Full wwPDB EM Validation Report ⓘ

Feb 25, 2024 – 08:17 AM EST

PDB ID	:	7JMG
EMDB ID	:	EMD-22393
Title	:	Functional Pathways of Biomolecules Retrieved from Single-particle Snapshots - Frame 22 - State 2 (S2)
Authors	:	Dashti, A.; des Georges, A.; Frank, J.; Ourmazd, A.
Deposited on	:	2020-07-31
Resolution	:	4.50 Å(reported)
Based on initial model	:	5TB4

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:

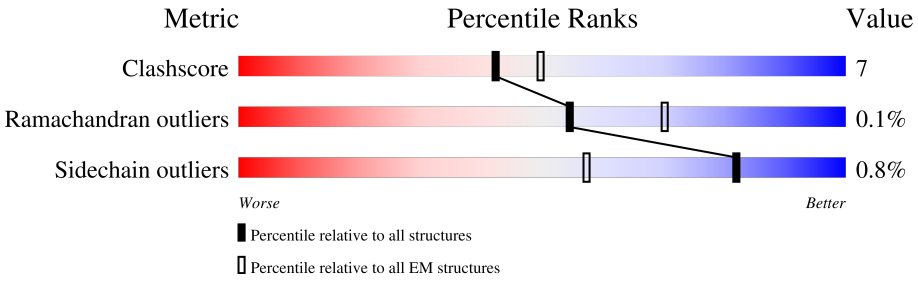
EMDB validation analysis	:	0.0.1.dev70
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 4.50 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	B	4687	21% 74% 14% 11%
1	E	4687	25% 74% 14% 11%
1	G	4687	26% 74% 14% 11%
1	I	4687	24% 74% 14% 11%
2	A	107	17% 75% 25%
2	F	107	24% 78% 22%
2	H	107	31% 77% 23%
2	J	107	25% 74% 26%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 120756 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 type 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	4168	Total 29369	C 18608	N 5202	O 5402	S 157	0	0
1	E	4168	Total 29369	C 18608	N 5202	O 5402	S 157	0	0
1	I	4168	Total 29369	C 18608	N 5202	O 5402	S 157	0	0
1	G	4168	Total 29369	C 18608	N 5202	O 5402	S 157	0	0

- Molecule 2 is a protein called Peptidyl-prolyl cis-trans isomerase FKBP1B.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	F	107	Total 818	C 516	N 144	O 154	S 4	0	0
2	A	107	Total 818	C 516	N 144	O 154	S 4	0	0
2	H	107	Total 818	C 516	N 144	O 154	S 4	0	0
2	J	107	Total 818	C 516	N 144	O 154	S 4	0	0

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

Mol	Chain	Residues	Atoms		AltConf
3	B	1	Total 1	Zn 1	0
3	E	1	Total 1	Zn 1	0
3	I	1	Total 1	Zn 1	0
3	G	1	Total 1	Zn 1	0

- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of

Interest" by depositor).

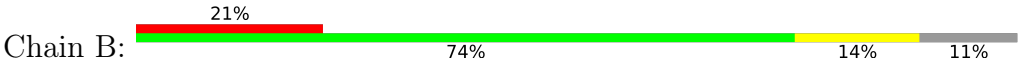
Mol	Chain	Residues	Atoms	AltConf
4	B	1	Total Ca 1 1	0
4	E	1	Total Ca 1 1	0
4	I	1	Total Ca 1 1	0
4	G	1	Total Ca 1 1	0

