1:J:3541:ALA:HA	1:J:3604:TYR:OH	2.21	0.40
1:J:4546:VAL:HA	1:J:4549:VAL:HG22	2.03	0.40
1:J:4928:LEU:HD23	1:J:4931:ILE:HD12	2.02	0.40
3:L:57:LYS:HE3	3:L:80:VAL:HG22	2.03	0.40
1:A:894:GLY:HA3	1:A:903:LEU:HD22	2.03	0.40
1:A:2203:MET:H	1:A:2203:MET:HG2	1.74	0.40
1:A:2871:LEU:HD23	1:A:2927:LEU:HD11	2.03	0.40
1:A:3037:GLU:CD	1:A:3085:PRO:HG2	2.45	0.40
1:A:3545:THR:HG23	1:A:3548:GLU:H	1.86	0.40
1:A:4823:LEU:HD12	1:A:4823:LEU:HA	1.75	0.40
1:C:492:ASP:O	1:C:496:VAL:HG23	2.21	0.40
1:C:1867:GLU:O	1:C:1871:PHE:HB2	2.21	0.40
1:C:2002:PRO:HA	1:C:2005:GLN:HG2	2.04	0.40
1:C:2273:LEU:HD23	1:C:2330:ARG:HB3	2.03	0.40
1:C:2677:LYS:HE3	1:C:2909:ASP:HB2	2.03	0.40
1:C:2758:PHE:HB2	1:C:2929:PHE:CE2	2.57	0.40
1:C:3102:ASP:HA	1:C:3105:LYS:HE2	2.02	0.40
1:C:3315:LEU:HD12	1:C:3319:ILE:HD13	2.03	0.40
1:C:3805:LEU:HB3	1:C:3890:LEU:HB3	2.03	0.40
1:C:4553:ASN:O	1:C:4557:ARG:HG3	2.21	0.40
1:G:492:ASP:O	1:G:496:VAL:HG23	2.21	0.40
1:G:620:LEU:HD23	1:G:620:LEU:HA	1.87	0.40
1:G:878:ILE:HD13	1:G:878:ILE:HA	1.92	0.40
1:G:1000:ARG:HB2	1:G:1021:LEU:HD11	2.03	0.40
1:G:2273:LEU:HD23	1:G:2330:ARG:HB3	2.03	0.40
1:G:2469:ILE:HA	1:G:2472:LEU:HB2	2.02	0.40
1:J:130:LYS:HE3	1:J:130:LYS:HB3	1.88	0.40
1:J:343:GLU:H	1:J:389:PHE:HE1	1.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:454:PRO:HA	1:J:455:PRO:HD3	1.97	0.40
1:J:2563:THR:HG22	1:J:2606:CYS:HA	2.03	0.40
1:J:2722:LYS:HG3	1:J:2724:GLU:HB2	2.03	0.40
1:J:2871:LEU:HD23	1:J:2927:LEU:HD11	2.03	0.40
1:J:2874:MET:HA	1:J:2877:GLN:HB2	2.04	0.40
1:J:4865:LYS:HB3	1:J:4865:LYS:HE2	1.87	0.40
1:A:232:THR:O	1:A:245:VAL:HG23	2.22	0.40
1:A:343:GLU:H	1:A:389:PHE:HE1	1.70	0.40
1:A:1119:GLU:H	1:A:1119:GLU:HG3	1.76	0.40
1:A:2582:MET:HE3	1:A:2582:MET:HB3	1.86	0.40
1:A:2874:MET:HA	1:A:2877:GLN:HB2	2.04	0.40
1:A:3187:ARG:CZ	1:A:3268:HIS:HB3	2.52	0.40
1:A:3930:ILE:HG22	1:A:3995:VAL:HG11	2.03	0.40
1:C:728:ARG:HE	1:C:1487:LEU:HD11	1.87	0.40
1:C:1300:HIS:HB3	1:C:1302:ARG:HE	1.87	0.40
1:C:4565:LEU:O	1:C:4569:LEU:HG	2.22	0.40
3:E:46:PHE:HE2	3:E:55:VAL:HG12	1.87	0.40
1:G:620:LEU:HA	1:G:623:GLU:HG2	2.02	0.40
1:G:1862:ILE:O	1:G:1866:ILE:HG12	2.20	0.40
1:G:3187:ARG:CZ	1:G:3268:HIS:HB3	2.52	0.40
1:G:3360:PRO:O	1:G:3364:ARG:HG2	2.22	0.40
1:G:3836:MET:HE2	1:G:3836:MET:HB2	1.89	0.40
1:G:4157:ASP:O	1:G:4161:ARG:HG2	2.22	0.40
1:G:4553:ASN:O	1:G:4557:ARG:HG3	2.21	0.40
1:J:135:VAL:HG22	1:J:192:ASP:HA	2.03	0.40
1:J:169:LEU:HD23	1:J:169:LEU:HA	1.92	0.40
1:J:1300:HIS:HB3	1:J:1302:ARG:HE	1.87	0.40
1:J:2244:ARG:HH21	1:J:2283:ASN:HA	1.85	0.40
1:J:3805:LEU:HB3	1:J:3890:LEU:HB3	2.03	0.40
1:J:3836:MET:HE2	1:J:3836:MET:HB2	1.89	0.40
1:J:4134:GLU:HB2	1:J:4135:PRO:HD3	2.04	0.40
1:J:4646:LEU:HD13	1:J:4646:LEU:HA	1.91	0.40
3:L:58:GLY:HA3	3:L:80:VAL:HG11	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	4279/5027 (85%)	4176 (98%)	101 (2%)	2 (0%)	100 100
1	C	4279/5027 (85%)	4174 (98%)	104 (2%)	1 (0%)	100 100
1	G	4279/5027 (85%)	4180 (98%)	98 (2%)	1 (0%)	100 100
1	J	4279/5027 (85%)	4179 (98%)	99 (2%)	1 (0%)	100 100
2	B	124/126 (98%)	120 (97%)	4 (3%)	0	100 100
2	D	124/126 (98%)	120 (97%)	4 (3%)	0	100 100
2	H	124/126 (98%)	120 (97%)	4 (3%)	0	100 100
2	K	124/126 (98%)	120 (97%)	4 (3%)	0	100 100
3	E	105/107 (98%)	98 (93%)	5 (5%)	2 (2%)	6 33
3	F	105/107 (98%)	100 (95%)	4 (4%)	1 (1%)	12 45
3	I	105/107 (98%)	100 (95%)	5 (5%)	0	100 100
3	L	105/107 (98%)	100 (95%)	5 (5%)	0	100 100
All	All	18032/21040 (86%)	17587 (98%)	437 (2%)	8 (0%)	100 100

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	375	LYS
1	C	375	LYS
3	E	85	THR
1	G	375	LYS
1	J	375	LYS
3	E	87	HIS
3	F	87	HIS
1	A	967	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	3672/4270 (86%)	3648 (99%)	24 (1%)	76 78
1	C	3676/4270 (86%)	3650 (99%)	26 (1%)	76 78
1	G	3672/4270 (86%)	3645 (99%)	27 (1%)	76 78
1	J	3672/4270 (86%)	3648 (99%)	24 (1%)	76 78
2	B	104/104 (100%)	104 (100%)	0	100 100
2	D	104/104 (100%)	103 (99%)	1 (1%)	68 75
2	H	104/104 (100%)	104 (100%)	0	100 100
2	K	104/104 (100%)	104 (100%)	0	100 100
3	E	88/88 (100%)	85 (97%)	3 (3%)	32 57
3	F	88/88 (100%)	86 (98%)	2 (2%)	44 64
3	I	88/88 (100%)	85 (97%)	3 (3%)	32 57
3	L	88/88 (100%)	86 (98%)	2 (2%)	44 64
All	All	15460/17848 (87%)	15348 (99%)	112 (1%)	73 78

All (112) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	165	VAL
1	A	377	ILE
1	A	388	LEU
1	A	614	VAL
1	A	667	MET
1	A	975	VAL
1	A	1180	ARG
1	A	1561	VAL
1	A	1814	MET
1	A	1870	VAL
1	A	2166	LEU
1	A	2377	LEU
1	A	2460	LEU
1	A	2817	ILE

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Mol	Chain	Res	Type
1	A	2821	TRP
1	A	2827	ARG
1	A	2874	MET
1	A	2976	HIS
1	A	3194	LEU
1	A	3409	TYR
1	A	3508	SER
1	A	3934	TYR
1	A	4626	ASN
1	A	4858	PHE
1	C	165	VAL
1	C	377	ILE
1	C	388	LEU
1	C	614	VAL
1	C	667	MET
1	C	879	HIS
1	C	893	TYR
1	C	975	VAL
1	C	1561	VAL
1	C	1814	MET
1	C	1870	VAL
1	C	2166	LEU
1	C	2377	LEU
1	C	2460	LEU
1	C	2817	ILE
1	C	2821	TRP
1	C	2827	ARG
1	C	2874	MET
1	C	2976	HIS
1	C	3194	LEU
1	C	3409	TYR
1	C	3509	LEU
1	C	3514	LEU
1	C	3934	TYR
1	C	4626	ASN
1	C	4858	PHE
2	D	116	TYR
3	E	35	LYS
3	E	77	THR
3	E	105	ASN
3	F	35	LYS
3	F	105	ASN

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Mol	Chain	Res	Type
1	G	165	VAL
1	G	377	ILE
1	G	388	LEU
1	G	614	VAL
1	G	667	MET
1	G	791	PHE
1	G	879	HIS
1	G	963	ASN
1	G	975	VAL
1	G	1561	VAL
1	G	1870	VAL
1	G	2166	LEU
1	G	2229	VAL
1	G	2233	CYS
1	G	2377	LEU
1	G	2460	LEU
1	G	2817	ILE
1	G	2821	TRP
1	G	2827	ARG
1	G	2874	MET
1	G	2976	HIS
1	G	3194	LEU
1	G	3409	TYR
1	G	3514	LEU
1	G	3934	TYR
1	G	4626	ASN
1	G	4858	PHE
3	I	35	LYS
3	I	77	THR
3	I	105	ASN
1	J	165	VAL
1	J	377	ILE
1	J	388	LEU
1	J	614	VAL
1	J	667	MET
1	J	970	LEU
1	J	975	VAL
1	J	1561	VAL
1	J	1814	MET
1	J	1870	VAL
1	J	2166	LEU
1	J	2233	CYS

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Mol	Chain	Res	Type
1	J	2377	LEU
1	J	2460	LEU
1	J	2817	ILE
1	J	2821	TRP
1	J	2827	ARG
1	J	2874	MET
1	J	2976	HIS
1	J	3194	LEU
1	J	3409	TYR
1	J	3934	TYR
1	J	4626	ASN
1	J	4858	PHE
3	L	35	LYS
3	L	105	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (160) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	23	GLN
1	A	241	GLN
1	A	579	GLN
1	A	634	GLN
1	A	949	ASN
1	A	1066	GLN
1	A	1084	GLN
1	A	1429	ASN
1	A	1569	GLN
1	A	1590	GLN
1	A	1760	HIS
1	A	1952	GLN
1	A	2161	GLN
1	A	2169	GLN
1	A	2204	HIS
1	A	2417	HIS
1	A	2487	GLN
1	A	2574	HIS
1	A	2902	HIS
1	A	2971	GLN
1	A	2991	HIS
1	A	3013	HIS
1	A	3128	ASN
1	A	3146	HIS

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Mol	Chain	Res	Type
1	A	3209	GLN
1	A	3430	ASN
1	A	3462	ASN
1	A	3850	GLN
1	A	3851	ASN
1	A	3897	ASN
1	A	3914	ASN
1	A	4109	GLN
1	A	4707	ASN
1	A	4803	HIS
1	A	5003	HIS
2	B	3	GLN
2	B	58	ASN
1	C	23	GLN
1	C	181	HIS
1	C	241	GLN
1	C	579	GLN
1	C	634	GLN
1	C	949	ASN
1	C	1003	GLN
1	C	1066	GLN
1	C	1084	GLN
1	C	1130	GLN
1	C	1429	ASN
1	C	1569	GLN
1	C	1590	GLN
1	C	1663	HIS
1	C	1952	GLN
1	C	2161	GLN
1	C	2169	GLN
1	C	2204	HIS
1	C	2247	GLN
1	C	2283	ASN
1	C	2291	GLN
1	C	2417	HIS
1	C	2574	HIS
1	C	2902	HIS
1	C	3013	HIS
1	C	3128	ASN
1	C	3146	HIS
1	C	3209	GLN
1	C	3430	ASN

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Mol	Chain	Res	Type
1	C	3462	ASN
1	C	3850	GLN
1	C	3851	ASN
1	C	3897	ASN
1	C	3914	ASN
1	C	3998	HIS
1	C	4707	ASN
1	C	4803	HIS
1	C	5003	HIS
2	D	3	GLN
3	E	31	GLN
3	F	31	GLN
1	G	23	GLN
1	G	473	ASN
1	G	579	GLN
1	G	634	GLN
1	G	949	ASN
1	G	963	ASN
1	G	1066	GLN
1	G	1084	GLN
1	G	1429	ASN
1	G	1569	GLN
1	G	1590	GLN
1	G	1663	HIS
1	G	1952	GLN
1	G	2161	GLN
1	G	2169	GLN
1	G	2204	HIS
1	G	2247	GLN
1	G	2283	ASN
1	G	2291	GLN
1	G	2417	HIS
1	G	2574	HIS
1	G	2902	HIS
1	G	2971	GLN
1	G	2991	HIS
1	G	3013	HIS
1	G	3128	ASN
1	G	3146	HIS
1	G	3209	GLN
1	G	3430	ASN
1	G	3462	ASN

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Mol	Chain	Res	Type
1	G	3850	GLN
1	G	3851	ASN
1	G	3897	ASN
1	G	3914	ASN
1	G	4094	GLN
1	G	4109	GLN
1	G	4707	ASN
1	G	4803	HIS
1	G	4857	ASN
1	G	5003	HIS
2	H	3	GLN
3	I	31	GLN
1	J	23	GLN
1	J	151	HIS
1	J	241	GLN
1	J	579	GLN
1	J	596	ASN
1	J	634	GLN
1	J	949	ASN
1	J	1066	GLN
1	J	1084	GLN
1	J	1130	GLN
1	J	1429	ASN
1	J	1569	GLN
1	J	1590	GLN
1	J	1760	HIS
1	J	1952	GLN
1	J	2161	GLN
1	J	2169	GLN
1	J	2204	HIS
1	J	2291	GLN
1	J	2417	HIS
1	J	2574	HIS
1	J	2902	HIS
1	J	2971	GLN
1	J	2991	HIS
1	J	3128	ASN
1	J	3146	HIS
1	J	3209	GLN
1	J	3430	ASN
1	J	3462	ASN
1	J	3850	GLN

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Mol	Chain	Res	Type
1	J	3851	ASN
1	J	3897	ASN
1	J	3914	ASN
1	J	4094	GLN
1	J	4109	GLN
1	J	4707	ASN
1	J	4803	HIS
1	J	4857	ASN
2	K	3	GLN
3	L	31	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 56 ligands modelled in this entry, 8 are monoatomic - leaving 48 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	POV	J	5102	-	40,40,51	0.55	0	46,48,59	0.52	0
4	POV	C	5111	-	40,40,51	0.55	0	46,48,59	0.51	0
4	POV	G	5113	-	40,40,51	0.55	0	46,48,59	0.51	0
4	POV	J	5112	-	38,38,51	0.56	0	44,46,59	0.52	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	POV	G	5114	-	51,51,51	0.50	0	57,59,59	0.45	0
4	POV	G	5112	-	48,48,51	0.52	0	54,56,59	0.48	0
4	POV	A	5109	-	42,42,51	0.54	0	48,50,59	0.48	0
4	POV	J	5101	-	48,48,51	0.51	0	54,56,59	0.48	0
4	POV	A	5101	-	12,12,51	0.22	0	11,11,59	0.25	0
4	POV	J	5108	-	43,43,51	0.54	0	49,51,59	0.50	0
4	POV	A	5111	-	38,38,51	0.56	0	44,46,59	0.52	0
4	POV	A	5108	-	12,12,51	0.22	0	11,11,59	0.25	0
4	POV	C	5105	-	43,43,51	0.54	0	49,51,59	0.50	0
4	POV	G	5104	-	46,46,51	0.52	0	52,54,59	0.48	0
5	ATP	A	5102	-	32,33,33	0.28	0	48,52,52	0.33	0
5	ATP	J	5104	-	32,33,33	0.28	0	48,52,52	0.33	0
4	POV	A	5105	-	46,46,51	0.52	0	52,54,59	0.48	0
4	POV	J	5103	-	51,51,51	0.50	0	57,59,59	0.45	0
4	POV	J	5110	-	42,42,51	0.54	0	48,50,59	0.48	0
4	POV	A	5107	-	48,48,51	0.52	0	54,56,59	0.48	0
4	POV	G	5109	-	38,38,51	0.56	0	44,46,59	0.52	0
4	POV	J	5107	-	46,46,51	0.52	0	52,54,59	0.48	0
4	POV	J	5109	-	12,12,51	0.22	0	11,11,59	0.25	0
4	POV	A	5112	-	33,33,51	0.60	0	39,41,59	0.54	0
5	ATP	C	5101	-	32,33,33	0.28	0	48,52,52	0.33	0
4	POV	C	5106	-	42,42,51	0.55	0	48,50,59	0.49	0
6	CFF	C	5102	-	15,15,15	0.52	0	23,23,23	0.74	1 (4%)
4	POV	G	5108	-	23,23,51	0.67	0	28,30,59	0.61	0
6	CFF	J	5105	-	15,15,15	0.54	0	23,23,23	0.74	1 (4%)
4	POV	C	5108	-	38,38,51	0.57	0	44,46,59	0.52	0
4	POV	C	5109	-	33,33,51	0.60	0	39,41,59	0.54	0
4	POV	A	5114	-	48,48,51	0.52	0	54,56,59	0.48	0
4	POV	C	5104	-	46,46,51	0.52	0	52,54,59	0.48	0
4	POV	G	5110	-	33,33,51	0.60	0	39,41,59	0.54	0
4	POV	J	5111	-	23,23,51	0.67	0	28,30,59	0.61	0
4	POV	G	5105	-	43,43,51	0.54	0	49,51,59	0.50	0
6	CFF	G	5102	-	15,15,15	0.54	0	23,23,23	0.74	1 (4%)
4	POV	C	5112	-	51,51,51	0.50	0	57,59,59	0.45	0
4	POV	J	5113	-	33,33,51	0.60	0	39,41,59	0.54	0
4	POV	G	5107	-	42,42,51	0.54	0	48,50,59	0.48	0
4	POV	A	5106	-	43,43,51	0.54	0	49,51,59	0.50	0
4	POV	C	5107	-	23,23,51	0.66	0	28,30,59	0.61	0
4	POV	A	5116	-	51,51,51	0.50	0	57,59,59	0.45	0
5	ATP	G	5101	-	32,33,33	0.28	0	48,52,52	0.33	0
6	CFF	A	5103	-	15,15,15	0.54	0	23,23,23	0.74	1 (4%)
4	POV	G	5106	-	12,12,51	0.22	0	11,11,59	0.25	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	POV	A	5115	-	40,40,51	0.55	0	46,48,59	0.51	0
4	POV	A	5110	-	23,23,51	0.67	0	28,30,59	0.61	0

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	POV	J	5102	-	-	6/44/44/55	-
4	POV	C	5111	-	-	6/44/44/55	-
4	POV	G	5113	-	-	6/44/44/55	-
4	POV	J	5112	-	-	12/42/42/55	-
4	POV	G	5114	-	-	21/55/55/55	-
4	POV	G	5112	-	-	18/52/52/55	-
4	POV	A	5109	-	-	12/46/46/55	-
4	POV	J	5101	-	-	18/52/52/55	-
4	POV	A	5101	-	-	2/10/10/55	-
4	POV	J	5108	-	-	9/47/47/55	-
4	POV	A	5111	-	-	12/42/42/55	-
4	POV	A	5108	-	-	2/10/10/55	-
4	POV	C	5105	-	-	9/47/47/55	-
4	POV	G	5104	-	-	16/50/50/55	-
5	ATP	A	5102	-	-	3/22/38/38	0/3/3/3
5	ATP	J	5104	-	-	3/22/38/38	0/3/3/3
4	POV	A	5105	-	-	16/50/50/55	-
4	POV	J	5103	-	-	21/55/55/55	-
4	POV	J	5110	-	-	12/46/46/55	-
4	POV	A	5107	-	-	18/52/52/55	-
4	POV	G	5109	-	-	12/42/42/55	-
4	POV	J	5107	-	-	16/50/50/55	-
4	POV	J	5109	-	-	2/10/10/55	-
4	POV	A	5112	-	-	10/37/37/55	-
5	ATP	C	5101	-	-	3/22/38/38	0/3/3/3
4	POV	C	5106	-	-	12/46/46/55	-
6	CFF	C	5102	-	-	-	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	POV	G	5108	-	-	10/26/26/55	-
6	CFF	J	5105	-	-	-	0/2/2/2
4	POV	C	5108	-	-	12/42/42/55	-
4	POV	C	5109	-	-	10/37/37/55	-
4	POV	A	5114	-	-	18/52/52/55	-
4	POV	C	5104	-	-	16/50/50/55	-
4	POV	G	5110	-	-	10/37/37/55	-
4	POV	J	5111	-	-	10/26/26/55	-
4	POV	G	5105	-	-	9/47/47/55	-
6	CFF	G	5102	-	-	-	0/2/2/2
4	POV	C	5112	-	-	21/55/55/55	-
4	POV	J	5113	-	-	10/37/37/55	-
4	POV	G	5107	-	-	12/46/46/55	-
4	POV	A	5106	-	-	9/47/47/55	-
4	POV	C	5107	-	-	10/26/26/55	-
4	POV	A	5116	-	-	21/55/55/55	-
5	ATP	G	5101	-	-	3/22/38/38	0/3/3/3
6	CFF	A	5103	-	-	-	0/2/2/2
4	POV	G	5106	-	-	2/10/10/55	-
4	POV	A	5115	-	-	6/44/44/55	-
4	POV	A	5110	-	-	10/26/26/55	-

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	C	5102	CFF	C12-N3-C2	2.28	121.30	117.33
6	A	5103	CFF	C12-N3-C2	2.26	121.27	117.33
6	G	5102	CFF	C12-N3-C2	2.26	121.27	117.33
6	J	5105	CFF	C12-N3-C2	2.26	121.27	117.33

There are no chirality outliers.

