Full wwPDB EM Validation Report ⓘ

Oct 21, 2024 – 05:53 AM EDT

PDB ID	:	9C1E
EMDB ID	:	EMD-45116
Title	:	Mink RyR3 in closed conformation
Authors	:	Chen, Y.S.; Van Petegem, F.
Deposited on	:	2024-05-29
Resolution	:	2.89 Å(reported)
Based on initial model	:	.

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

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

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

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

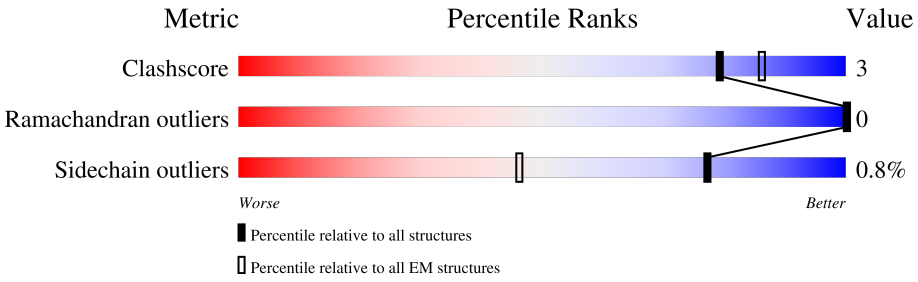
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	: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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.89 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	110	86% 88% 6% 5%
1	C	110	86% 88% 6% 5%
1	E	110	86% 86% 8% 5%
1	G	110	86% 87% 7% 5%
2	B	4859	9% 77% 6% 16%
2	D	4859	9% 77% 6% 16%
2	F	4859	9% 77% 6% 16%
2	H	4859	9% 77% 6% 16%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 129724 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	104	Total	C	N	O	S	0	0
			705	448	124	130	3		
1	C	104	Total	C	N	O	S	0	0
			705	448	124	130	3		
1	E	104	Total	C	N	O	S	0	0
			705	448	124	130	3		
1	G	104	Total	C	N	O	S	0	0
			705	448	124	130	3		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	SER	-	expression tag	UNP P68106
A	0	ASN	-	expression tag	UNP P68106
A	1	ALA	-	expression tag	UNP P68106
C	-1	SER	-	expression tag	UNP P68106
C	0	ASN	-	expression tag	UNP P68106
C	1	ALA	-	expression tag	UNP P68106
E	-1	SER	-	expression tag	UNP P68106
E	0	ASN	-	expression tag	UNP P68106
E	1	ALA	-	expression tag	UNP P68106
G	-1	SER	-	expression tag	UNP P68106
G	0	ASN	-	expression tag	UNP P68106
G	1	ALA	-	expression tag	UNP P68106

- Molecule 2 is a protein called Ryanodine receptor 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	4061	Total	C	N	O	S	0	0
			31724	20297	5396	5824	207		
2	D	4061	Total	C	N	O	S	0	0
			31724	20297	5396	5824	207		
2	F	4061	Total	C	N	O	S	0	0
			31724	20297	5396	5824	207		

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Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	4061	Total	C	N	O	S	0	0
			31724	20297	5396	5824	207		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	733	LEU	GLN	conflict	UNP A0A8C7B9Y8
B	1078	TRP	ARG	conflict	UNP A0A8C7B9Y8
B	2075	ASP	ASN	conflict	UNP A0A8C7B9Y8
D	733	LEU	GLN	conflict	UNP A0A8C7B9Y8
D	1078	TRP	ARG	conflict	UNP A0A8C7B9Y8
D	2075	ASP	ASN	conflict	UNP A0A8C7B9Y8
F	733	LEU	GLN	conflict	UNP A0A8C7B9Y8
F	1078	TRP	ARG	conflict	UNP A0A8C7B9Y8
F	2075	ASP	ASN	conflict	UNP A0A8C7B9Y8
H	733	LEU	GLN	conflict	UNP A0A8C7B9Y8
H	1078	TRP	ARG	conflict	UNP A0A8C7B9Y8
H	2075	ASP	ASN	conflict	UNP A0A8C7B9Y8

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

Mol	Chain	Residues	Atoms		AltConf
3	B	1	Total	Zn	0
			1	1	
3	D	1	Total	Zn	0
			1	1	
3	F	1	Total	Zn	0
			1	1	
3	H	1	Total	Zn	0
			1	1	

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
4	B	1	Total	Cl	0
			1	1	
4	D	1	Total	Cl	0
			1	1	
4	F	1	Total	Cl	0
			1	1	

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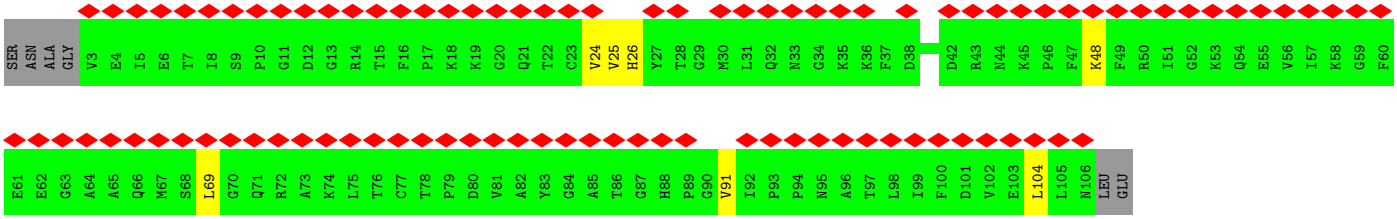
Mol	Chain	Residues	Atoms		AltConf
			Total	Cl	
4	H	1	1	1	0

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.

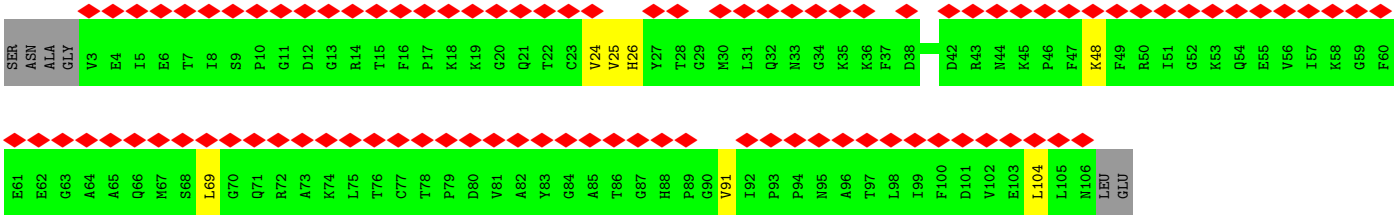
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain A:



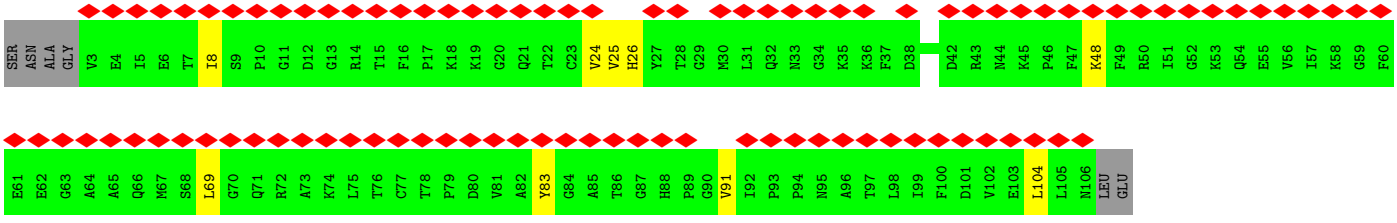
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain C:



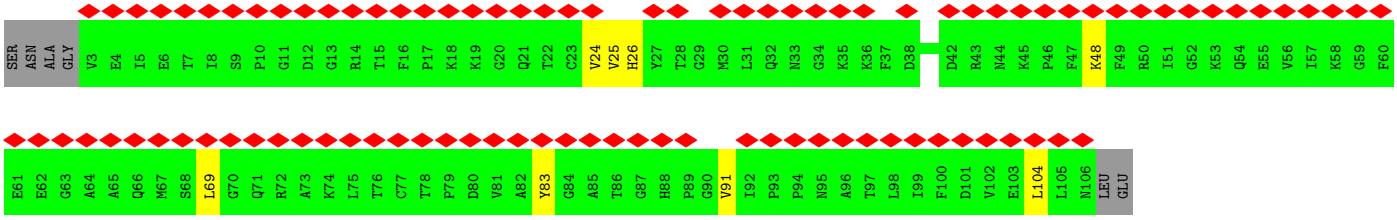
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain E:



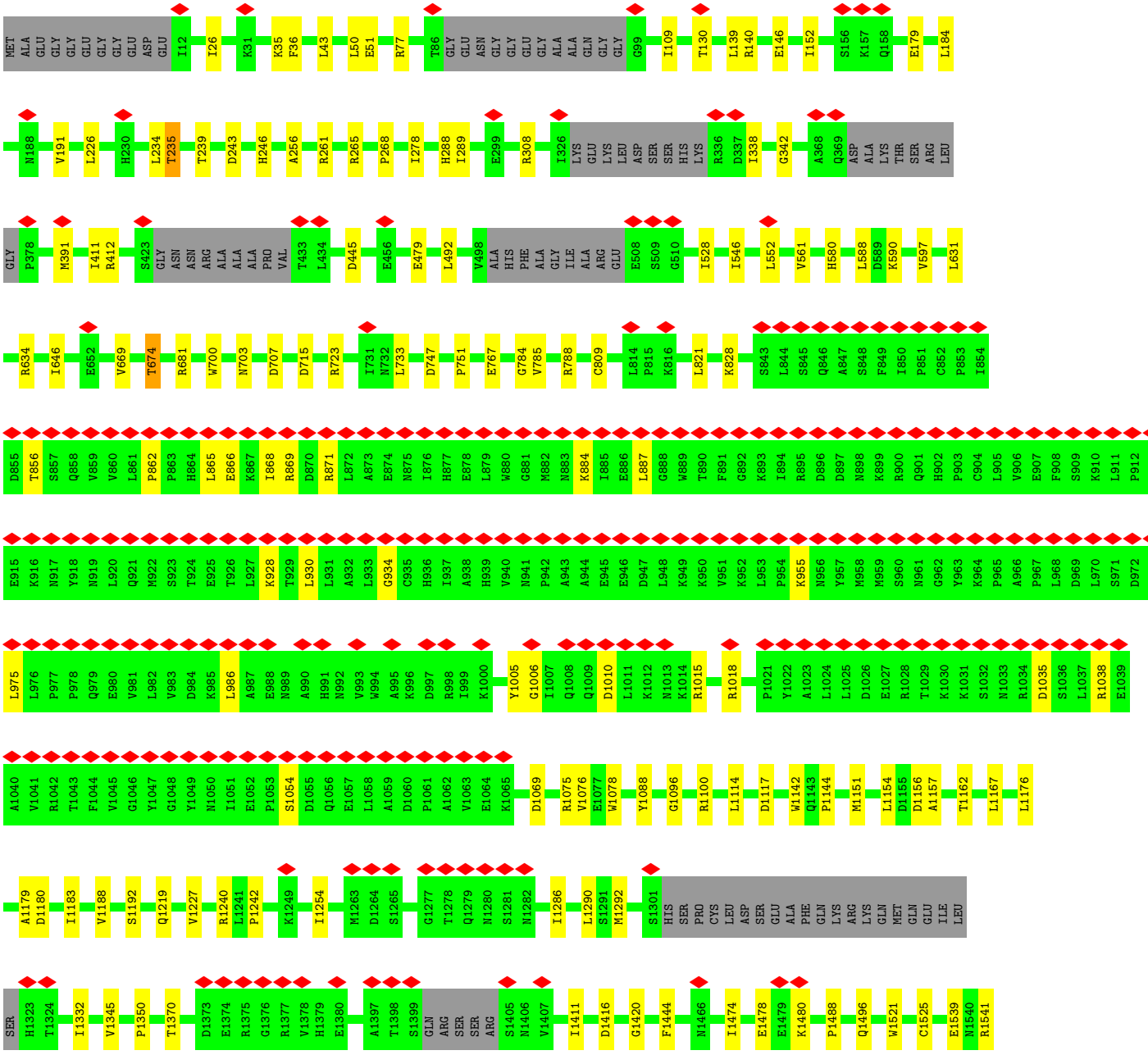
• Molecule 1: Peptidyl-prolyl cis-trans isomerase FKBP1B

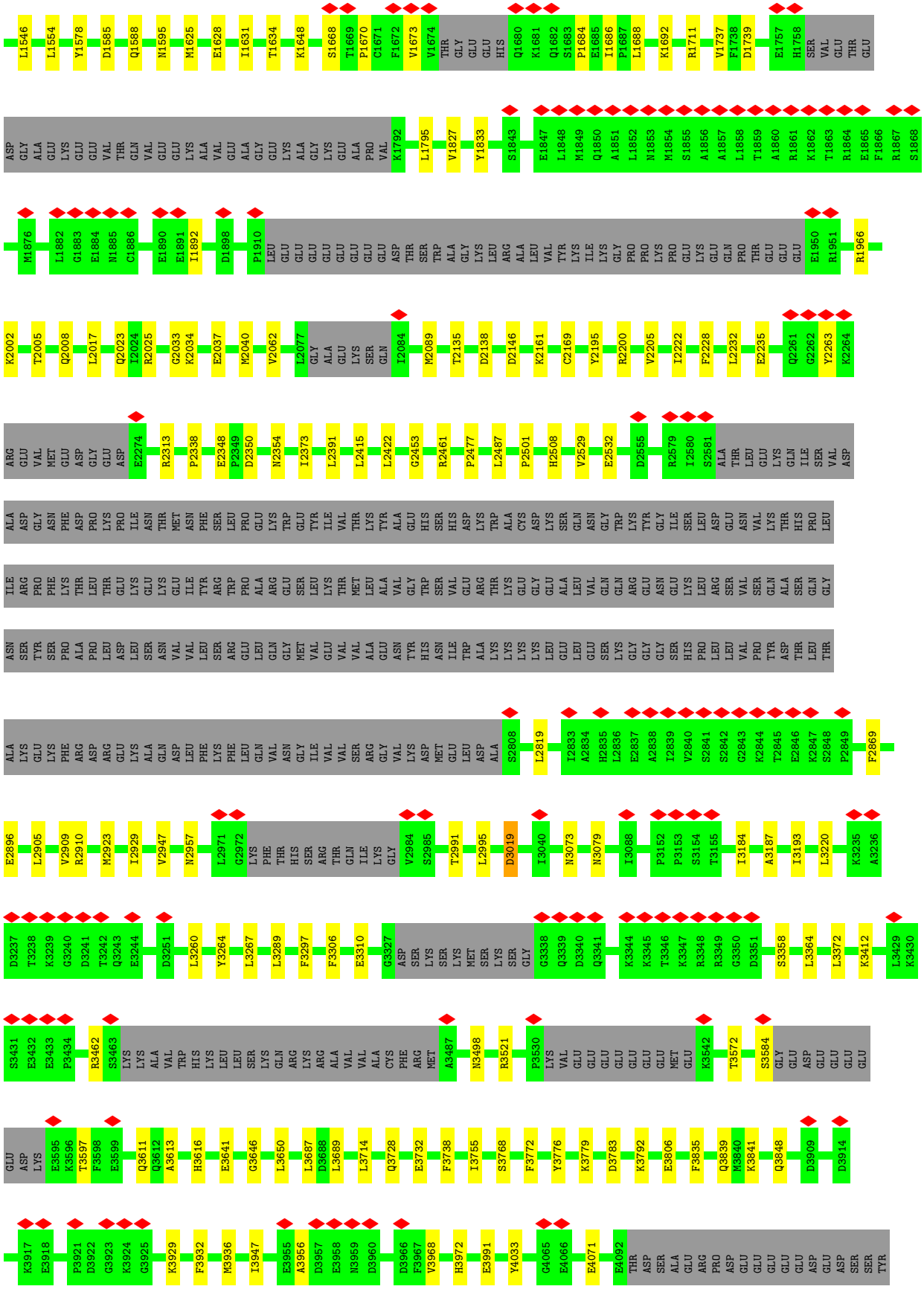
Chain G:



• Molecule 2: Ryanodine receptor 3

Chain B:





VAL LEU GLU ILE GLU GLY GLU GLU GLU ASP ASP LYS SER PHE GLU SER ALA SER ALA PHE ALA MET ALA CYS ALA SER VAL LYS ARG ASN VAL ALA ASN PHE LEU LYS LYS ALA THR LEU LYS ASN LEU ARG LYS GLN TYR ARG LYS VAL LYS LYS MET THR VAL LYS GLU LEU VAL LYS

VAL PHE PHE SER PHE PHE TRP MET LEU PHE VAL GLY LEU PHE ARG LEU PHE PHE THR ILE LEU GLY GLY ILE PHE GLN ILE LEU TRP ASN THR VAL PHE GLY GLY GLY LEU VAL GLU GLY ALA LYS ASN ILE ARG VAL THR LYS ILE LEU GLY ASP MET PRO ASP PRO THR GLN PHE GLY

ILE HIS ASP ASP ALA LEU ASP ALA GLU ARG ALA GLU VAL THR GLU PRO GLY VAL PRO PRO GLU LEU ILE HIS PHE VAL LYS GLY GLU LYS GLY ASP ALA ASP ILE MET SER ASP LEU PHE GLY PHE HIS PRO LYS LYS GLU GLY GLY LEU LYS HIS GLY PRO GLU GLY GLY LEU GLY ASP

LEU SER GLU ILE ILE GLY LYS ASP GLU PRO PRO THR LEU GLU SER THR VAL ARG LYS LYS ARG LYS ALA GLN ALA ALA GLU MET LYS ALA ALA HIS GLU ALA GLU GLY LYS VAL GLU PRO GLU LYS THR ASP LEU GLU ASP GLY GLU LYS GLU ASP THR ALA LYS GLU GLU GLN ALA

GLU ALA LEU TRP ALA ASP VAL THR LYS LYS LYS ARG ARG GLY GLN LYS VAL GLU LYS PRO GLU ALA PHE MET ALA ASN PHE LYS GLY L4384 E4385 I4386 Y4387 A4410 N4414 V4422 E4425 PRO VAL GLU GLU GLU THR GLU ASP VAL ALA ASN LEU TRP ASN SER PHE

THR ASP GLU GLU GLU GLU GLU A4449 M4450 V4451 F4452 F4453 E4457 S4458 T4459 R4502 E4517 D4518 Y4538 W4539 L4566 D4567 K4568 N4569 A4570 L4571 D4572 F4573 S4574 P4575 VAL GLU ALA SER LYS ALA GLU ALA ALA SER LEU VAL SER TRP LEU SER SER I4593 I4638 T4644 L4661

V4668 F4678 E4689 D4690 D4691 D4692 E4693 R4714 D4721 G4756 I4759 D4760 R4766 E4770 R4773 F4781 L4807 F4813 V4832 M4835 R4839 D4842 G4859

- Molecule 2: Ryanodine receptor 3

Chain D: 9% 77% 6% 16%

MET ALA GLU GLY GLY GLU GLY GLY GLU ASP GLU I12 I26 H30 K35 F36 L43 L50 E51 R77 T86 GLY GLU ASN GLY GLY GLU GLY ALA ALA GLN GLY GLY G99 I109 T130 L139 R140 E146 I152 S156 K157 Q158 E179 L184