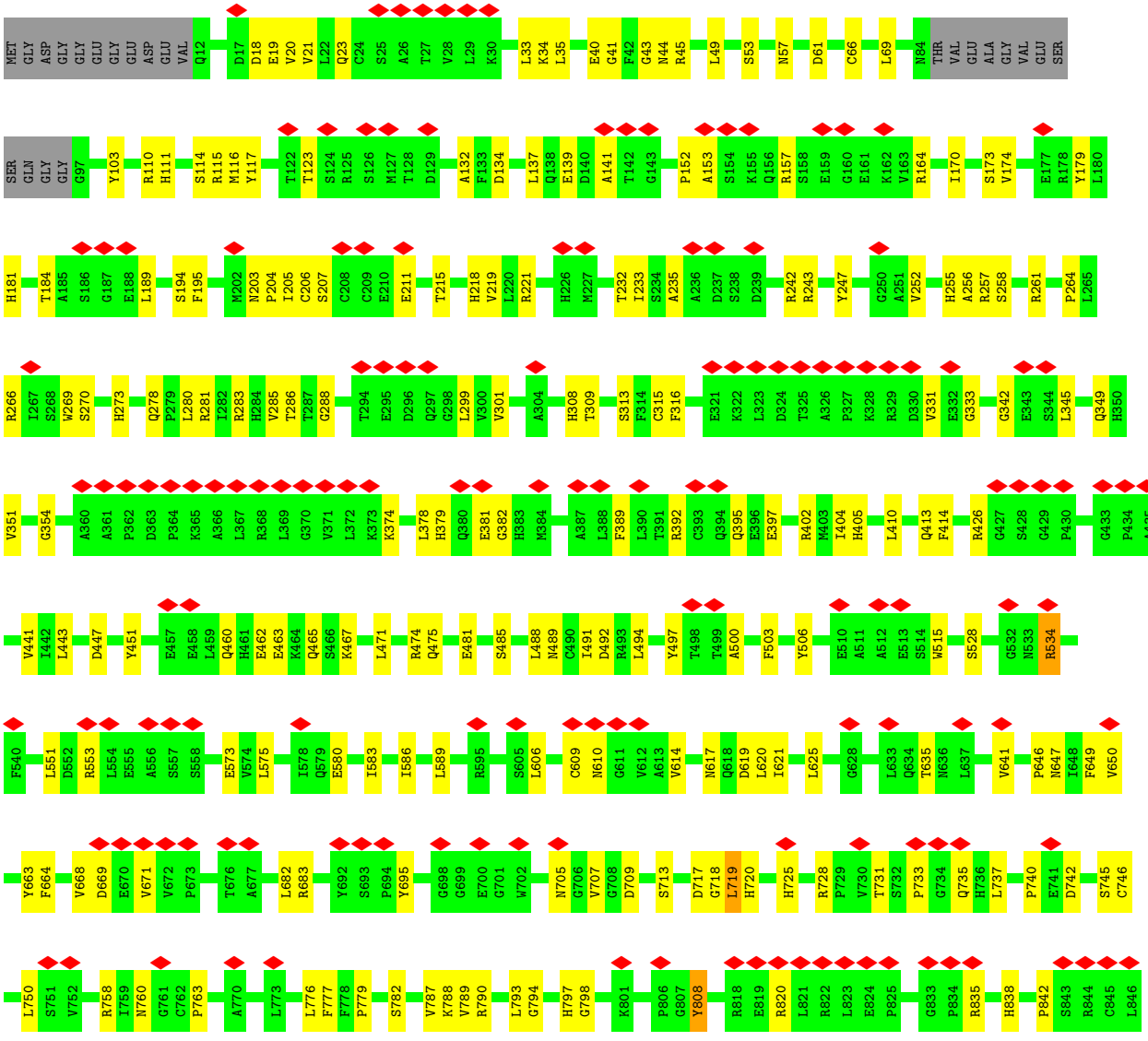
3 Residue-property plots (i)