All (476) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	5105	POV	C22-C21-O21-C2
4	A	5105	POV	O22-C21-O21-C2

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Mol	Chain	Res	Type	Atoms
4	A	5106	POV	C1-O11-P-O14
4	A	5106	POV	C11-O12-P-O13
4	A	5106	POV	O12-C11-C12-N
4	A	5106	POV	C22-C21-O21-C2
4	A	5107	POV	C1-O11-P-O12
4	A	5107	POV	C1-O11-P-O14
4	A	5107	POV	C11-O12-P-O14
4	A	5107	POV	C2-C1-O11-P
4	A	5107	POV	O12-C11-C12-N
4	A	5109	POV	C1-O11-P-O12
4	A	5109	POV	C1-O11-P-O14
4	A	5110	POV	C1-O11-P-O12
4	A	5110	POV	C1-O11-P-O14
4	A	5110	POV	C11-O12-P-O11
4	A	5110	POV	C11-O12-P-O13
4	A	5110	POV	O12-C11-C12-N
4	A	5111	POV	C11-O12-P-O11
4	A	5111	POV	C11-O12-P-O13
4	A	5111	POV	O12-C11-C12-N
4	A	5111	POV	C22-C21-O21-C2
4	A	5112	POV	C1-O11-P-O14
4	A	5112	POV	C11-O12-P-O13
4	A	5114	POV	C1-O11-P-O12
4	A	5114	POV	C1-O11-P-O14
4	A	5114	POV	C11-O12-P-O14
4	A	5114	POV	C2-C1-O11-P
4	A	5114	POV	O12-C11-C12-N
4	A	5115	POV	C1-O11-P-O13
4	A	5115	POV	O12-C11-C12-N
4	A	5116	POV	C1-O11-P-O12
4	A	5116	POV	C1-O11-P-O13
4	A	5116	POV	C1-O11-P-O14
4	A	5116	POV	O12-C11-C12-N
4	C	5104	POV	C22-C21-O21-C2
4	C	5104	POV	O22-C21-O21-C2
4	C	5105	POV	C1-O11-P-O14
4	C	5105	POV	C11-O12-P-O13
4	C	5105	POV	O12-C11-C12-N
4	C	5105	POV	C22-C21-O21-C2
4	C	5106	POV	C1-O11-P-O12
4	C	5106	POV	C1-O11-P-O14
4	C	5107	POV	C1-O11-P-O12

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Mol	Chain	Res	Type	Atoms
4	C	5107	POV	C1-O11-P-O14
4	C	5107	POV	C11-O12-P-O11
4	C	5107	POV	C11-O12-P-O13
4	C	5107	POV	O12-C11-C12-N
4	C	5108	POV	C11-O12-P-O11
4	C	5108	POV	C11-O12-P-O13
4	C	5108	POV	O12-C11-C12-N
4	C	5108	POV	C22-C21-O21-C2
4	C	5109	POV	C1-O11-P-O14
4	C	5109	POV	C11-O12-P-O13
4	C	5111	POV	C1-O11-P-O13
4	C	5111	POV	O12-C11-C12-N
4	C	5112	POV	C1-O11-P-O12
4	C	5112	POV	C1-O11-P-O13
4	C	5112	POV	C1-O11-P-O14
4	C	5112	POV	O12-C11-C12-N
4	G	5104	POV	C22-C21-O21-C2
4	G	5104	POV	O22-C21-O21-C2
4	G	5105	POV	C1-O11-P-O14
4	G	5105	POV	C11-O12-P-O13
4	G	5105	POV	O12-C11-C12-N
4	G	5105	POV	C22-C21-O21-C2
4	G	5107	POV	C1-O11-P-O12
4	G	5107	POV	C1-O11-P-O14
4	G	5108	POV	C1-O11-P-O12
4	G	5108	POV	C1-O11-P-O14
4	G	5108	POV	C11-O12-P-O11
4	G	5108	POV	C11-O12-P-O13
4	G	5108	POV	O12-C11-C12-N
4	G	5109	POV	C11-O12-P-O11
4	G	5109	POV	C11-O12-P-O13
4	G	5109	POV	O12-C11-C12-N
4	G	5109	POV	C22-C21-O21-C2
4	G	5110	POV	C1-O11-P-O14
4	G	5110	POV	C11-O12-P-O13
4	G	5112	POV	C1-O11-P-O12
4	G	5112	POV	C1-O11-P-O14
4	G	5112	POV	C11-O12-P-O14
4	G	5112	POV	C2-C1-O11-P
4	G	5112	POV	O12-C11-C12-N
4	G	5113	POV	C1-O11-P-O13
4	G	5113	POV	O12-C11-C12-N

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Mol	Chain	Res	Type	Atoms
4	G	5114	POV	C1-O11-P-O12
4	G	5114	POV	C1-O11-P-O13
4	G	5114	POV	C1-O11-P-O14
4	G	5114	POV	O12-C11-C12-N
4	J	5101	POV	C1-O11-P-O12
4	J	5101	POV	C1-O11-P-O14
4	J	5101	POV	C11-O12-P-O14
4	J	5101	POV	C2-C1-O11-P
4	J	5101	POV	O12-C11-C12-N
4	J	5102	POV	C1-O11-P-O13
4	J	5102	POV	O12-C11-C12-N
4	J	5103	POV	C1-O11-P-O12
4	J	5103	POV	C1-O11-P-O13
4	J	5103	POV	C1-O11-P-O14
4	J	5103	POV	O12-C11-C12-N
4	J	5107	POV	C22-C21-O21-C2
4	J	5107	POV	O22-C21-O21-C2
4	J	5108	POV	C1-O11-P-O14
4	J	5108	POV	C11-O12-P-O13
4	J	5108	POV	O12-C11-C12-N
4	J	5108	POV	C22-C21-O21-C2
4	J	5110	POV	C1-O11-P-O12
4	J	5110	POV	C1-O11-P-O14
4	J	5111	POV	C1-O11-P-O12
4	J	5111	POV	C1-O11-P-O14
4	J	5111	POV	C11-O12-P-O11
4	J	5111	POV	C11-O12-P-O13
4	J	5111	POV	O12-C11-C12-N
4	J	5112	POV	C11-O12-P-O11
4	J	5112	POV	C11-O12-P-O13
4	J	5112	POV	O12-C11-C12-N
4	J	5112	POV	C22-C21-O21-C2
4	J	5113	POV	C1-O11-P-O14
4	J	5113	POV	C11-O12-P-O13
4	A	5106	POV	O22-C21-O21-C2
4	C	5105	POV	O22-C21-O21-C2
4	G	5105	POV	O22-C21-O21-C2
4	J	5108	POV	O22-C21-O21-C2
4	A	5111	POV	O22-C21-O21-C2
4	C	5108	POV	O22-C21-O21-C2
4	G	5109	POV	O22-C21-O21-C2
4	J	5112	POV	O22-C21-O21-C2

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Mol	Chain	Res	Type	Atoms
4	A	5110	POV	C2-C1-O11-P
4	C	5107	POV	C2-C1-O11-P
4	G	5108	POV	C2-C1-O11-P
4	J	5111	POV	C2-C1-O11-P
4	A	5116	POV	C31-C32-C33-C34
4	C	5112	POV	C31-C32-C33-C34
4	G	5114	POV	C31-C32-C33-C34
4	J	5103	POV	C31-C32-C33-C34
4	A	5107	POV	C21-C22-C23-C24
4	A	5114	POV	C21-C22-C23-C24
4	G	5112	POV	C21-C22-C23-C24
4	J	5101	POV	C21-C22-C23-C24
4	A	5109	POV	C31-C32-C33-C34
4	C	5106	POV	C31-C32-C33-C34
4	G	5107	POV	C31-C32-C33-C34
4	J	5110	POV	C31-C32-C33-C34
4	A	5105	POV	C311-C310-C39-C38
4	C	5104	POV	C311-C310-C39-C38
4	G	5104	POV	C311-C310-C39-C38
4	J	5107	POV	C311-C310-C39-C38
4	A	5109	POV	C211-C212-C213-C214
4	C	5106	POV	C211-C212-C213-C214
4	G	5107	POV	C211-C212-C213-C214
4	J	5110	POV	C211-C212-C213-C214
4	A	5116	POV	C212-C213-C214-C215
4	A	5116	POV	C37-C38-C39-C310
4	C	5112	POV	C212-C213-C214-C215
4	C	5112	POV	C37-C38-C39-C310
4	G	5114	POV	C212-C213-C214-C215
4	G	5114	POV	C37-C38-C39-C310
4	J	5103	POV	C37-C38-C39-C310
4	J	5103	POV	C212-C213-C214-C215
4	A	5105	POV	C32-C33-C34-C35
4	C	5104	POV	C32-C33-C34-C35
4	G	5104	POV	C32-C33-C34-C35
4	J	5103	POV	C32-C33-C34-C35
4	J	5107	POV	C32-C33-C34-C35
4	A	5116	POV	C32-C33-C34-C35
4	C	5112	POV	C32-C33-C34-C35
4	G	5114	POV	C32-C33-C34-C35
4	C	5104	POV	C39-C310-C311-C312
4	A	5105	POV	C39-C310-C311-C312

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Mol	Chain	Res	Type	Atoms
4	G	5104	POV	C39-C310-C311-C312
4	J	5107	POV	C39-C310-C311-C312
4	A	5107	POV	C35-C36-C37-C38
4	A	5114	POV	C35-C36-C37-C38
4	G	5112	POV	C35-C36-C37-C38
4	J	5101	POV	C35-C36-C37-C38
4	J	5103	POV	C311-C310-C39-C38
4	A	5116	POV	C311-C310-C39-C38
4	C	5112	POV	C311-C310-C39-C38
4	G	5114	POV	C311-C310-C39-C38
4	A	5109	POV	C21-C22-C23-C24
4	C	5106	POV	C21-C22-C23-C24
4	G	5107	POV	C21-C22-C23-C24
4	J	5110	POV	C21-C22-C23-C24
4	A	5111	POV	C37-C38-C39-C310
4	C	5108	POV	C37-C38-C39-C310
4	G	5109	POV	C37-C38-C39-C310
4	J	5112	POV	C37-C38-C39-C310
4	A	5110	POV	O11-C1-C2-C3
4	C	5107	POV	O11-C1-C2-C3
4	G	5108	POV	O11-C1-C2-C3
4	J	5111	POV	O11-C1-C2-C3
4	A	5112	POV	C22-C21-O21-C2
4	C	5109	POV	C22-C21-O21-C2
4	G	5110	POV	C22-C21-O21-C2
4	J	5113	POV	C22-C21-O21-C2
4	A	5105	POV	C35-C36-C37-C38
4	G	5104	POV	C35-C36-C37-C38
4	J	5107	POV	C35-C36-C37-C38
4	A	5101	POV	C26-C27-C28-C29
4	A	5108	POV	C26-C27-C28-C29
4	G	5106	POV	C26-C27-C28-C29
4	J	5109	POV	C26-C27-C28-C29
4	C	5104	POV	C35-C36-C37-C38
4	A	5109	POV	C212-C213-C214-C215
4	C	5106	POV	C212-C213-C214-C215
4	G	5107	POV	C212-C213-C214-C215
4	J	5110	POV	C212-C213-C214-C215
4	C	5108	POV	C34-C35-C36-C37
4	A	5111	POV	C34-C35-C36-C37
4	G	5109	POV	C34-C35-C36-C37
4	J	5112	POV	C34-C35-C36-C37

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Mol	Chain	Res	Type	Atoms
4	A	5105	POV	C311-C312-C313-C314
4	C	5104	POV	C311-C312-C313-C314
4	G	5104	POV	C311-C312-C313-C314
4	J	5107	POV	C311-C312-C313-C314
4	A	5105	POV	C32-C31-O31-C3
4	C	5104	POV	C32-C31-O31-C3
4	G	5104	POV	C32-C31-O31-C3
4	J	5107	POV	C32-C31-O31-C3
4	A	5106	POV	C2-C1-O11-P
4	C	5105	POV	C2-C1-O11-P
4	G	5105	POV	C2-C1-O11-P
4	J	5108	POV	C2-C1-O11-P
4	A	5111	POV	C22-C23-C24-C25
4	G	5109	POV	C22-C23-C24-C25
4	J	5112	POV	C22-C23-C24-C25
4	A	5107	POV	O11-C1-C2-C3
4	A	5114	POV	O11-C1-C2-C3
4	G	5112	POV	O11-C1-C2-C3
4	J	5101	POV	O11-C1-C2-C3
4	C	5108	POV	C22-C23-C24-C25
4	A	5116	POV	C1-C2-C3-O31
4	C	5112	POV	C1-C2-C3-O31
4	G	5114	POV	C1-C2-C3-O31
4	J	5103	POV	C1-C2-C3-O31
4	A	5110	POV	O11-C1-C2-O21
4	C	5107	POV	O11-C1-C2-O21
4	G	5108	POV	O11-C1-C2-O21
4	J	5111	POV	O11-C1-C2-O21
4	A	5107	POV	C22-C23-C24-C25
4	A	5114	POV	C22-C23-C24-C25
4	G	5112	POV	C22-C23-C24-C25
4	J	5101	POV	C22-C23-C24-C25
4	A	5115	POV	C21-C22-C23-C24
4	C	5111	POV	C21-C22-C23-C24
4	G	5113	POV	C21-C22-C23-C24
4	J	5102	POV	C21-C22-C23-C24
4	A	5112	POV	O22-C21-O21-C2
4	C	5109	POV	O22-C21-O21-C2
4	G	5110	POV	O22-C21-O21-C2
4	J	5113	POV	O22-C21-O21-C2
4	A	5105	POV	O32-C31-O31-C3
4	C	5104	POV	O32-C31-O31-C3

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Mol	Chain	Res	Type	Atoms
4	G	5104	POV	O32-C31-O31-C3
4	J	5107	POV	O32-C31-O31-C3
4	A	5107	POV	O11-C1-C2-O21
4	A	5114	POV	O11-C1-C2-O21
4	G	5112	POV	O11-C1-C2-O21
4	J	5101	POV	O11-C1-C2-O21
4	A	5107	POV	C12-C11-O12-P
4	A	5112	POV	C12-C11-O12-P
4	A	5114	POV	C12-C11-O12-P
4	C	5109	POV	C12-C11-O12-P
4	G	5110	POV	C12-C11-O12-P
4	G	5112	POV	C12-C11-O12-P
4	J	5101	POV	C12-C11-O12-P
4	J	5113	POV	C12-C11-O12-P
4	J	5101	POV	C34-C35-C36-C37
4	A	5107	POV	C34-C35-C36-C37
4	A	5114	POV	C34-C35-C36-C37
4	G	5112	POV	C34-C35-C36-C37
4	A	5106	POV	C36-C37-C38-C39
4	C	5105	POV	C36-C37-C38-C39
4	G	5105	POV	C36-C37-C38-C39
4	J	5108	POV	C36-C37-C38-C39
4	A	5105	POV	O12-C11-C12-N
4	C	5104	POV	O12-C11-C12-N
4	G	5104	POV	O12-C11-C12-N
4	J	5107	POV	O12-C11-C12-N
4	A	5116	POV	C36-C37-C38-C39
4	C	5112	POV	C36-C37-C38-C39
4	G	5114	POV	C36-C37-C38-C39
4	J	5103	POV	C36-C37-C38-C39
4	A	5111	POV	C31-C32-C33-C34
4	G	5109	POV	C31-C32-C33-C34
4	J	5112	POV	C31-C32-C33-C34
4	C	5108	POV	C31-C32-C33-C34
4	A	5116	POV	O21-C2-C3-O31
4	C	5112	POV	O21-C2-C3-O31
4	G	5114	POV	O21-C2-C3-O31
4	J	5103	POV	O21-C2-C3-O31
4	A	5111	POV	C32-C31-O31-C3
4	C	5108	POV	C32-C31-O31-C3
4	G	5109	POV	C32-C31-O31-C3
4	J	5112	POV	C32-C31-O31-C3

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Mol	Chain	Res	Type	Atoms
4	A	5115	POV	C311-C312-C313-C314
4	C	5111	POV	C311-C312-C313-C314
4	G	5113	POV	C311-C312-C313-C314
4	J	5102	POV	C311-C312-C313-C314
4	A	5109	POV	C1-O11-P-O13
4	A	5110	POV	C11-O12-P-O14
4	A	5112	POV	C1-O11-P-O12
4	A	5112	POV	C1-O11-P-O13
4	A	5112	POV	C11-O12-P-O11
4	A	5115	POV	C11-O12-P-O14
4	A	5116	POV	C11-O12-P-O14
4	C	5106	POV	C1-O11-P-O13
4	C	5107	POV	C11-O12-P-O14
4	C	5109	POV	C1-O11-P-O12
4	C	5109	POV	C1-O11-P-O13
4	C	5109	POV	C11-O12-P-O11
4	C	5111	POV	C11-O12-P-O14
4	C	5112	POV	C11-O12-P-O14
4	G	5107	POV	C1-O11-P-O13
4	G	5108	POV	C11-O12-P-O14
4	G	5110	POV	C1-O11-P-O12
4	G	5110	POV	C1-O11-P-O13
4	G	5110	POV	C11-O12-P-O11
4	G	5113	POV	C11-O12-P-O14
4	G	5114	POV	C11-O12-P-O14
4	J	5102	POV	C11-O12-P-O14
4	J	5103	POV	C11-O12-P-O14
4	J	5110	POV	C1-O11-P-O13
4	J	5111	POV	C11-O12-P-O14
4	J	5113	POV	C1-O11-P-O12
4	J	5113	POV	C1-O11-P-O13
4	J	5113	POV	C11-O12-P-O11
5	A	5102	ATP	C5'-O5'-PA-O1A
5	C	5101	ATP	C5'-O5'-PA-O1A
5	G	5101	ATP	C5'-O5'-PA-O1A
5	J	5104	ATP	C5'-O5'-PA-O1A
4	C	5108	POV	O32-C31-O31-C3
4	A	5111	POV	O32-C31-O31-C3
4	G	5109	POV	O32-C31-O31-C3
4	J	5112	POV	O32-C31-O31-C3
4	A	5109	POV	C24-C25-C26-C27
4	G	5107	POV	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
4	J	5110	POV	C24-C25-C26-C27
4	C	5106	POV	C24-C25-C26-C27
4	A	5105	POV	C11-C12-N-C13
4	C	5104	POV	C11-C12-N-C13
4	G	5104	POV	C11-C12-N-C13
4	J	5107	POV	C11-C12-N-C13
4	A	5109	POV	C22-C21-O21-C2
4	C	5106	POV	C22-C21-O21-C2
4	G	5107	POV	C22-C21-O21-C2
4	J	5110	POV	C22-C21-O21-C2
4	A	5109	POV	O22-C21-O21-C2
4	C	5106	POV	O22-C21-O21-C2
4	G	5107	POV	O22-C21-O21-C2
4	J	5110	POV	O22-C21-O21-C2
4	A	5116	POV	C213-C214-C215-C216
4	C	5112	POV	C213-C214-C215-C216
4	G	5114	POV	C213-C214-C215-C216
4	J	5103	POV	C213-C214-C215-C216
5	A	5102	ATP	O4'-C4'-C5'-O5'
5	C	5101	ATP	O4'-C4'-C5'-O5'
5	G	5101	ATP	O4'-C4'-C5'-O5'
5	J	5104	ATP	O4'-C4'-C5'-O5'
4	J	5101	POV	C32-C33-C34-C35
4	A	5107	POV	C32-C33-C34-C35
4	A	5114	POV	C32-C33-C34-C35
4	G	5112	POV	C32-C33-C34-C35
4	J	5102	POV	C311-C310-C39-C38
4	A	5115	POV	C311-C310-C39-C38
4	C	5111	POV	C311-C310-C39-C38
4	G	5113	POV	C311-C310-C39-C38
4	A	5109	POV	C210-C211-C212-C213
4	G	5107	POV	C210-C211-C212-C213
4	J	5110	POV	C210-C211-C212-C213
4	A	5105	POV	C11-C12-N-C14
4	C	5104	POV	C11-C12-N-C14
4	G	5104	POV	C11-C12-N-C14
4	J	5107	POV	C11-C12-N-C14
4	A	5110	POV	C1-C2-C3-O31
4	C	5107	POV	C1-C2-C3-O31
4	G	5108	POV	C1-C2-C3-O31
4	J	5111	POV	C1-C2-C3-O31
4	C	5106	POV	C210-C211-C212-C213

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Mol	Chain	Res	Type	Atoms
4	A	5105	POV	C11-C12-N-C15
4	C	5104	POV	C11-C12-N-C15
4	G	5104	POV	C11-C12-N-C15
4	J	5107	POV	C11-C12-N-C15
4	J	5103	POV	C211-C212-C213-C214
4	A	5116	POV	C211-C212-C213-C214
4	C	5112	POV	C211-C212-C213-C214
4	G	5114	POV	C211-C212-C213-C214
4	J	5103	POV	C33-C34-C35-C36
4	A	5116	POV	C33-C34-C35-C36
4	C	5112	POV	C33-C34-C35-C36
4	G	5114	POV	C33-C34-C35-C36
4	C	5104	POV	C33-C34-C35-C36
4	A	5105	POV	C33-C34-C35-C36
4	G	5104	POV	C33-C34-C35-C36
4	J	5107	POV	C33-C34-C35-C36
4	A	5116	POV	C39-C310-C311-C312
4	C	5112	POV	C39-C310-C311-C312
4	G	5114	POV	C39-C310-C311-C312
4	J	5103	POV	C39-C310-C311-C312
4	A	5116	POV	C11-C12-N-C13
4	C	5112	POV	C11-C12-N-C13
4	G	5114	POV	C11-C12-N-C13
4	J	5103	POV	C11-C12-N-C13
4	A	5101	POV	C211-C212-C213-C214
4	A	5105	POV	C36-C37-C38-C39
4	G	5104	POV	C36-C37-C38-C39
4	J	5107	POV	C36-C37-C38-C39
4	C	5104	POV	C36-C37-C38-C39
4	A	5108	POV	C211-C212-C213-C214
4	G	5106	POV	C211-C212-C213-C214
4	J	5109	POV	C211-C212-C213-C214
4	A	5111	POV	C311-C312-C313-C314
4	G	5109	POV	C311-C312-C313-C314
4	J	5112	POV	C311-C312-C313-C314
4	C	5108	POV	C311-C312-C313-C314
4	A	5116	POV	C11-C12-N-C15
4	C	5112	POV	C11-C12-N-C15
4	G	5114	POV	C11-C12-N-C15
4	J	5103	POV	C11-C12-N-C15
4	A	5106	POV	O32-C31-O31-C3
4	C	5105	POV	O32-C31-O31-C3

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Mol	Chain	Res	Type	Atoms
4	G	5105	POV	O32-C31-O31-C3
4	J	5108	POV	O32-C31-O31-C3
4	A	5107	POV	O32-C31-O31-C3
4	A	5114	POV	O32-C31-O31-C3
4	G	5112	POV	O32-C31-O31-C3
4	J	5101	POV	O32-C31-O31-C3
4	A	5116	POV	C11-C12-N-C14
4	C	5112	POV	C11-C12-N-C14
4	G	5114	POV	C11-C12-N-C14
4	J	5103	POV	C11-C12-N-C14
4	C	5109	POV	C23-C24-C25-C26
4	A	5112	POV	C23-C24-C25-C26
4	G	5110	POV	C23-C24-C25-C26
4	J	5113	POV	C23-C24-C25-C26
4	A	5106	POV	C32-C31-O31-C3
4	G	5105	POV	C32-C31-O31-C3
4	J	5108	POV	C32-C31-O31-C3
4	C	5105	POV	C32-C31-O31-C3
4	A	5112	POV	C27-C28-C29-C210
4	A	5116	POV	C27-C28-C29-C210
4	C	5109	POV	C27-C28-C29-C210
4	C	5112	POV	C27-C28-C29-C210
4	G	5110	POV	C27-C28-C29-C210
4	G	5114	POV	C27-C28-C29-C210
4	J	5103	POV	C27-C28-C29-C210
4	J	5113	POV	C27-C28-C29-C210
4	J	5101	POV	C32-C31-O31-C3
4	A	5107	POV	O31-C31-C32-C33
4	A	5114	POV	O31-C31-C32-C33
4	G	5112	POV	O31-C31-C32-C33
4	J	5101	POV	O31-C31-C32-C33
4	A	5107	POV	C32-C31-O31-C3
4	A	5114	POV	C32-C31-O31-C3
4	G	5112	POV	C32-C31-O31-C3
4	J	5101	POV	O21-C21-C22-C23
4	A	5107	POV	O32-C31-C32-C33
4	A	5114	POV	O32-C31-C32-C33
4	G	5112	POV	O32-C31-C32-C33
4	J	5101	POV	O32-C31-C32-C33
4	A	5107	POV	O21-C21-C22-C23
4	A	5114	POV	O21-C21-C22-C23
4	G	5112	POV	O21-C21-C22-C23

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Mol	Chain	Res	Type	Atoms
4	A	5105	POV	C310-C311-C312-C313
4	G	5104	POV	C310-C311-C312-C313
4	J	5107	POV	C310-C311-C312-C313
4	A	5109	POV	O31-C31-C32-C33
4	G	5107	POV	O31-C31-C32-C33
4	J	5110	POV	O31-C31-C32-C33
4	C	5104	POV	C310-C311-C312-C313
5	A	5102	ATP	O4'-C1'-N9-C8
5	C	5101	ATP	O4'-C1'-N9-C8
5	G	5101	ATP	O4'-C1'-N9-C8
5	J	5104	ATP	O4'-C1'-N9-C8
4	C	5106	POV	O31-C31-C32-C33

There are no ring outliers.

27 monomers are involved in 42 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	J	5102	POV	3	0
4	C	5111	POV	2	0
4	G	5113	POV	3	0
4	J	5112	POV	1	0
4	G	5114	POV	1	0
4	G	5112	POV	3	0
4	A	5109	POV	1	0
4	J	5101	POV	4	0
4	A	5111	POV	1	0
4	C	5105	POV	2	0
4	G	5104	POV	2	0
4	A	5105	POV	1	0
4	J	5103	POV	4	0
4	J	5110	POV	1	0
4	A	5107	POV	3	0
4	J	5107	POV	1	0
4	A	5112	POV	1	0
4	C	5106	POV	1	0
4	C	5109	POV	2	0
4	A	5114	POV	3	0
4	C	5104	POV	2	0
4	G	5110	POV	1	0
4	C	5112	POV	1	0
4	J	5113	POV	1	0
4	G	5107	POV	1	0

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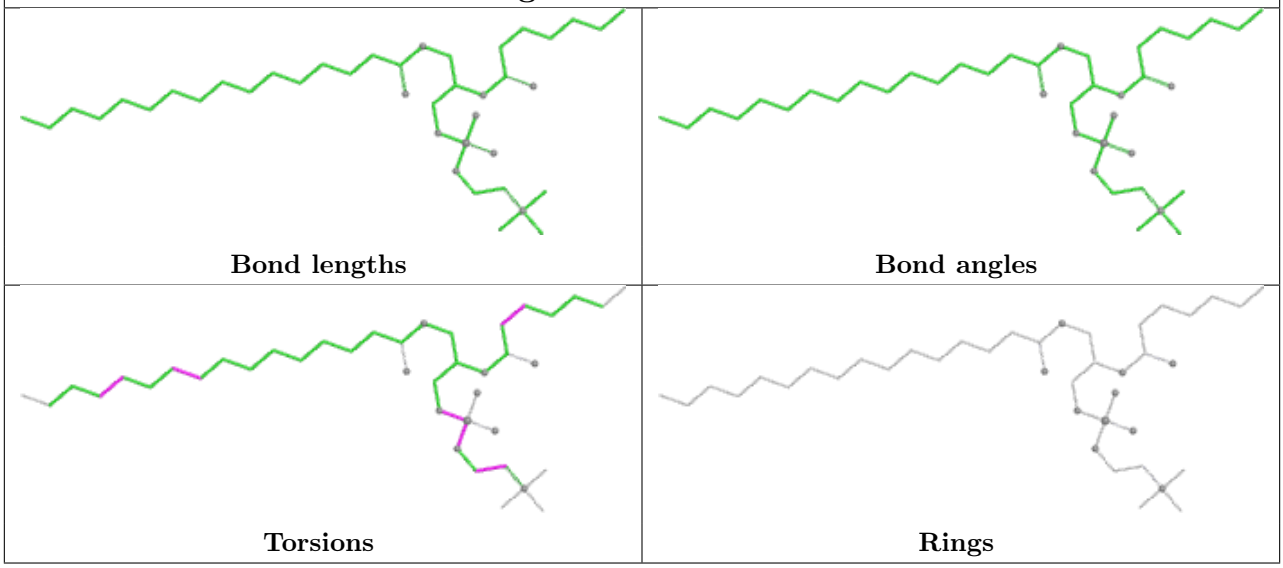
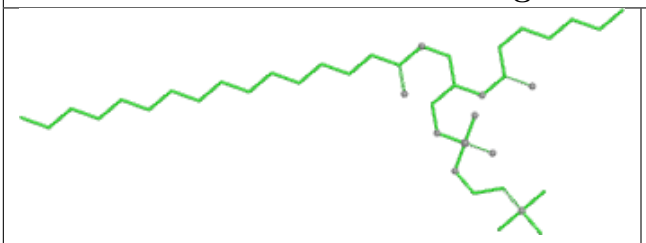
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	5116	POV	1	0
4	A	5115	POV	3	0

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.