N188 V191 L226 H230 L234 T235 T239 D243 H246 A256 R261 R265 P268 I278 H288 I289 E299 R308 I326 LYS GLU LYS LEU ASP SER SER HIS LYS R336 D337 I338 G342 A368 Q369 ASP ALA LYS THR SER ARG LEU

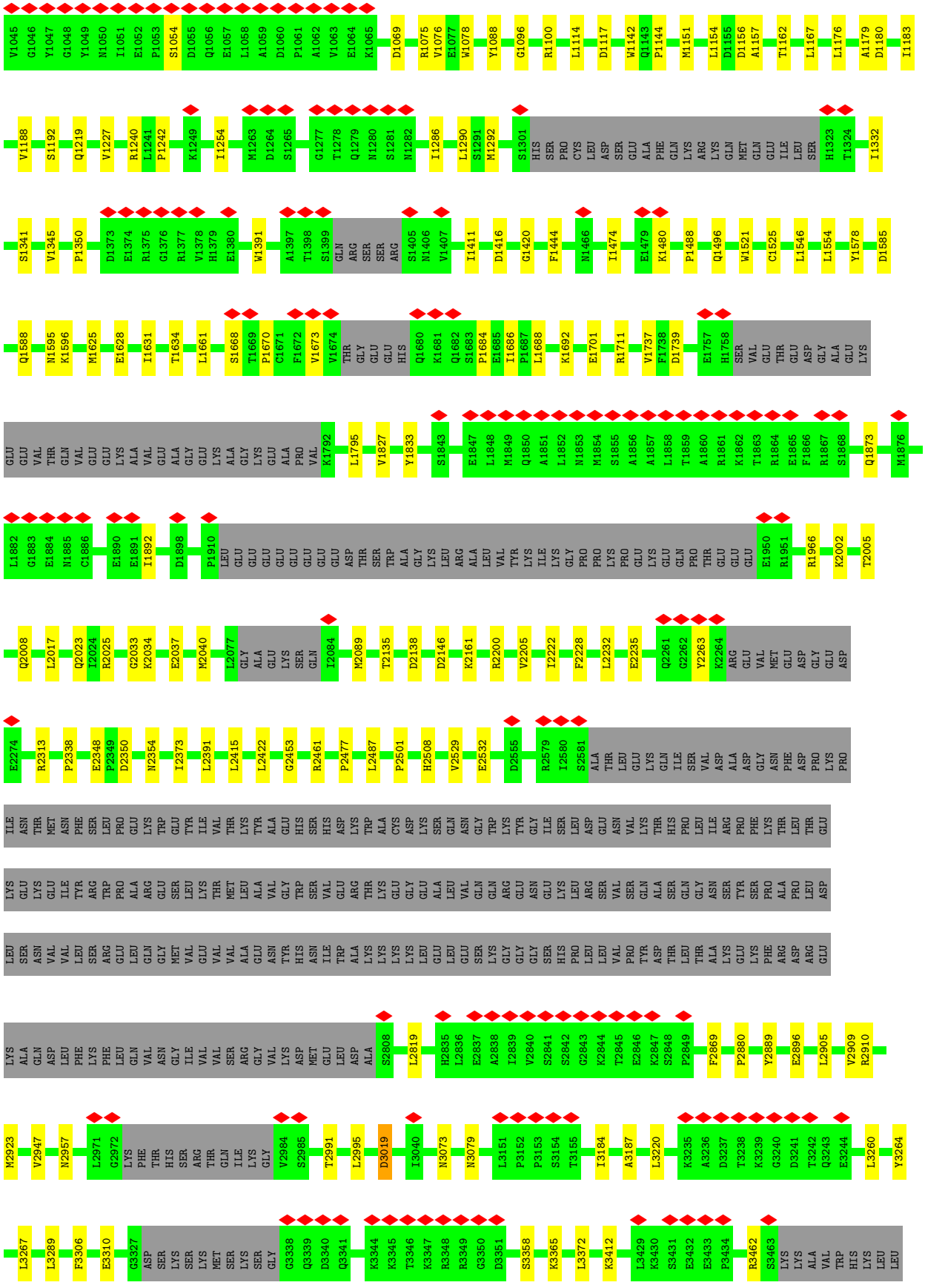
GLY P378 M391 I411 R412 S423 GLY ASN ASN ARG ALA ALA ALA PRO VAL T433 L434 D445 E456 E479 V498 ALA HIS PHE ALA GLY ILE ALA ARG GLU E508 S509 G510 I528 I546 L552 V561 H580 L588 V597 L631 R634 N645

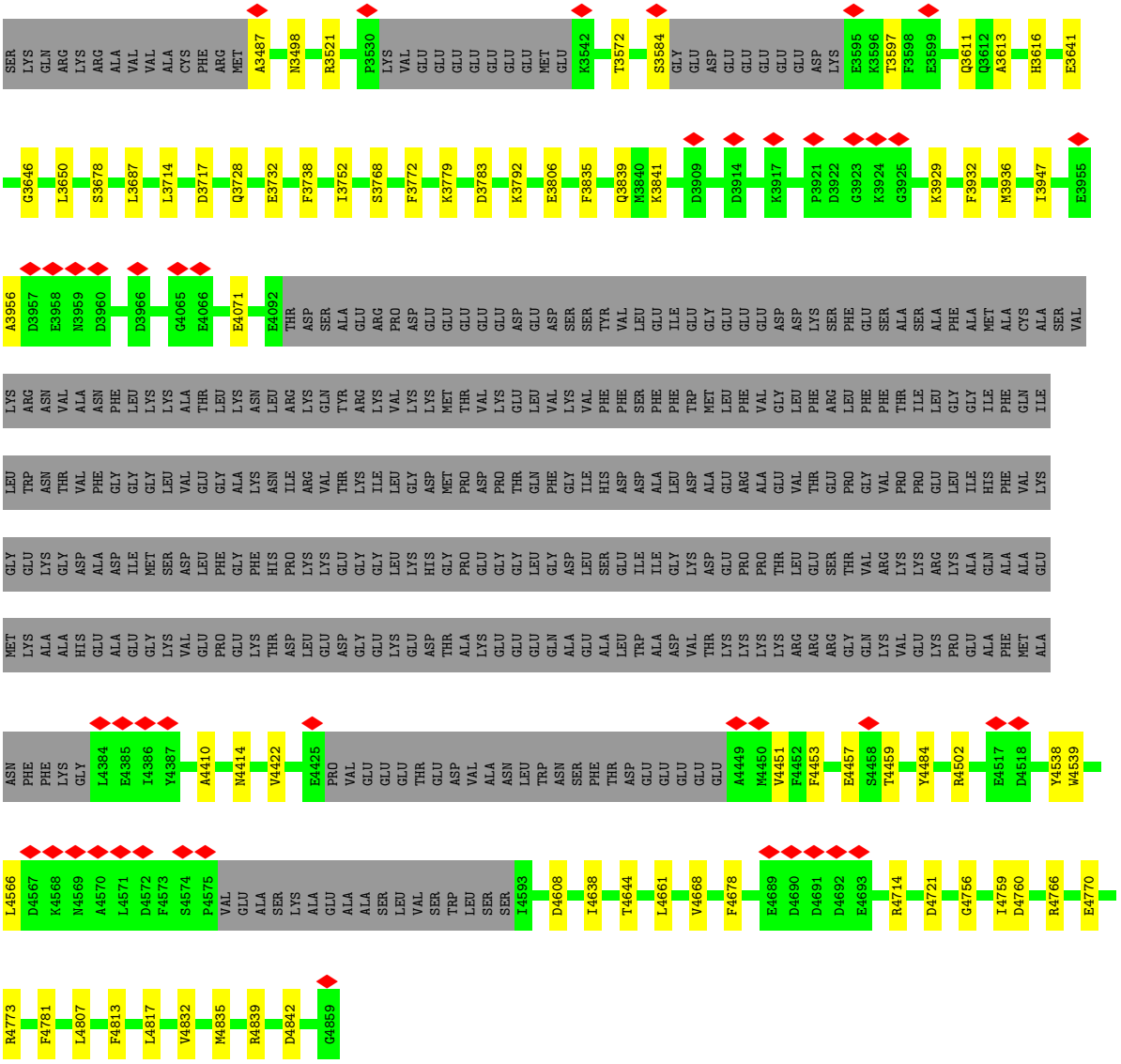
I646 F647 L648 E652 W660 V669 T674 R681 W700 N703 D707 D715 R723 I731 N732 L733 G784 V785 R788 C809 L814 P815 K816 L821 K828 S843 L844 S845 Q846 A847 S848 F849 I850 P851 C852 P853 I854 D855 T856 S857 Q858 V859

V860 L861 P862 P863 H864 L865 E866 K867 I868 R869 D870 R871 L872 A873 E874 N875 I876 H877 E878 L879 W880 G881 M882 N883 K884 I885 E886 L887 G888 W889 T890 F891 G892 K893 I894 R895 D896 D897 N898 K899 R900 Q901 H902 P903 C904 L905 V906 E907 F908 S909 K910 L911 P912 E913 T914 E915 K916 N917 Y918 N919

L920 Q921 M922 S923 T924 E925 T926 L927 K928 T929 L930 L931 A932 L933 G934 C935 H936 I937 A938 H939 V940 N941 P942 A943 A944 E945 E946 D947 L948 K949 K950 V951 K952 L953 P954 K955 N956 Y957 M958 M959 S960 N961 G962 Y963 K964 P965 A966 P967 L968 D969 L970 S971 D972 V973 K974 L975 L976 P977 P978 Q979

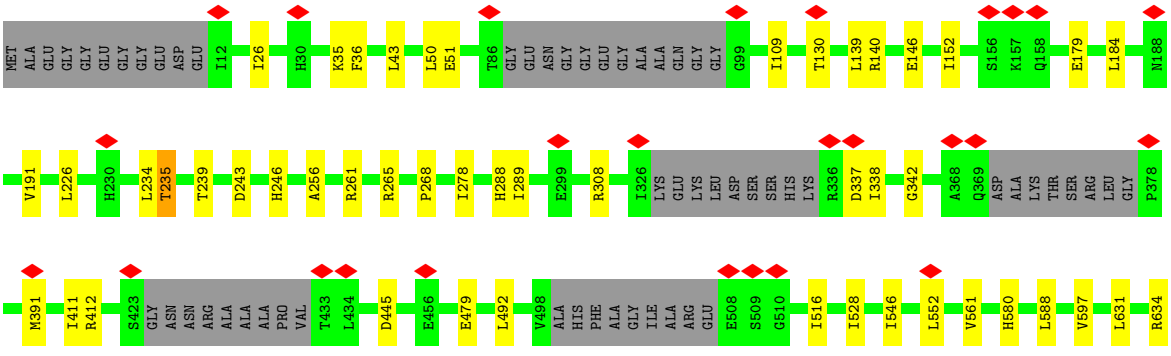
E980 V981 L982 V983 D984 K985 L986 A987 E988 N989 A990 H991 N992 V993 W994 A995 K996 D997 R998 I999 K1000 Y1005 G1006 I1007 Q1008 Q1009 D1010 L1011 K1012 N1013 K1014 R1015 R1018 P1021 Y1022 A1023 L1024 L1025 D1026 E1027 R1028 T1029 K1030 K1031 S1032 N1033 R1034 D1035 S1036 L1037 R1038 E1039 A1040 V1041 R1042 T1043 F1044

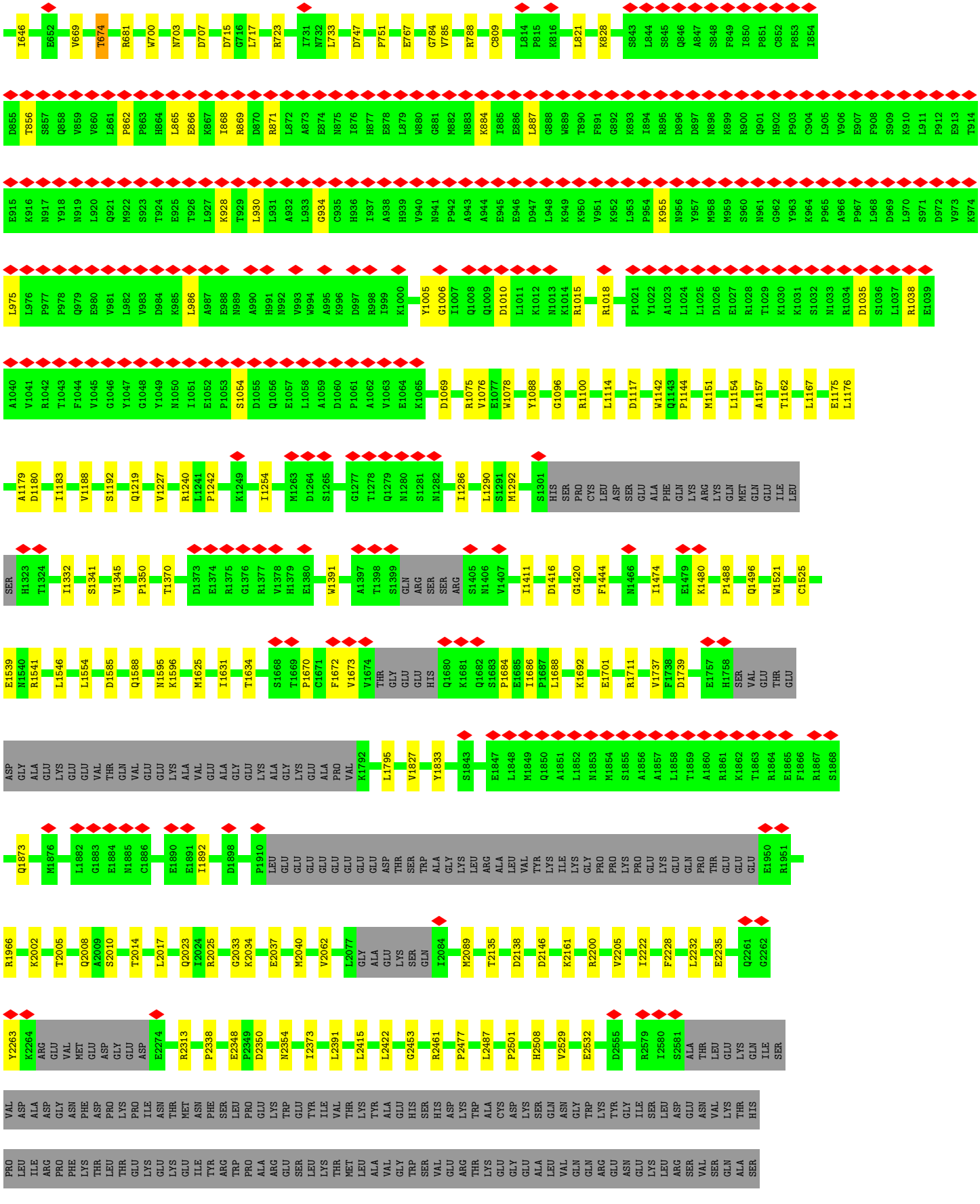




• Molecule 2: Ryanodine receptor 3

Chain F:

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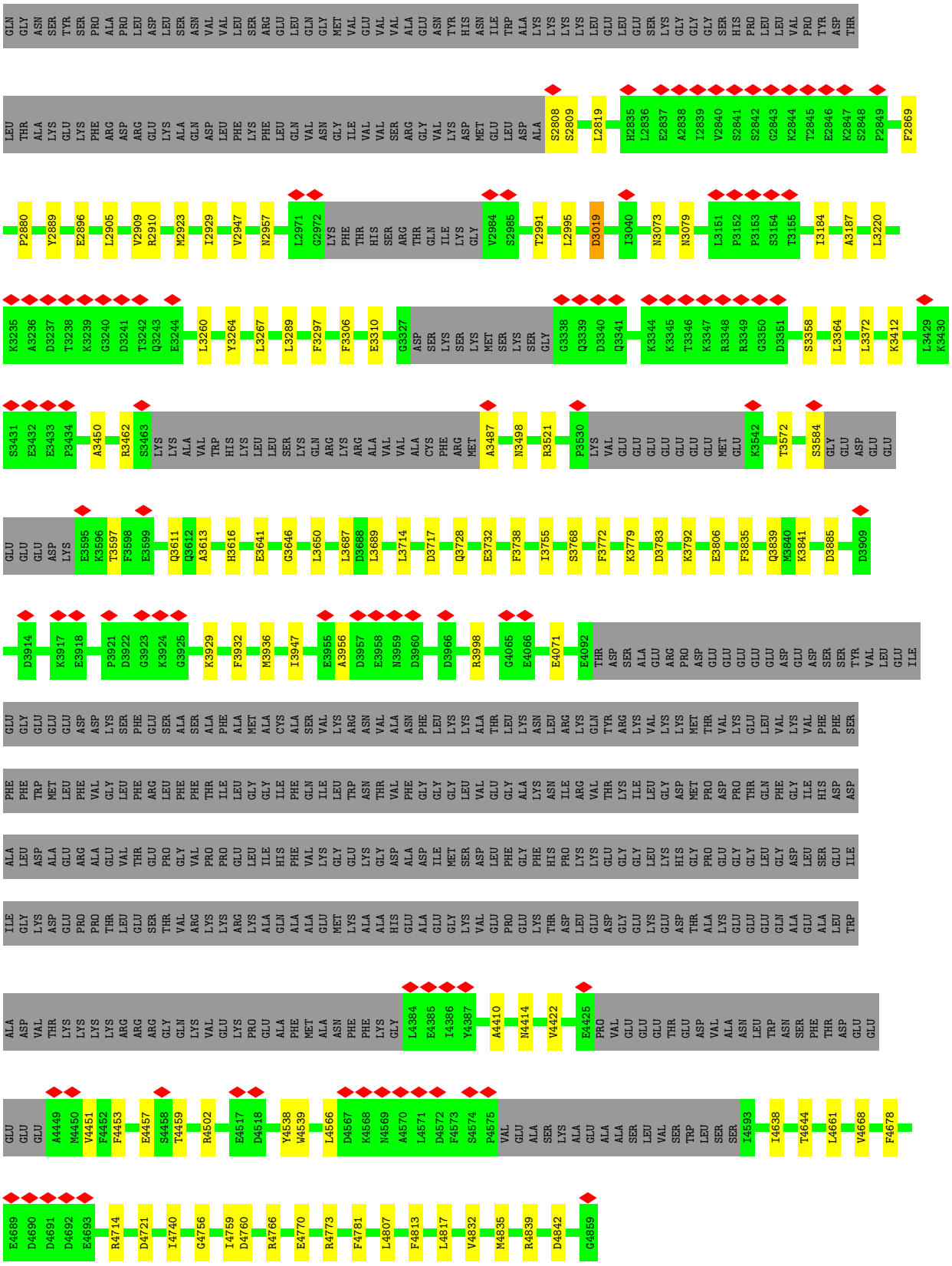
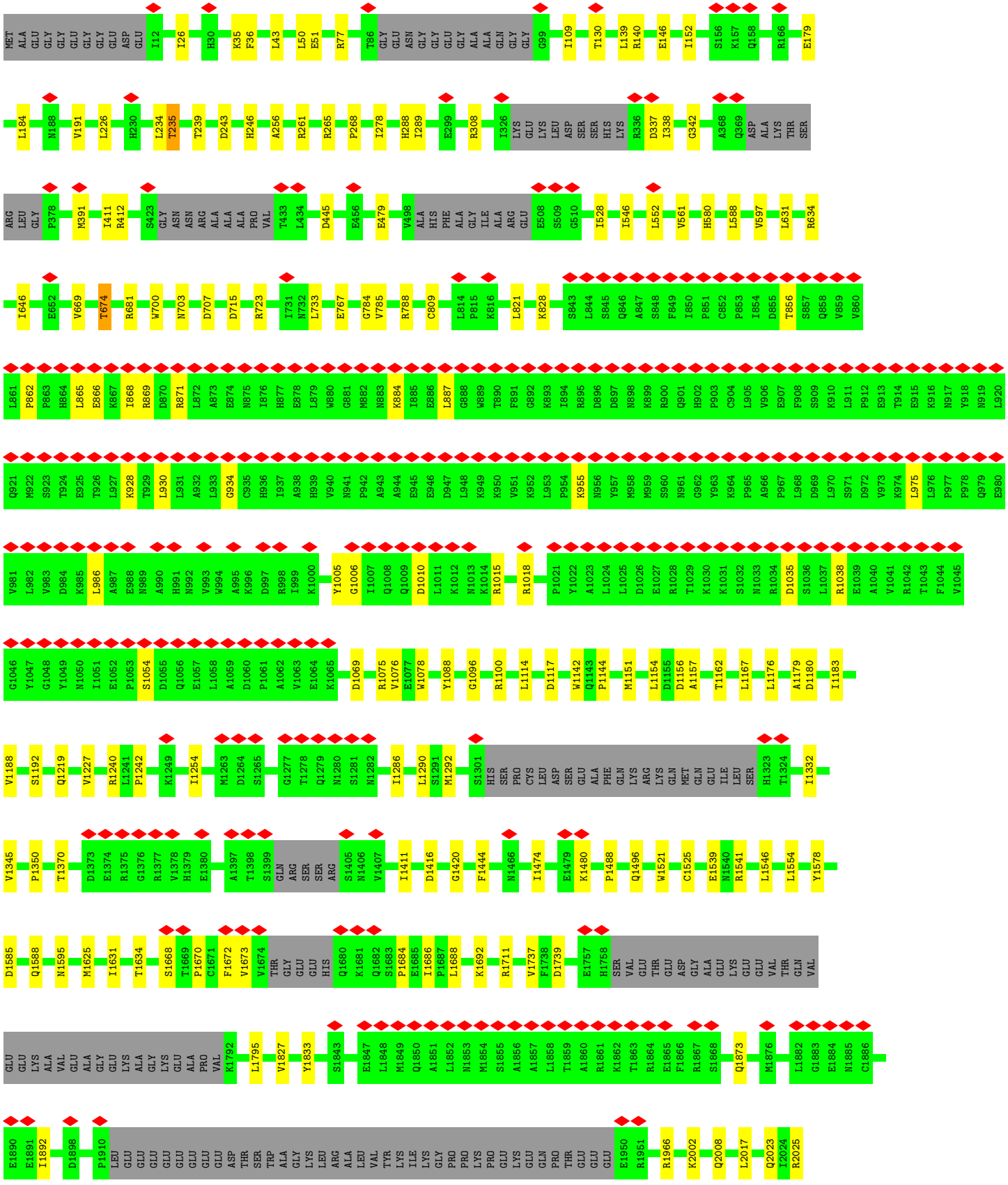
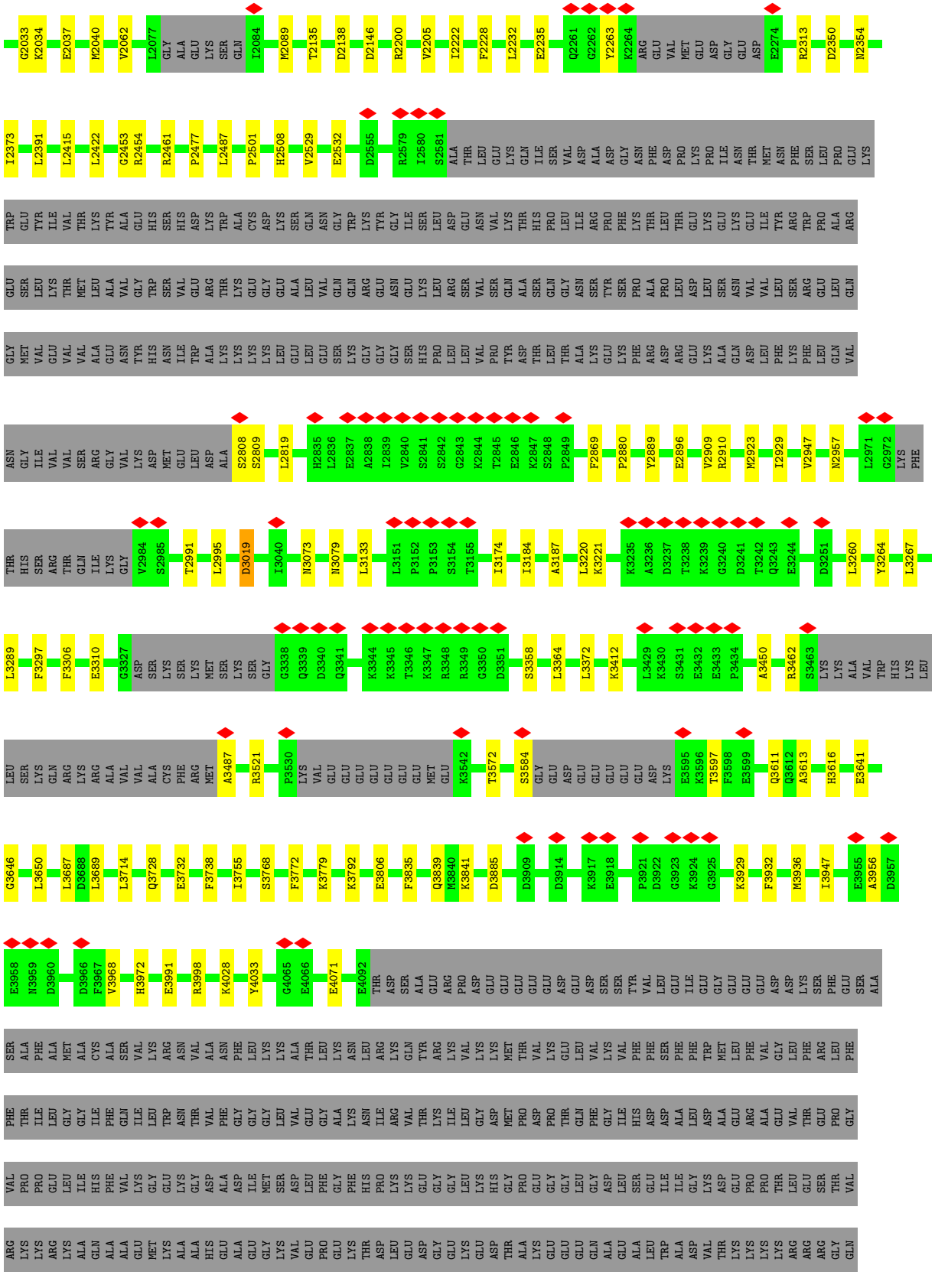
D855 T856 S857 Q858 V859 V860 L861 P862 P863 H864 L865 E866 K867 I868 R869 D870 R871 L872 A873 E874 N875 I876 H877 E878 L879 W880 G881 M882 N883 K884 I885 E886 L887 G888 W889 T890 F891 G892 K893 I894 R895 D896 D897 N898 K899 R900 Q901 H902 P903 C904 L905 V906 E907 F908 S909 K910 L911 P912 E913 T914
E915 K916 N917 Y918 N919 L920 Q921 M922 S923 T924 E925 T926 L927 K928 T929 L930 L931 A932 L933 G934 C935 H936 I937 A938 H939 V940 N941 P942 A943 A944 E945 E946 D947 L948 K949 K950 V951 K952 L953 P954 K955 N956 Y957 M958 M959 S960 N961 G962 Y963 K964 P965 A966 P967 L968 D969 L970 S971 D972 V973 K974
L975 L976 P977 P978 Q979 E980 V981 L982 V983 D984 K985 L986 A987 E988 N989 A990 H991 N992 V993 W994 A995 K996 D997 R998 I999 K1000 Y1005 G1006 I1007 Q1008 Q1009 D1010 L1011 K1012 N1013 K1014 R1015 R1018 P1021 Y1022 A1023 L1024 L1025 D1026 E1027 R1028 T1029 K1030 K1031 S1032 N1033 R1034 D1035 S1036 L1037 R1038 E1039
A1040 V1041 R1042 T1043 F1044 V1045 G1046 Y1047 G1048 Y1049 N1050 I1051 E1052 P1053 S1054 D1055 Q1056 E1057 L1058 A1059 D1060 P1061 A1062 V1063 E1064 K1065 D1069 R1075 V1076 E1077 W1078 Y1088 G1096 R1100 L1114 D1117 W1142 Q1143 P1144 M1151 L1154 A1157 T1162 L1167 E1175 L1176
A1179 D1180 I1183 V1188 S1192 Q1219 V1227 R1240 L1241 P1242 K1249 I1254 M1263 D1264 S1265 G1277 T1278 Q1279 N1280 S1281 N1282 I1286 L1290 S1291 M1292 S1301 HIS SER PRO CYS LEU ASP SER GLU ALA PHE GLN LYS ARG LYS GLN MET GLN GLU ILE LEU
SER H1323 T1324 I1332 S1341 V1345 P1350 T1370 D1373 E1374 R1375 G1376 R1377 V1378 H1379 E1380 W1391 A1397 T1398 S1399 GLN ARG SER SER ARG S1405 N1406 V1407 I1411 D1416 G1420 F1444 N1466 I1474 E1479 K1480 P1488 Q1496 W1521 C1525
E1539 N1540 R1541 L1546 L1554 D1585 Q1588 N1595 K1596 M1625 I1631 T1634 S1668 T1669 P1670 C1671 F1672 V1673 V1674 THR GLY GLU GLU HIS Q1680 K1681 Q1682 S1683 P1684 E1685 I1686 P1687 L1688 K1692 E1701 R1711 V1737 F1738 D1739 E1757 H1758 SER VAL GLU THR GLU
ASP GLY ALA GLU LYS GLU GLU VAL THR GLN VAL GLU GLU LYS ALA VAL GLU ALA GLY GLU LYS ALA GLY LYS GLU ALA PRO VAL K1792 L1795 V1827 Y1833 S1843 E1847 L1848 M1849 Q1850 A1851 L1852 N1853 M1854 S1855 A1856 A1857 L1858 T1859 A1860 R1861 K1862 T1863 R1864 E1865 F1866 R1867 S1868
Q1873 M1876 L1882 G1883 E1884 N1885 C1886 E1890 E1891 I1892 D1898 P1910 LEU GLU GLU GLU GLU GLU GLU GLU GLU ASP THR SER TRP ALA GLY LYS LEU ARG ALA LEU VAL TYR LYS ILE LYS GLY PRO PRO LYS PRO GLU LYS GLU GLN PRO THR GLU GLU GLU E1950 R1951
R1966 K2002 T2005 Q2008 A2009 S2010 T2014 L2017 Q2023 I2024 R2025 G2033 K2034 E2037 M2040 V2062 L2077 GLY ALA GLU LYS SER GLN I2084 M2089 T2135 D2138 D2146 K2161 R2200 V2205 I2222 F2228 L2232 E2235 Q2261 G2262
Y2263 K2264 ARG GLU VAL MET GLU ASP GLY GLU ASP E2274 R2313 P2338 E2348 P2349 D2350 N2354 I2373 L2391 L2415 L2422 G2453 R2461 P2477 L2487 P2501 H2508 V2529 E2532 D2555 R2579 I2580 S2581 ALA THR LEU GLU LYS GLN ILE SER
VAL ASP ALA ASP GLY ASN PHE ASP PRO LYS PRO ILE ASN THR MET ASN PHE SER LEU PRO GLU LYS TRP GLU TYR ILE VAL THR LYS TYR ALA GLU GLY HIS SER HIS ASP LYS TRP ALA CYS ASP LYS SER GLN ASN GLY TRP LYS TYR GLY ILE SER LEU ASP GLU ASN VAL LYS THR HIS
PRO LEU ILE ARG PRO PHE LYS THR LEU THR GLU LYS GLU LYS GLU ILE TYR ARG TRP PRO PRO ALA ARG GLU SER LEU LYS ILE THR MET LEU ALA VAL GLY TRP SER HIS VAL GLU ARG THR LYS GLU GLY GLU ALA LEU VAL GLN GLN ARG GLU ASN GLU LYS LEU LEU ARG SER VAL SER GLN ALA SER

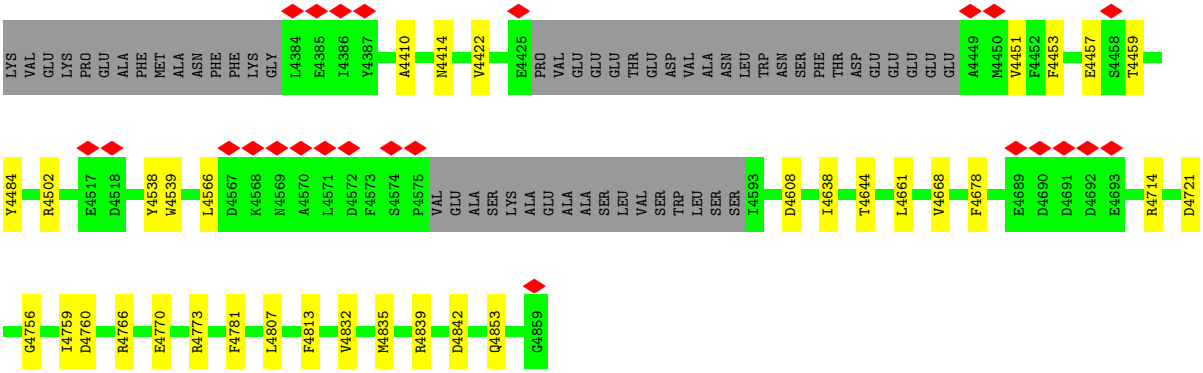


• Molecule 2: Ryanodine receptor 3

Chain H:




G2033 K2034 E2037 M2040 V2062 L2077 GLY ALA GLU LYS SER GLN I2084 M2089 T2135 D2138 D2146 R2200 V2205 I2222 F2228 L2232 E2235 Q2261 G2262 Y2263 K2264 ARG GLU VAL MET GLU ASP GLY GLU ASP E2274 R2313 D2350 N2354
I2373 L2391 L2415 L2422 G2453 R2454 R2461 P2477 L2487 P2501 H2508 V2529 E2532 D2555 R2579 I2580 S2581 ALA THR LEU GLU LYS GLN ILE SER VAL ASP ALA ASP GLY ASN PHE ASP PRO LYS PRO ILE ASN THR MET ASN PHE SER LEU PRO GLU LYS
TRP GLU TYR ILE VAL THR LYS TYR ALA GLU HIS SER HIS ASP LYS TRP ALA CYS ASP LYS SER GLN ASN GLY TRP LYS TYR GLY ILE SER LEU ASP GLU ASN VAL LYS THR HIS PRO LEU ILE ARG PRO PHE LYS THR LEU THR GLU LYS GLU LYS GLU ILE TYR ARG TRP PRO ALA ARG
GLU SER LEU LYS THR MET LEU ALA VAL GLY TRP SER VAL GLU ARG THR LYS GLU GLY GLU ALA LEU VAL GLN GLN ARG GLU ASN GLU LYS LEU ARG SER VAL SER GLN ALA SER GLN GLY ASN SER TYR SER PRO ALA PRO LEU ASP GLY LEU SER ASN VAL VAL LEU SER ARG GLU LEU GLN
GLY MET VAL GLU VAL VAL ALA GLU ASN TYR HIS ASN ILE TRP ALA LYS LYS LYS LEU GLU LEU GLU SER LYS GLY GLY GLY SER HIS PRO LEU LEU LEU VAL PRO TYR ASP THR LEU THR ALA LYS GLU LYS PHE ARG ASP ARG GLU GLY LYS PHE LYS PHE LEU GLN VAL
ASN GLY ILE VAL VAL SER ARG GLY VAL LYS ASP MET GLU LEU ASP ALA S2808 S2809 L2819 H2835 L2836 E2837 A2838 I2839 V2840 S2841 S2842 G2843 K2844 T2845 E2846 K2847 S2848 P2849 F2869 P2880 Y2889 E2896 V2909 R2910 M2923 I2929 V2947 N2957 L2971 G2972 LYS PHE
THR HIS SER ARG THR GLN ILE LYS GLY V2984 S2985 T2991 L2995 D3019 I3040 N3073 N3079 L3133 L3151 P3152 P3153 S3154 T3155 I3174 I3184 A3187 L3220 K3221 K3235 A3236 D3237 T3238 K3239 G3240 D3241 T3242 Q3243 E3244 D3251 L3260 Y3264 L3267
L3289 F3297 F3306 E3310 G3327 ASP SER LYS SER LYS MET SER LYS SER GLY G3338 Q3339 D3340 Q3341 K3344 K3345 T3346 K3347 R3348 R3349 G3350 D3351 S3358 L3364 L3372 K3412 L3429 K3430 S3431 E3432 E3433 P3434 A3450 R3462 S3463 LYS LYS ALA VAL TRP HIS LYS LEU
LEU SER LYS GLN ARG LYS ARG ALA VAL VAL ALA ALA CYS PHE ARG MET A3487 R3521 P3530 LYS VAL GLU GLU GLU GLU GLU GLU GLU MET GLU K3542 T3572 S3584 GLY GLU ASP GLU GLU GLU GLU GLU ASP LYS E3595 K3596 T3597 F3598 E3599 Q3611 Q3612 A3613 H3616 E3641
G3646 L3650 L3687 D3688 L3689 L3714 Q3728 E3732 F3738 I3755 S3768 F3772 K3779 K3792 E3806 F3835 Q3839 M3840 K3841 D3885 D3909 D3914 K3917 E3918 P3921 D3922 G3923 K3924 G3925 K3929 F3932 M3936 I3947 E3955 A3956 D3957
E3958 N3959 D3960 D3966 F3967 V3968 H3972 E3991 R3998 K4028 Y4033 G4065 E4066 E4071 E4092 THR ASP SER ALA GLU ARG PRO ASP GLU GLU GLU GLU GLU ASP GLU ASP SER SER TYR VAL LEU GLU ILE GLU GLY GLU GLU GLU ASP LYS SER PHE GLU SER ALA
SER ALA PHE ALA MET ALA CYS ALA SER VAL LYS ARG ASN VAL ALA ASN PHE LEU LYS LYS ALA THR LEU LYS ASN LEU ARG LYS GLN TYR ARG LYS VAL LYS LYS MET THR VAL LYS GLU LEU VAL LYS VAL PHE PHE SER PHE PHE TRP MET LEU PHE VAL GLY LEU PHE ARG LEU PHE
PHE THR ILE LEU GLY GLY ILE PHE GLN ILE LEU LEU TRP ASN THR VAL PHE GLY GLY LEU VAL GLU GLY LYS ASN ILE ARG VAL THR LYS ILE LEU GLY ASP MET PRO ASP PRO THR GLN PHE GLY ILE HIS ASP ASP ALA LEU ASP ALA GLU ARG ALA GLU VAL THR GLU PRO GLY
VAL PRO PRO GLU LEU ILE HIS PHE VAL LYS GLY GLU LYS GLY ASP ALA ASP ILE MET SER ASP LEU PHE GLY PHE HIS PRO LYS LYS GLU GLY GLY GLY LEU LYS HIS GLY PRO GLU GLY GLY LEU GLY ASP LEU SER GLU ILE ILE GLY LYS ASP GLU PRO PRO THR LEU GLU SER THR VAL
ARG LYS LYS ARG LYS ALA GLN ALA ALA GLU MET LYS ALA ALA HIS GLU ALA ASP GLU GLY LYS VAL GLU PRO GLU LYS THR ASP LEU GLU GLU ASP GLY GLU LYS GLU ASP THR ALA LYS GLU GLU GLN ALA GLU ALA LEU TRP ALA ASP VAL THR LYS LYS LYS LYS ARG ARG ARG GLY GLN


LYS VAL GLU LYS PRO GLU ALA PHE MET ALA ASN PHE PHE LYS GLY L4384 E4385 I4386 Y4387 A4410 N4414 V4422 E4425 PRO VAL GLU GLU GLU THR GLU ASP VAL ALA ASN LEU TRP ASN SER PHE THR ASP GLU GLU GLU GLU A4449 M4450 V4451 F4452 F4453 E4457 S4458 T4459
Y4484 R4502 E4517 D4518 Y4538 W4539 L4566 D4567 K4568 N4569 A4570 L4571 D4572 F4573 S4574 P4575 VAL GLU ALA SER LYS ALA GLU ALA ALA SER LEU VAL SER TRP LEU SER SER I4593 D4608 I4638 T4644 L4661 V4668 F4678 E4689 D4690 D4691 D4692 E4693 R4714 D4721
G4756 I4759 D4760 R4766 E4770 B4773 F4781 L4807 F4813 V4832 M4835 R4839 D4842 Q4853 G4859

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	109618	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.618	Depositor
Minimum map value	0.000	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.068	Depositor
Map size (Å)	478.72, 478.72, 478.72	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.935, 0.935, 0.935	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CL, ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.25	0/720	0.46	0/981
1	C	0.25	0/720	0.46	0/981
1	E	0.25	0/720	0.46	0/981
1	G	0.25	0/720	0.46	0/981
2	B	0.27	0/32406	0.47	0/43918
2	D	0.27	0/32406	0.47	0/43918
2	F	0.27	0/32406	0.47	0/43918
2	H	0.27	0/32406	0.47	0/43918
All	All	0.27	0/132504	0.47	0/179596

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	705	0	628	3	0
1	C	705	0	628	3	0
1	E	705	0	628	5	0
1	G	705	0	628	4	0
2	B	31724	0	31164	183	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	31724	0	31164	180	0
2	F	31724	0	31164	189	0
2	H	31724	0	31164	183	0
3	B	1	0	0	0	0
3	D	1	0	0	0	0
3	F	1	0	0	0	0
3	H	1	0	0	0	0
4	B	1	0	0	1	0
4	D	1	0	0	1	0
4	F	1	0	0	1	0
4	H	1	0	0	1	0
All	All	129724	0	127168	671	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 3.