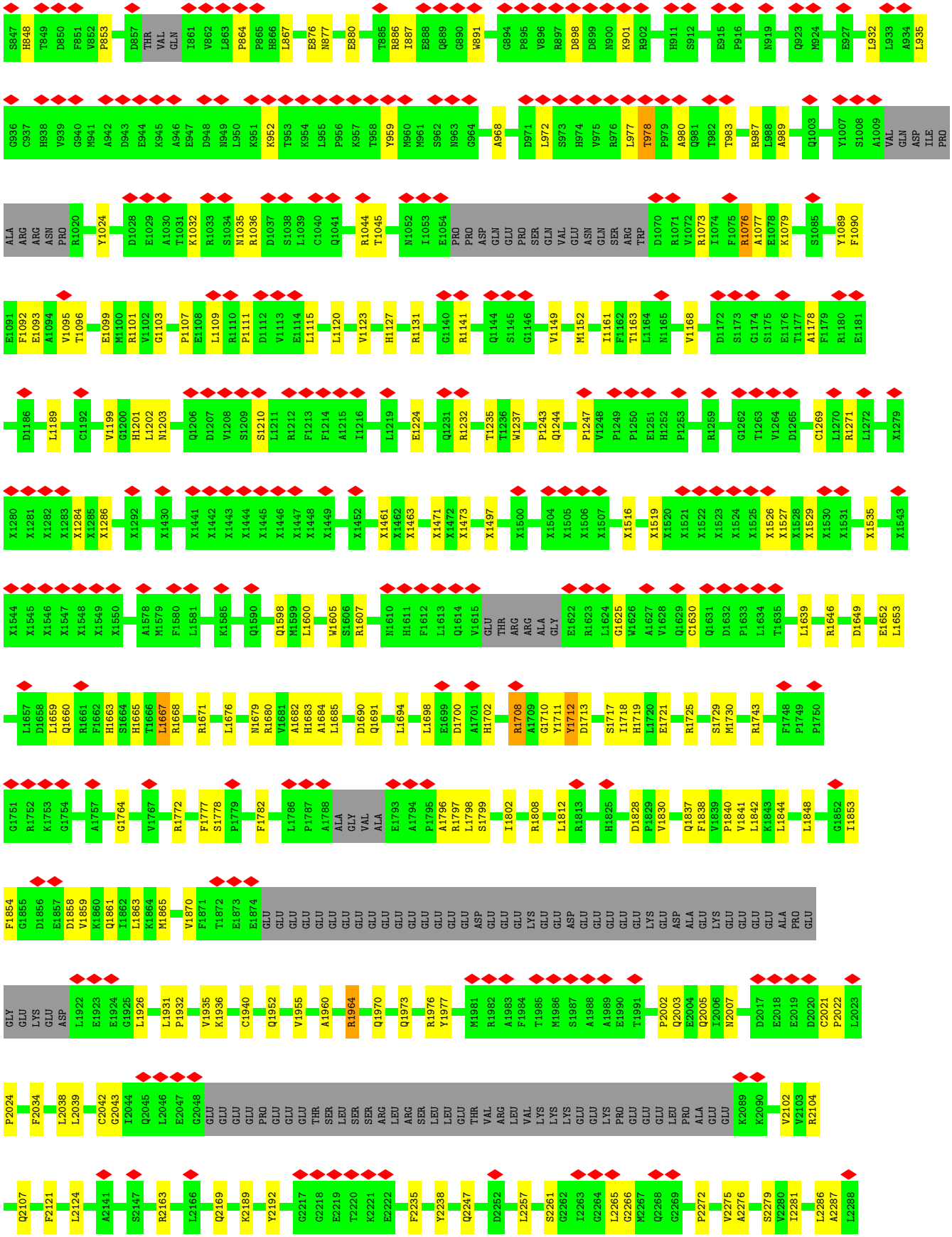
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

Chain B:



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G894 P895 V896 R897 D898 D899 N900 K901 R902 H911 S912 E915 P916 N919 Q923 M924 E927 L932 L933 A934 L935
G936 C937 H938 V939 G940 M941 A942 D943 E944 K945 A946 E947 D948 N949 L950 K951 K952 T953 K954 L955 P956 K957 T958 Y959 M960 M961 S962 N963 G964 A968 D971 L972 S973 H974 V975 R976 L977 T978 P979 A980 Q981 T982 T983 R987 L988 A989 Q1003 Y1007 S1008 A1009 VAL GLN ASP ILE PRO
ALA ARG ARG ASN PRO R1020 Y1024 D1028 E1029 A1030 T1031 K1032 R1033 S1034 N1035 R1036 D1037 S1038 L1039 C1040 Q1041 R1044 T1045 N1052 I1053 E1054 PRO PRO ASP GLN GLU PRO SER GLN VAL GLU ASN GLN SER ARG TRP D1070 R1071 V1072 R1073 I1074 F1075 R1076 A1077 E1078 K1079 S1085 Y1089 F1090
E1091 F1092 E1093 A1094 V1095 T1096 E1099 M1100 R1101 V1102 G1103 P1107 E1108 L1109 R1110 P1111 D1112 V1113 E1114 L1115 L1120 V1123 H1127 R1131 G1140 R1141 Q1144 S1145 G1146 V1149 M1152 I1161 F1162 T1163 L1164 N1165 V1168 D1172 S1173 G1174 S1175 E1176 T1177 A1178 F1179 R1180 E1181