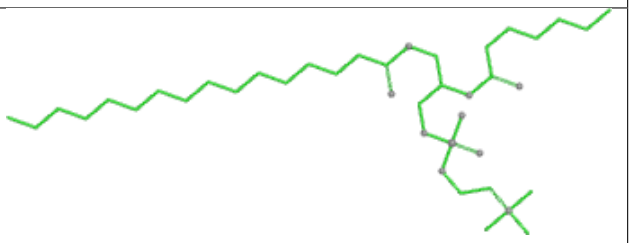
Ligand POV J 5102



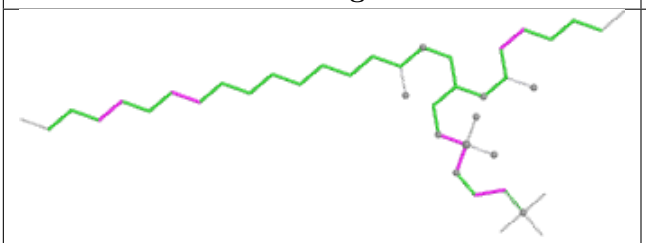
Ligand POV C 5111



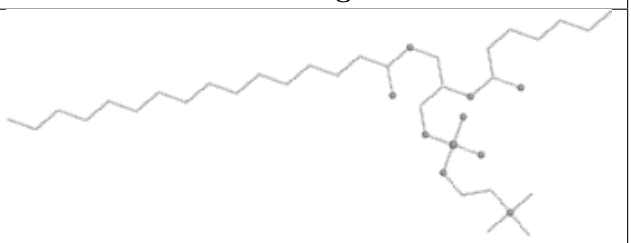
Bond lengths



Bond angles

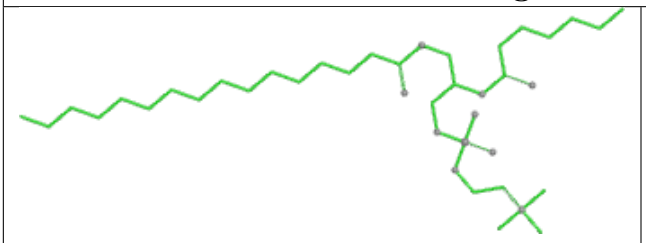


Torsions

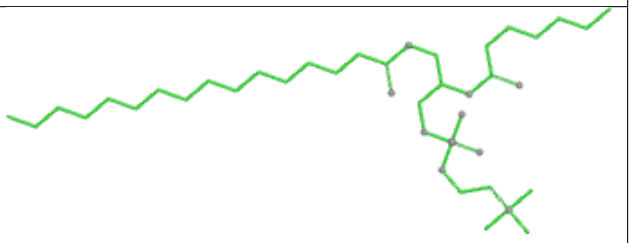


Rings

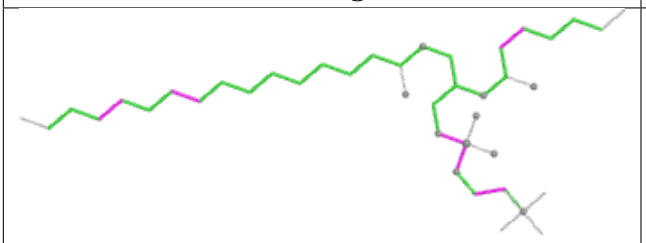
Ligand POV G 5113



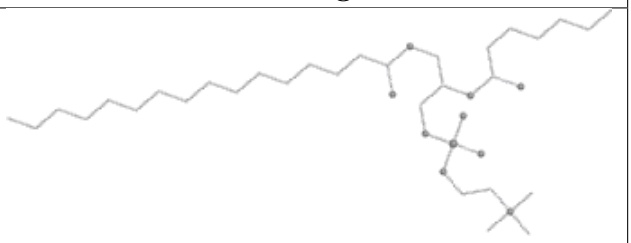
Bond lengths



Bond angles

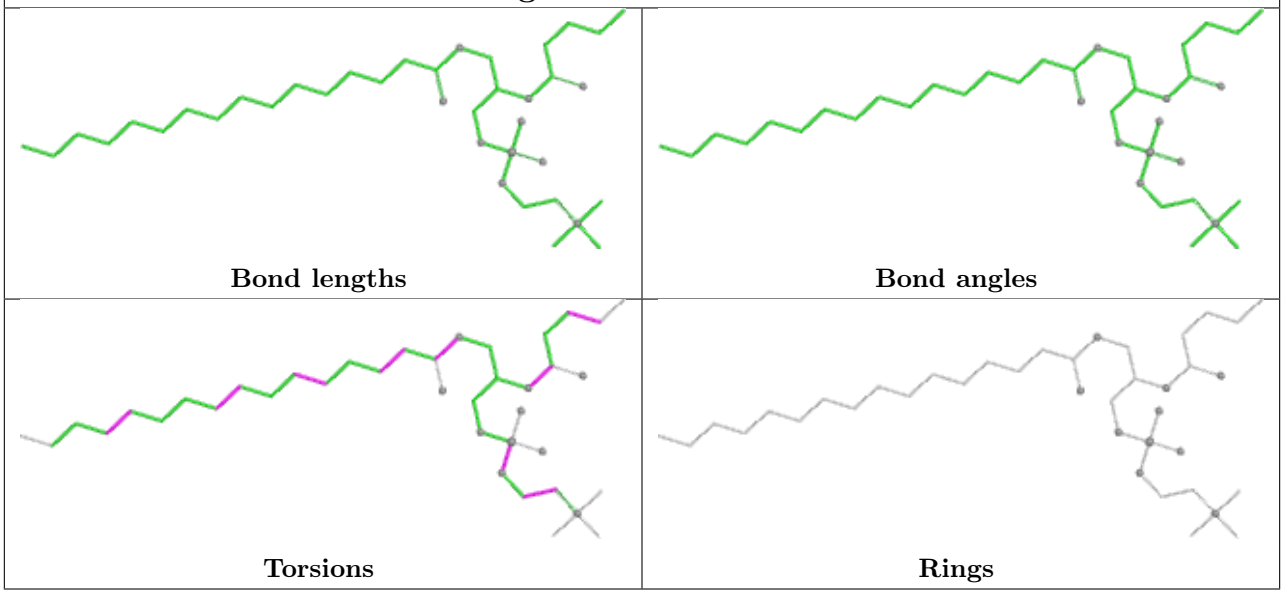


Torsions

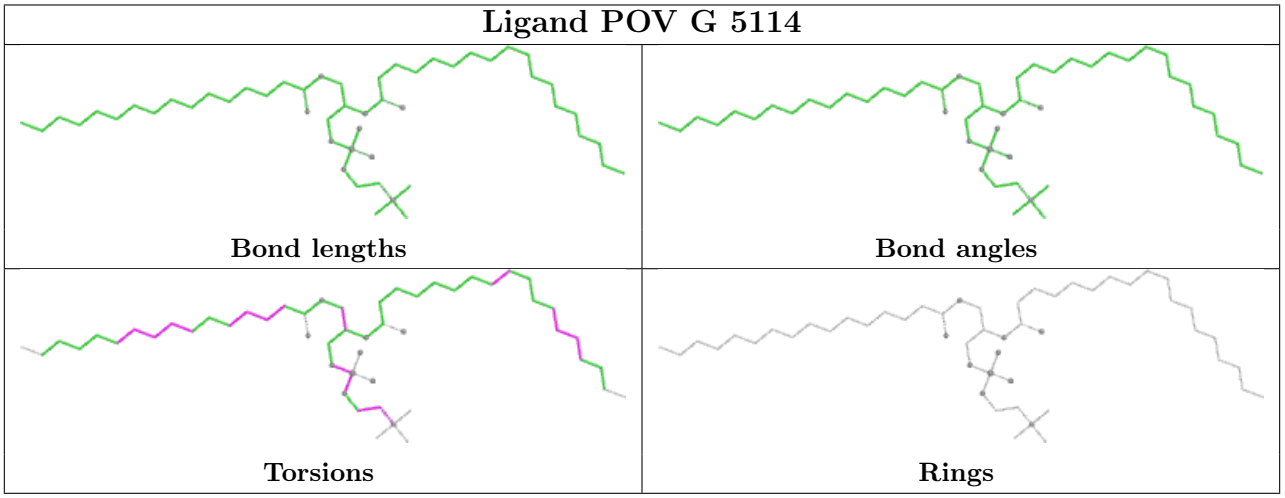


Rings

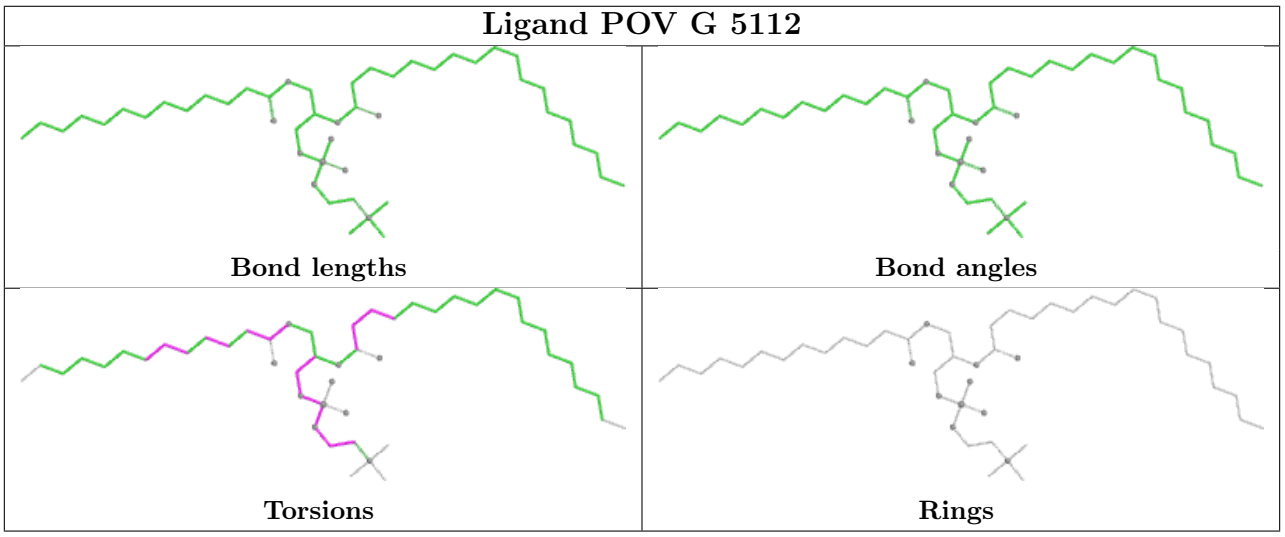
Ligand POV J 5112



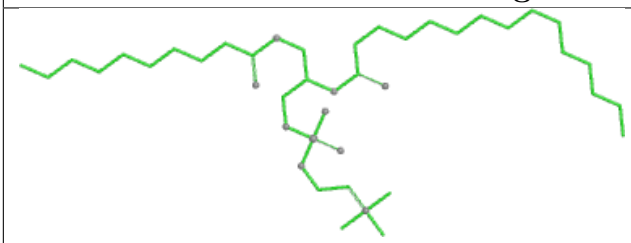
Ligand POV G 5114



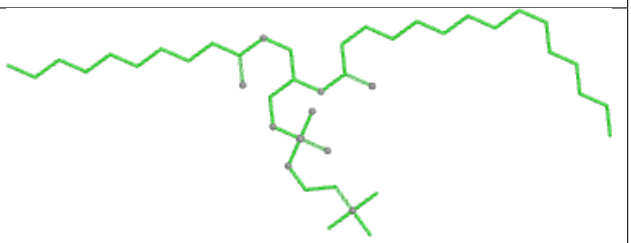
Ligand POV G 5112



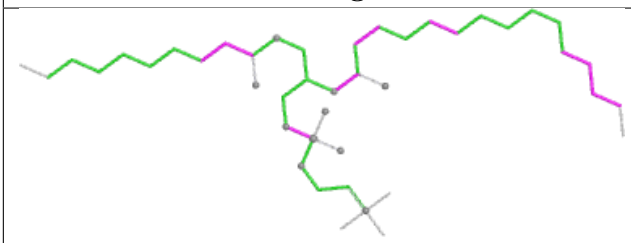
Ligand POV A 5109



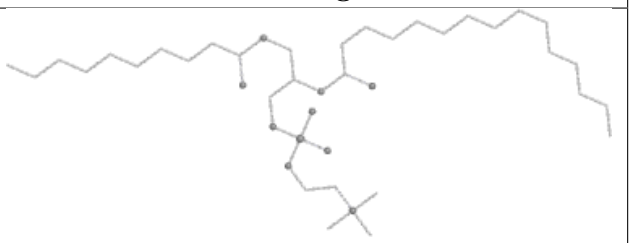
Bond lengths



Bond angles

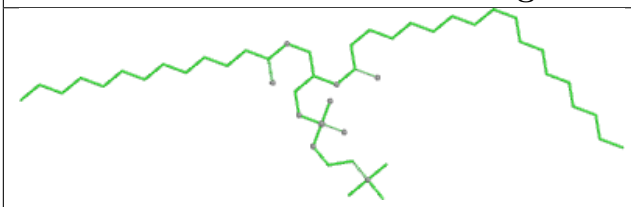


Torsions

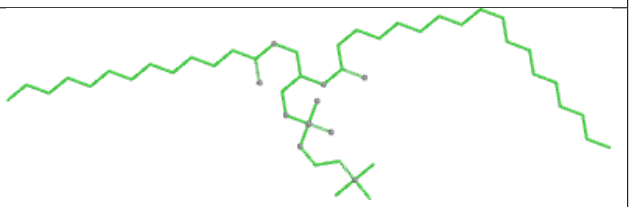


Rings

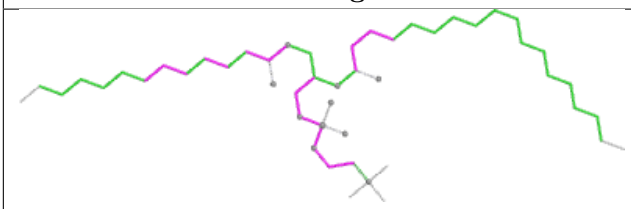
Ligand POV J 5101



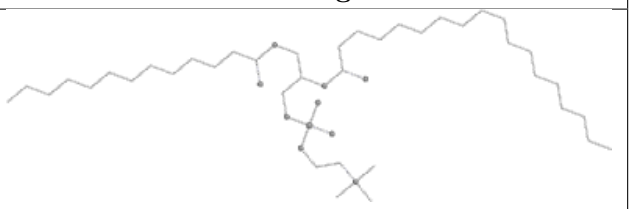
Bond lengths



Bond angles

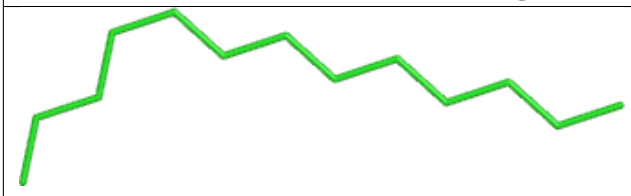


Torsions

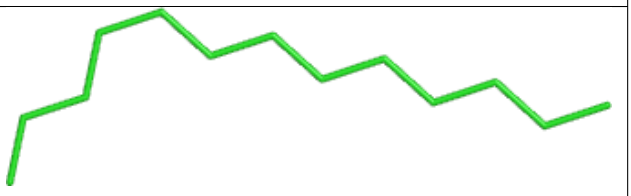


Rings

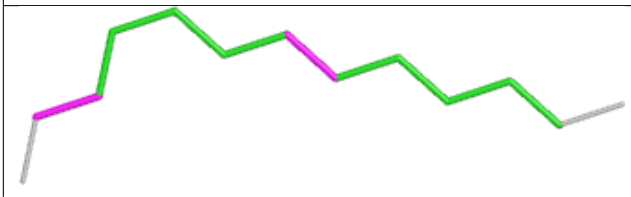
Ligand POV A 5101



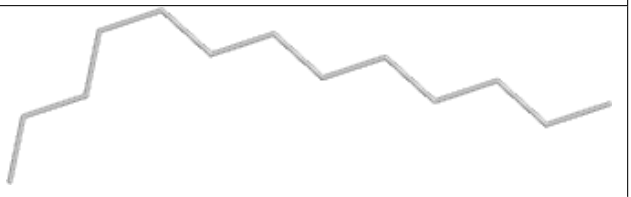
Bond lengths



Bond angles

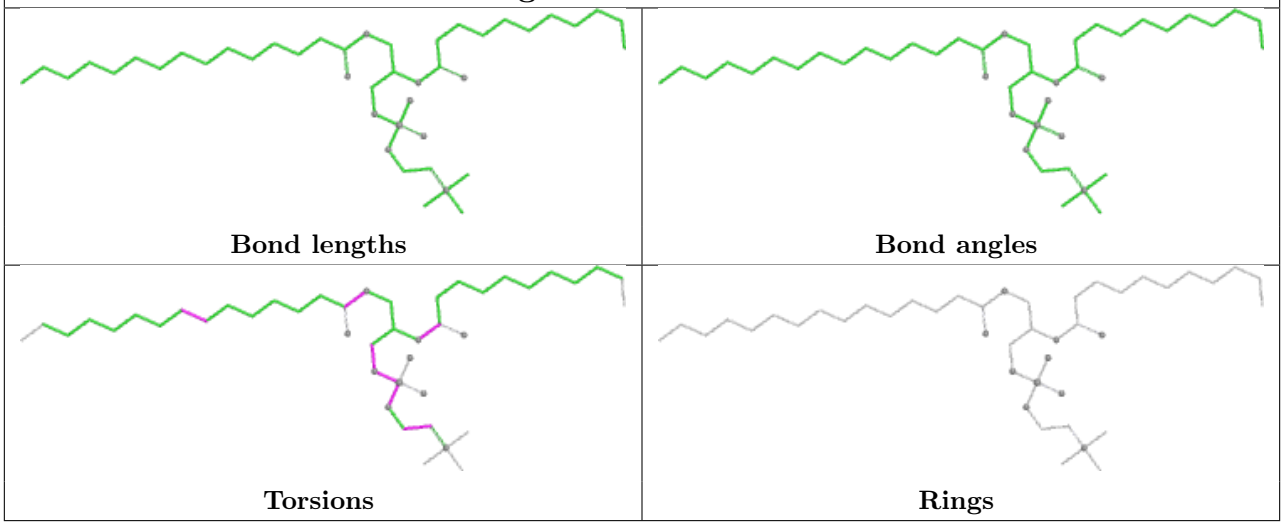


Torsions

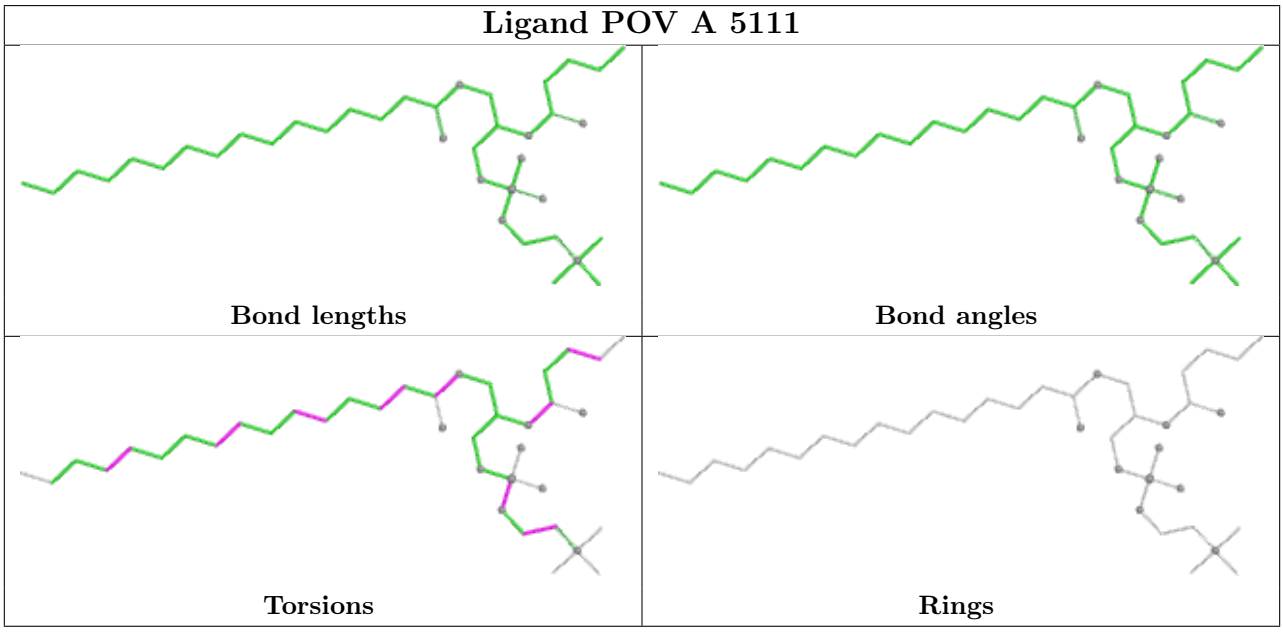


Rings

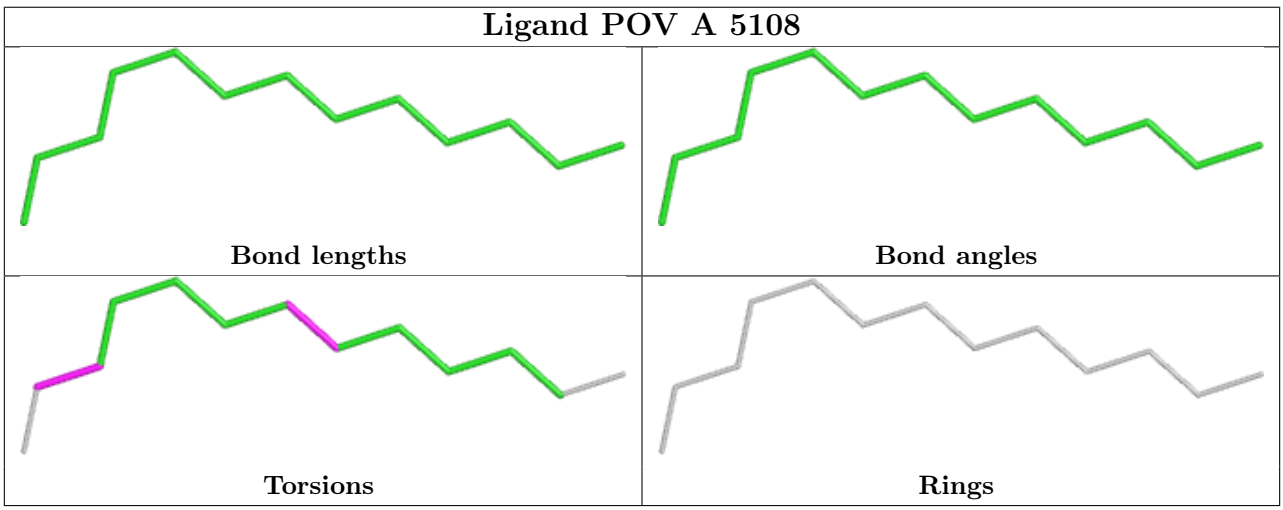
Ligand POV J 5108



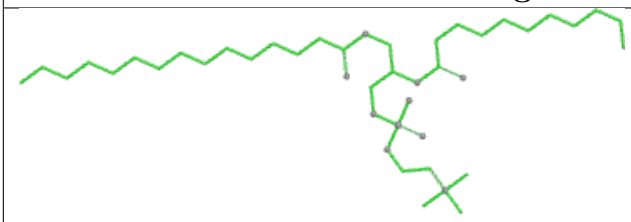
Ligand POV A 5111



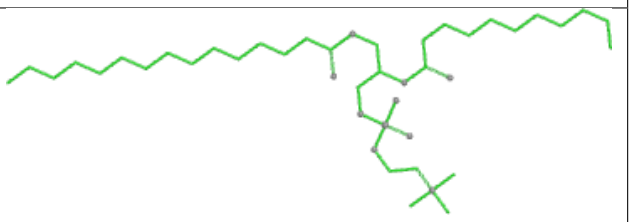
Ligand POV A 5108



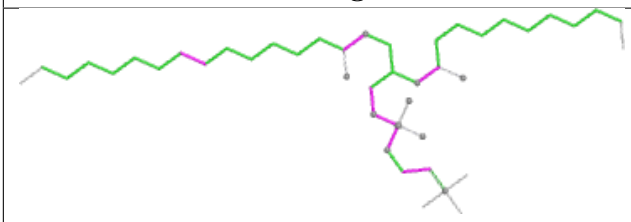
Ligand POV C 5105



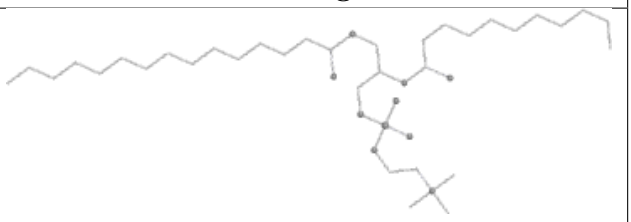
Bond lengths



Bond angles

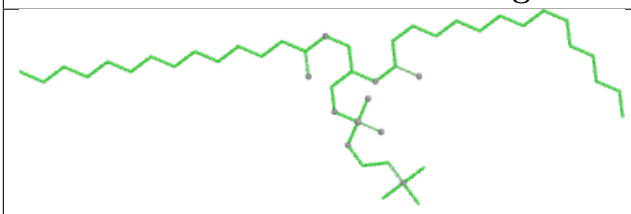


Torsions

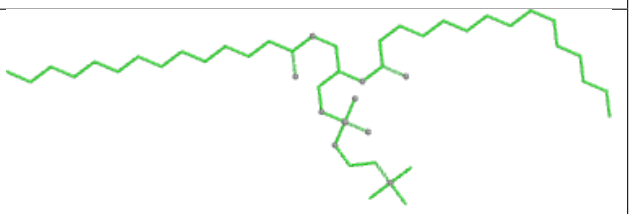


Rings

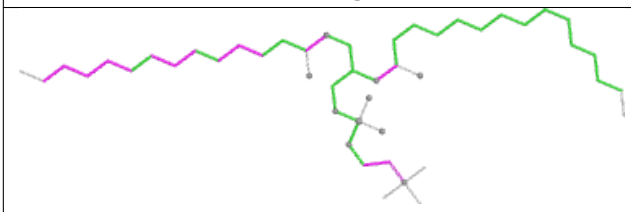