All (671) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:2235:GLU:HA	2:F:130:THR:O	1.80	0.82
2:F:2235:GLU:HA	2:H:130:THR:O	1.79	0.81
2:B:2235:GLU:HA	2:D:130:THR:O	1.79	0.81
2:B:130:THR:O	2:H:2235:GLU:HA	1.80	0.80
2:D:3728:GLN:HG3	2:D:3806:GLU:HG3	1.72	0.72
2:B:3728:GLN:HG3	2:B:3806:GLU:HG3	1.72	0.71
2:H:3728:GLN:HG3	2:H:3806:GLU:HG3	1.72	0.71
2:B:2222:ILE:HD11	2:D:179:GLU:OE1	1.92	0.69
2:D:2222:ILE:HD11	2:F:179:GLU:OE1	1.92	0.69
2:F:3728:GLN:HG3	2:F:3806:GLU:HG3	1.72	0.69
2:B:179:GLU:OE1	2:H:2222:ILE:HD11	1.92	0.69
2:F:2222:ILE:HD11	2:H:179:GLU:OE1	1.92	0.69
2:B:4661:LEU:HD12	2:H:4644:THR:CG2	2.27	0.65
2:F:4644:THR:CG2	2:H:4661:LEU:HD12	2.27	0.65
2:D:1254:ILE:HD11	2:D:1286:ILE:HD13	1.79	0.65
2:B:4644:THR:CG2	2:D:4661:LEU:HD12	2.27	0.65
2:H:1254:ILE:HD11	2:H:1286:ILE:HD13	1.79	0.65
2:B:1254:ILE:HD11	2:B:1286:ILE:HD13	1.79	0.64
2:F:1254:ILE:HD11	2:F:1286:ILE:HD13	1.79	0.64
2:B:4644:THR:HG21	2:D:4661:LEU:HD12	1.80	0.64
2:B:1578:TYR:HH	2:B:1668:SER:HG	1.45	0.63
2:F:4644:THR:HG21	2:H:4661:LEU:HD12	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:4644:THR:CG2	2:F:4661:LEU:HD12	2.27	0.63
2:D:4644:THR:HG21	2:F:4661:LEU:HD12	1.80	0.63
2:B:4661:LEU:HD12	2:H:4644:THR:HG21	1.80	0.63
2:H:1578:TYR:HH	2:H:1668:SER:HG	1.45	0.63
2:D:1578:TYR:HH	2:D:1668:SER:HG	1.48	0.61
2:F:1670:PRO:HG3	2:F:1684:PRO:HB3	1.84	0.59
2:H:1670:PRO:HG3	2:H:1684:PRO:HB3	1.84	0.59
2:B:1114:LEU:HD22	2:B:1192:SER:HB3	1.84	0.59
2:D:1114:LEU:HD22	2:D:1192:SER:HB3	1.84	0.59
2:B:146:GLU:CD	2:H:2313:ARG:HH21	2.06	0.59
2:B:2313:ARG:HH21	2:D:146:GLU:CD	2.06	0.58
2:D:1670:PRO:HG3	2:D:1684:PRO:HB3	1.84	0.58
2:D:2313:ARG:HH21	2:F:146:GLU:CD	2.06	0.58
2:F:1114:LEU:HD22	2:F:1192:SER:HB3	1.84	0.58
2:B:1219:GLN:HG3	2:H:3372:LEU:O	2.04	0.58
2:B:1670:PRO:HG3	2:B:1684:PRO:HB3	1.84	0.58
2:H:1114:LEU:HD22	2:H:1192:SER:HB3	1.84	0.58
2:D:3372:LEU:O	2:F:1219:GLN:HG3	2.04	0.57
2:B:3462:ARG:NH2	2:D:1157:ALA:O	2.38	0.57
2:F:2313:ARG:HH21	2:H:146:GLU:CD	2.06	0.57
2:F:3372:LEU:O	2:H:1219:GLN:HG3	2.04	0.57
2:F:4502:ARG:NH2	2:F:4538:TYR:OH	2.37	0.57
2:B:3372:LEU:O	2:D:1219:GLN:HG3	2.04	0.57
2:D:3019:ASP:OD1	2:D:3019:ASP:N	2.38	0.57
2:F:3462:ARG:NH2	2:H:1157:ALA:O	2.38	0.57
2:B:1157:ALA:O	2:H:3462:ARG:NH2	2.38	0.57
2:D:3462:ARG:NH2	2:F:1157:ALA:O	2.38	0.57
2:B:3019:ASP:N	2:B:3019:ASP:OD1	2.38	0.57
2:F:681:ARG:NH1	2:F:707:ASP:OD1	2.38	0.56
2:H:3019:ASP:OD1	2:H:3019:ASP:N	2.38	0.56
2:F:1795:LEU:O	2:F:1966:ARG:NH2	2.39	0.56
2:B:1795:LEU:O	2:B:1966:ARG:NH2	2.39	0.56
2:D:4644:THR:CG2	2:F:4661:LEU:CD1	2.84	0.56
2:B:4457:GLU:HG2	2:B:4459:THR:H	1.71	0.56
2:D:669:VAL:HG22	2:D:785:VAL:HG12	1.89	0.55
2:D:1795:LEU:O	2:D:1966:ARG:NH2	2.39	0.55
2:H:669:VAL:HG22	2:H:785:VAL:HG12	1.89	0.55
2:H:4457:GLU:HG2	2:H:4459:THR:H	1.71	0.55
2:B:4661:LEU:CD1	2:H:4644:THR:CG2	2.84	0.55
2:F:2910:ARG:HE	2:F:2957:ASN:HB3	1.72	0.55
2:D:2910:ARG:HE	2:D:2957:ASN:HB3	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:2910:ARG:HE	2:H:2957:ASN:HB3	1.72	0.55
2:F:3019:ASP:OD1	2:F:3019:ASP:N	2.38	0.55
2:F:4644:THR:CG2	2:H:4661:LEU:CD1	2.84	0.55
2:H:4502:ARG:NH2	2:H:4538:TYR:OH	2.37	0.55
2:B:669:VAL:HG22	2:B:785:VAL:HG12	1.89	0.55
2:B:4644:THR:CG2	2:D:4661:LEU:CD1	2.84	0.55
2:H:681:ARG:NH1	2:H:707:ASP:OD1	2.38	0.55
2:F:669:VAL:HG22	2:F:785:VAL:HG12	1.89	0.55
2:F:2313:ARG:NH2	2:H:146:GLU:OE2	2.40	0.55
2:F:4457:GLU:HG2	2:F:4459:THR:H	1.71	0.55
2:H:1795:LEU:O	2:H:1966:ARG:NH2	2.39	0.55
2:D:4457:GLU:HG2	2:D:4459:THR:H	1.71	0.55
2:B:2313:ARG:NH2	2:D:146:GLU:OE2	2.40	0.54
2:B:2910:ARG:HE	2:B:2957:ASN:HB3	1.72	0.54
2:B:146:GLU:OE2	2:H:2313:ARG:NH2	2.41	0.54
2:D:2313:ARG:NH2	2:F:146:GLU:OE2	2.41	0.54
1:G:24:VAL:HG22	1:G:48:LYS:HG2	1.90	0.54
2:H:1227:VAL:O	2:H:1711:ARG:NH1	2.41	0.54
2:H:4835:MET:HE1	2:H:4842:ASP:HB2	1.90	0.54
1:G:25:VAL:HG12	1:G:104:LEU:HA	1.90	0.54
1:E:24:VAL:HG22	1:E:48:LYS:HG2	1.90	0.54
2:B:681:ARG:NH1	2:B:707:ASP:OD1	2.38	0.53
2:D:703:ASN:OD1	2:D:723:ARG:NH1	2.42	0.53
1:E:25:VAL:HG12	1:E:104:LEU:HA	1.90	0.53
2:F:4835:MET:HE1	2:F:4842:ASP:HB2	1.91	0.53
2:D:588:LEU:HB2	2:D:597:VAL:HG11	1.91	0.53
2:B:588:LEU:HB2	2:B:597:VAL:HG11	1.91	0.53
2:F:588:LEU:HB2	2:F:597:VAL:HG11	1.91	0.53
2:F:2373:ILE:HD13	2:F:2422:LEU:HD11	1.91	0.53
2:H:588:LEU:HB2	2:H:597:VAL:HG11	1.91	0.53
2:H:703:ASN:OD1	2:H:723:ARG:NH1	2.42	0.53
1:C:24:VAL:HG22	1:C:48:LYS:HG2	1.90	0.53
1:C:25:VAL:HG12	1:C:104:LEU:HA	1.90	0.53
2:B:1227:VAL:O	2:B:1711:ARG:NH1	2.41	0.53
1:A:25:VAL:HG12	1:A:104:LEU:HA	1.90	0.52
2:B:261:ARG:O	2:B:288:HIS:NE2	2.40	0.52
2:B:4759:ILE:HG12	2:D:4756:GLY:HA2	1.92	0.52
2:D:3220:LEU:HD13	2:D:3260:LEU:HD23	1.91	0.52
2:B:703:ASN:OD1	2:B:723:ARG:NH1	2.42	0.52
2:F:4759:ILE:HG12	2:H:4756:GLY:HA2	1.92	0.52
2:H:2373:ILE:HD13	2:H:2422:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:24:VAL:HG22	1:A:48:LYS:HG2	1.90	0.52
2:B:4502:ARG:NH2	2:B:4538:TYR:OH	2.37	0.52
2:B:4756:GLY:HA2	2:H:4759:ILE:HG12	1.92	0.52
2:D:4502:ARG:NH2	2:D:4538:TYR:OH	2.37	0.52
2:F:703:ASN:OD1	2:F:723:ARG:NH1	2.42	0.52
2:H:3220:LEU:HD13	2:H:3260:LEU:HD23	1.91	0.52
2:B:2373:ILE:HD13	2:B:2422:LEU:HD11	1.91	0.52
2:D:1227:VAL:O	2:D:1711:ARG:NH1	2.41	0.52
2:D:2373:ILE:HD13	2:D:2422:LEU:HD11	1.91	0.52
2:B:866:GLU:HG3	2:B:869:ARG:HE	1.76	0.51
2:D:681:ARG:NH1	2:D:707:ASP:OD1	2.38	0.51
2:D:1069:ASP:HB3	2:D:1240:ARG:HG3	1.93	0.51
2:D:4759:ILE:HG12	2:F:4756:GLY:HA2	1.92	0.51
2:F:1069:ASP:HB3	2:F:1240:ARG:HG3	1.93	0.51
2:H:866:GLU:HG3	2:H:869:ARG:HE	1.76	0.51
2:F:261:ARG:O	2:F:288:HIS:NE2	2.40	0.51
2:F:1227:VAL:O	2:F:1711:ARG:NH1	2.41	0.51
2:F:3220:LEU:HD13	2:F:3260:LEU:HD23	1.91	0.51
2:H:1069:ASP:HB3	2:H:1240:ARG:HG3	1.93	0.51
2:B:1069:ASP:HB3	2:B:1240:ARG:HG3	1.93	0.51
2:D:1686:ILE:HG23	2:D:1688:LEU:HG	1.93	0.51
2:H:1088:TYR:HD2	2:H:1151:MET:HG2	1.75	0.51
2:H:1350:PRO:HG3	2:H:1444:PHE:HE1	1.76	0.51
2:B:1088:TYR:HD2	2:B:1151:MET:HG2	1.75	0.51
2:H:674:THR:O	2:H:674:THR:OG1	2.28	0.51
2:B:1350:PRO:HG3	2:B:1444:PHE:HE1	1.76	0.51
2:B:1416:ASP:O	2:B:1420:GLY:N	2.44	0.51
2:B:3220:LEU:HD13	2:B:3260:LEU:HD23	1.91	0.50
2:D:1350:PRO:HG3	2:D:1444:PHE:HE1	1.76	0.50
2:F:1350:PRO:HG3	2:F:1444:PHE:HE1	1.76	0.50
2:D:866:GLU:HG3	2:D:869:ARG:HE	1.76	0.50
2:D:2033:GLY:O	2:D:2037:GLU:N	2.44	0.50
2:F:1088:TYR:HD2	2:F:1151:MET:HG2	1.75	0.50
2:H:1416:ASP:O	2:H:1420:GLY:N	2.44	0.50
2:F:866:GLU:HG3	2:F:869:ARG:HE	1.76	0.50
2:F:2033:GLY:O	2:F:2037:GLU:N	2.44	0.50
2:D:1088:TYR:HD2	2:D:1151:MET:HG2	1.75	0.50
2:D:4835:MET:HE1	2:D:4842:ASP:HB2	1.94	0.50
2:B:1686:ILE:HG23	2:B:1688:LEU:HG	1.93	0.50
2:D:1416:ASP:O	2:D:1420:GLY:N	2.44	0.50
2:F:1416:ASP:O	2:F:1420:GLY:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1686:ILE:HG23	2:F:1688:LEU:HG	1.93	0.50
2:H:1076:VAL:HB	2:H:1188:VAL:HB	1.94	0.50
2:B:4661:LEU:CD1	2:H:4644:THR:HG21	2.42	0.50
1:E:69:LEU:HA	1:E:104:LEU:HD22	1.94	0.50
2:F:1076:VAL:HB	2:F:1188:VAL:HB	1.94	0.49
2:D:1585:ASP:OD1	2:D:1588:GLN:NE2	2.45	0.49
1:G:69:LEU:HA	1:G:104:LEU:HD22	1.94	0.49
2:H:268:PRO:HG3	2:H:278:ILE:HD11	1.95	0.49
2:B:2909:VAL:HG11	2:B:2923:MET:HG2	1.94	0.49
2:D:1076:VAL:HB	2:D:1188:VAL:HB	1.94	0.49
2:F:4644:THR:HG21	2:H:4661:LEU:CD1	2.42	0.49
2:B:1162:THR:HG22	2:B:1167:LEU:HD12	1.94	0.49
2:F:1162:THR:HG22	2:F:1167:LEU:HD12	1.94	0.49
2:D:1035:ASP:OD1	2:D:1038:ARG:NH2	2.46	0.49
2:B:2529:VAL:HG22	2:B:2532:GLU:HG3	1.95	0.49
2:D:784:GLY:N	2:D:1525:CYS:O	2.37	0.49
2:D:2909:VAL:HG11	2:D:2923:MET:HG2	1.94	0.49
2:H:289:ILE:O	2:H:412:ARG:NH1	2.44	0.49
2:D:226:LEU:HD12	2:D:234:LEU:HD22	1.95	0.49
2:F:226:LEU:HD12	2:F:234:LEU:HD22	1.95	0.49
2:H:2529:VAL:HG22	2:H:2532:GLU:HG3	1.95	0.49
2:B:1634:THR:HG22	2:B:2008:GLN:HE21	1.77	0.49
2:F:1625:MET:SD	2:F:2025:ARG:NH1	2.86	0.49
2:F:2529:VAL:HG22	2:F:2532:GLU:HG3	1.95	0.49
2:B:1035:ASP:OD1	2:B:1038:ARG:NH2	2.46	0.49
2:D:788:ARG:HA	2:D:1521:TRP:O	2.13	0.49
2:D:4644:THR:HG21	2:F:4661:LEU:CD1	2.42	0.49
2:F:1035:ASP:OD1	2:F:1038:ARG:NH2	2.46	0.49
2:H:226:LEU:HD12	2:H:234:LEU:HD22	1.95	0.49
2:H:1035:ASP:OD1	2:H:1038:ARG:NH2	2.46	0.49
2:H:1625:MET:SD	2:H:2025:ARG:NH1	2.86	0.49
2:H:1634:THR:HG22	2:H:2008:GLN:HE21	1.77	0.49
2:B:268:PRO:HG3	2:B:278:ILE:HD11	1.95	0.49
2:B:788:ARG:HA	2:B:1521:TRP:O	2.13	0.49
2:B:1625:MET:SD	2:B:2025:ARG:NH1	2.86	0.49
2:F:1585:ASP:OD1	2:F:1588:GLN:NE2	2.45	0.49
2:H:788:ARG:HA	2:H:1521:TRP:O	2.13	0.49
2:H:1686:ILE:HG23	2:H:1688:LEU:HG	1.93	0.49
1:A:69:LEU:HA	1:A:104:LEU:HD22	1.94	0.48
2:B:2033:GLY:O	2:B:2037:GLU:N	2.44	0.48
2:D:1625:MET:SD	2:D:2025:ARG:NH1	2.86	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:226:LEU:HD12	2:B:234:LEU:HD22	1.95	0.48
2:D:2529:VAL:HG22	2:D:2532:GLU:HG3	1.95	0.48
2:F:3835:PHE:O	2:F:3839:GLN:HB2	2.14	0.48
2:H:1162:THR:HG22	2:H:1167:LEU:HD12	1.94	0.48
2:H:3835:PHE:O	2:H:3839:GLN:HB2	2.14	0.48
2:B:43:LEU:HG	2:B:445:ASP:HB3	1.96	0.48
2:B:1076:VAL:HB	2:B:1188:VAL:HB	1.94	0.48
2:B:1100:ARG:NH1	2:B:1114:LEU:O	2.45	0.48
2:B:1739:ASP:OD1	2:B:1739:ASP:N	2.46	0.48
2:D:43:LEU:HG	2:D:445:ASP:HB3	1.96	0.48
2:F:1634:THR:HG22	2:F:2008:GLN:HE21	1.77	0.48
2:F:2909:VAL:HG11	2:F:2923:MET:HG2	1.94	0.48
2:D:268:PRO:HG3	2:D:278:ILE:HD11	1.95	0.48
2:D:1162:THR:HG22	2:D:1167:LEU:HD12	1.94	0.48
2:F:3572:THR:HG23	2:F:3641:GLU:HG3	1.96	0.48
2:H:2909:VAL:HG11	2:H:2923:MET:HG2	1.94	0.48
2:B:784:GLY:N	2:B:1525:CYS:O	2.37	0.48
2:B:3779:LYS:O	2:B:3841:LYS:NZ	2.46	0.48
2:F:788:ARG:HA	2:F:1521:TRP:O	2.13	0.48
2:H:784:GLY:N	2:H:1525:CYS:O	2.37	0.48
2:H:2033:GLY:O	2:H:2037:GLU:N	2.44	0.48
2:H:3572:THR:HG23	2:H:3641:GLU:HG3	1.96	0.48
2:B:51:GLU:OE2	2:B:308:ARG:NH2	2.47	0.48
2:B:4835:MET:HE1	2:B:4842:ASP:HB2	1.95	0.48
1:C:69:LEU:HA	1:C:104:LEU:HD22	1.94	0.48
2:D:261:ARG:O	2:D:288:HIS:NE2	2.40	0.48
2:H:1585:ASP:OD1	2:H:1588:GLN:NE2	2.45	0.48
2:D:3835:PHE:O	2:D:3839:GLN:HB2	2.14	0.48
2:F:268:PRO:HG3	2:F:278:ILE:HD11	1.95	0.48
2:F:4813:PHE:HE2	2:F:4832:VAL:HG11	1.79	0.48
2:B:3835:PHE:O	2:B:3839:GLN:HB2	2.14	0.47
2:D:1634:THR:HG22	2:D:2008:GLN:HE21	1.77	0.47
2:D:2040:MET:HB3	2:D:2089:MET:HE1	1.95	0.47
2:F:1739:ASP:OD1	2:F:1739:ASP:N	2.46	0.47
2:H:3184:ILE:HD11	2:H:3187:ALA:HB2	1.96	0.47
2:D:681:ARG:HG2	2:D:715:ASP:HB3	1.96	0.47
2:D:3572:THR:HG23	2:D:3641:GLU:HG3	1.96	0.47
2:F:681:ARG:HG2	2:F:715:ASP:HB3	1.96	0.47
2:D:289:ILE:O	2:D:412:ARG:NH1	2.44	0.47
2:F:43:LEU:HG	2:F:445:ASP:HB3	1.96	0.47
2:F:3936:MET:HE3	2:F:3947:ILE:HG13	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:261:ARG:O	2:H:288:HIS:NE2	2.40	0.47
2:B:109:ILE:HD13	2:B:152:ILE:HD11	1.96	0.47
2:H:26:ILE:HG12	2:H:35:LYS:HG2	1.96	0.47