D1186 L1189 C1192 V1199 G1200 H1201 L1202 N1203 Q1206 D1207 V1208 S1209 S1210 L1211 R1212 F1213 F1214 A1215 I1216 L1219 E1224 Q1231 R1232 T1235 T1236 W1237 P1243 Q1244 P1247 V1248 P1249 P1250 E1251 H1252 P1253 R1259 G1262 T1263 V1264 D1265 C1269 L1270 R1271 L1272 X1279
X1280 X1281 X1282 X1283 X1284 X1285 X1286 X1292 X1430 X1441 X1442 X1443 X1444 X1445 X1446 X1447 X1448 X1449 X1452 X1461 X1462 X1463 X1471 X1472 X1473 X1497 X1500 X1504 X1505 X1506 X1507 X1516 X1519 X1520 X1521 X1522 X1523 X1524 X1525 X1526 X1527 X1528 X1529 X1530 X1531 X1535 X1543
X1544 X1545 X1546 X1547 X1548 X1549 X1550 A1578 M1579 F1580 L1581 K1585 Q1590 Q1598 M1599 L1600 W1605 S1606 R1607 N1610 H1611 F1612 L1613 Q1614 V1615 GLU THR ARG ARG ALA GLY E1622 R1623 L1624 G1625 W1626 A1627 V1628 Q1629 C1630 Q1631 D1632 P1633 L1634 T1635 L1639 R1646 D1649 E1652 L1653