Ligand POV G 5104



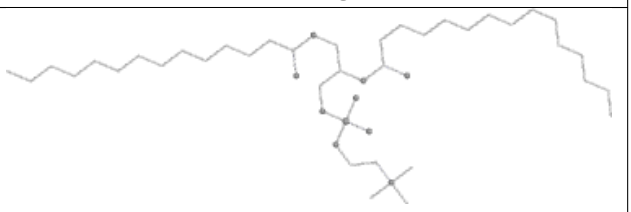
Bond lengths



Bond angles

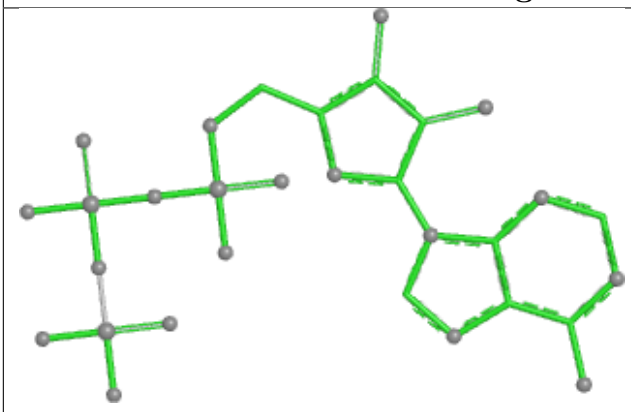


Torsions

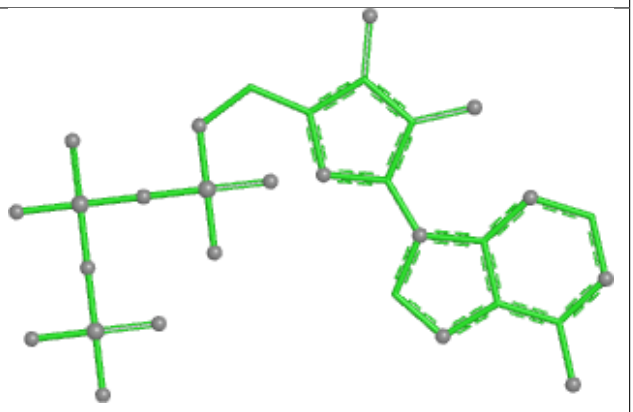


Rings

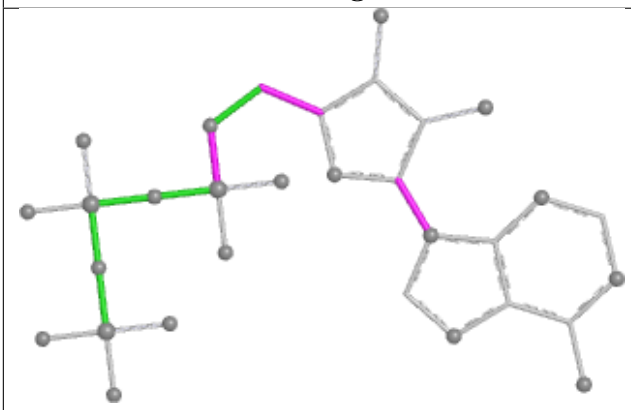
Ligand ATP A 5102



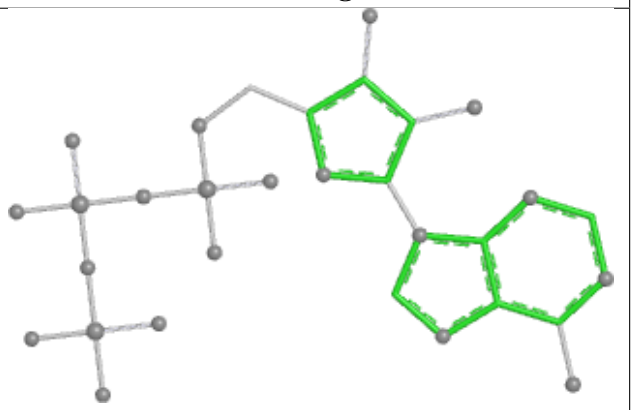
Bond lengths



Bond angles

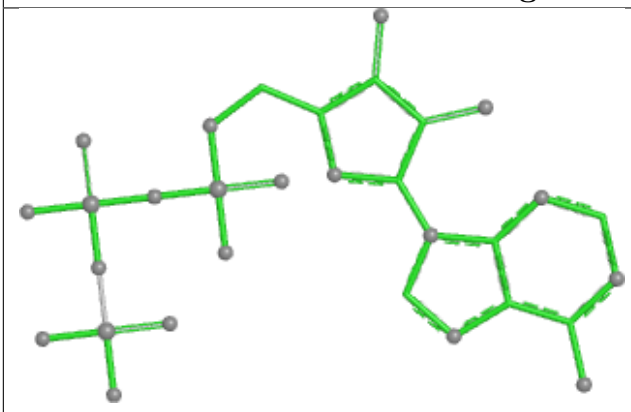


Torsions

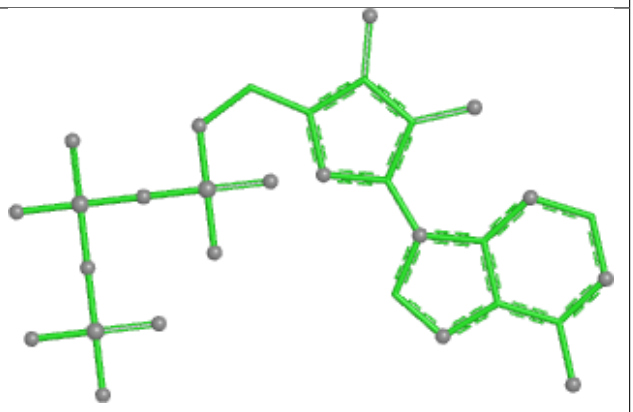


Rings

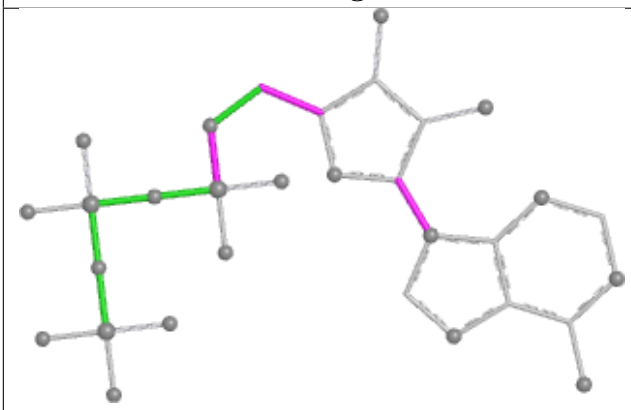
Ligand ATP J 5104



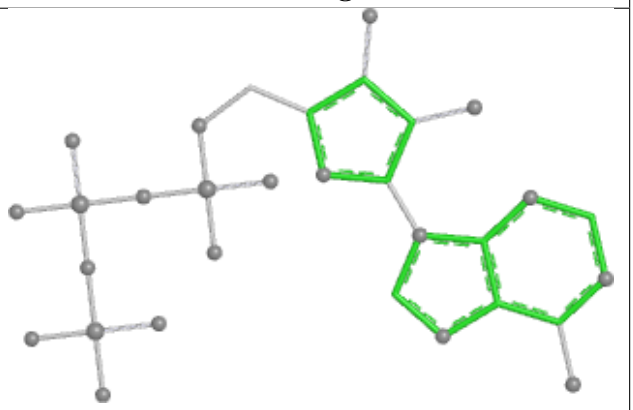
Bond lengths



Bond angles

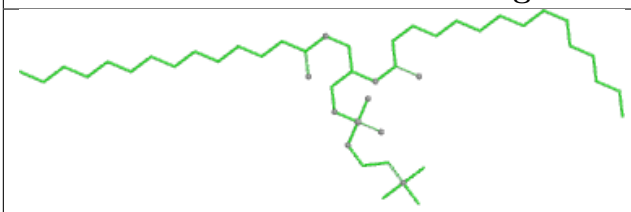


Torsions

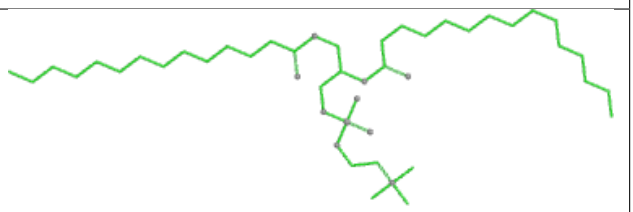


Rings

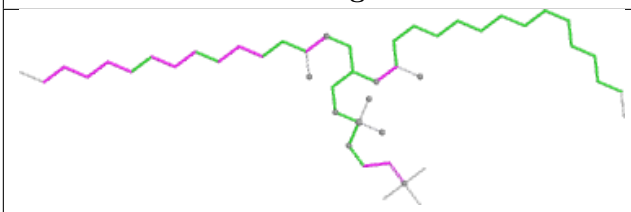
Ligand POV A 5105



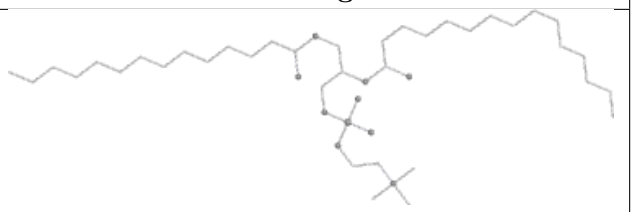
Bond lengths



Bond angles

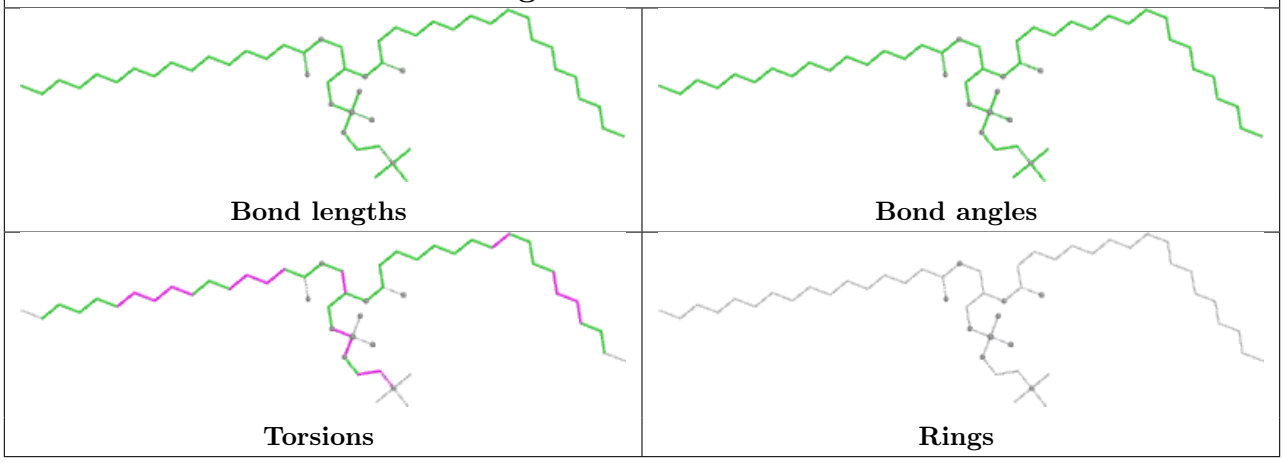


Torsions

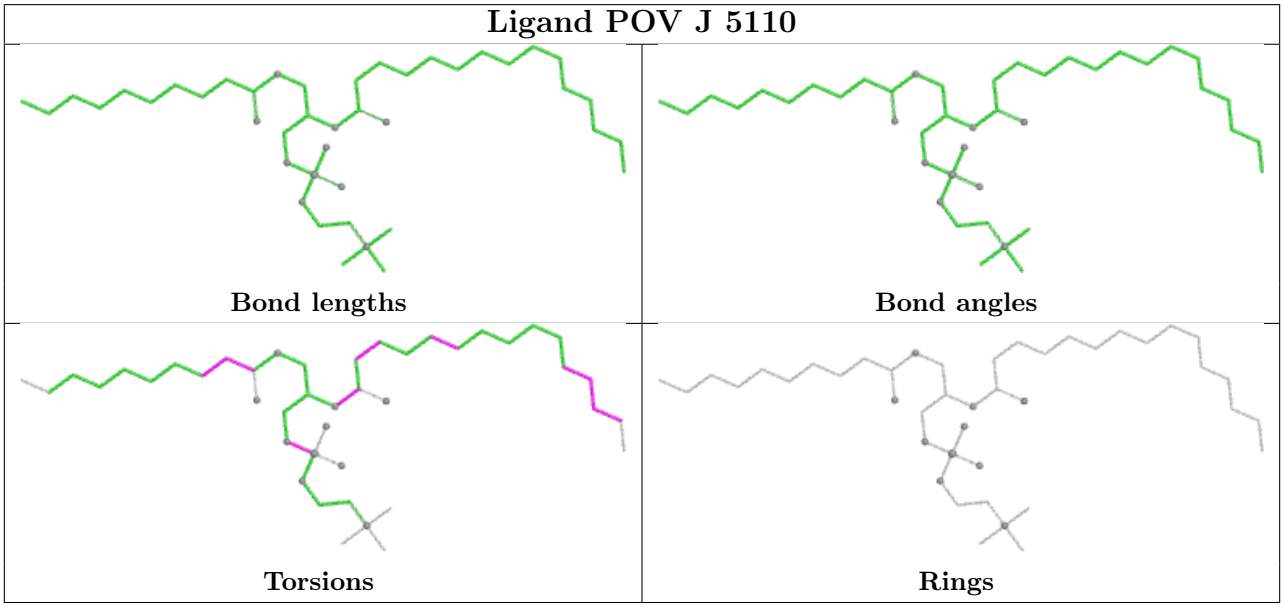


Rings

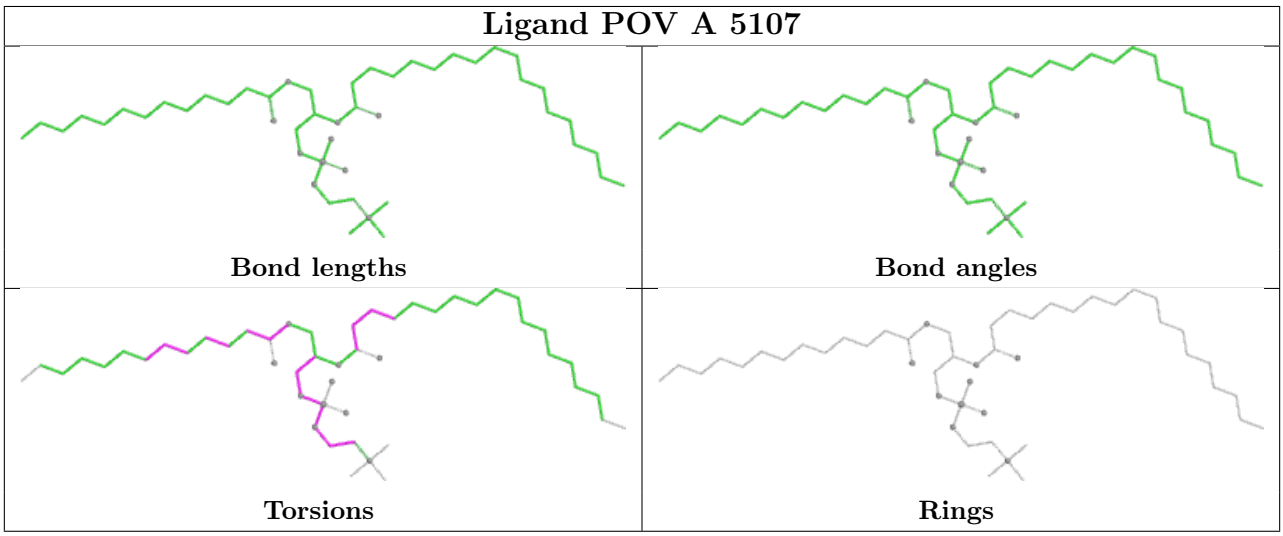
Ligand POV J 5103



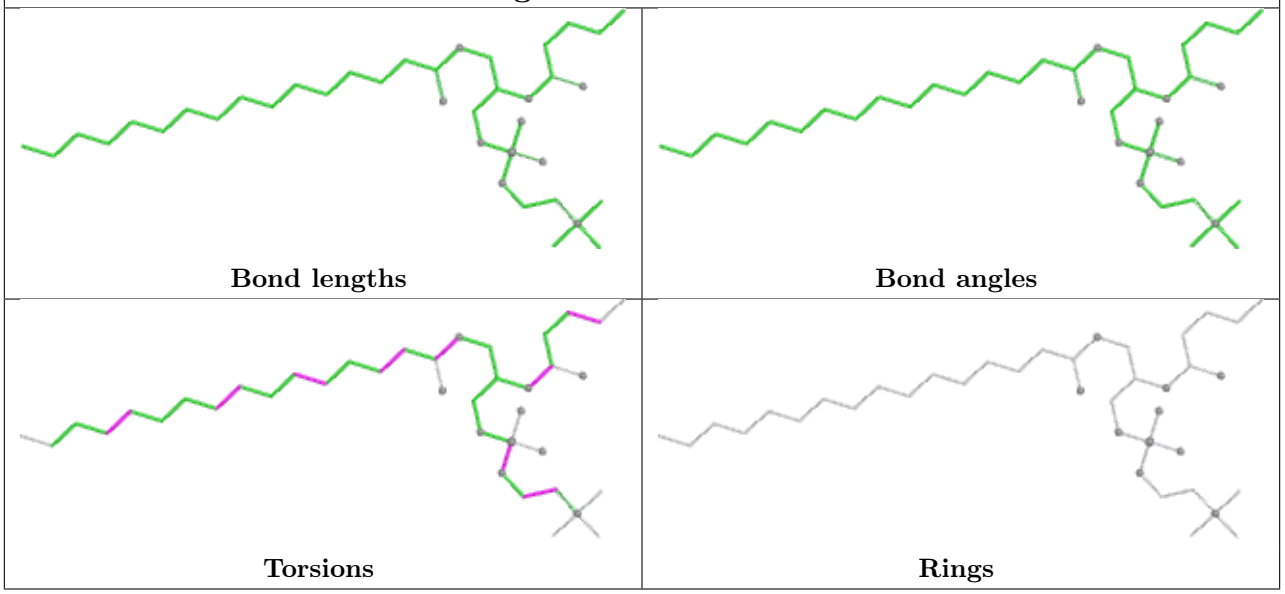
Ligand POV J 5110



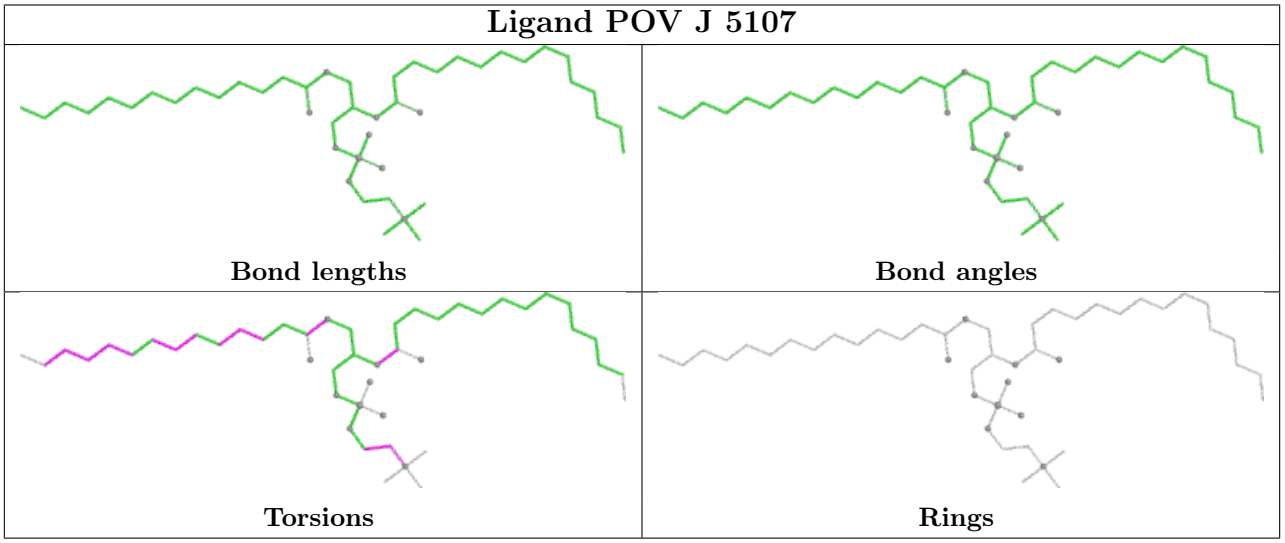
Ligand POV A 5107



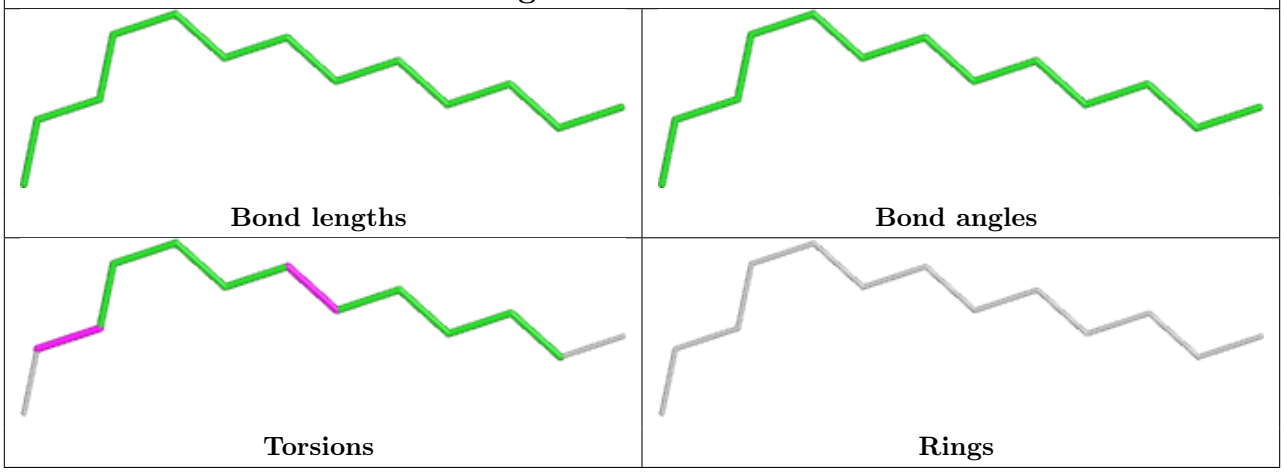
Ligand POV G 5109



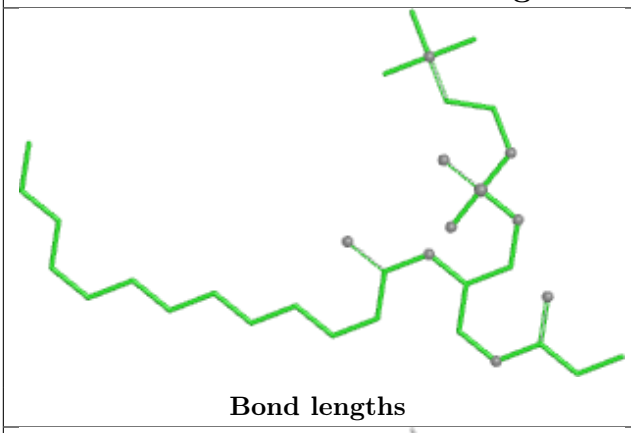
Ligand POV J 5107



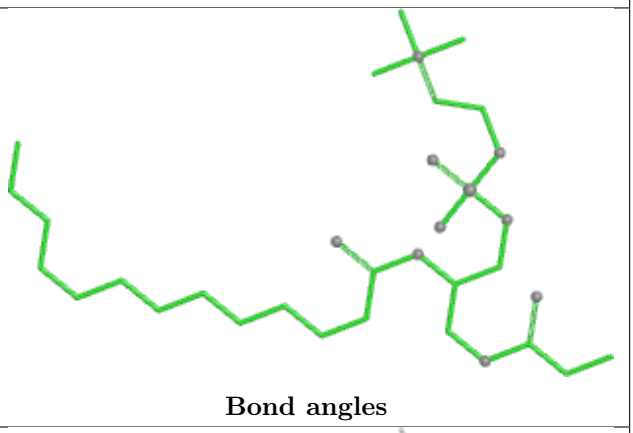
Ligand POV J 5109



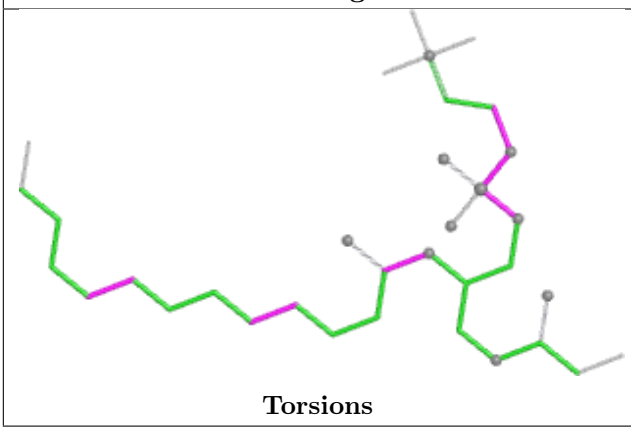
Ligand POV A 5112



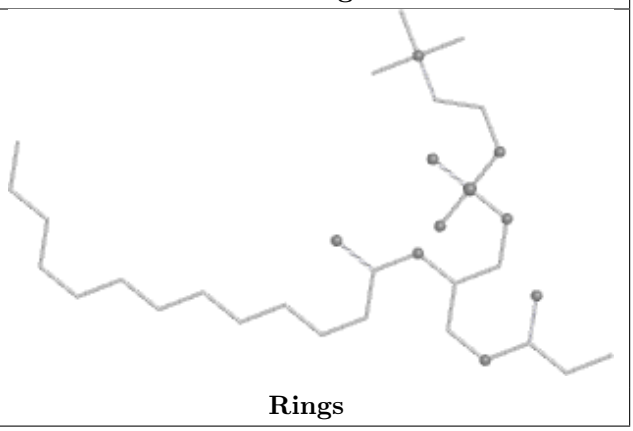
Bond lengths



Bond angles

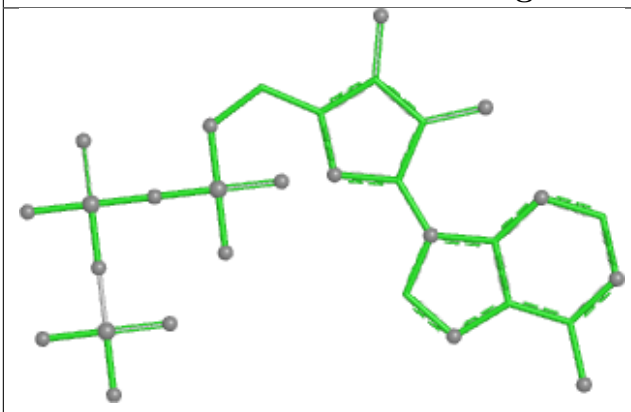


Torsions

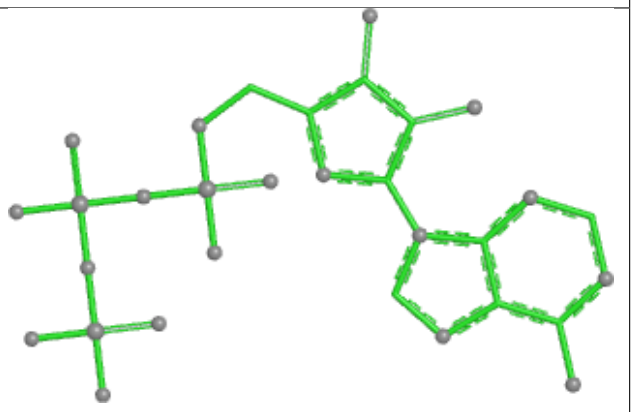


Rings

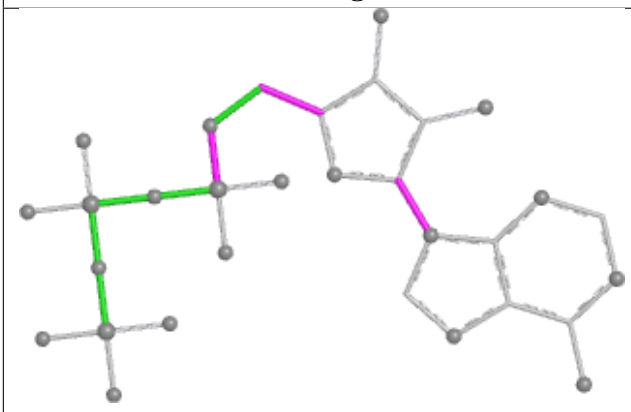
Ligand ATP C 5101



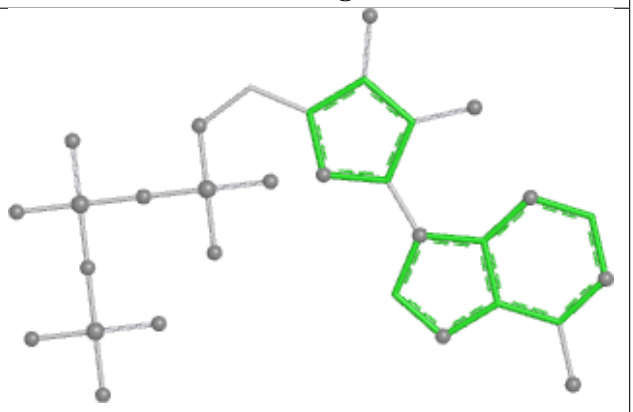
Bond lengths



Bond angles

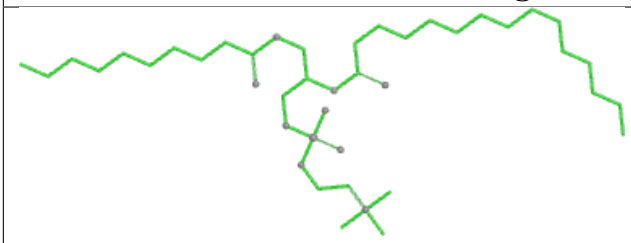


Torsions

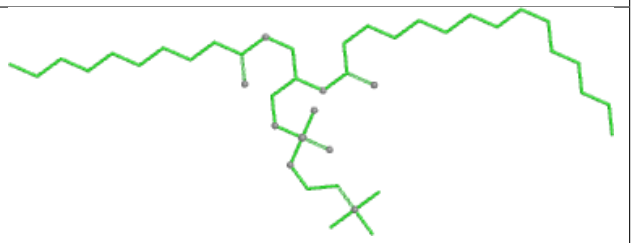


Rings

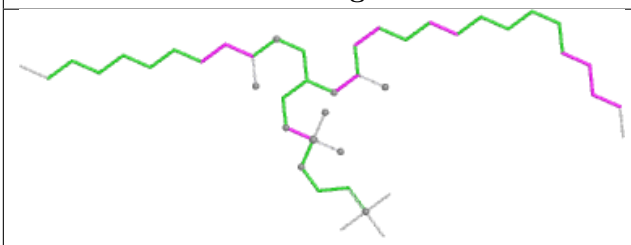
Ligand POV C 5106



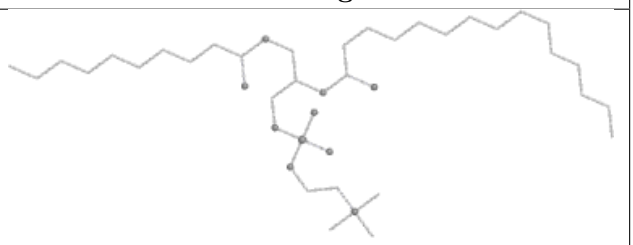
Bond lengths



Bond angles