2:H:43:LEU:HG	2:H:445:ASP:HB3	1.96	0.47
2:H:243:ASP:O	2:H:246:HIS:ND1	2.46	0.47
2:B:26:ILE:HG12	2:B:35:LYS:HG2	1.96	0.47
2:B:3572:THR:HG23	2:B:3641:GLU:HG3	1.96	0.47
2:D:4813:PHE:HE2	2:D:4832:VAL:HG11	1.79	0.47
2:F:289:ILE:O	2:F:412:ARG:NH1	2.44	0.47
2:H:4813:PHE:HE2	2:H:4832:VAL:HG11	1.79	0.47
2:B:2135:THR:OG1	2:B:2138:ASP:OD2	2.32	0.47
2:D:646:ILE:HD13	2:D:809:CYS:HB3	1.97	0.47
2:D:1005:TYR:O	2:D:1015:ARG:NH1	2.48	0.47
2:D:1692:LYS:HD3	2:D:1737:VAL:HG12	1.96	0.47
2:D:4422:VAL:HG13	2:D:4451:VAL:HG13	1.97	0.47
2:F:631:LEU:HD11	2:F:1554:LEU:HD22	1.96	0.47
2:F:2040:MET:HB3	2:F:2089:MET:HE1	1.96	0.47
2:H:36:PHE:HB3	2:H:50:LEU:HB3	1.97	0.47
2:H:337:ASP:OD1	2:H:337:ASP:N	2.48	0.47
2:B:821:LEU:HD11	2:B:1521:TRP:HB3	1.97	0.47
2:D:821:LEU:HD11	2:D:1521:TRP:HB3	1.97	0.47
2:F:51:GLU:OE2	2:F:308:ARG:NH2	2.47	0.47
2:F:1005:TYR:O	2:F:1015:ARG:NH1	2.48	0.47
2:F:3310:GLU:OE2	2:F:3358:SER:OG	2.32	0.47
2:B:3267:LEU:HD11	2:B:3289:LEU:HD11	1.97	0.47
2:D:3267:LEU:HD11	2:D:3289:LEU:HD11	1.97	0.47
2:F:1692:LYS:HD3	2:F:1737:VAL:HG12	1.96	0.47
2:F:3184:ILE:HD11	2:F:3187:ALA:HB2	1.96	0.47
2:H:2040:MET:HB3	2:H:2089:MET:HE1	1.97	0.47
2:H:3310:GLU:OE2	2:H:3358:SER:OG	2.32	0.47
2:B:1096:GLY:H	2:B:1144:PRO:HG3	1.80	0.47
2:B:1585:ASP:OD1	2:B:1588:GLN:NE2	2.45	0.47
2:D:631:LEU:HD11	2:D:1554:LEU:HD22	1.96	0.47
2:H:681:ARG:HG2	2:H:715:ASP:HB3	1.96	0.47
2:H:3936:MET:HE3	2:H:3947:ILE:HG13	1.97	0.47
2:B:1332:ILE:HG22	2:B:1411:ILE:HB	1.97	0.46
2:B:4813:PHE:HE2	2:B:4832:VAL:HG11	1.79	0.46
2:F:3646:GLY:O	2:F:3650:LEU:HB2	2.16	0.46
2:H:2135:THR:OG1	2:H:2138:ASP:OD2	2.32	0.46
2:B:289:ILE:O	2:B:412:ARG:NH1	2.44	0.46
2:B:646:ILE:HD13	2:B:809:CYS:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1010:ASP:OD1	2:B:1010:ASP:N	2.49	0.46
2:B:1692:LYS:HD3	2:B:1737:VAL:HG12	1.96	0.46
2:B:3184:ILE:HD11	2:B:3187:ALA:HB2	1.96	0.46
2:B:3646:GLY:O	2:B:3650:LEU:HB2	2.16	0.46
2:B:4422:VAL:HG13	2:B:4451:VAL:HG13	1.97	0.46
2:B:4457:GLU:OE2	2:B:4459:THR:OG1	2.33	0.46
2:D:26:ILE:HG12	2:D:35:LYS:HG2	1.96	0.46
2:D:3779:LYS:O	2:D:3841:LYS:NZ	2.46	0.46
2:F:36:PHE:HB3	2:F:50:LEU:HB3	1.97	0.46
2:H:3267:LEU:HD11	2:H:3289:LEU:HD11	1.97	0.46
2:F:26:ILE:HG12	2:F:35:LYS:HG2	1.96	0.46
2:F:109:ILE:HD13	2:F:152:ILE:HD11	1.96	0.46
2:H:109:ILE:HD13	2:H:152:ILE:HD11	1.96	0.46
2:H:4457:GLU:OE2	2:H:4459:THR:OG1	2.33	0.46
2:B:1005:TYR:O	2:B:1015:ARG:NH1	2.48	0.46
2:B:2350:ASP:O	2:B:2354:ASN:ND2	2.49	0.46
2:D:109:ILE:HD13	2:D:152:ILE:HD11	1.96	0.46
2:D:1010:ASP:OD1	2:D:1010:ASP:N	2.49	0.46
2:D:1332:ILE:HG22	2:D:1411:ILE:HB	1.97	0.46
2:F:1154:LEU:HD23	2:F:1183:ILE:HD12	1.98	0.46
2:F:2350:ASP:O	2:F:2354:ASN:ND2	2.49	0.46
2:F:4457:GLU:OE2	2:F:4459:THR:OG1	2.33	0.46
2:H:1005:TYR:O	2:H:1015:ARG:NH1	2.48	0.46
2:H:1096:GLY:H	2:H:1144:PRO:HG3	1.80	0.46
2:H:1154:LEU:HD23	2:H:1183:ILE:HD12	1.98	0.46
2:B:243:ASP:O	2:B:246:HIS:ND1	2.46	0.46
2:B:4644:THR:HG21	2:D:4661:LEU:CD1	2.42	0.46
2:F:862:PRO:HD2	2:F:865:LEU:HD12	1.98	0.46
2:F:1332:ILE:HG22	2:F:1411:ILE:HB	1.97	0.46
2:B:590:LYS:NZ	2:B:1478:GLU:OE2	2.41	0.46
2:B:681:ARG:HG2	2:B:715:ASP:HB3	1.96	0.46
2:D:2350:ASP:O	2:D:2354:ASN:ND2	2.49	0.46
2:D:3646:GLY:O	2:D:3650:LEU:HB2	2.16	0.46
2:D:3936:MET:HE3	2:D:3947:ILE:HG13	1.97	0.46
2:F:1096:GLY:H	2:F:1144:PRO:HG3	1.80	0.46
2:H:2350:ASP:O	2:H:2354:ASN:ND2	2.49	0.46
2:B:631:LEU:HD11	2:B:1554:LEU:HD22	1.96	0.46
2:D:36:PHE:HB3	2:D:50:LEU:HB3	1.97	0.46
2:D:862:PRO:HD2	2:D:865:LEU:HD12	1.98	0.46
2:D:1096:GLY:H	2:D:1144:PRO:HG3	1.80	0.46
2:D:4457:GLU:OE2	2:D:4459:THR:OG1	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:646:ILE:HD13	2:F:809:CYS:HB3	1.97	0.46
2:F:1010:ASP:OD1	2:F:1010:ASP:N	2.49	0.46
2:H:1692:LYS:HD3	2:H:1737:VAL:HG12	1.96	0.46
2:H:3687:LEU:HB2	2:H:3768:SER:HB2	1.98	0.46
2:B:36:PHE:HB3	2:B:50:LEU:HB3	1.97	0.46
2:D:235:THR:HG21	2:D:256:ALA:HB1	1.98	0.46
2:D:1242:PRO:HA	2:D:1496:GLN:O	2.16	0.46
2:H:631:LEU:HD11	2:H:1554:LEU:HD22	1.96	0.46
2:H:2228:PHE:HB3	2:H:2232:LEU:HB2	1.98	0.46
2:H:4422:VAL:HG13	2:H:4451:VAL:HG13	1.97	0.46
2:B:1242:PRO:HA	2:B:1496:GLN:O	2.16	0.46
2:D:243:ASP:O	2:D:246:HIS:ND1	2.46	0.46
2:D:338:ILE:HD11	2:D:342:GLY:HA2	1.98	0.46
2:D:1154:LEU:HD23	2:D:1183:ILE:HD12	1.98	0.46
2:F:3267:LEU:HD11	2:F:3289:LEU:HD11	1.97	0.46
2:F:4422:VAL:HG13	2:F:4451:VAL:HG13	1.97	0.46
2:H:646:ILE:HD13	2:H:809:CYS:HB3	1.97	0.46
2:H:3646:GLY:O	2:H:3650:LEU:HB2	2.16	0.46
2:D:3073:ASN:O	2:D:3079:ASN:ND2	2.50	0.46
2:F:235:THR:HG21	2:F:256:ALA:HB1	1.98	0.46
2:H:338:ILE:HD11	2:H:342:GLY:HA2	1.98	0.46
2:H:862:PRO:HD2	2:H:865:LEU:HD12	1.98	0.46
2:B:862:PRO:HD2	2:B:865:LEU:HD12	1.98	0.45
2:D:3184:ILE:HD11	2:D:3187:ALA:HB2	1.96	0.45
2:D:51:GLU:OE2	2:D:308:ARG:NH2	2.47	0.45
2:D:1739:ASP:OD1	2:D:1739:ASP:N	2.46	0.45
2:H:1010:ASP:N	2:H:1010:ASP:OD1	2.49	0.45
2:B:3687:LEU:HB2	2:B:3768:SER:HB2	1.98	0.45
2:D:411:ILE:HD13	2:D:479:GLU:HG3	1.99	0.45
2:H:856:THR:HB	2:H:928:LYS:HB3	1.98	0.45
2:B:2905:LEU:HD22	2:B:2923:MET:HE3	1.99	0.45
2:D:139:LEU:O	2:D:140:ARG:NH1	2.48	0.45
2:D:265:ARG:NH2	4:D:5302:CL:CL	2.84	0.45
2:D:2135:THR:OG1	2:D:2138:ASP:OD2	2.32	0.45
2:F:3584:SER:OG	2:F:3611:GLN:NE2	2.49	0.45
2:F:3687:LEU:HB2	2:F:3768:SER:HB2	1.98	0.45
2:H:821:LEU:HD11	2:H:1521:TRP:HB3	1.97	0.45
2:H:1100:ARG:NH1	2:H:1114:LEU:O	2.45	0.45
2:B:4766:ARG:NE	2:D:4760:ASP:OD1	2.47	0.45
2:D:3687:LEU:HB2	2:D:3768:SER:HB2	1.98	0.45
2:F:821:LEU:HD11	2:F:1521:TRP:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:411:ILE:HD13	2:B:479:GLU:HG3	1.99	0.45
2:D:2228:PHE:HB3	2:D:2232:LEU:HB2	1.98	0.45
2:F:856:THR:HB	2:F:928:LYS:HB3	1.98	0.45
2:F:3779:LYS:O	2:F:3841:LYS:NZ	2.46	0.45
2:F:3783:ASP:OD1	2:F:3783:ASP:N	2.45	0.45
2:H:3073:ASN:O	2:H:3079:ASN:ND2	2.50	0.45
2:F:411:ILE:HD13	2:F:479:GLU:HG3	1.99	0.45
2:F:2135:THR:OG1	2:F:2138:ASP:OD2	2.32	0.45
2:F:3687:LEU:HD23	2:F:3714:LEU:HB2	1.99	0.45
2:H:1332:ILE:HG22	2:H:1411:ILE:HB	1.97	0.45
2:B:1154:LEU:HD23	2:B:1183:ILE:HD12	1.98	0.45
2:B:2040:MET:HB3	2:B:2089:MET:HE1	1.98	0.45
2:B:2169:CYS:HG	2:B:2195:TYR:HE2	1.65	0.45
2:D:868:ILE:HD12	2:D:871:ARG:HB2	1.99	0.45
2:F:674:THR:O	2:F:674:THR:OG1	2.28	0.45
2:F:2228:PHE:HB3	2:F:2232:LEU:HB2	1.98	0.45
2:F:3929:LYS:HE3	2:F:3956:ALA:HB2	1.99	0.45
2:H:235:THR:HG21	2:H:256:ALA:HB1	1.98	0.45
2:H:884:LYS:HD3	2:H:887:LEU:HD12	1.99	0.45
2:H:3687:LEU:HD23	2:H:3714:LEU:HB2	1.99	0.45
2:H:3929:LYS:HE3	2:H:3956:ALA:HB2	1.99	0.45
2:B:856:THR:HB	2:B:928:LYS:HB3	1.98	0.45
2:D:3584:SER:OG	2:D:3611:GLN:NE2	2.49	0.45
2:F:3073:ASN:O	2:F:3079:ASN:ND2	2.50	0.45
2:H:3584:SER:OG	2:H:3611:GLN:NE2	2.49	0.45
2:B:868:ILE:HD12	2:B:871:ARG:HB2	1.99	0.44
2:B:884:LYS:HD3	2:B:887:LEU:HD12	1.99	0.44
2:H:411:ILE:HD13	2:H:479:GLU:HG3	1.99	0.44
2:B:184:LEU:HD21	2:B:191:VAL:HG13	2.00	0.44
2:B:265:ARG:NH2	4:B:5302:CL:CL	2.84	0.44
2:B:2228:PHE:HB3	2:B:2232:LEU:HB2	1.98	0.44
2:F:1242:PRO:HA	2:F:1496:GLN:O	2.16	0.44
2:F:4410:ALA:O	2:F:4414:ASN:ND2	2.50	0.44
2:H:1242:PRO:HA	2:H:1496:GLN:O	2.16	0.44
2:B:3584:SER:OG	2:B:3611:GLN:NE2	2.49	0.44
2:B:4760:ASP:OD1	2:H:4766:ARG:NE	2.47	0.44
2:F:868:ILE:HD12	2:F:871:ARG:HB2	1.99	0.44
2:H:184:LEU:HD21	2:H:191:VAL:HG13	2.00	0.44
2:H:1539:GLU:OE1	2:H:1541:ARG:NE	2.47	0.44
2:B:338:ILE:HD11	2:B:342:GLY:HA2	1.98	0.44
2:B:3687:LEU:HD23	2:B:3714:LEU:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:3929:LYS:HE3	2:D:3956:ALA:HB2	1.99	0.44
2:F:2010:SER:O	2:F:2014:THR:OG1	2.33	0.44
2:H:4410:ALA:O	2:H:4414:ASN:ND2	2.50	0.44
2:B:235:THR:HG21	2:B:256:ALA:HB1	1.98	0.44
2:B:1539:GLU:OE1	2:B:1541:ARG:NE	2.47	0.44
2:B:2161:LYS:HE3	2:B:2161:LYS:HB2	1.82	0.44
2:D:184:LEU:HD21	2:D:191:VAL:HG13	2.00	0.44
2:D:856:THR:HB	2:D:928:LYS:HB3	1.98	0.44
2:F:338:ILE:HD11	2:F:342:GLY:HA2	1.98	0.44
2:F:1873:GLN:NE2	2:F:3487:ALA:O	2.46	0.44
2:B:3073:ASN:O	2:B:3079:ASN:ND2	2.50	0.44
2:F:1100:ARG:NH1	2:F:1114:LEU:O	2.45	0.44
2:F:2161:LYS:HB2	2:F:2161:LYS:HE3	1.82	0.44
2:B:391:MET:SD	2:B:391:MET:N	2.91	0.44
2:D:884:LYS:HD3	2:D:887:LEU:HD12	1.99	0.44
2:D:3687:LEU:HD23	2:D:3714:LEU:HB2	1.99	0.44
1:E:83:TYR:OH	2:F:1672:PHE:O	2.30	0.44
2:F:784:GLY:N	2:F:1525:CYS:O	2.37	0.44
2:H:1739:ASP:OD1	2:H:1739:ASP:N	2.46	0.44
2:B:1117:ASP:OD1	2:B:1117:ASP:N	2.51	0.44
2:B:4668:VAL:HG21	2:H:4638:ILE:HD13	1.99	0.44
2:F:884:LYS:HD3	2:F:887:LEU:HD12	1.99	0.44
2:F:2487:LEU:HD22	2:F:2501:PRO:HB3	1.99	0.44
2:H:139:LEU:O	2:H:140:ARG:NH1	2.48	0.44
2:H:239:THR:OG1	2:H:479:GLU:OE1	2.26	0.44
2:H:868:ILE:HD12	2:H:871:ARG:HB2	1.99	0.44
2:B:674:THR:O	2:B:674:THR:OG1	2.28	0.44
2:F:4071:GLU:OE1	2:F:4839:ARG:NH2	2.51	0.44
2:H:2487:LEU:HD22	2:H:2501:PRO:HB3	1.99	0.44
2:B:4410:ALA:O	2:B:4414:ASN:ND2	2.50	0.43
2:D:674:THR:O	2:D:674:THR:OG1	2.28	0.43
2:D:2487:LEU:HD22	2:D:2501:PRO:HB3	1.99	0.43
2:F:337:ASP:OD1	2:F:337:ASP:N	2.48	0.43
2:F:1539:GLU:OE1	2:F:1541:ARG:NE	2.47	0.43
2:F:2929:ILE:HD12	2:F:2929:ILE:HA	1.88	0.43
2:H:51:GLU:OE2	2:H:308:ARG:NH2	2.47	0.43
2:F:184:LEU:HD21	2:F:191:VAL:HG13	2.00	0.43
2:B:3929:LYS:HE3	2:B:3956:ALA:HB2	1.99	0.43
2:D:1100:ARG:NH1	2:D:1114:LEU:O	2.45	0.43
2:D:4484:TYR:OH	2:D:4608:ASP:OD2	2.33	0.43
2:D:4638:ILE:HD13	2:F:4668:VAL:HG21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:4770:GLU:OE1	2:D:4773:ARG:NH1	2.52	0.43
2:F:391:MET:N	2:F:391:MET:SD	2.91	0.43
2:F:4781:PHE:HB3	2:F:4807:LEU:HD11	2.00	0.43
2:H:391:MET:SD	2:H:391:MET:N	2.91	0.43
2:H:3779:LYS:O	2:H:3841:LYS:NZ	2.46	0.43
2:B:139:LEU:O	2:B:140:ARG:NH1	2.48	0.43
2:B:2487:LEU:HD22	2:B:2501:PRO:HB3	1.99	0.43
2:B:3991:GLU:OE1	2:B:4033:TYR:OH	2.31	0.43
2:D:1290:LEU:HD23	2:D:1290:LEU:HA	1.85	0.43
2:D:4766:ARG:NE	2:F:4760:ASP:OD1	2.47	0.43
2:F:139:LEU:O	2:F:140:ARG:NH1	2.48	0.43
2:F:1117:ASP:OD1	2:F:1117:ASP:N	2.51	0.43
2:F:3885:ASP:OD1	2:F:3998:ARG:NH1	2.47	0.43
2:F:4638:ILE:HD13	2:H:4668:VAL:HG21	1.99	0.43
2:F:4766:ARG:NE	2:H:4760:ASP:OD1	2.47	0.43
2:F:4770:GLU:OE1	2:F:4773:ARG:NH1	2.52	0.43
2:H:140:ARG:HA	2:H:140:ARG:HD3	1.81	0.43
2:H:3885:ASP:OD1	2:H:3998:ARG:NH1	2.47	0.43
2:B:1006:GLY:HA3	2:B:1015:ARG:HB3	2.01	0.43
2:D:391:MET:SD	2:D:391:MET:N	2.91	0.43
2:D:975:LEU:HD12	2:D:1038:ARG:HG3	2.01	0.43
2:D:2905:LEU:HD22	2:D:2923:MET:HE3	2.01	0.43
2:F:934:GLY:HA3	2:F:1054:SER:HB3	2.01	0.43
2:D:3462:ARG:NH1	2:F:1180:ASP:OD1	2.51	0.43
2:D:4781:PHE:HB3	2:D:4807:LEU:HD11	2.00	0.43
2:F:3462:ARG:NH1	2:H:1180:ASP:OD1	2.51	0.43
2:H:2454:ARG:HE	2:H:2454:ARG:HB2	1.69	0.43
2:B:767:GLU:OE2	2:B:1370:THR:OG1	2.33	0.43
2:B:3462:ARG:NH1	2:D:1180:ASP:OD1	2.51	0.43
2:B:3848:GLN:HE21	2:B:3848:GLN:HB2	1.60	0.43
2:D:337:ASP:OD1	2:D:337:ASP:N	2.48	0.43