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F1854 G1855 D1856 E1857 D1858 V1859 K1860 Q1861 I1862 L1863 K1864 M1865 V1870 F1871 T1872 E1873 E1874 GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU GLU 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 E1923 E1924 G1925 L1926 L1931 P1932 V1935 K1936 C1940 Q1952 V1955 A1960 R1964 Q1970 Q1973 R1976 Y1977 M1981 R1982 A1983 F1984 T1985 M1986 S1987 A1988 A1989 E1990 T1991 P2002 Q2003 E2004 Q2005 I2006 N2007 D2017 E2018 E2019 D2020 C2021 P2022 L2023
P2024 F2034 L2038 L2039 C2042 G2043 I2044 Q2045 L2046 E2047 G2048 GLU GLU GLU GLU PRO GLU GLU 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 K2090 V2102 V2103 R2104
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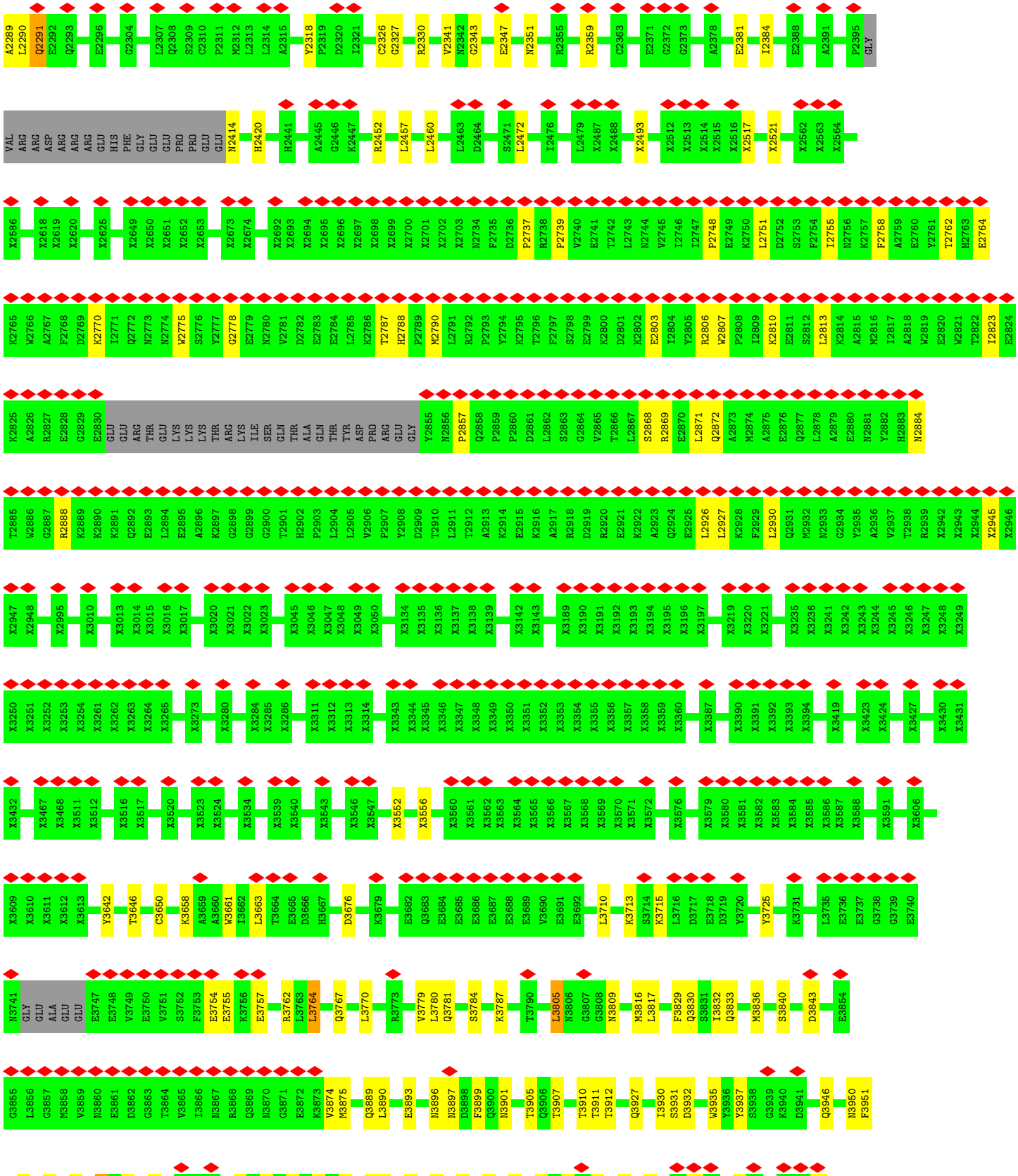