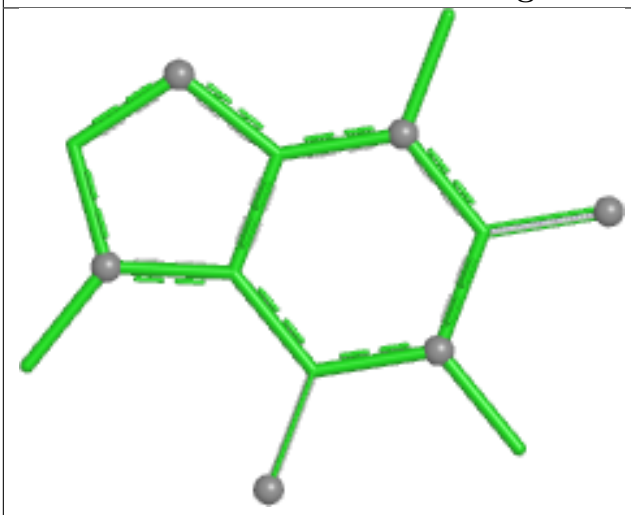


Torsions

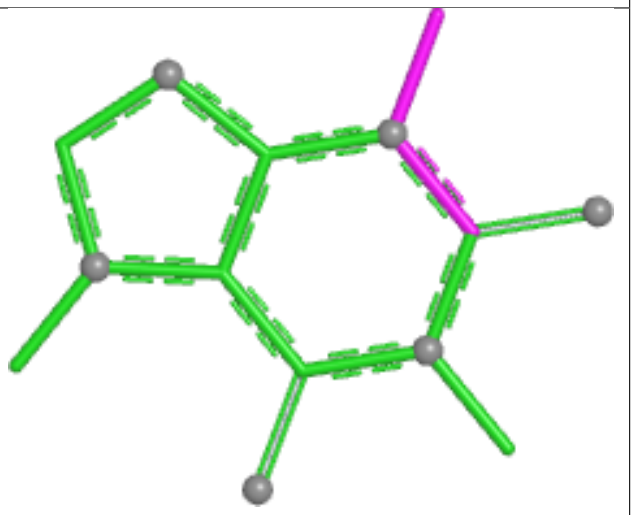


Rings

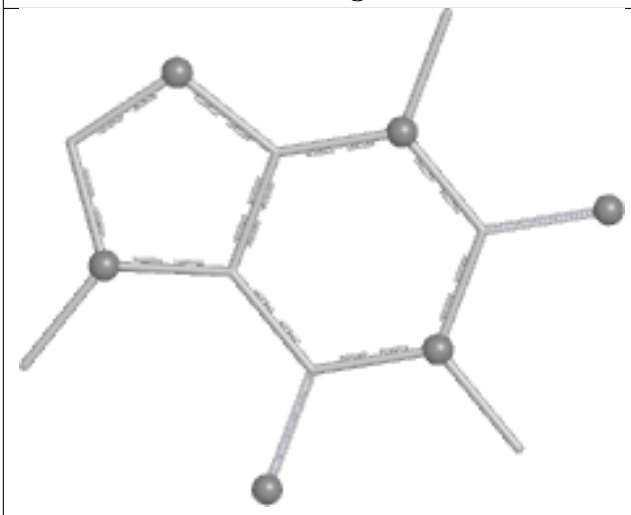
Ligand CFF C 5102



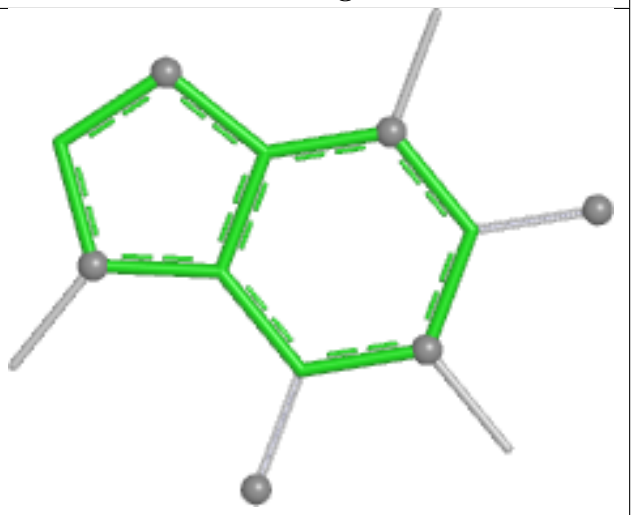
Bond lengths



Bond angles

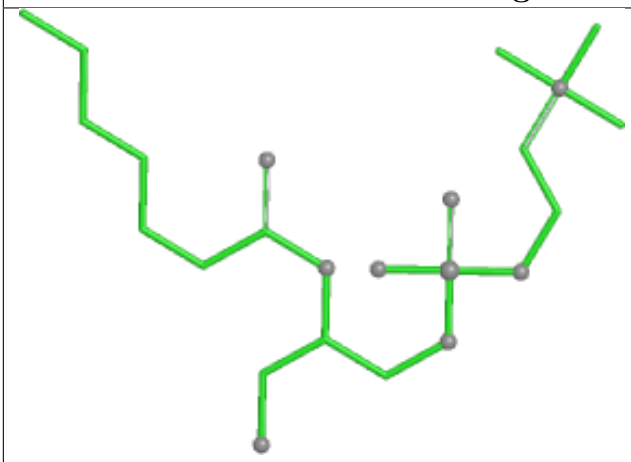


Torsions

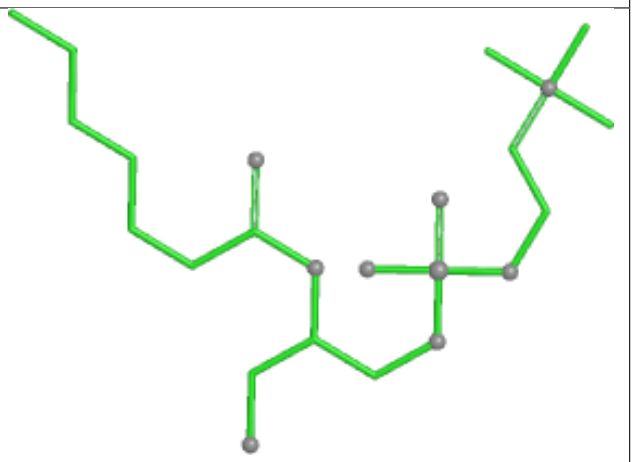


Rings

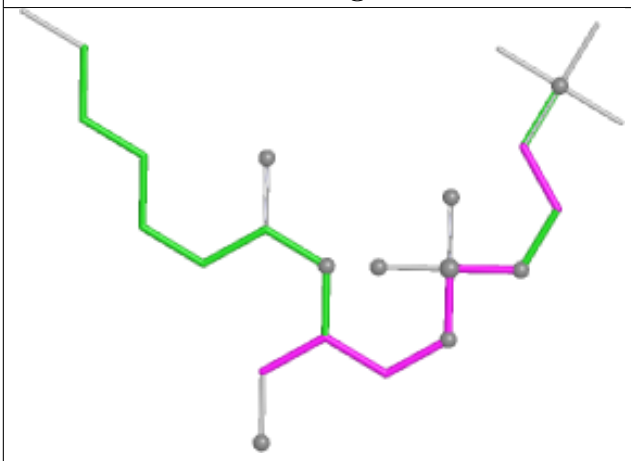
Ligand POV G 5108



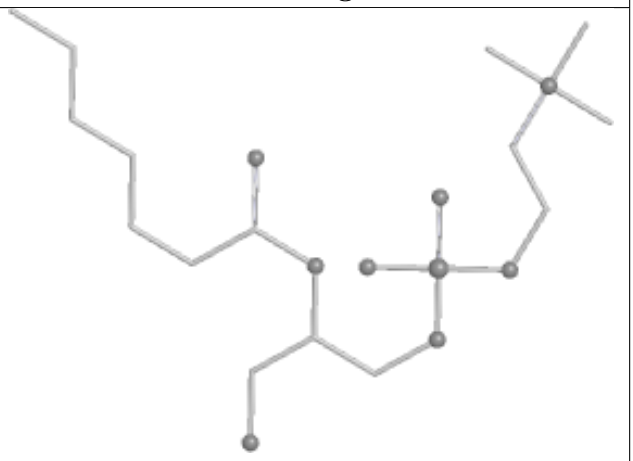
Bond lengths



Bond angles

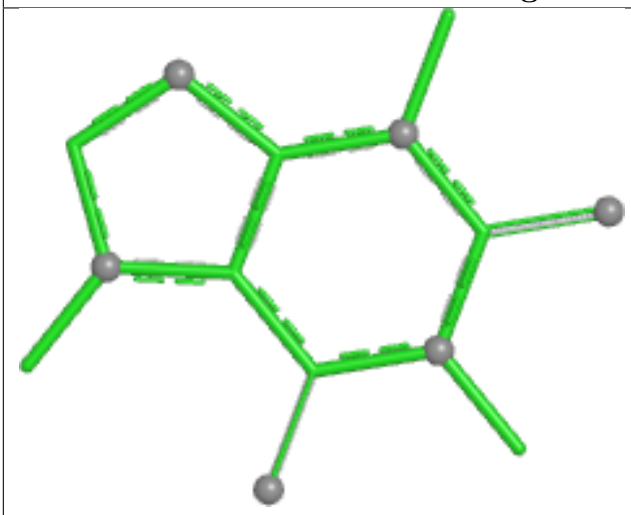


Torsions

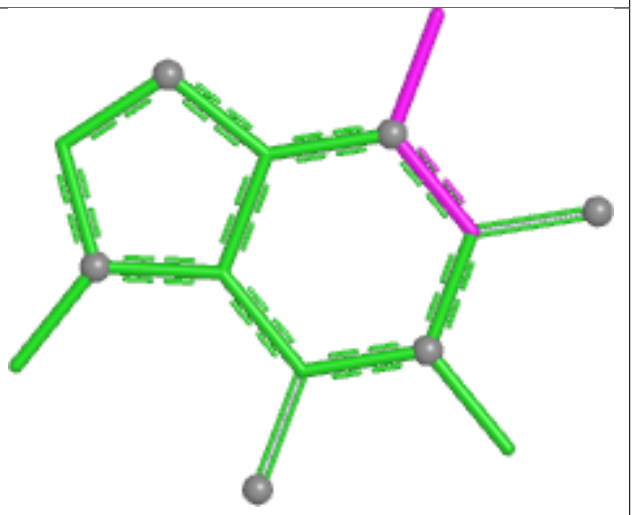


Rings

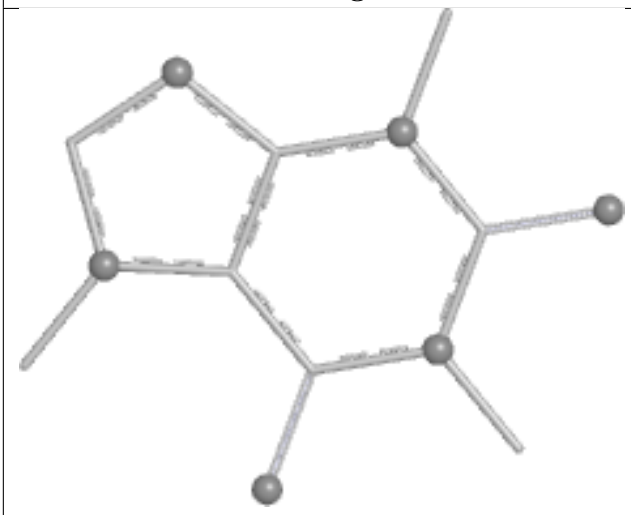
Ligand CFF J 5105



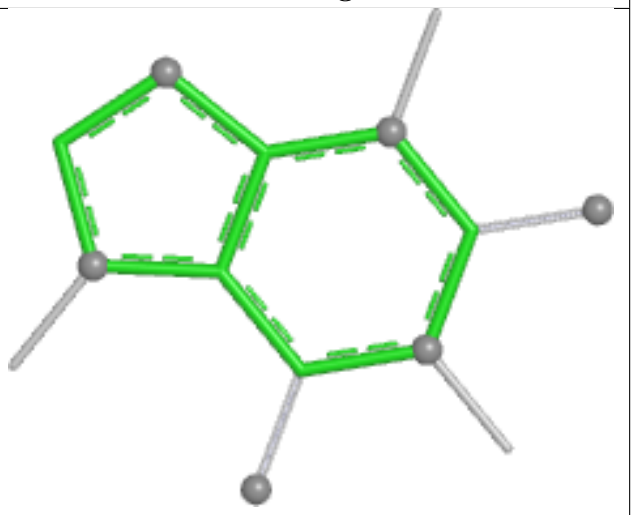
Bond lengths



Bond angles

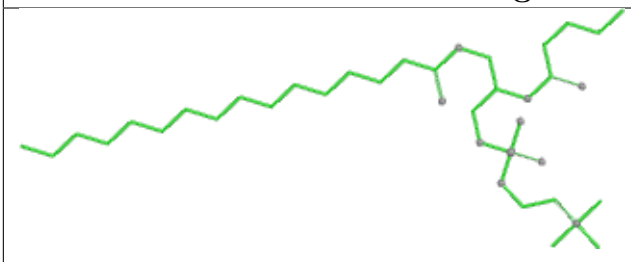


Torsions

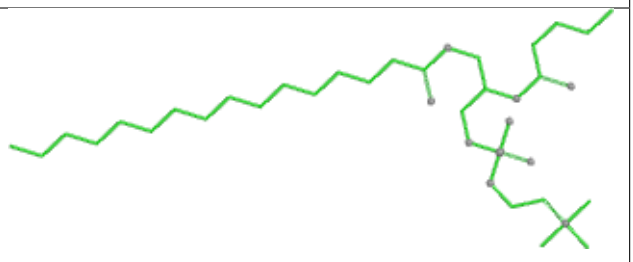


Rings

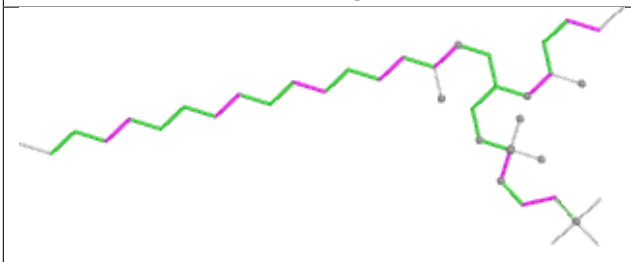
Ligand POV C 5108



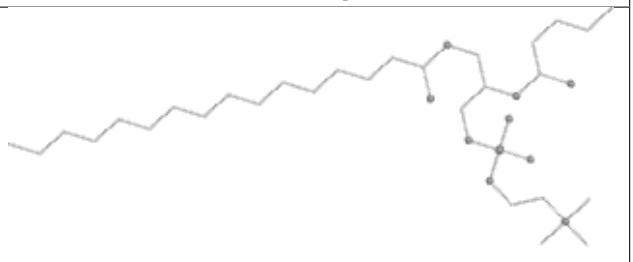
Bond lengths



Bond angles

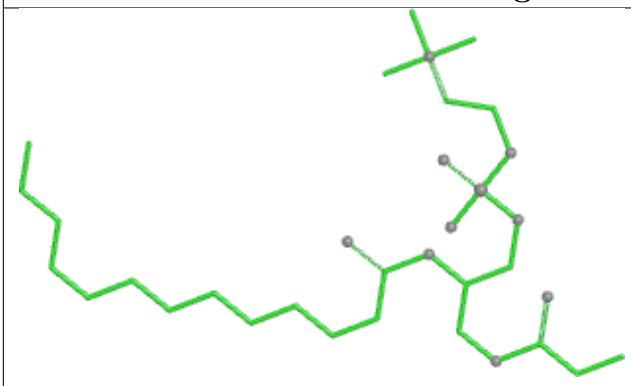


Torsions

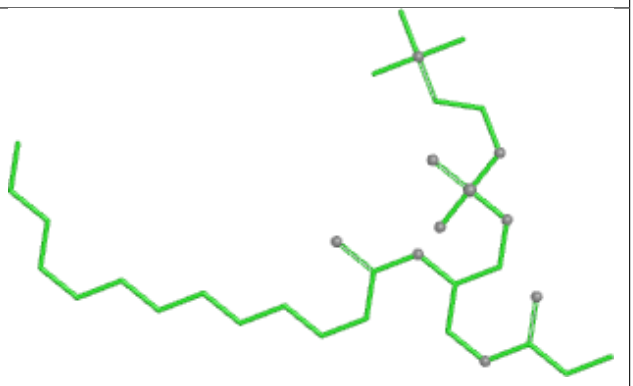


Rings

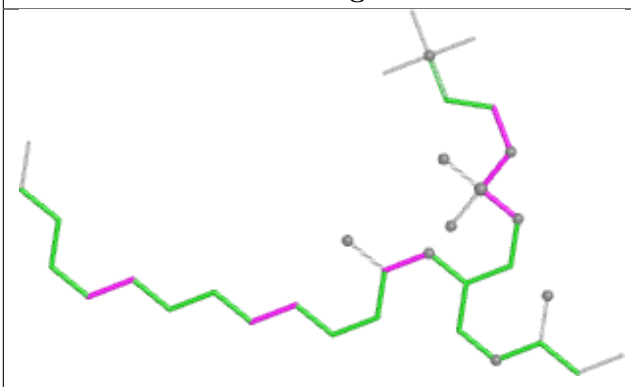
Ligand POV C 5109



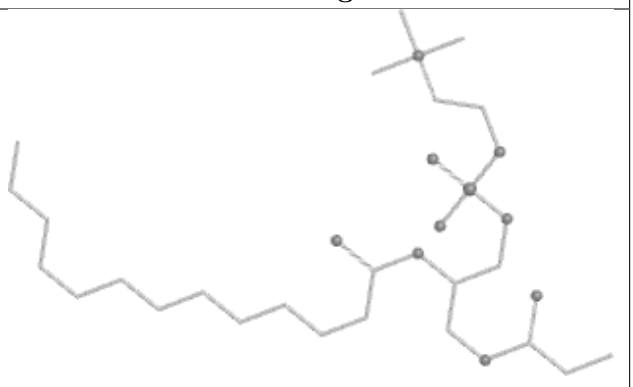
Bond lengths



Bond angles

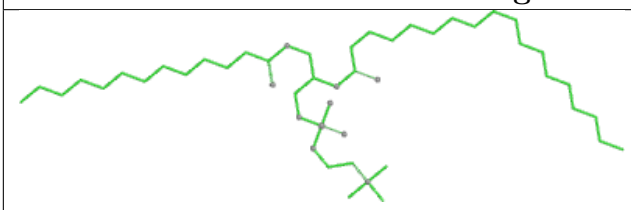


Torsions

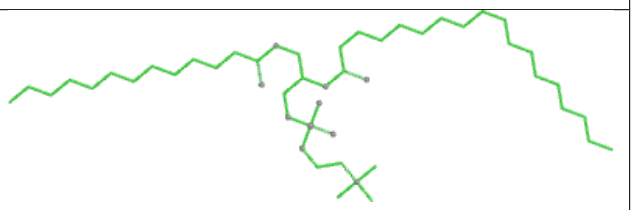


Rings

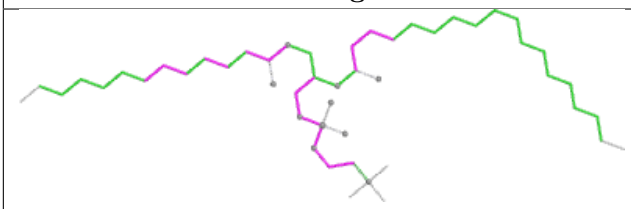
Ligand POV A 5114



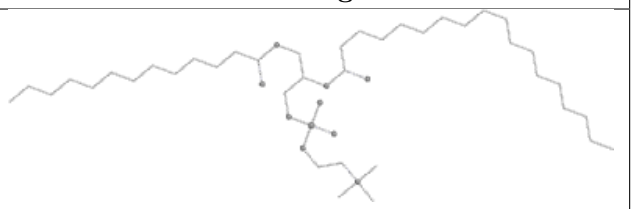
Bond lengths



Bond angles

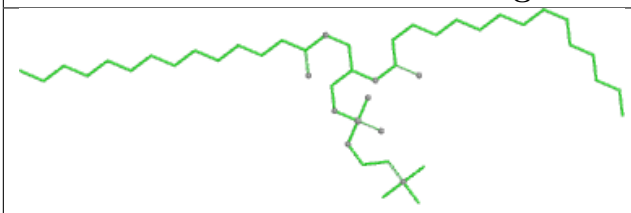


Torsions

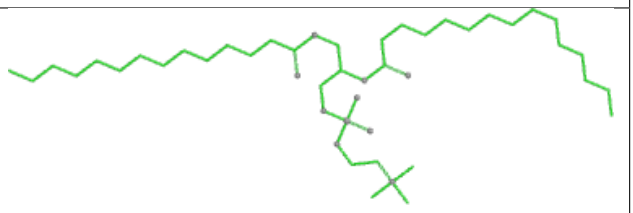


Rings

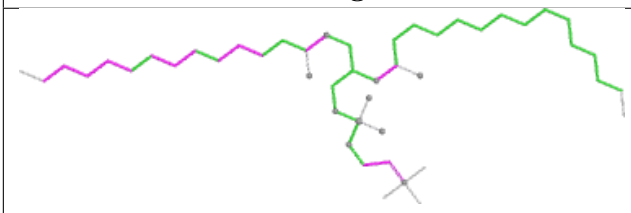
Ligand POV C 5104



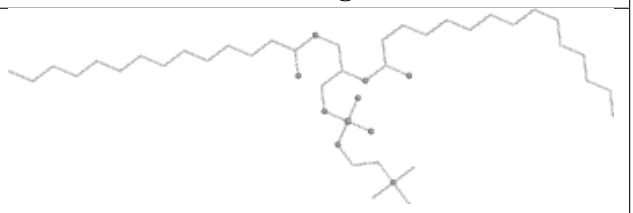
Bond lengths



Bond angles

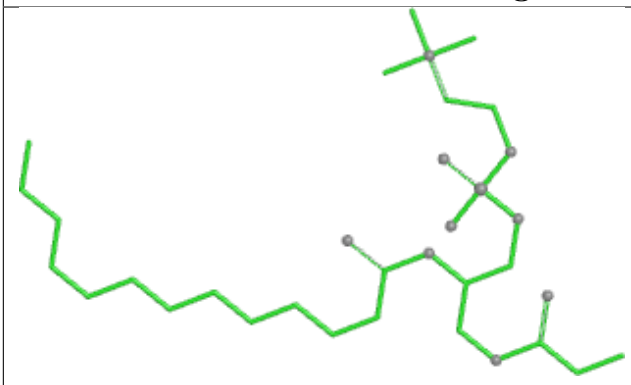


Torsions

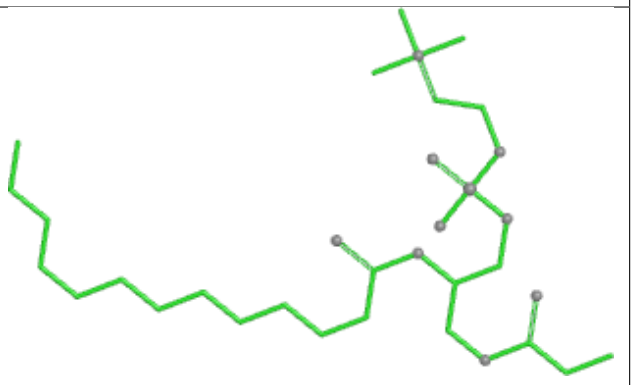


Rings

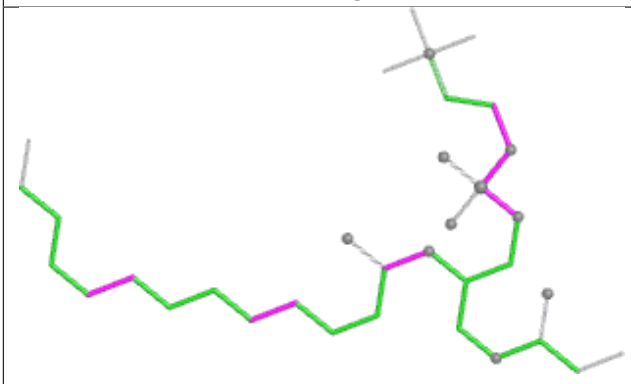
Ligand POV G 5110



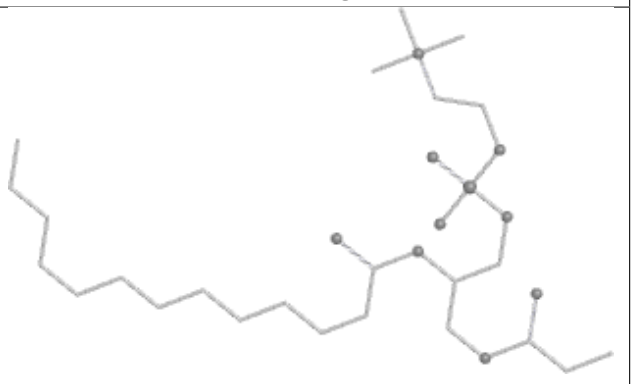
Bond lengths



Bond angles

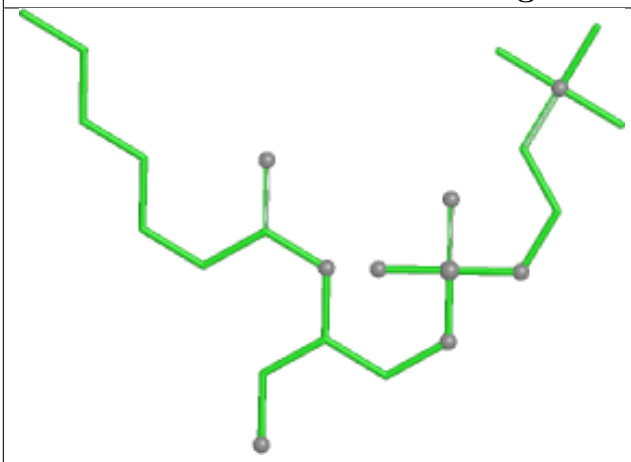