2:D:1006:GLY:HA3	2:D:1015:ARG:HB3	2.01	0.43
2:F:975:LEU:HD12	2:F:1038:ARG:HG3	2.01	0.43
2:F:1176:LEU:HD23	2:F:1179:ALA:HB2	2.01	0.43
2:H:975:LEU:HD12	2:H:1038:ARG:HG3	2.01	0.43
2:H:1117:ASP:N	2:H:1117:ASP:OD1	2.51	0.43
2:H:1873:GLN:NE2	2:H:3487:ALA:O	2.46	0.43
2:H:2819:LEU:HD21	2:H:2869:PHE:HZ	1.84	0.43
2:H:3714:LEU:HD23	2:H:3792:LYS:HB3	2.00	0.43
2:B:1180:ASP:OD1	2:H:3462:ARG:NH1	2.51	0.43
2:D:934:GLY:HA3	2:D:1054:SER:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:239:THR:OG1	2:F:479:GLU:OE1	2.26	0.43
2:F:1006:GLY:HA3	2:F:1015:ARG:HB3	2.01	0.43
2:F:2391:LEU:HD23	2:F:2415:LEU:HD13	2.01	0.43
2:F:3714:LEU:HD23	2:F:3792:LYS:HB3	2.00	0.43
2:H:265:ARG:NH2	4:H:5302:CL:CL	2.84	0.43
2:H:4781:PHE:HB3	2:H:4807:LEU:HD11	2.00	0.43
2:B:2391:LEU:HD23	2:B:2415:LEU:HD13	2.01	0.43
2:H:1292:MET:HB2	2:H:1474:ILE:HD13	2.01	0.43
2:B:2002:LYS:NZ	2:B:2062:VAL:O	2.51	0.43
2:B:2819:LEU:HD21	2:B:2869:PHE:HZ	1.84	0.43
2:B:2896:GLU:HG3	2:B:2947:VAL:HG21	2.01	0.43
2:B:4638:ILE:HD13	2:D:4668:VAL:HG21	1.99	0.43
2:D:1176:LEU:HD23	2:D:1179:ALA:HB2	2.01	0.43
2:D:1596:LYS:NZ	2:D:1701:GLU:OE2	2.40	0.43
2:F:1290:LEU:HD23	2:F:1290:LEU:HA	1.85	0.43
2:F:1596:LYS:NZ	2:F:1701:GLU:OE2	2.40	0.43
2:H:2391:LEU:HD23	2:H:2415:LEU:HD13	2.01	0.43
2:B:1546:LEU:HD21	2:B:1595:ASN:HD21	1.84	0.42
2:D:866:GLU:O	2:D:869:ARG:HB3	2.20	0.42
2:D:2161:LYS:HE3	2:D:2161:LYS:HB2	1.82	0.42
2:D:2391:LEU:HD23	2:D:2415:LEU:HD13	2.01	0.42
2:H:1006:GLY:HA3	2:H:1015:ARG:HB3	2.01	0.42
2:H:2002:LYS:NZ	2:H:2062:VAL:O	2.51	0.42
2:B:1631:ILE:HD12	2:B:1827:VAL:HG21	2.01	0.42
2:F:1341:SER:O	2:F:1391:TRP:NE1	2.47	0.42
2:H:528:ILE:HD11	2:H:561:VAL:HG13	2.01	0.42
2:H:934:GLY:HA3	2:H:1054:SER:HB3	2.01	0.42
2:H:1075:ARG:HD2	2:H:1078:TRP:CH2	2.54	0.42
2:H:1176:LEU:HD23	2:H:1179:ALA:HB2	2.01	0.42
2:H:1546:LEU:HD21	2:H:1595:ASN:HD21	1.84	0.42
2:H:3221:LYS:HE2	2:H:3221:LYS:HB3	1.90	0.42
2:B:4453:PHE:HE2	2:D:4678:PHE:CE2	2.37	0.42
2:D:645:ASN:OD1	2:D:645:ASN:N	2.49	0.42
2:D:1341:SER:O	2:D:1391:TRP:NE1	2.47	0.42
2:D:1631:ILE:HD12	2:D:1827:VAL:HG21	2.01	0.42
2:D:2896:GLU:HG3	2:D:2947:VAL:HG21	2.01	0.42
2:D:4644:THR:HB	2:F:4661:LEU:CD1	2.50	0.42
2:H:2453:GLY:O	2:H:2461:ARG:NH2	2.52	0.42
2:B:1634:THR:HG22	2:B:2008:GLN:HG2	2.02	0.42
2:B:2929:ILE:HD12	2:B:2929:ILE:HA	1.88	0.42
2:B:4071:GLU:OE1	2:B:4839:ARG:NH2	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1873:GLN:NE2	2:D:3487:ALA:O	2.46	0.42
2:F:866:GLU:O	2:F:869:ARG:HB3	2.20	0.42
2:B:546:ILE:HG21	2:B:580:HIS:HA	2.02	0.42
2:D:4817:LEU:HD23	2:D:4817:LEU:HA	1.93	0.42
2:F:528:ILE:HD11	2:F:561:VAL:HG13	2.01	0.42
2:H:4770:GLU:OE1	2:H:4773:ARG:NH1	2.52	0.42
2:B:492:LEU:HD23	2:B:492:LEU:HA	1.89	0.42
2:B:3310:GLU:OE2	2:B:3358:SER:OG	2.32	0.42
2:B:3613:ALA:HA	2:B:3616:HIS:CE1	2.55	0.42
2:D:4714:ARG:NH1	2:F:4721:ASP:OD1	2.52	0.42
2:F:243:ASP:O	2:F:246:HIS:ND1	2.46	0.42
2:F:1075:ARG:HD2	2:F:1078:TRP:CH2	2.54	0.42
2:F:1546:LEU:HD21	2:F:1595:ASN:HD21	1.84	0.42
2:B:2453:GLY:O	2:B:2461:ARG:NH2	2.52	0.42
2:B:3714:LEU:HD23	2:B:3792:LYS:HB3	2.00	0.42
2:B:4770:GLU:OE1	2:B:4773:ARG:NH1	2.52	0.42
2:D:1546:LEU:HD21	2:D:1595:ASN:HD21	1.84	0.42
2:D:1661:LEU:HD12	2:D:1661:LEU:HA	1.89	0.42
2:D:2453:GLY:O	2:D:2461:ARG:NH2	2.52	0.42
2:D:2819:LEU:HD21	2:D:2869:PHE:HZ	1.84	0.42
2:D:3613:ALA:HA	2:D:3616:HIS:CE1	2.55	0.42
2:F:2002:LYS:NZ	2:F:2062:VAL:O	2.51	0.42
2:F:2808:SER:OG	2:F:2809:SER:N	2.53	0.42
2:H:1634:THR:HG22	2:H:2008:GLN:HG2	2.02	0.42
2:B:975:LEU:HD12	2:B:1038:ARG:HG3	2.01	0.42
2:B:3936:MET:HE3	2:B:3947:ILE:HG13	2.01	0.42
2:B:4781:PHE:HB3	2:B:4807:LEU:HD11	2.00	0.42
2:D:634:ARG:HB2	2:D:700:TRP:CZ3	2.55	0.42
2:F:1292:MET:HB2	2:F:1474:ILE:HD13	2.01	0.42
2:F:2453:GLY:O	2:F:2461:ARG:NH2	2.52	0.42
2:F:4453:PHE:HE2	2:H:4678:PHE:CE2	2.37	0.42
2:B:1292:MET:HB2	2:B:1474:ILE:HD13	2.01	0.42
2:B:3755:ILE:H	2:B:3755:ILE:HG12	1.59	0.42
2:D:1117:ASP:OD1	2:D:1117:ASP:N	2.51	0.42
2:D:3717:ASP:OD1	2:D:3717:ASP:N	2.53	0.42
2:D:4453:PHE:HE2	2:F:4678:PHE:CE2	2.37	0.42
2:F:2819:LEU:HD21	2:F:2869:PHE:HZ	1.84	0.42
2:F:4644:THR:HB	2:H:4661:LEU:CD1	2.50	0.42
2:F:4714:ARG:NH1	2:H:4721:ASP:OD1	2.52	0.42
2:B:934:GLY:HA3	2:B:1054:SER:HB3	2.01	0.42
2:B:1075:ARG:HD2	2:B:1078:TRP:CH2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3776:TYR:OH	2:B:3783:ASP:OD1	2.32	0.42
2:D:1292:MET:HB2	2:D:1474:ILE:HD13	2.01	0.42
2:D:2477:PRO:HB3	2:D:2508:HIS:HE1	1.84	0.42
2:F:3717:ASP:OD1	2:F:3717:ASP:N	2.53	0.42
2:H:2896:GLU:HG3	2:H:2947:VAL:HG21	2.01	0.42
2:H:2929:ILE:HD12	2:H:2929:ILE:HA	1.88	0.42
2:B:552:LEU:HD13	2:B:1488:PRO:HG3	2.02	0.41
2:D:4071:GLU:OE1	2:D:4839:ARG:NH2	2.51	0.41
2:F:265:ARG:NH2	4:F:5302:CL:CL	2.84	0.41
2:F:2477:PRO:HB3	2:F:2508:HIS:HE1	1.84	0.41
2:H:4071:GLU:OE1	2:H:4839:ARG:NH2	2.51	0.41
2:B:1176:LEU:HD23	2:B:1179:ALA:HB2	2.01	0.41
2:B:4678:PHE:CE2	2:H:4453:PHE:HE2	2.37	0.41
2:D:2338:PRO:HB3	2:D:2348:GLU:HA	2.02	0.41
2:H:634:ARG:HB2	2:H:700:TRP:CZ3	2.55	0.41
2:H:866:GLU:O	2:H:869:ARG:HB3	2.20	0.41
2:H:1833:TYR:CZ	2:H:1892:ILE:HG22	2.56	0.41
2:H:2146:ASP:HA	2:H:2205:VAL:HG13	2.02	0.41
2:H:2808:SER:OG	2:H:2809:SER:N	2.53	0.41
2:H:3613:ALA:HA	2:H:3616:HIS:CE1	2.55	0.41
2:B:4661:LEU:CD1	2:H:4644:THR:HB	2.50	0.41
2:B:4714:ARG:NH1	2:D:4721:ASP:OD1	2.52	0.41
2:D:546:ILE:HG21	2:D:580:HIS:HA	2.02	0.41
2:D:1075:ARG:HD2	2:D:1078:TRP:CH2	2.54	0.41
2:D:3783:ASP:OD1	2:D:3783:ASP:N	2.45	0.41
2:D:4410:ALA:O	2:D:4414:ASN:ND2	2.50	0.41
2:F:1631:ILE:HD12	2:F:1827:VAL:HG21	2.01	0.41
2:F:1634:THR:HG22	2:F:2008:GLN:HG2	2.02	0.41
2:F:2146:ASP:HA	2:F:2205:VAL:HG13	2.02	0.41
2:F:3613:ALA:HA	2:F:3616:HIS:CE1	2.55	0.41
2:H:2991:THR:HA	2:H:2995:LEU:HB3	2.03	0.41
2:B:528:ILE:HD11	2:B:561:VAL:HG13	2.01	0.41
2:B:2146:ASP:HA	2:B:2205:VAL:HG13	2.02	0.41
2:D:1833:TYR:CZ	2:D:1892:ILE:HG22	2.56	0.41
2:D:3310:GLU:OE2	2:D:3358:SER:OG	2.32	0.41
2:D:3714:LEU:HD23	2:D:3792:LYS:HB3	2.00	0.41
2:H:930:LEU:HD21	2:H:986:LEU:HD11	2.03	0.41
2:H:3755:ILE:H	2:H:3755:ILE:HG12	1.59	0.41
2:B:866:GLU:O	2:B:869:ARG:HB3	2.20	0.41
2:B:1648:LYS:HA	2:B:1648:LYS:HD3	1.92	0.41
2:B:4644:THR:HB	2:D:4661:LEU:CD1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:552:LEU:HD13	2:D:1488:PRO:HG3	2.02	0.41
2:D:930:LEU:HD21	2:D:986:LEU:HD11	2.03	0.41
2:F:634:ARG:HB2	2:F:700:TRP:CZ3	2.55	0.41
2:F:2005:THR:HG21	2:F:3498:ASN:HD22	1.86	0.41
2:F:2896:GLU:HG3	2:F:2947:VAL:HG21	2.01	0.41
2:F:2991:THR:HA	2:F:2995:LEU:HB3	2.03	0.41
2:F:4817:LEU:HD23	2:F:4817:LEU:HA	1.93	0.41
2:H:546:ILE:HG21	2:H:580:HIS:HA	2.02	0.41
2:D:2146:ASP:HA	2:D:2205:VAL:HG13	2.02	0.41
2:F:2338:PRO:HB3	2:F:2348:GLU:HA	2.02	0.41
2:B:2477:PRO:HB3	2:B:2508:HIS:HE1	1.84	0.41
2:D:1634:THR:HG22	2:D:2008:GLN:HG2	2.02	0.41
2:F:140:ARG:HD3	2:F:140:ARG:HA	1.81	0.41
2:F:552:LEU:HD13	2:F:1488:PRO:HG3	2.02	0.41
2:F:2880:PRO:HG3	2:F:2889:TYR:CZ	2.56	0.41
2:H:1631:ILE:HD12	2:H:1827:VAL:HG21	2.01	0.41
2:H:3991:GLU:OE1	2:H:4033:TYR:OH	2.31	0.41
2:B:634:ARG:HB2	2:B:700:TRP:CZ3	2.55	0.41
2:B:1833:TYR:CZ	2:B:1892:ILE:HG22	2.56	0.41
2:B:4721:ASP:OD1	2:H:4714:ARG:NH1	2.52	0.41
2:H:552:LEU:HD13	2:H:1488:PRO:HG3	2.02	0.41
2:H:767:GLU:OE2	2:H:1370:THR:OG1	2.33	0.41
2:B:239:THR:OG1	2:B:479:GLU:OE1	2.26	0.41
2:B:930:LEU:HD21	2:B:986:LEU:HD11	2.03	0.41
2:B:1290:LEU:HD23	2:B:1290:LEU:HA	1.85	0.41
2:B:2991:THR:HA	2:B:2995:LEU:HB3	2.03	0.41
2:D:528:ILE:HD11	2:D:561:VAL:HG13	2.01	0.41
2:D:2005:THR:HG21	2:D:3498:ASN:HD22	1.86	0.41
2:F:1833:TYR:CZ	2:F:1892:ILE:HG22	2.56	0.41
2:F:2905:LEU:HD22	2:F:2923:MET:HE3	2.02	0.41
2:F:3462:ARG:NH2	2:H:1156:ASP:O	2.54	0.41
2:H:2477:PRO:HB3	2:H:2508:HIS:HE1	1.84	0.41
2:B:1332:ILE:HG21	2:B:1345:VAL:HG21	2.03	0.41
2:B:3689:LEU:HD23	2:D:77:ARG:CZ	2.51	0.41
2:D:1332:ILE:HG21	2:D:1345:VAL:HG21	2.03	0.41
2:D:1628:GLU:HG3	2:D:2002:LYS:HE3	2.03	0.41
2:D:2991:THR:HA	2:D:2995:LEU:HB3	2.03	0.41
2:F:3297:PHE:CD2	2:F:3364:LEU:HD22	2.56	0.41
2:H:1290:LEU:HD23	2:H:1290:LEU:HA	1.85	0.41
2:H:4484:TYR:OH	2:H:4608:ASP:OD2	2.33	0.41
2:B:747:ASP:O	2:B:751:PRO:HA	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:747:ASP:O	2:F:751:PRO:HA	2.22	0.40
2:F:3689:LEU:HD23	2:H:77:ARG:CZ	2.51	0.40
2:H:3297:PHE:CD2	2:H:3364:LEU:HD22	2.56	0.40
2:B:3193:ILE:HD12	2:B:3193:ILE:HA	1.91	0.40
2:D:239:THR:OG1	2:D:479:GLU:OE1	2.26	0.40
2:H:3364:LEU:HD11	2:H:3450:ALA:HB1	2.03	0.40
2:B:1628:GLU:HG3	2:B:2002:LYS:HE3	2.03	0.40
2:B:3968:VAL:O	2:B:3972:HIS:HB3	2.21	0.40
2:D:3678:SER:HB2	2:D:3752:ILE:HG21	2.03	0.40
2:F:546:ILE:HG21	2:F:580:HIS:HA	2.02	0.40
2:F:930:LEU:HD21	2:F:986:LEU:HD11	2.03	0.40
2:F:1332:ILE:HG21	2:F:1345:VAL:HG21	2.03	0.40
2:F:3364:LEU:HD11	2:F:3450:ALA:HB1	2.03	0.40
2:F:3755:ILE:H	2:F:3755:ILE:HG12	1.59	0.40
2:F:4740:ILE:HD13	2:F:4740:ILE:HA	1.95	0.40
2:H:1332:ILE:HG21	2:H:1345:VAL:HG21	2.03	0.40
2:B:77:ARG:CZ	2:H:3689:LEU:HD23	2.51	0.40
2:B:1156:ASP:O	2:H:3462:ARG:NH2	2.54	0.40
2:B:2338:PRO:HB3	2:B:2348:GLU:HA	2.02	0.40
2:B:3462:ARG:NH2	2:D:1156:ASP:O	2.54	0.40
2:D:2880:PRO:HG3	2:D:2889:TYR:CZ	2.56	0.40
2:D:3365:LYS:HE2	2:F:1175:GLU:OE1	2.21	0.40
2:F:767:GLU:OE2	2:F:1370:THR:OG1	2.33	0.40
2:H:3968:VAL:O	2:H:3972:HIS:HB3	2.21	0.40
2:B:2005:THR:HG21	2:B:3498:ASN:HD22	1.86	0.40
2:B:3297:PHE:CD2	2:B:3364:LEU:HD22	2.56	0.40
2:D:648:LEU:HD13	2:D:660:TRP:CD1	2.57	0.40
2:D:4759:ILE:HG12	2:F:4756:GLY:CA	2.51	0.40
1:E:8:ILE:HA	2:F:717:LEU:HD11	2.04	0.40
2:F:492:LEU:HD11	2:F:516:ILE:HG22	2.04	0.40
1:G:83:TYR:OH	2:H:1672:PHE:O	2.30	0.40
2:H:2880:PRO:HG3	2:H:2889:TYR:CZ	2.56	0.40
2:H:3133:LEU:HD21	2:H:3174:ILE:HG12	2.04	0.40
2:H:4028:LYS:HB3	2:H:4853:GLN:HE22	1.87	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	102/110 (93%)	97 (95%)	5 (5%)	0	100	100
1	C	102/110 (93%)	97 (95%)	5 (5%)	0	100	100
1	E	102/110 (93%)	97 (95%)	5 (5%)	0	100	100
1	G	102/110 (93%)	97 (95%)	5 (5%)	0	100	100
2	B	4017/4859 (83%)	3953 (98%)	64 (2%)	0	100	100
2	D	4017/4859 (83%)	3953 (98%)	64 (2%)	0	100	100
2	F	4017/4859 (83%)	3953 (98%)	64 (2%)	0	100	100
2	H	4017/4859 (83%)	3953 (98%)	64 (2%)	0	100	100
All	All	16476/19876 (83%)	16200 (98%)	276 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	60/90 (67%)	58 (97%)	2 (3%)	33	68
1	C	60/90 (67%)	58 (97%)	2 (3%)	33	68
1	E	60/90 (67%)	58 (97%)	2 (3%)	33	68
1	G	60/90 (67%)	58 (97%)	2 (3%)	33	68
2	B	3401/4253 (80%)	3375 (99%)	26 (1%)	79	93
2	D	3401/4253 (80%)	3375 (99%)	26 (1%)	79	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	F	3401/4253 (80%)	3375 (99%)	26 (1%)	79 93
2	H	3401/4253 (80%)	3375 (99%)	26 (1%)	79 93
All	All	13844/17372 (80%)	13732 (99%)	112 (1%)	77 93