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VAL ARG ARG ASP ARG ARG ARG GLU HIS PHE GLY GLU GLU PRO PRO GLU GLU N2414 H2420 H2441 A2445 G2446 K2447 R2452 L2457 L2460 L2463 D2464 S2471 L2472 I2476 L2479 X2487 X2488 X2493 X2512 X2513 X2514 X2515 X2516 X2517 X2521 X2562 X2563 X2564
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K2825 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
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X3250 X3251 X3252 X3253 X3254 X3261 X3262 X3263 X3264 X3265 X3273 X3280 X3284 X3285 X3286 X3311 X3312 X3313 X3314 X3343 X3344 X3345 X3346 X3347 X3348 X3349 X3350 X3351 X3352 X3353 X3354 X3355 X3356 X3357 X3358 X3359 X3360 X3387 X3390 X3391 X3392 X3393 X3394 X3419 X3423 X3424 X3427 X3430 X3431
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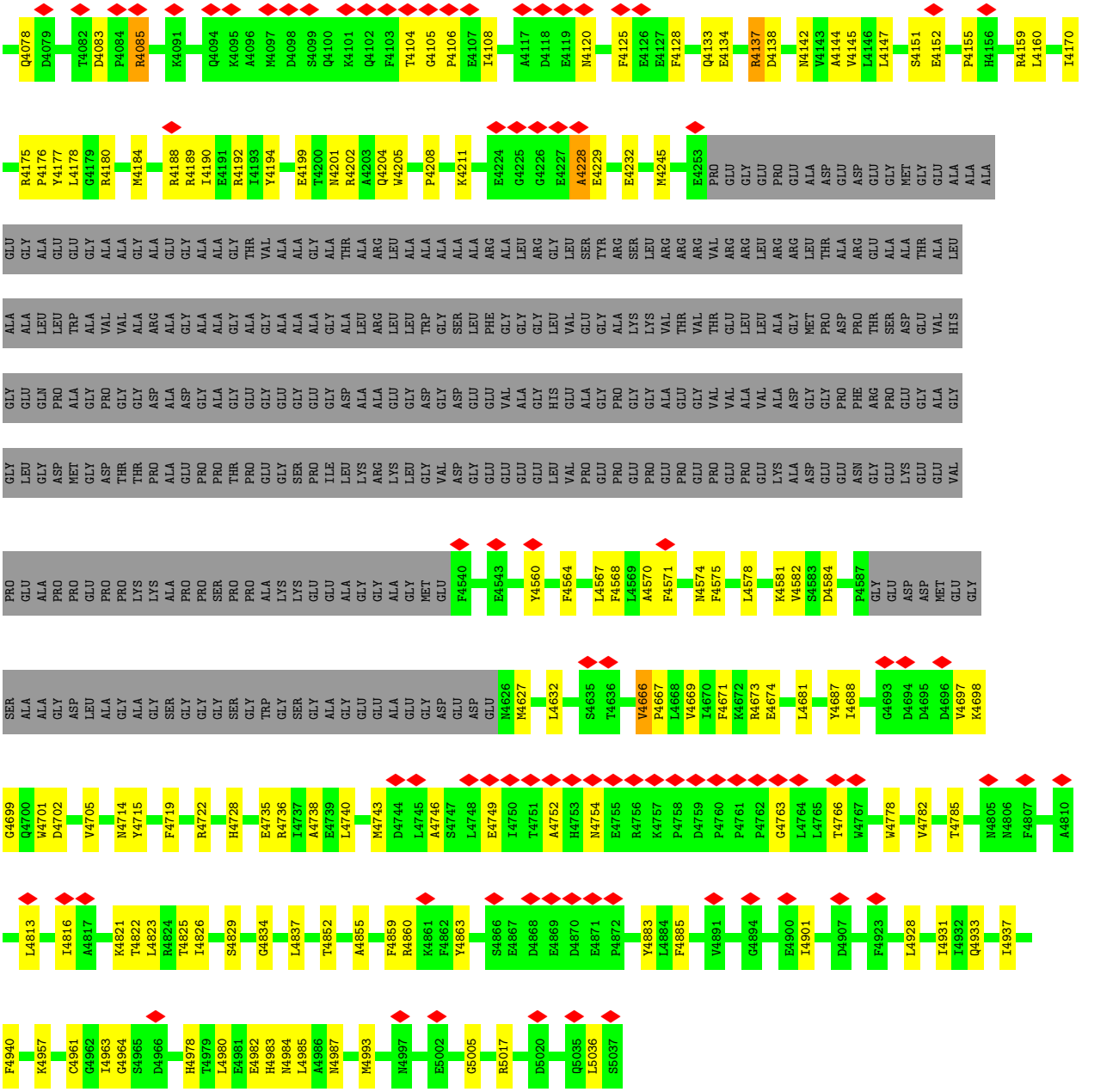
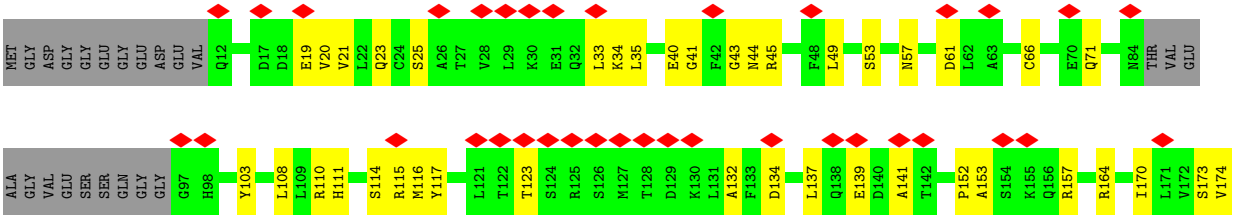
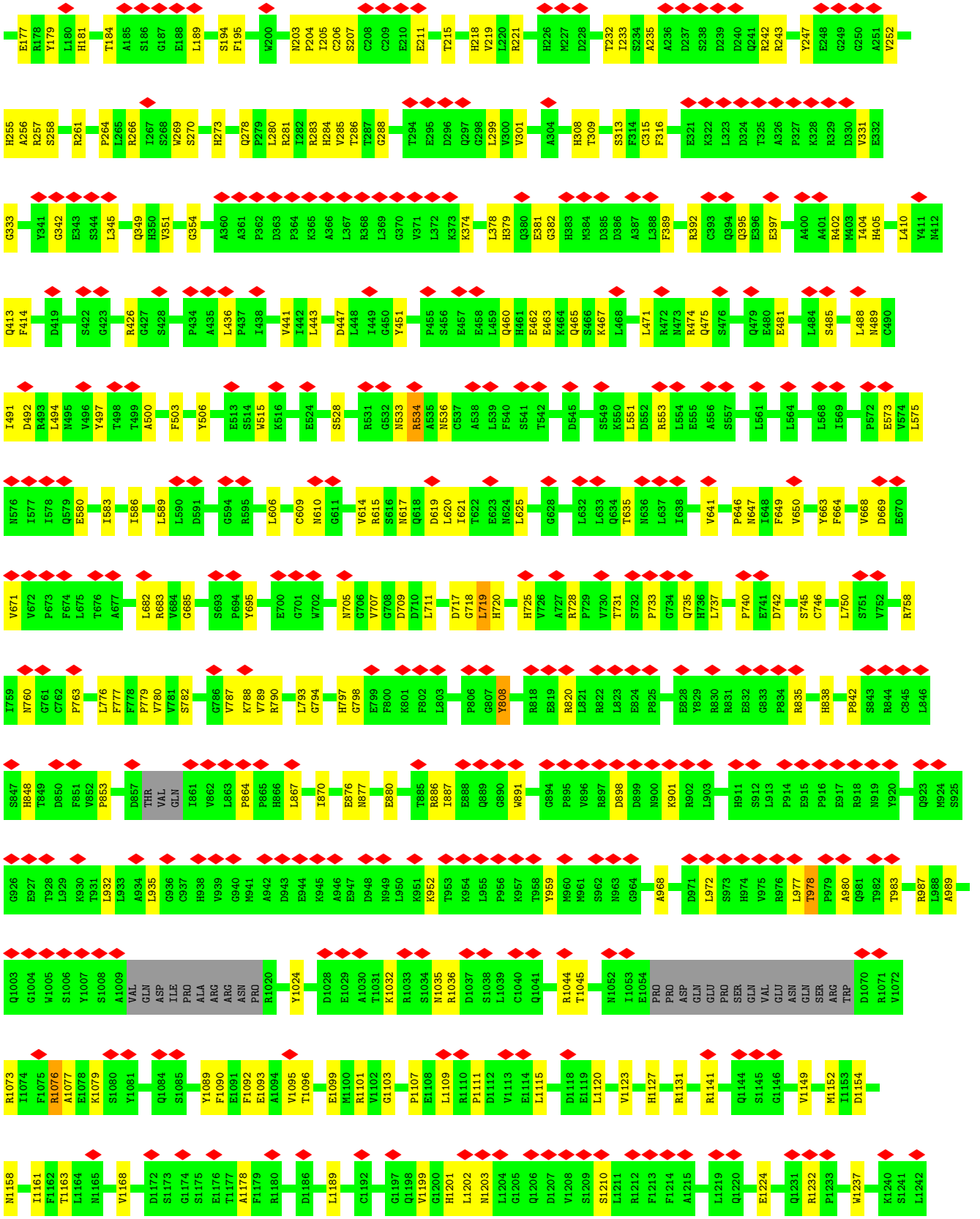