Torsions

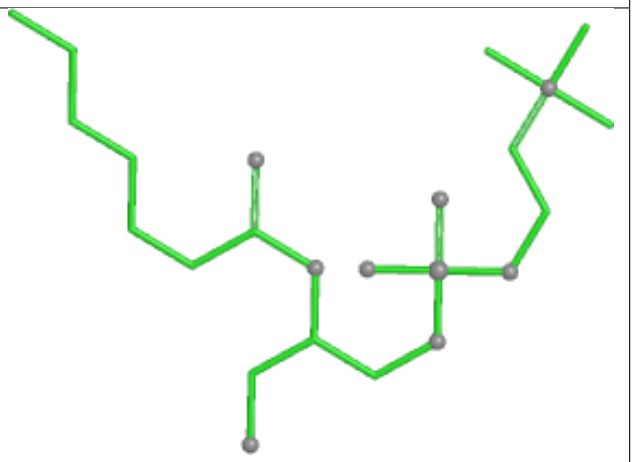


Rings

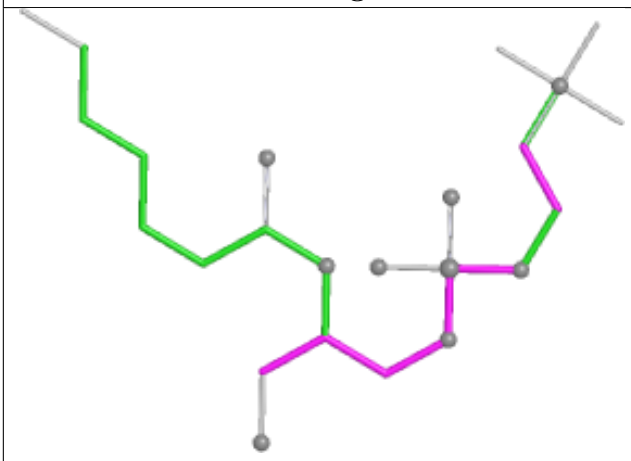
Ligand POV J 5111



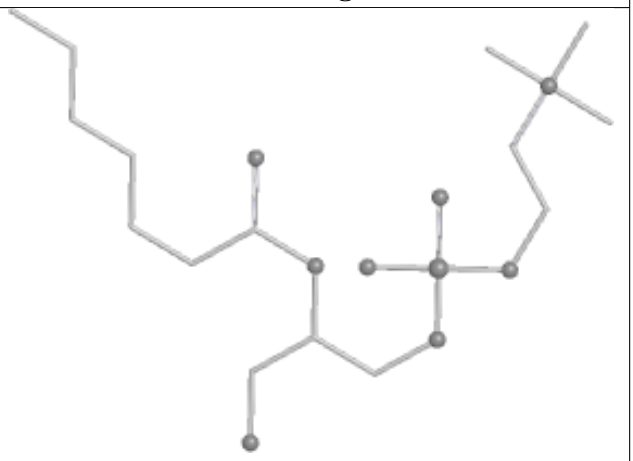
Bond lengths



Bond angles

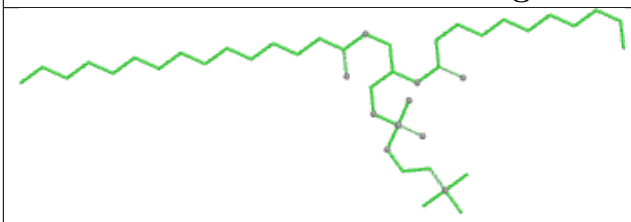


Torsions

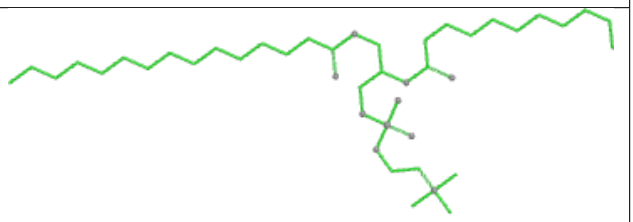


Rings

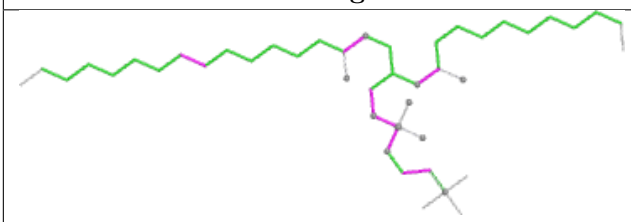
Ligand POV G 5105



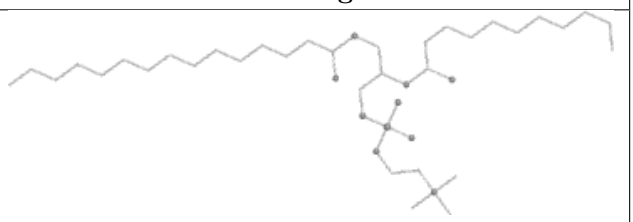
Bond lengths



Bond angles

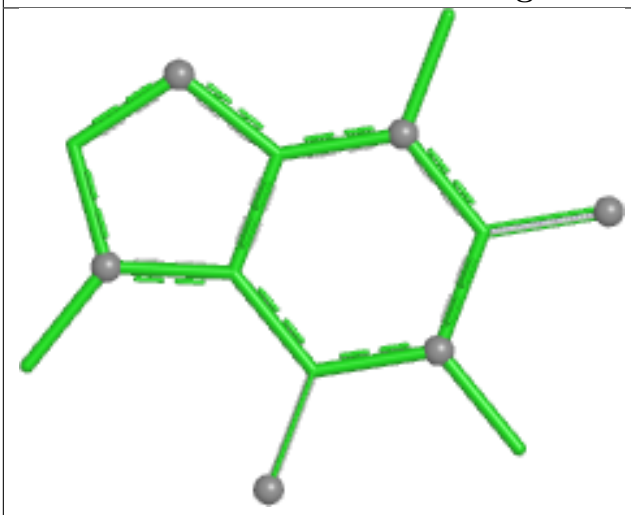


Torsions

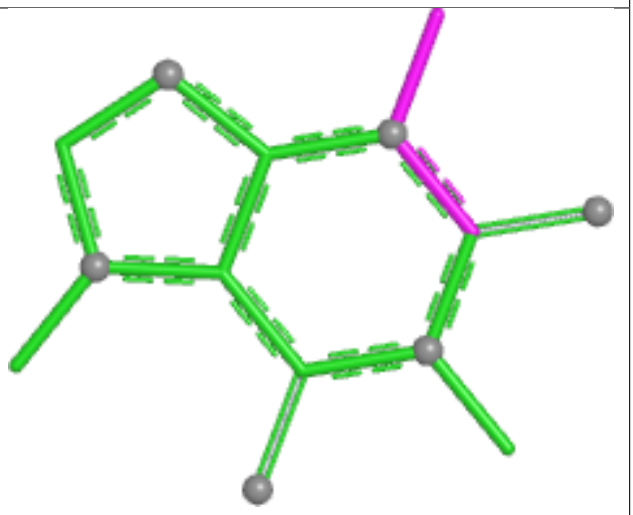


Rings

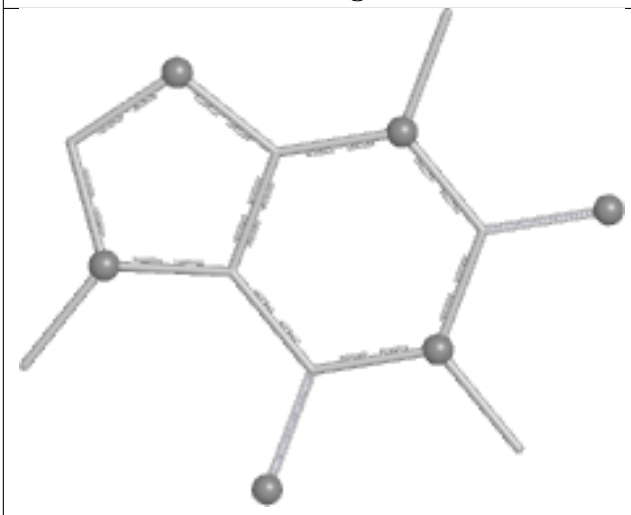
Ligand CFF G 5102



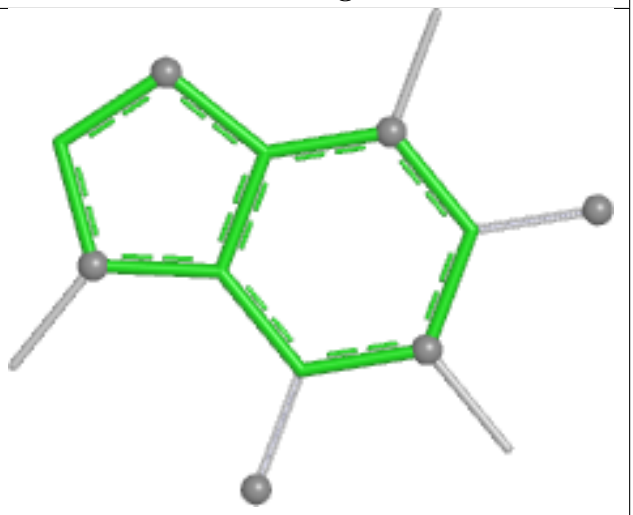
Bond lengths



Bond angles

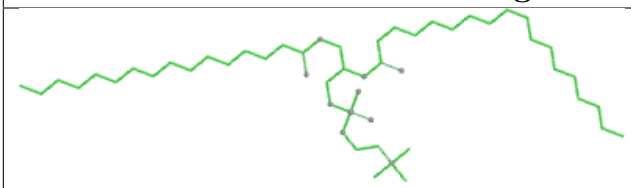


Torsions

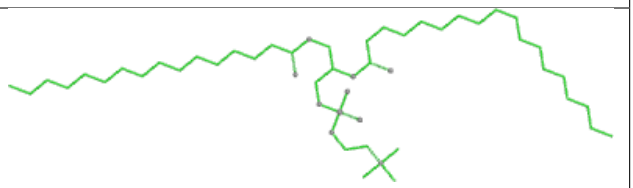


Rings

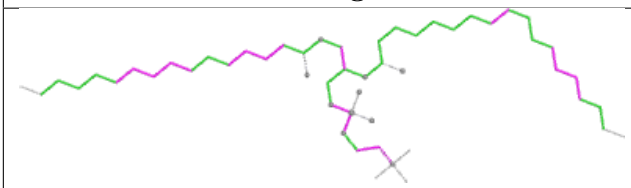
Ligand POV C 5112



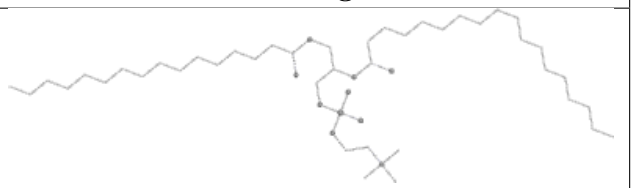
Bond lengths



Bond angles

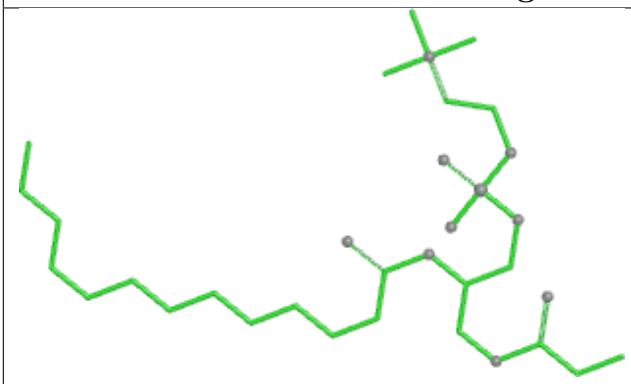


Torsions

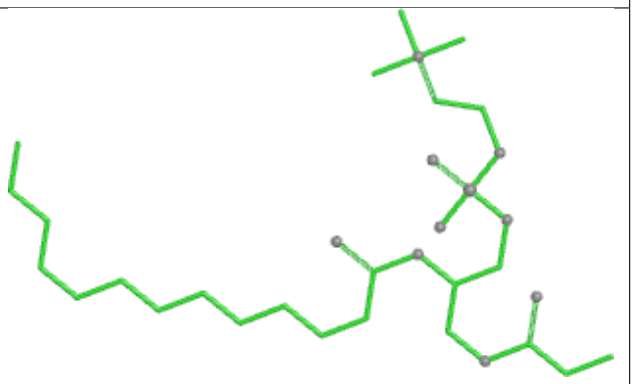


Rings

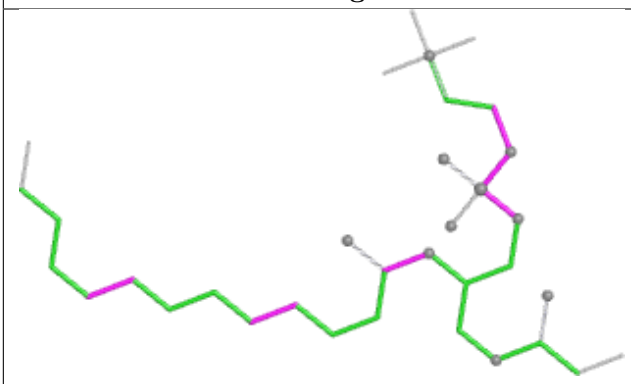
Ligand POV J 5113



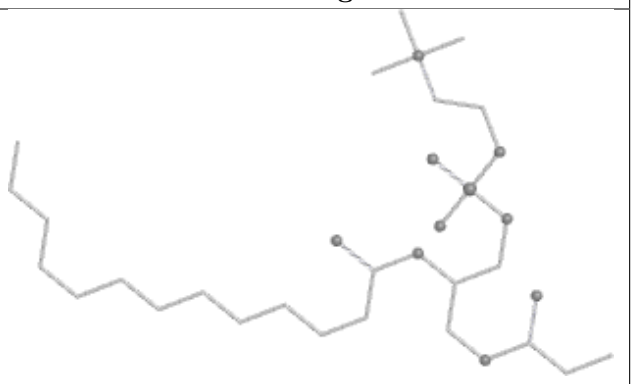
Bond lengths



Bond angles

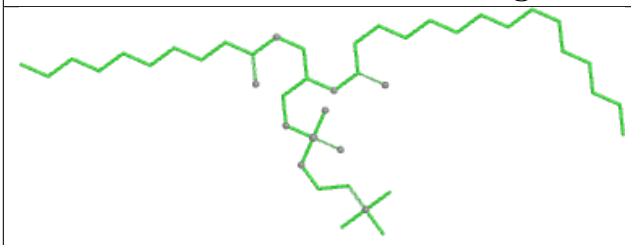


Torsions

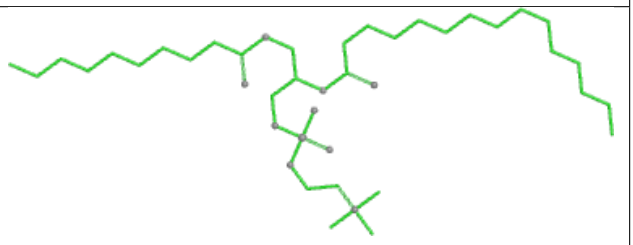


Rings

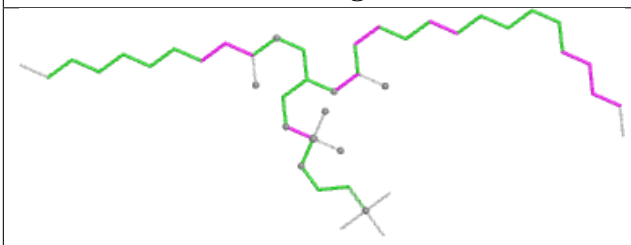
Ligand POV G 5107



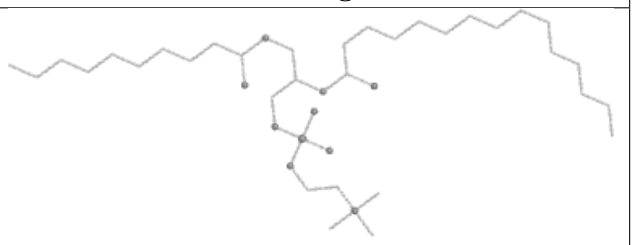
Bond lengths



Bond angles

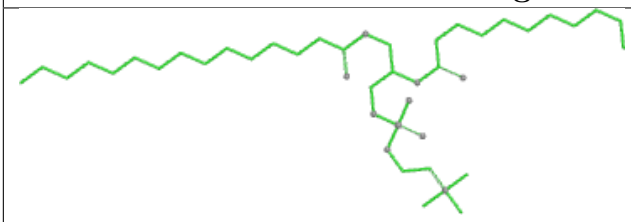


Torsions

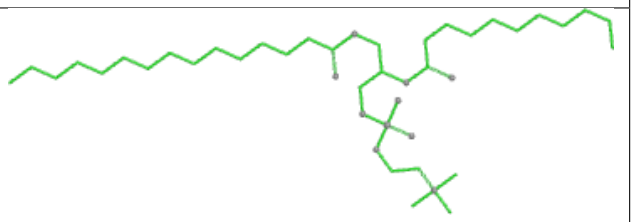


Rings

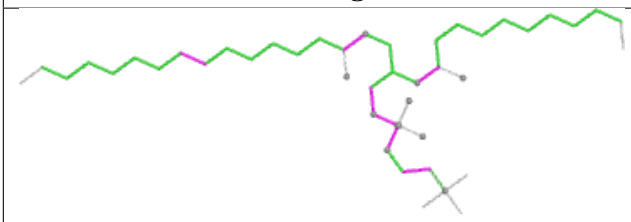
Ligand POV A 5106



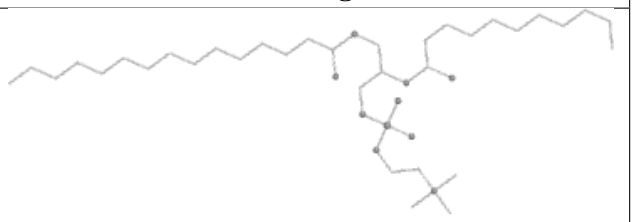
Bond lengths



Bond angles

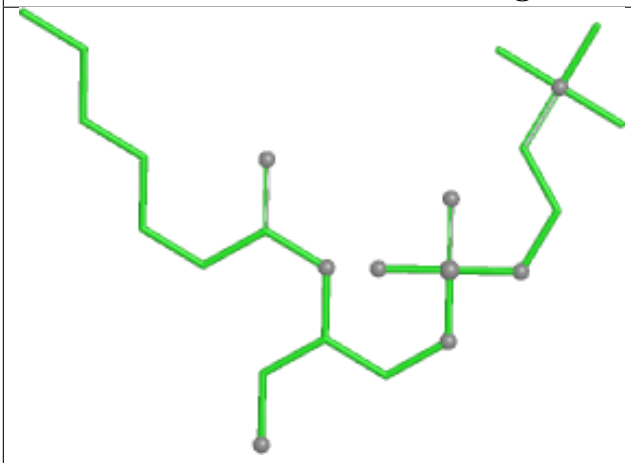


Torsions

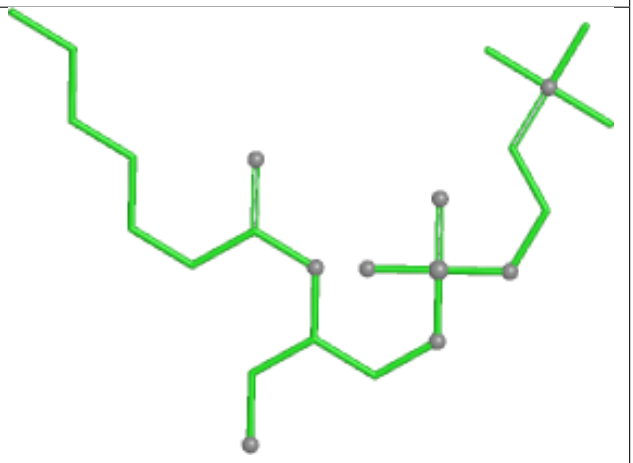


Rings

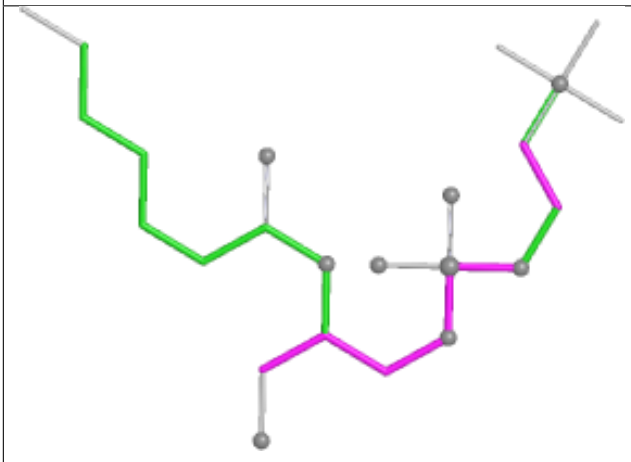
Ligand POV C 5107



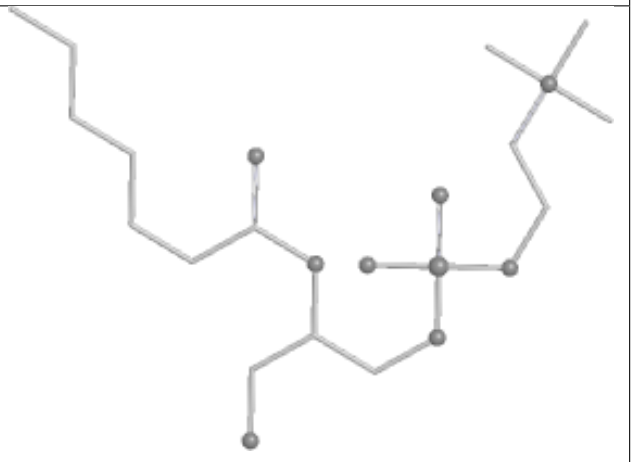
Bond lengths



Bond angles

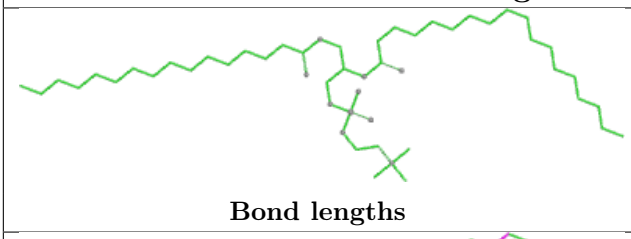