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

Mol	Chain	Res	Type
1	A	26	HIS
1	A	91	VAL
2	B	235	THR
2	B	674	THR
2	B	733	LEU
2	B	828	LYS
2	B	955	LYS
2	B	1018	ARG
2	B	1142	TRP
2	B	1480	LYS
2	B	1673	VAL
2	B	2017	LEU
2	B	2023	GLN
2	B	2034	LYS
2	B	2200	ARG
2	B	2263	TYR
2	B	3019	ASP
2	B	3264	TYR
2	B	3306	PHE
2	B	3412	LYS
2	B	3521	ARG
2	B	3597	THR
2	B	3732	GLU
2	B	3738	PHE
2	B	3772	PHE
2	B	3932	PHE
2	B	4539	TRP
2	B	4566	LEU
1	C	26	HIS
1	C	91	VAL
2	D	235	THR
2	D	674	THR
2	D	733	LEU
2	D	828	LYS

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Mol	Chain	Res	Type
2	D	955	LYS
2	D	1018	ARG
2	D	1142	TRP
2	D	1480	LYS
2	D	1673	VAL
2	D	2017	LEU
2	D	2023	GLN
2	D	2034	LYS
2	D	2200	ARG
2	D	2263	TYR
2	D	3019	ASP
2	D	3264	TYR
2	D	3306	PHE
2	D	3412	LYS
2	D	3521	ARG
2	D	3597	THR
2	D	3732	GLU
2	D	3738	PHE
2	D	3772	PHE
2	D	3932	PHE
2	D	4539	TRP
2	D	4566	LEU
1	E	26	HIS
1	E	91	VAL
2	F	235	THR
2	F	674	THR
2	F	733	LEU
2	F	828	LYS
2	F	955	LYS
2	F	1018	ARG
2	F	1142	TRP
2	F	1480	LYS
2	F	1673	VAL
2	F	2017	LEU
2	F	2023	GLN
2	F	2034	LYS
2	F	2200	ARG
2	F	2263	TYR
2	F	3019	ASP
2	F	3264	TYR
2	F	3306	PHE
2	F	3412	LYS

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Mol	Chain	Res	Type
2	F	3521	ARG
2	F	3597	THR
2	F	3732	GLU
2	F	3738	PHE
2	F	3772	PHE
2	F	3932	PHE
2	F	4539	TRP
2	F	4566	LEU
1	G	26	HIS
1	G	91	VAL
2	H	235	THR
2	H	674	THR
2	H	733	LEU
2	H	828	LYS
2	H	955	LYS
2	H	1018	ARG
2	H	1142	TRP
2	H	1480	LYS
2	H	1673	VAL
2	H	2017	LEU
2	H	2023	GLN
2	H	2034	LYS
2	H	2200	ARG
2	H	2263	TYR
2	H	3019	ASP
2	H	3264	TYR
2	H	3306	PHE
2	H	3412	LYS
2	H	3521	ARG
2	H	3597	THR
2	H	3732	GLU
2	H	3738	PHE
2	H	3772	PHE
2	H	3932	PHE
2	H	4539	TRP
2	H	4566	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (118) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	32	GLN
2	B	72	GLN

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Mol	Chain	Res	Type
2	B	199	GLN
2	B	245	GLN
2	B	458	GLN
2	B	487	ASN
2	B	656	GLN
2	B	1535	HIS
2	B	1721	GLN
2	B	1850	GLN
2	B	2008	GLN
2	B	2172	GLN
2	B	2253	ASN
2	B	2261	GLN
2	B	2445	GLN
2	B	2481	GLN
2	B	3181	ASN
2	B	3421	GLN
2	B	3495	HIS
2	B	3498	ASN
2	B	3506	GLN
2	B	3583	GLN
2	B	3616	HIS
2	B	3715	GLN
2	B	3734	HIS
2	B	3848	GLN
2	B	4067	GLN
2	B	4085	GLN
2	B	4769	GLN
1	C	32	GLN
2	D	72	GLN
2	D	199	GLN
2	D	245	GLN
2	D	458	GLN
2	D	487	ASN
2	D	656	GLN
2	D	1535	HIS
2	D	1721	GLN
2	D	1850	GLN
2	D	2008	GLN
2	D	2172	GLN
2	D	2253	ASN
2	D	2261	GLN
2	D	2445	GLN

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Mol	Chain	Res	Type
2	D	2481	GLN
2	D	3181	ASN
2	D	3421	GLN
2	D	3495	HIS
2	D	3498	ASN
2	D	3506	GLN
2	D	3583	GLN
2	D	3616	HIS
2	D	3715	GLN
2	D	3734	HIS
2	D	3848	GLN
2	D	4055	GLN
2	D	4067	GLN
2	D	4085	GLN
2	D	4769	GLN
1	E	32	GLN
2	F	72	GLN
2	F	199	GLN
2	F	245	GLN
2	F	458	GLN
2	F	487	ASN
2	F	656	GLN
2	F	1535	HIS
2	F	1721	GLN
2	F	1850	GLN
2	F	2008	GLN
2	F	2172	GLN
2	F	2253	ASN
2	F	2261	GLN
2	F	2445	GLN
2	F	2481	GLN
2	F	3181	ASN
2	F	3421	GLN
2	F	3495	HIS
2	F	3498	ASN
2	F	3506	GLN
2	F	3583	GLN
2	F	3616	HIS
2	F	3715	GLN
2	F	3734	HIS
2	F	3848	GLN
2	F	4055	GLN

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Mol	Chain	Res	Type
2	F	4067	GLN
2	F	4085	GLN
2	F	4769	GLN
1	G	32	GLN
2	H	72	GLN
2	H	199	GLN
2	H	245	GLN
2	H	458	GLN
2	H	487	ASN
2	H	656	GLN
2	H	1535	HIS
2	H	1721	GLN
2	H	1850	GLN
2	H	2008	GLN
2	H	2172	GLN
2	H	2253	ASN
2	H	2261	GLN
2	H	2445	GLN
2	H	2481	GLN
2	H	3181	ASN
2	H	3421	GLN
2	H	3495	HIS
2	H	3498	ASN
2	H	3506	GLN
2	H	3583	GLN
2	H	3616	HIS
2	H	3715	GLN
2	H	3734	HIS
2	H	3848	GLN
2	H	4067	GLN
2	H	4085	GLN
2	H	4769	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 8 ligands modelled in this entry, 8 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

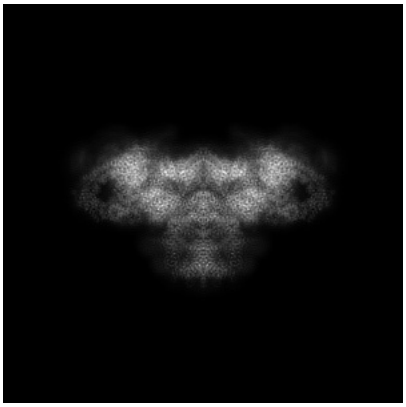
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-45116. These allow visual inspection of the internal detail of the map and identification of artifacts.

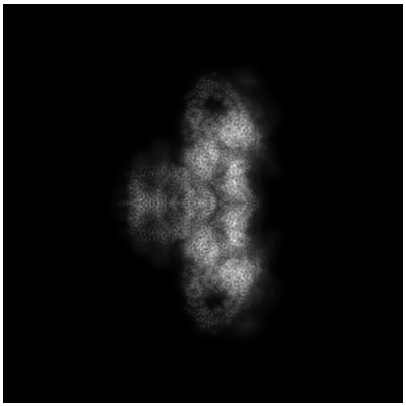
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

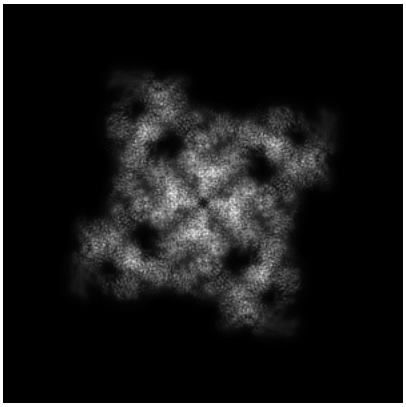
6.1.1 Primary map



X



Y



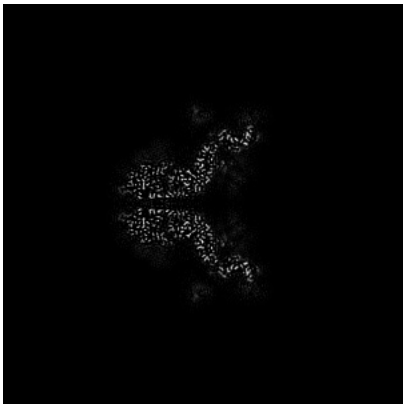
Z

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

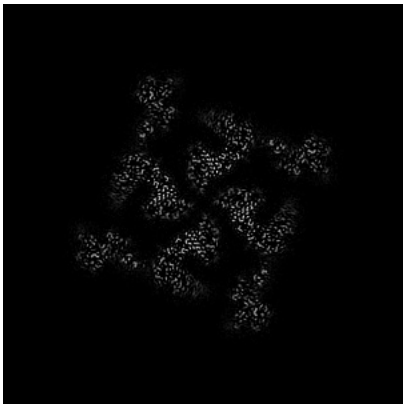
6.2 Central slices

6.2.1 Primary map

X Index: 256



Y Index: 256



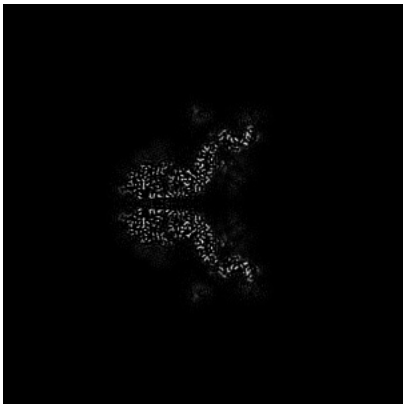
Z Index: 256

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

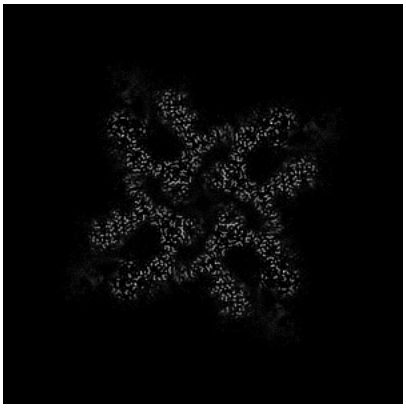
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 256



Y Index: 256

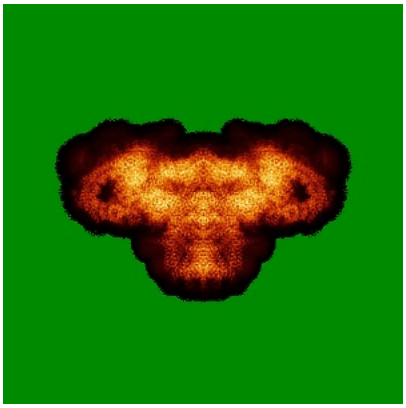


Z Index: 296

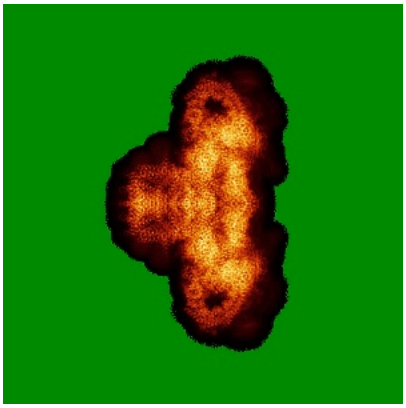
The images above show the largest variance slices of the map in three orthogonal directions.

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

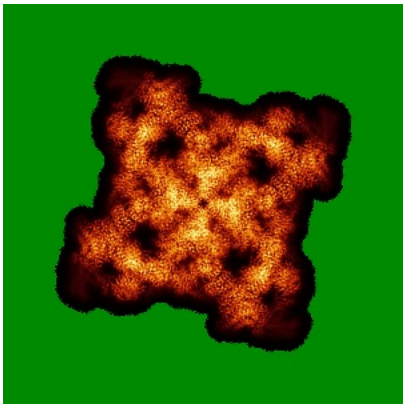
6.4.1 Primary map



X



Y

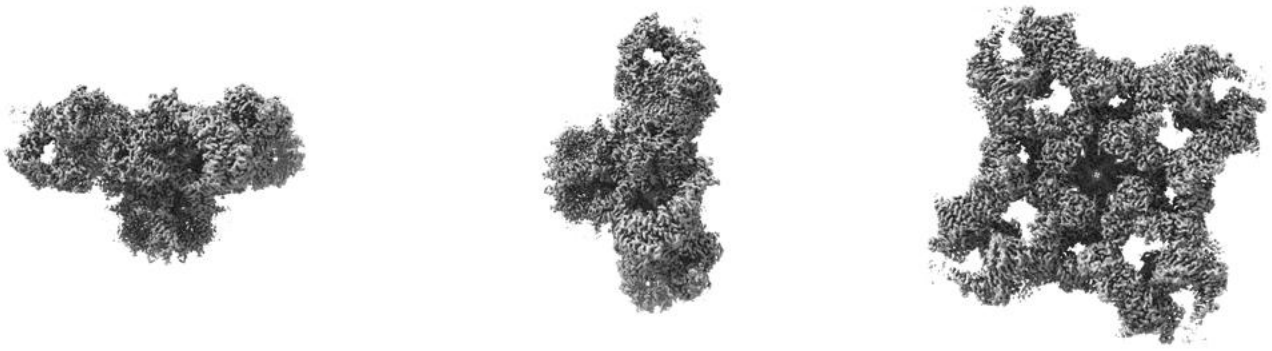


Z

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 0.068. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