Torsions

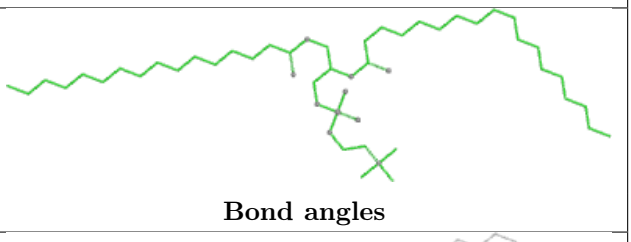


Rings

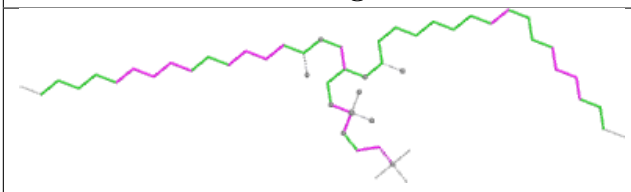
Ligand POV A 5116



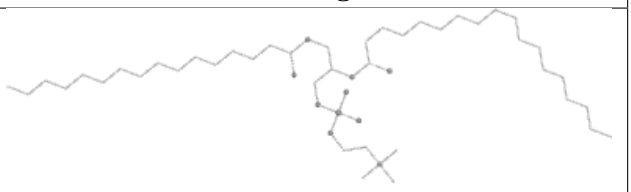
Bond lengths



Bond angles

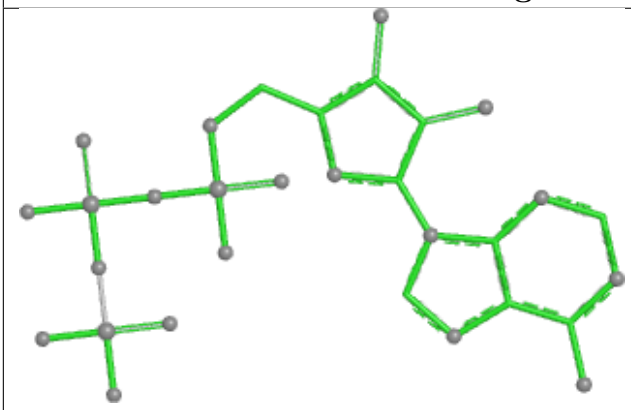


Torsions

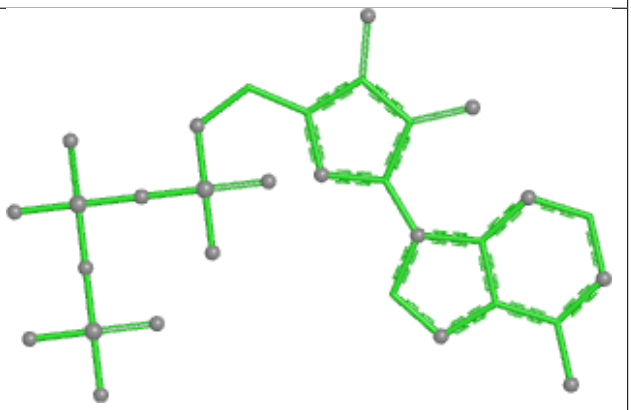


Rings

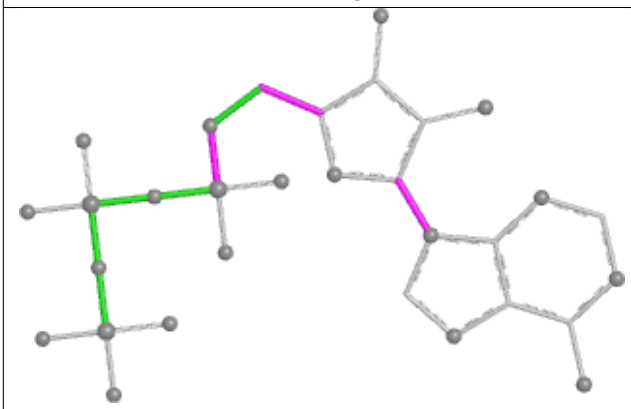
Ligand ATP G 5101



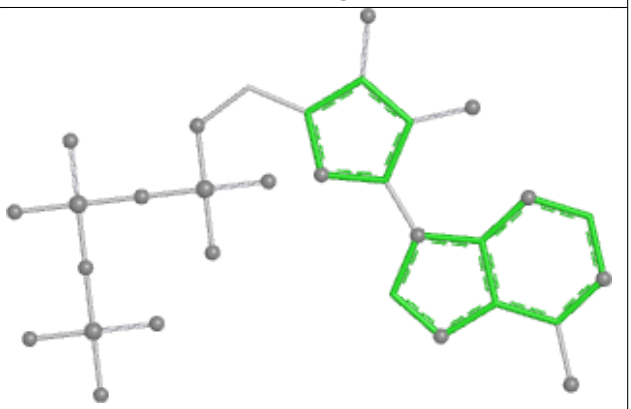
Bond lengths



Bond angles

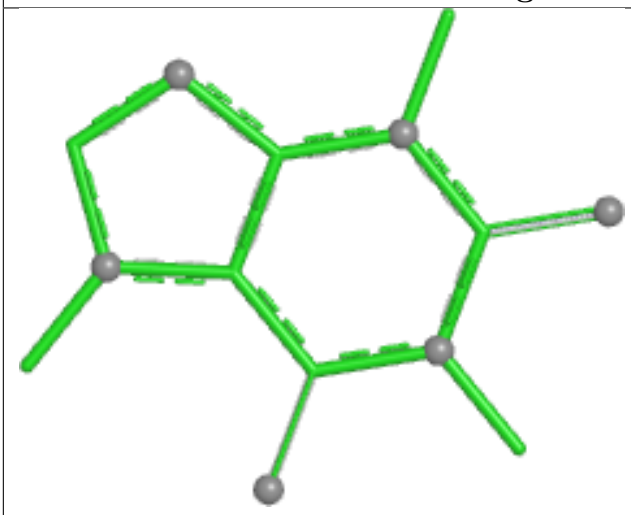


Torsions

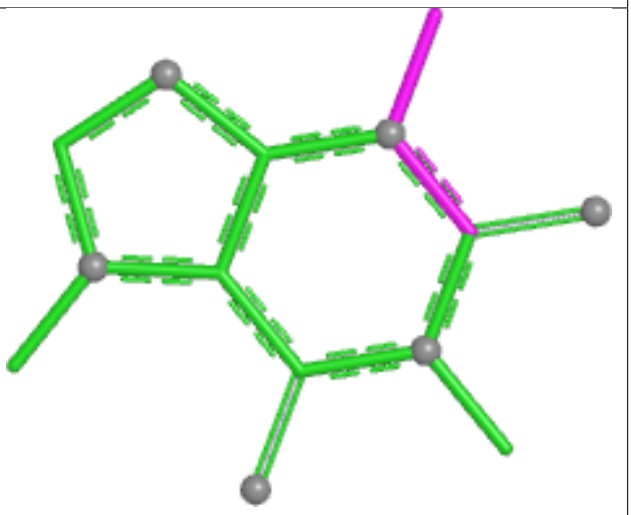


Rings

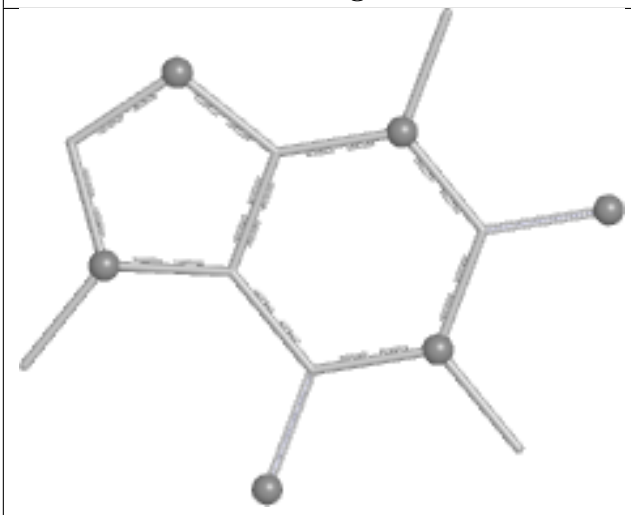
Ligand CFF A 5103



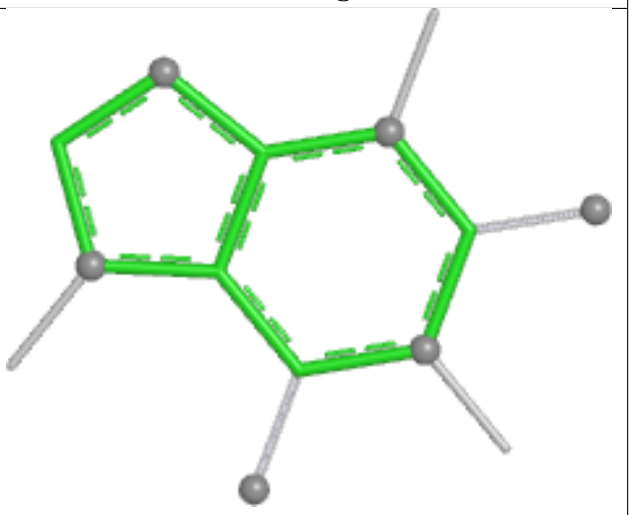
Bond lengths



Bond angles



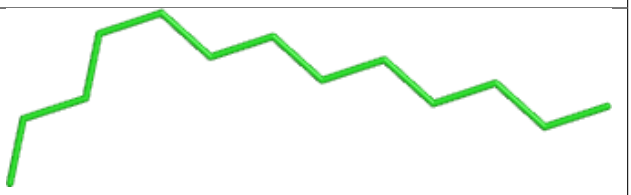
Torsions



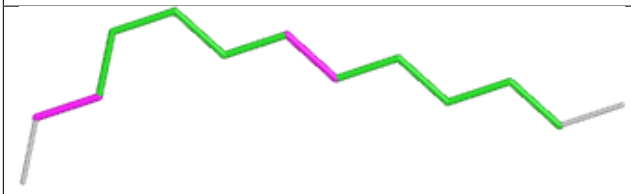
Rings

Ligand POV G 5106

Bond lengths



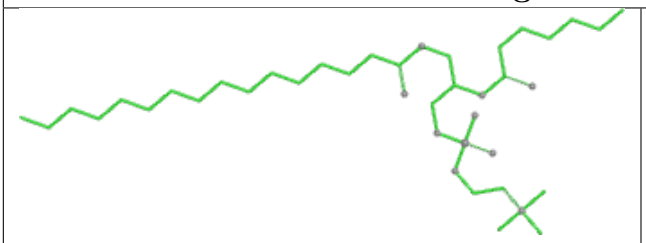
Bond angles



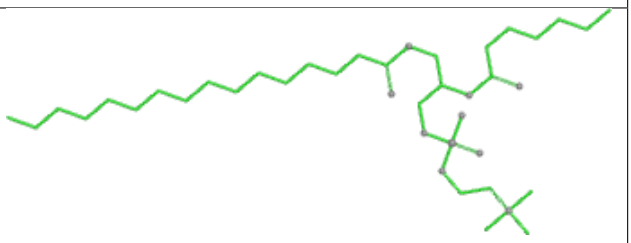
Torsions

Rings

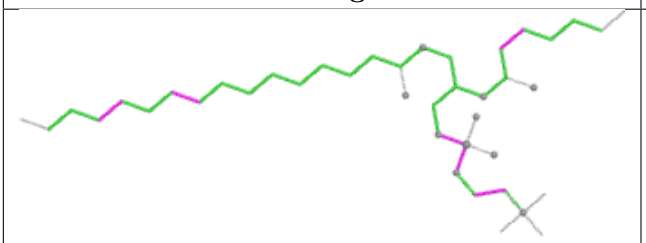
Ligand POV A 5115



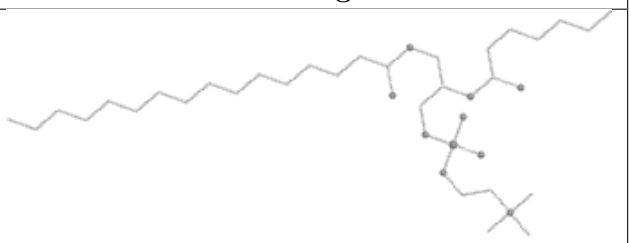
Bond lengths



Bond angles

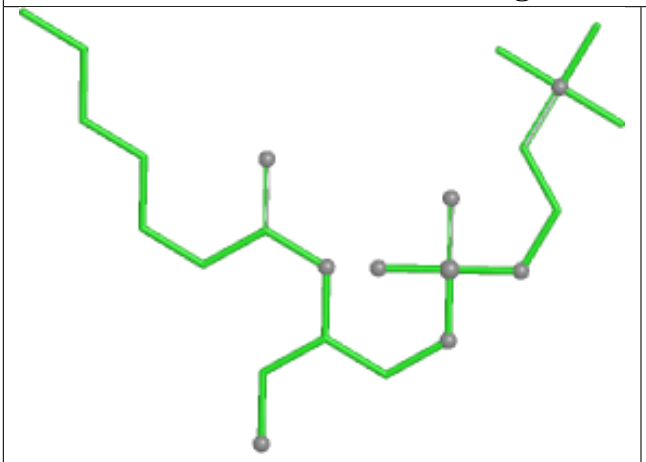


Torsions

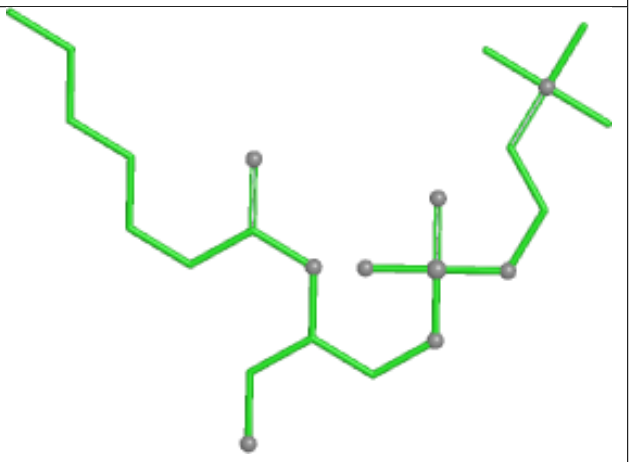


Rings

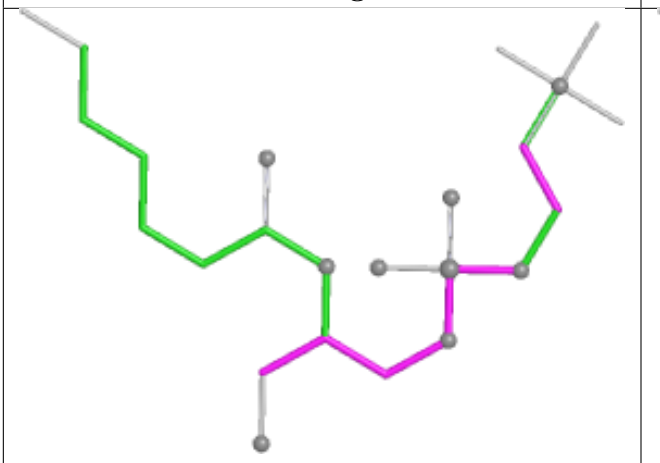
Ligand POV A 5110



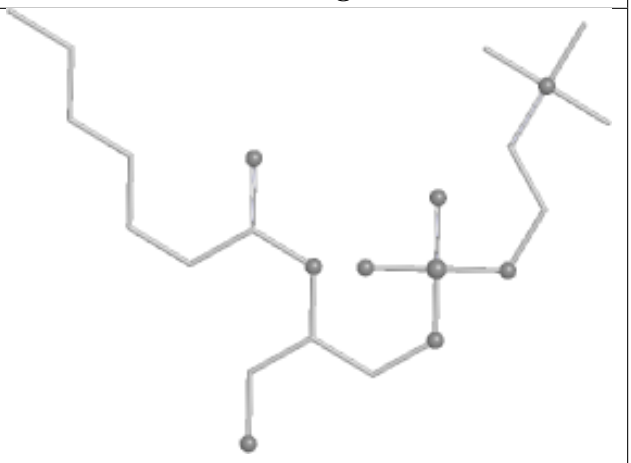
Bond lengths



Bond angles



Torsions



Rings

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.

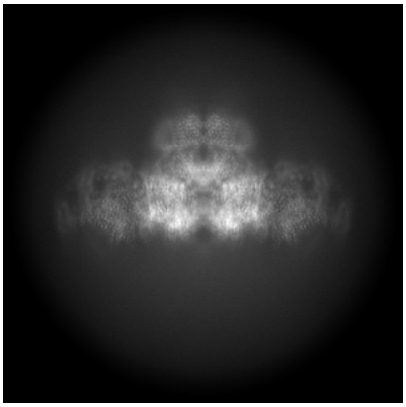
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-52091. These allow visual inspection of the internal detail of the map and identification of artifacts.

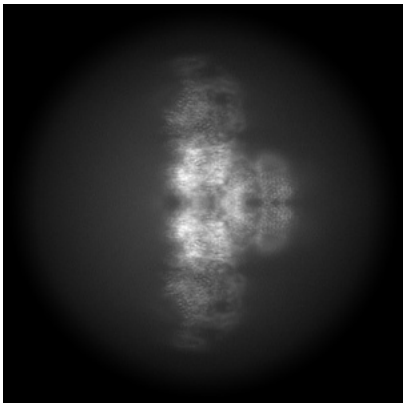
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

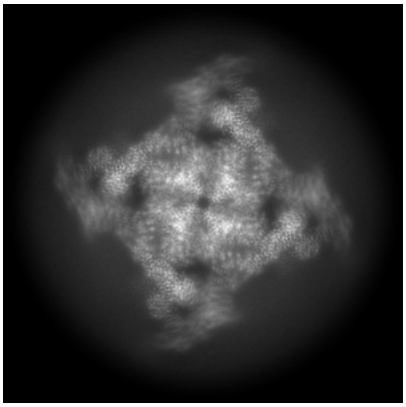
6.1.1 Primary map



X



Y

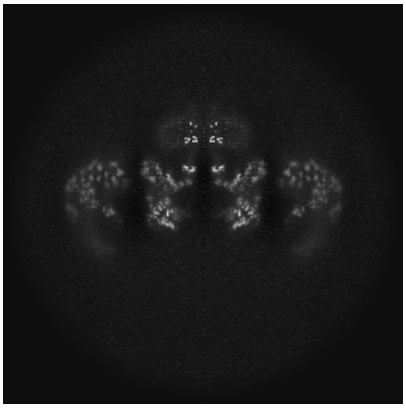


Z

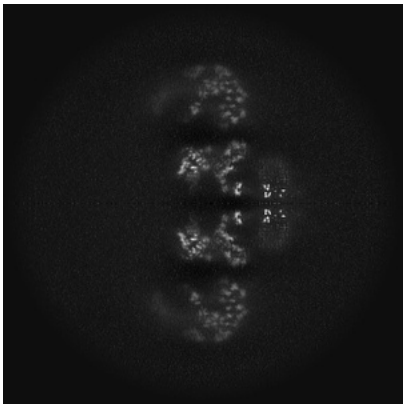
The images above show the map projected in three orthogonal directions.

6.2 Central slices

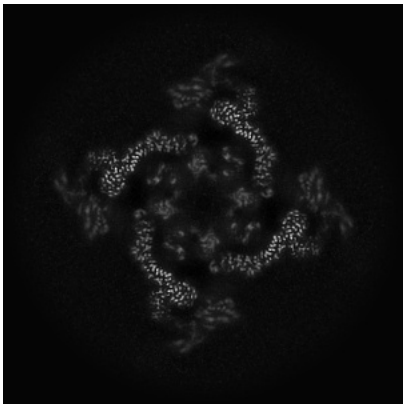
6.2.1 Primary map



X Index: 168



Y Index: 168

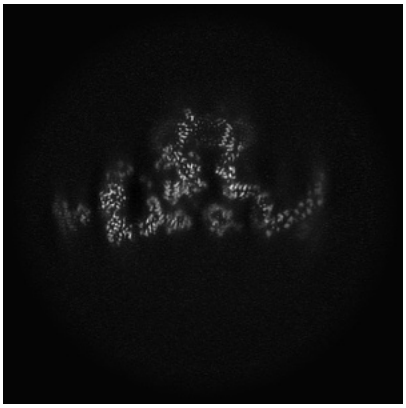


Z Index: 168

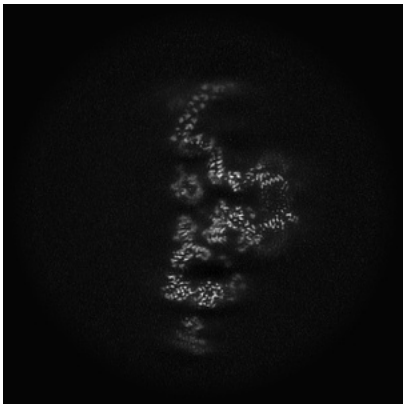
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

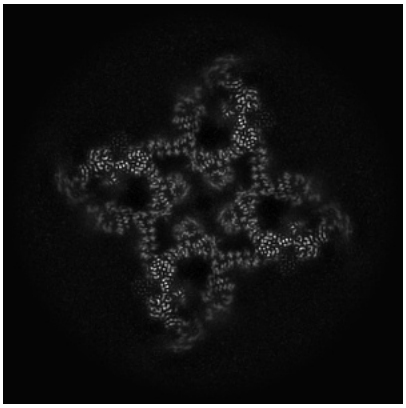
6.3.1 Primary map



X Index: 149



Y Index: 187

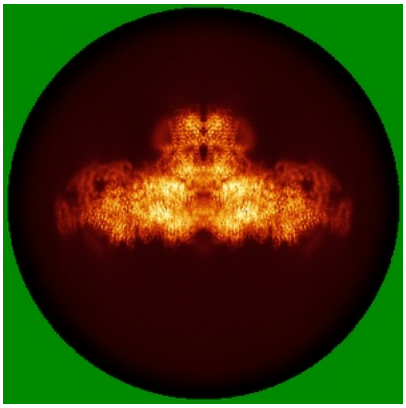


Z Index: 159

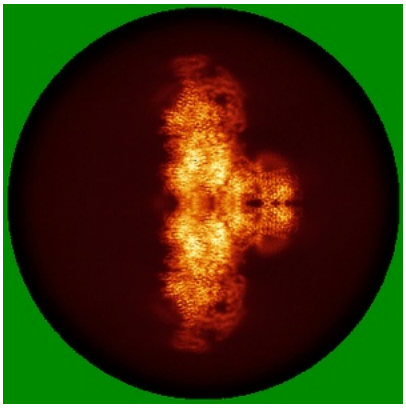
The images above show the largest variance slices of the map in three orthogonal directions.

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

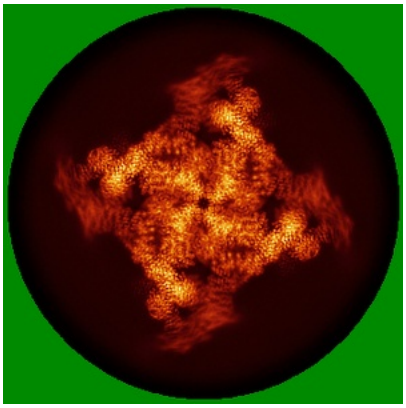
6.4.1 Primary map



X



Y

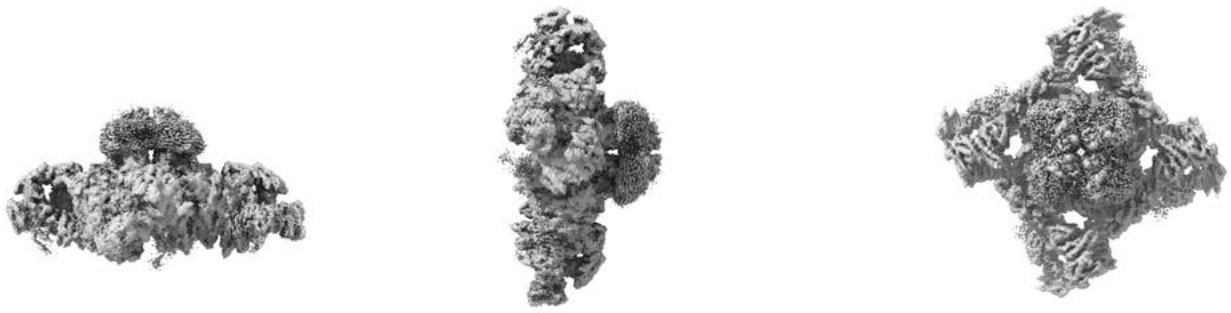


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.4. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

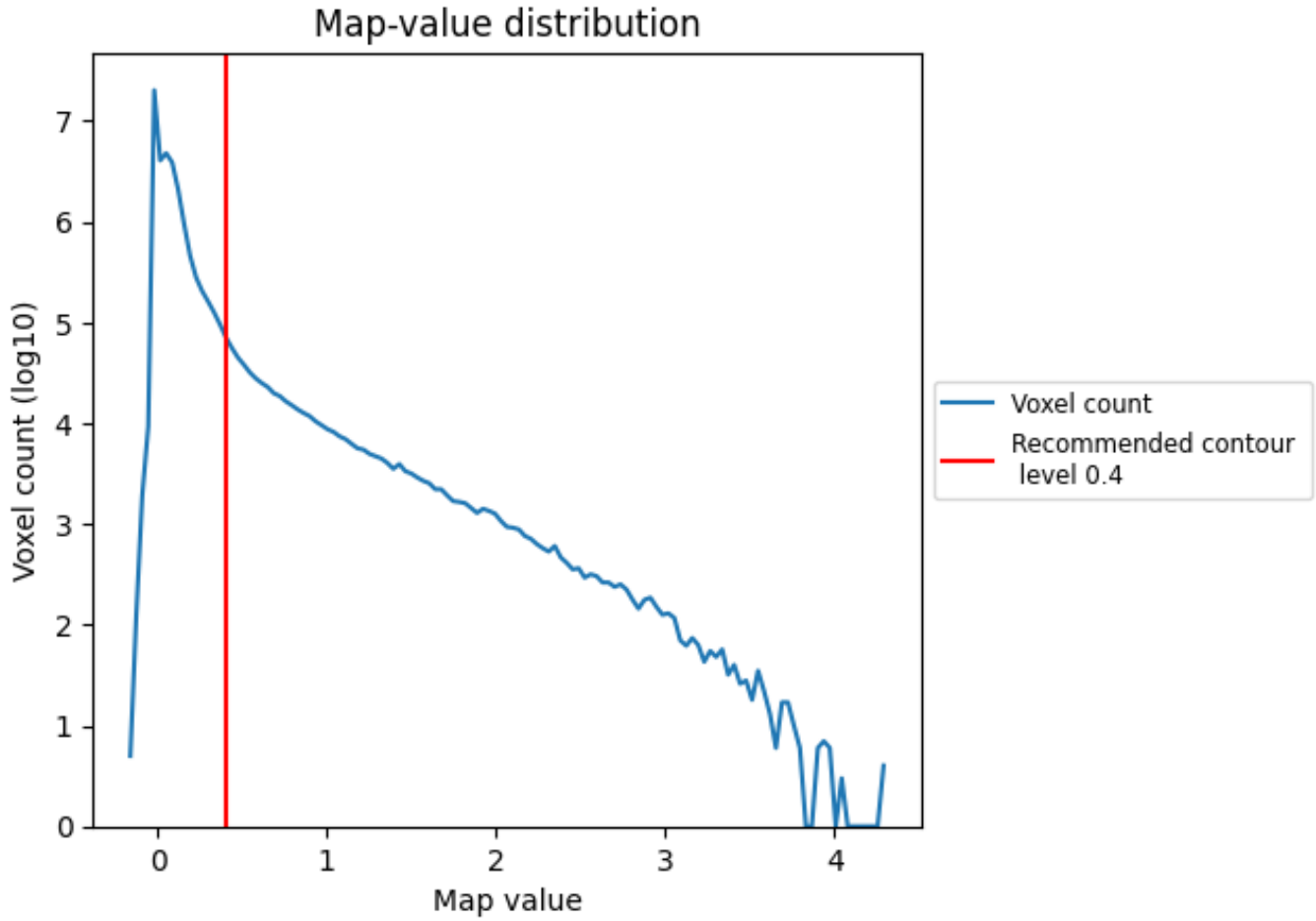
6.6 Mask visualisation (i)

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

7 Map analysis

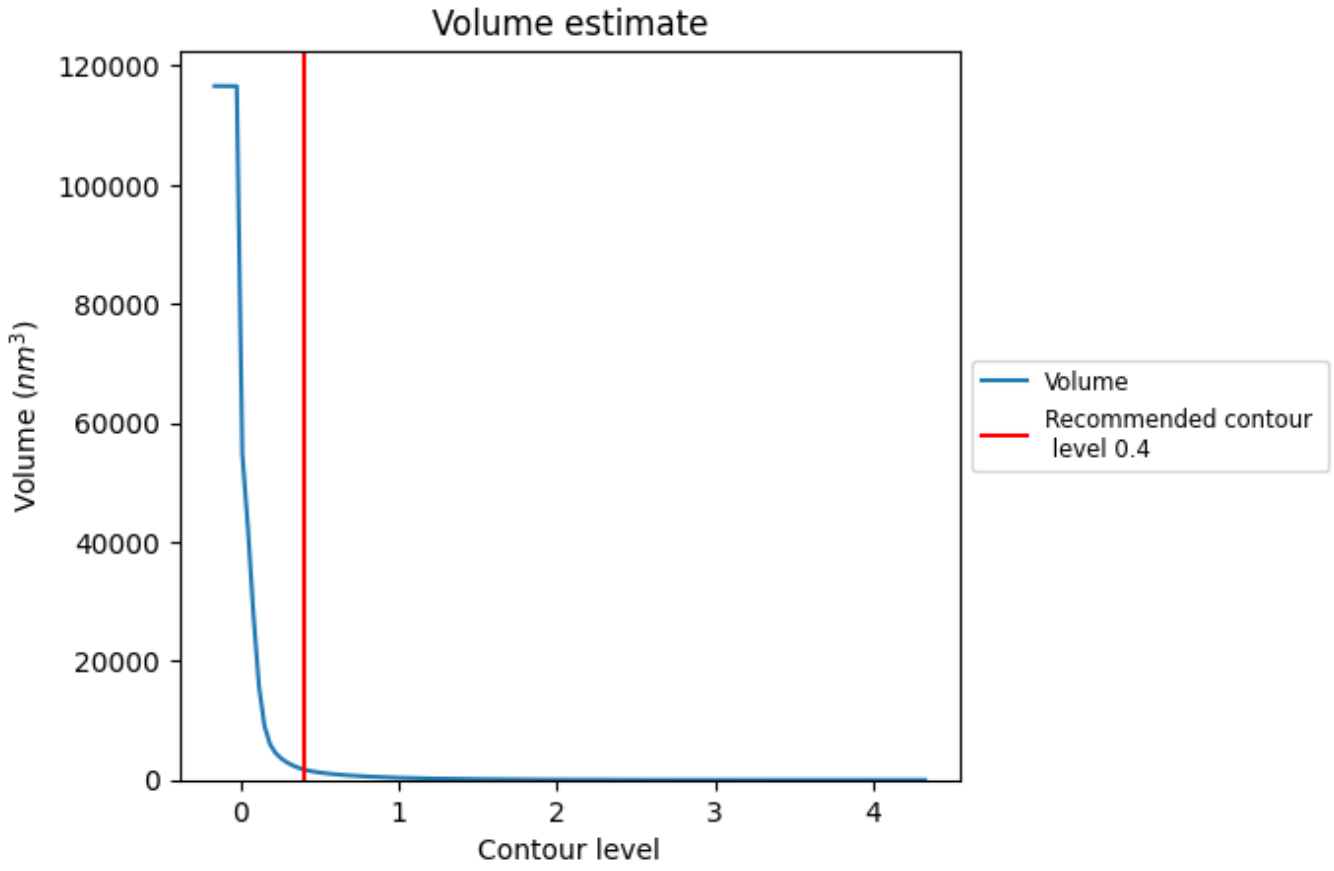
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

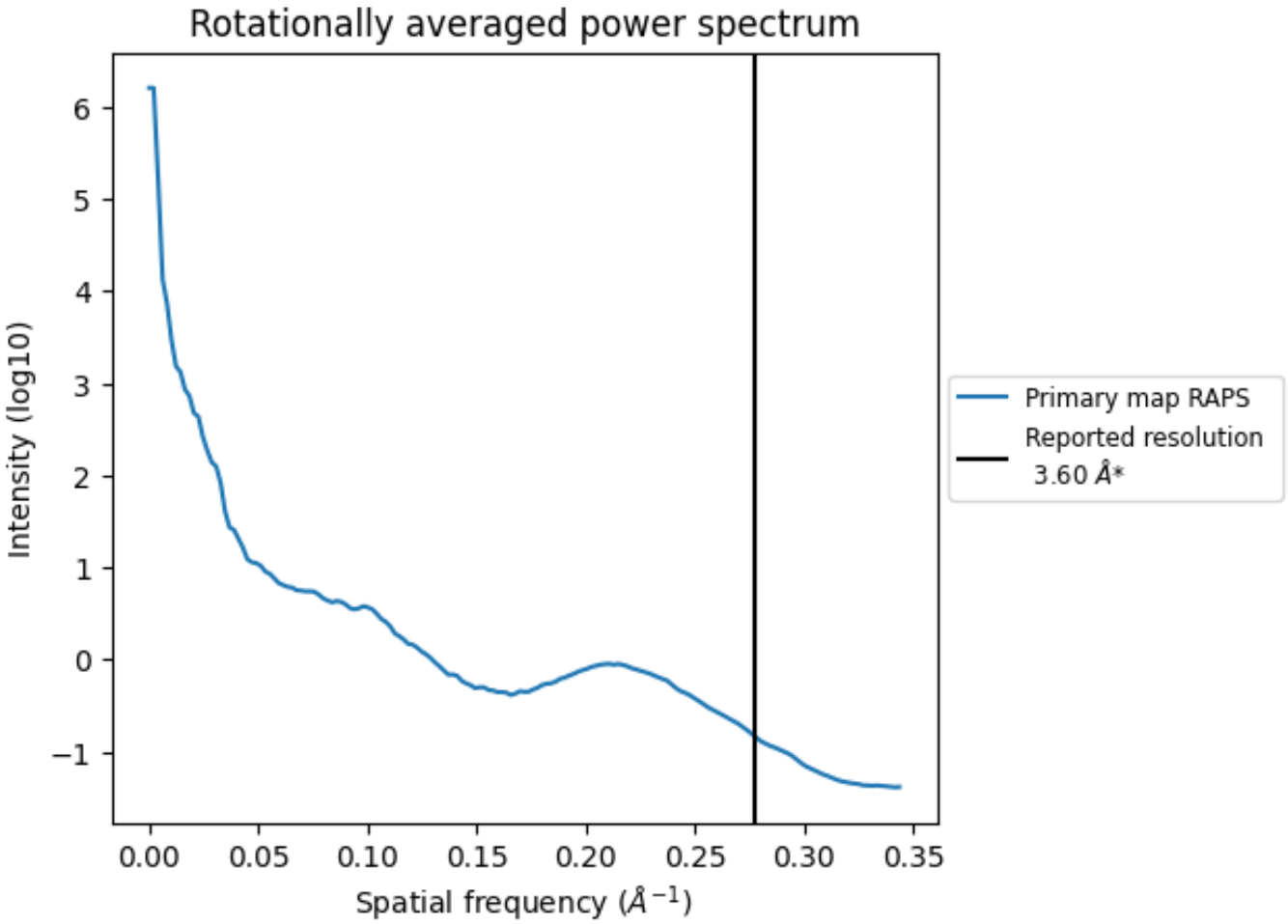
7.2 Volume estimate



The volume at the recommended contour level is 1771 nm^3; this corresponds to an approximate mass of 1600 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 0.278 Å^{-1}

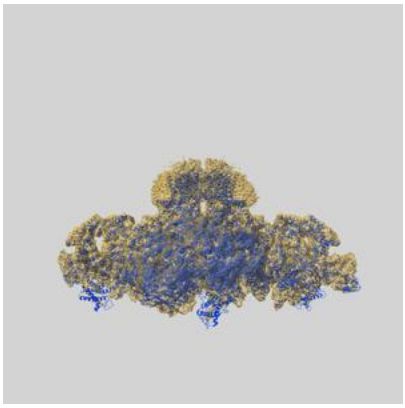
8 Fourier-Shell correlation (i)

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

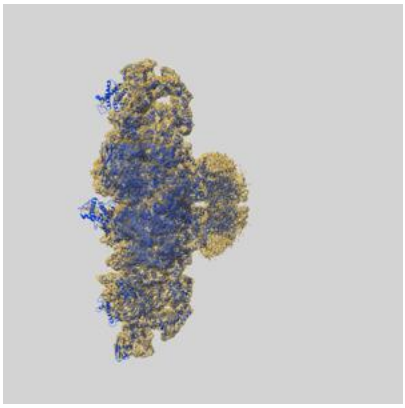
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-52091 and PDB model 9HEQ. Per-residue inclusion information can be found in section 3 on page 10.

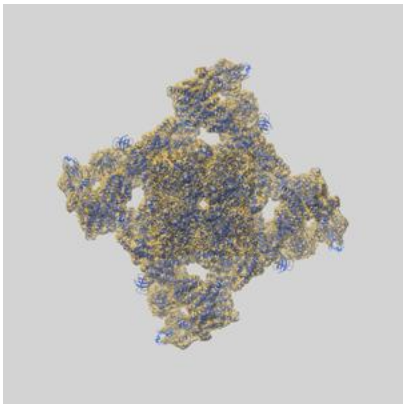
9.1 Map-model overlay



X



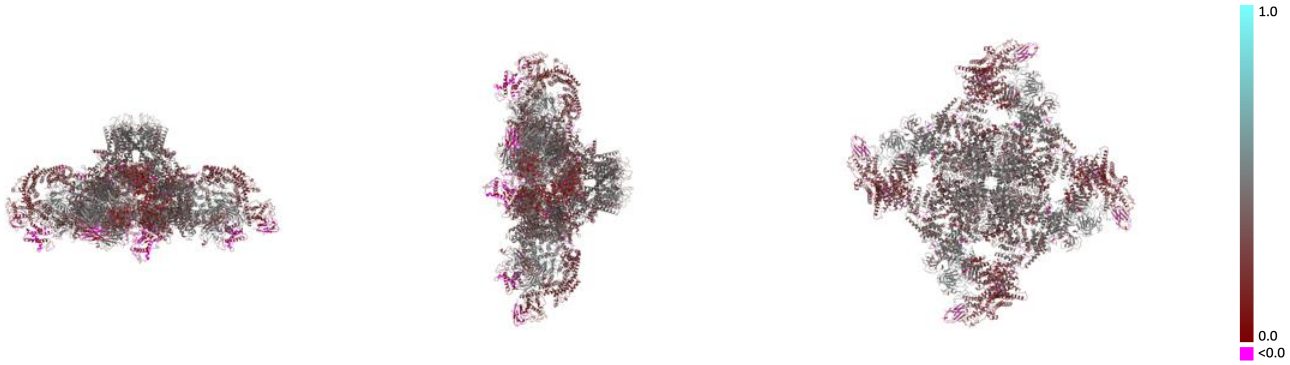
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.4 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

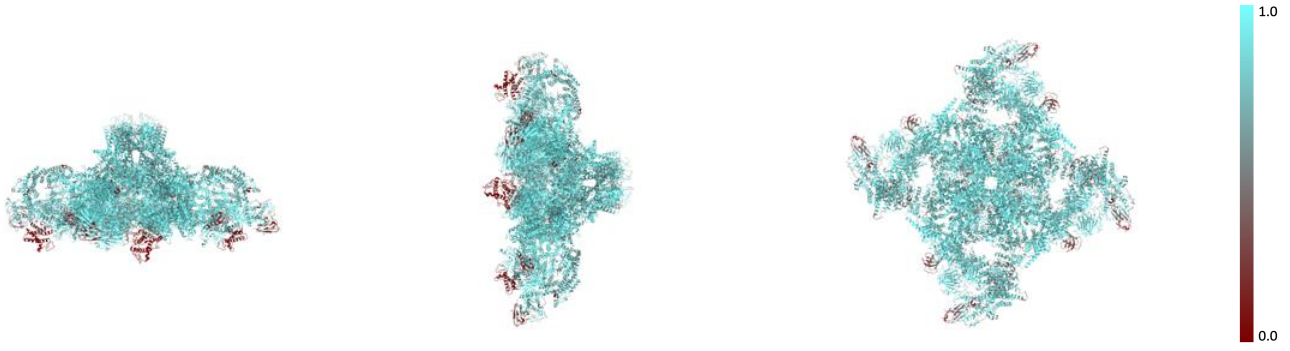
9.2 Q-score mapped to coordinate model



X Y Z

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

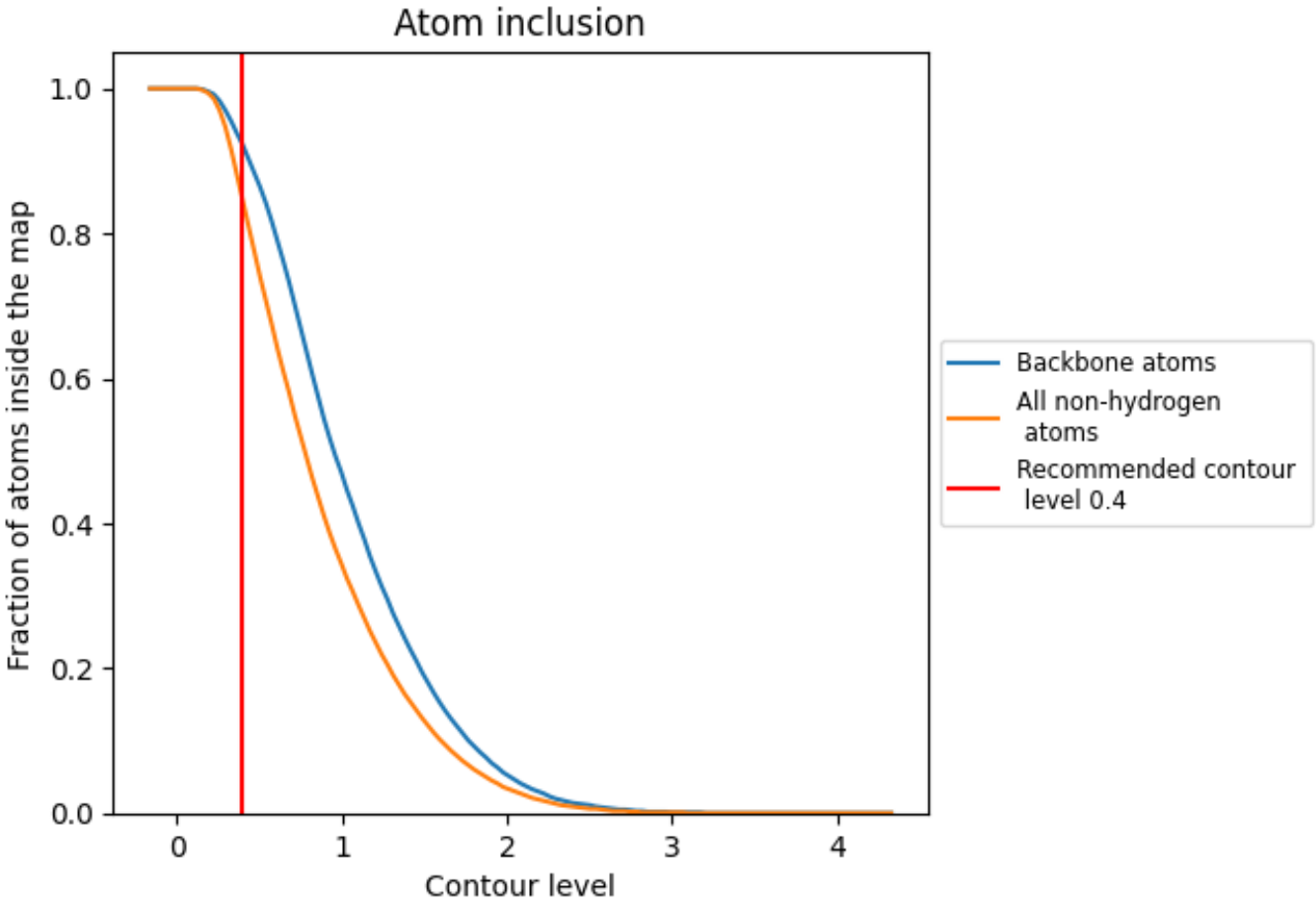
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.4).

9.4 Atom inclusion (i)



At the recommended contour level, 92% of all backbone atoms, 84% 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 (0.4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8450	0.3410
A	0.8670	0.3470
B	0.4180	0.1050
C	0.8660	0.3460
D	0.4210	0.1080
E	0.3950	0.3530
F	0.4000	0.3520
G	0.8680	0.3470
H	0.4240	0.1080
I	0.4030	0.3580
J	0.8680	0.3470
K	0.4190	0.1100
L	0.3970	0.3560