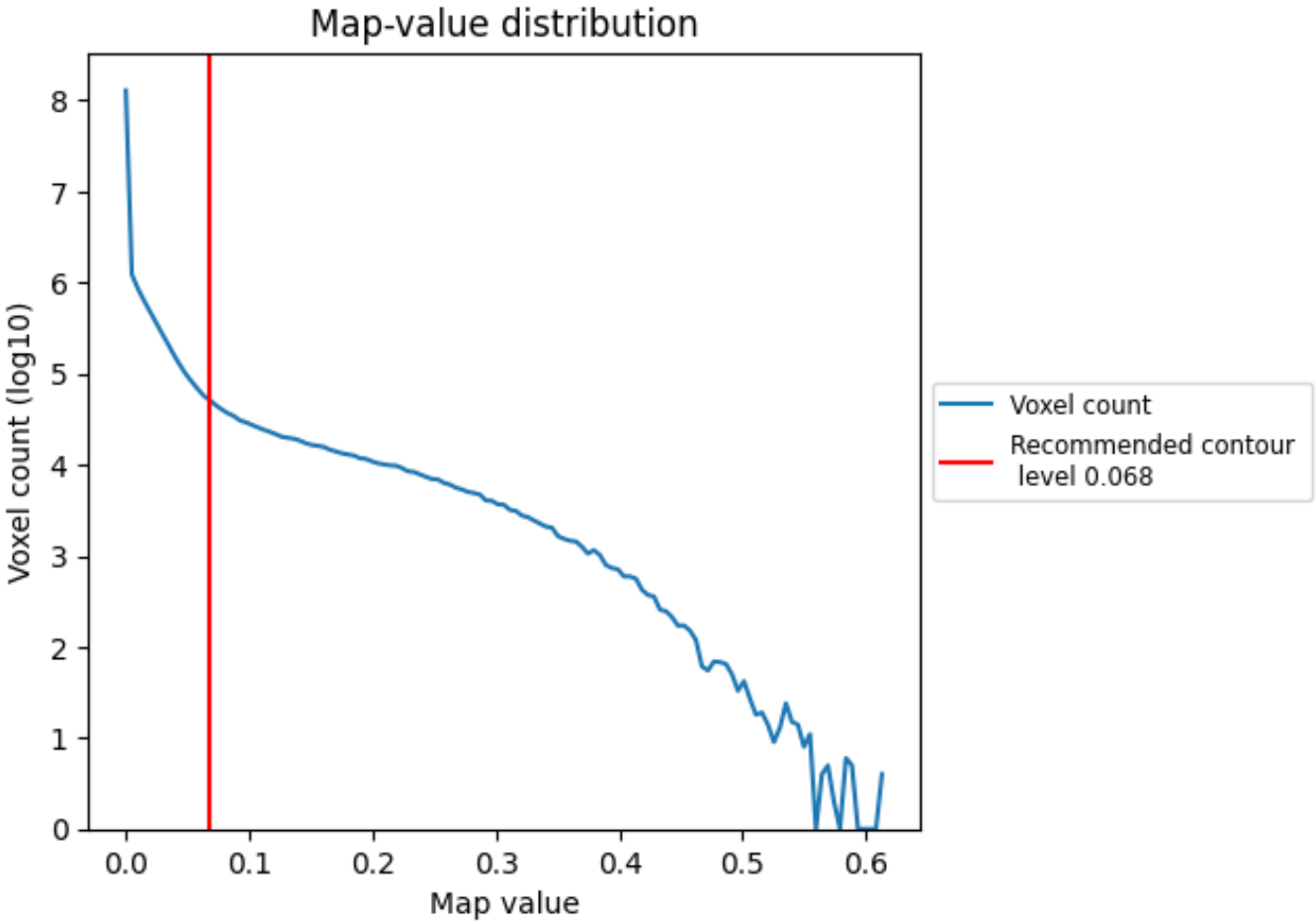
6.6 Mask visualisation (i)

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

7 Map analysis

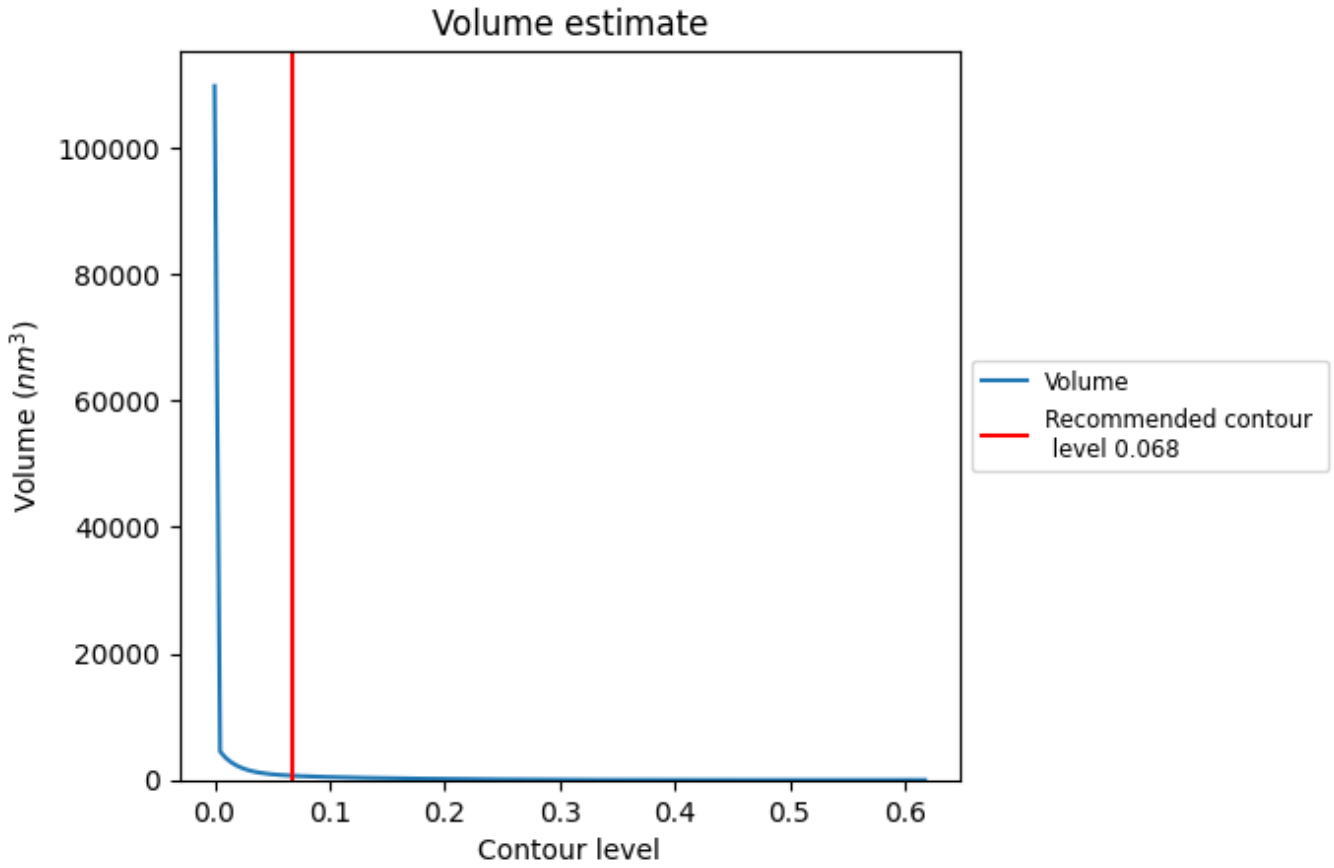
This section contains the results of statistical analysis of the map.

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.

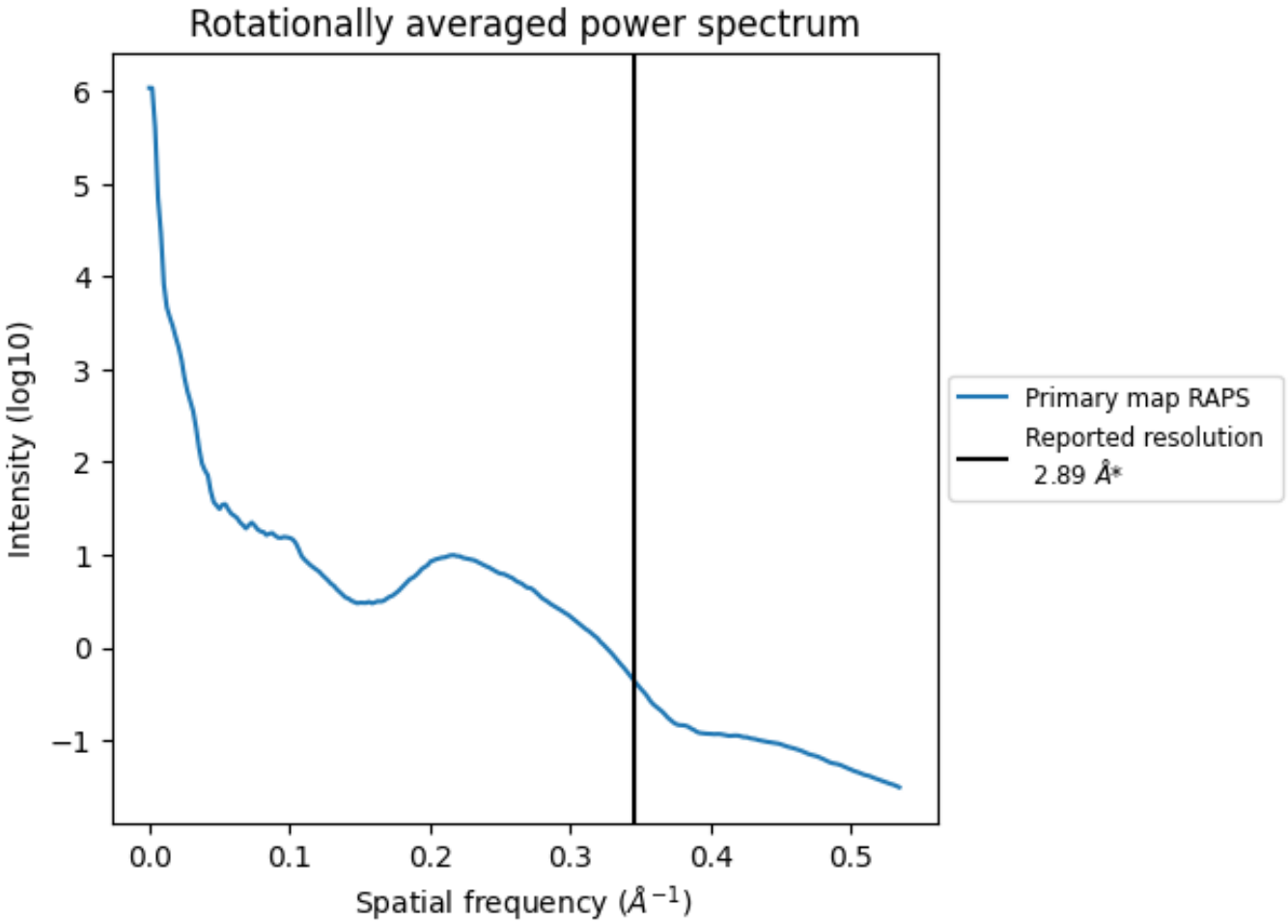
7.2 Volume estimate



The volume at the recommended contour level is 672 nm^3; this corresponds to an approximate mass of 607 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 0.346 Å^{-1}

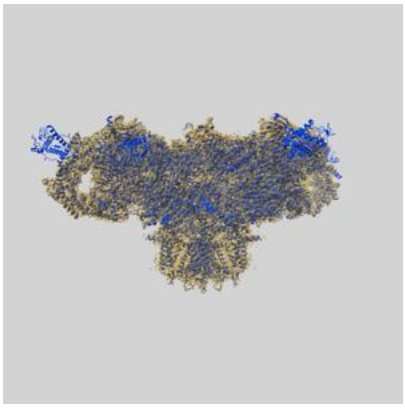
8 Fourier-Shell correlation

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

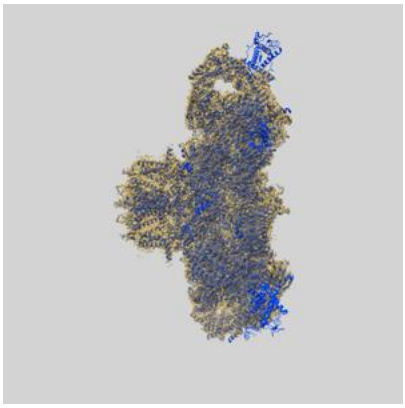
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-45116 and PDB model 9C1E. Per-residue inclusion information can be found in section 3 on page 6.

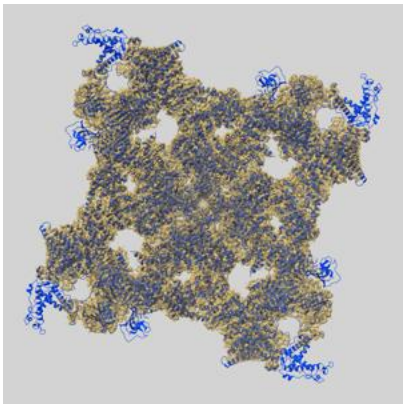
9.1 Map-model overlay



X



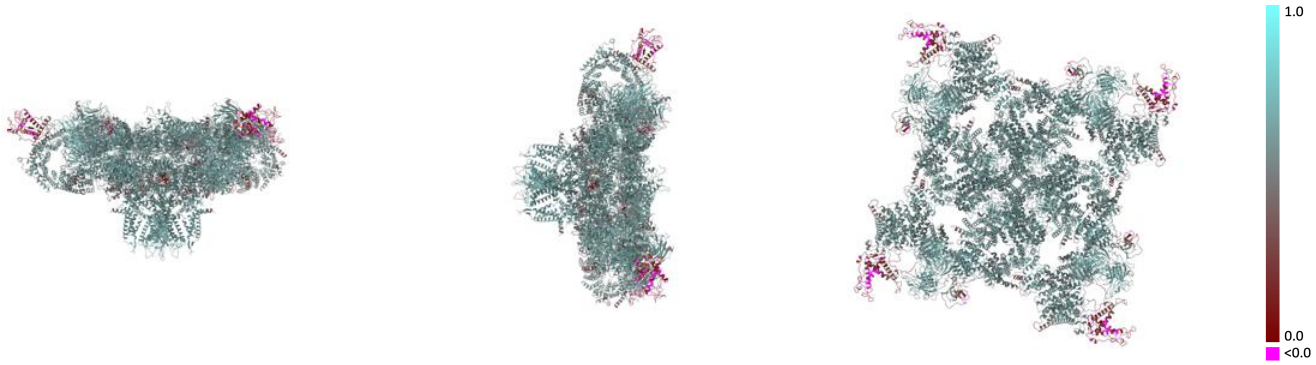
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.068 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

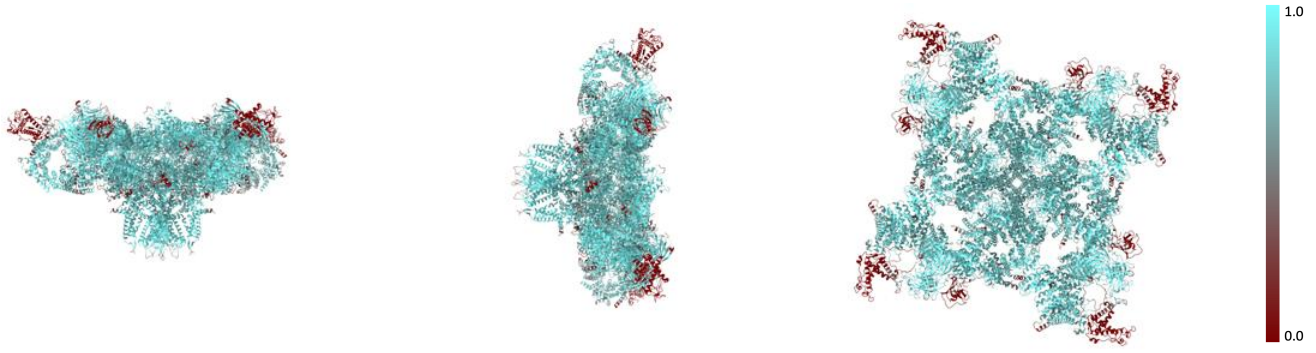
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

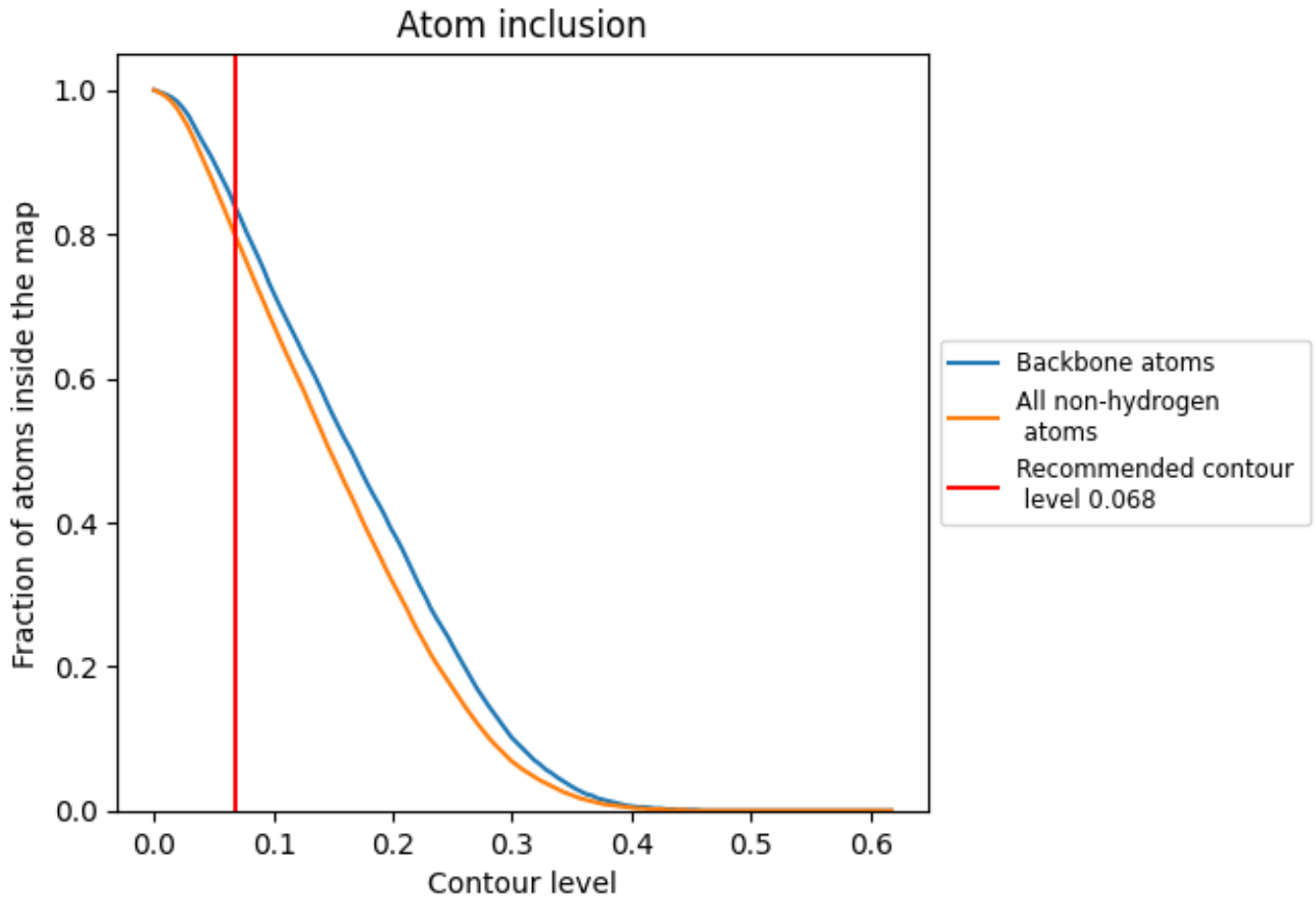
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.068).

9.4 Atom inclusion (i)



At the recommended contour level, 84% of all backbone atoms, 80% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.068) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7970	0.5750
A	0.1120	0.4420
B	0.8130	0.5780
C	0.1150	0.4420
D	0.8130	0.5780
E	0.1150	0.4440
F	0.8130	0.5780
G	0.1180	0.4460
H	0.8120	0.5780