• Molecule 1: ryanodine receptor type 1

Chain E:

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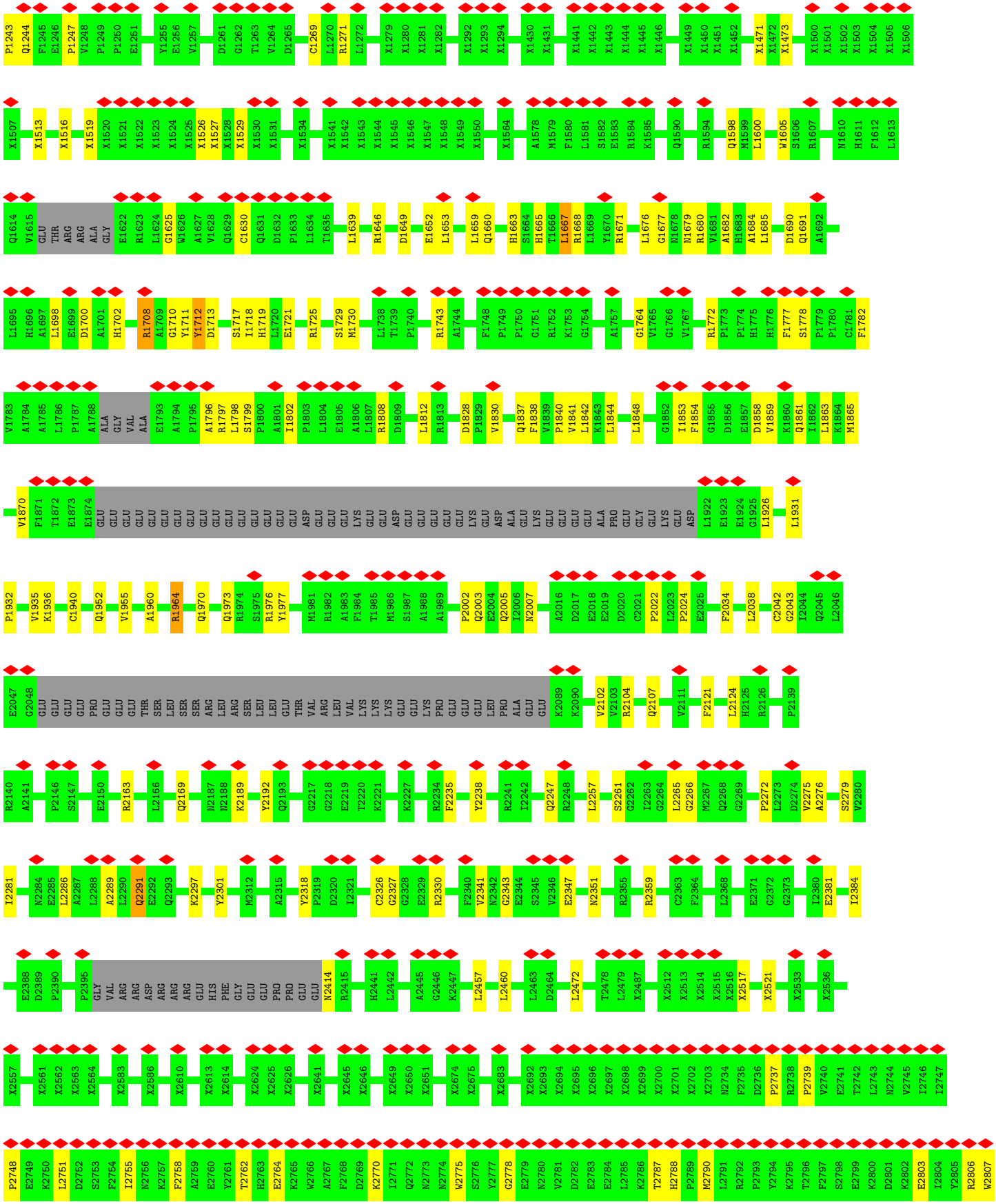
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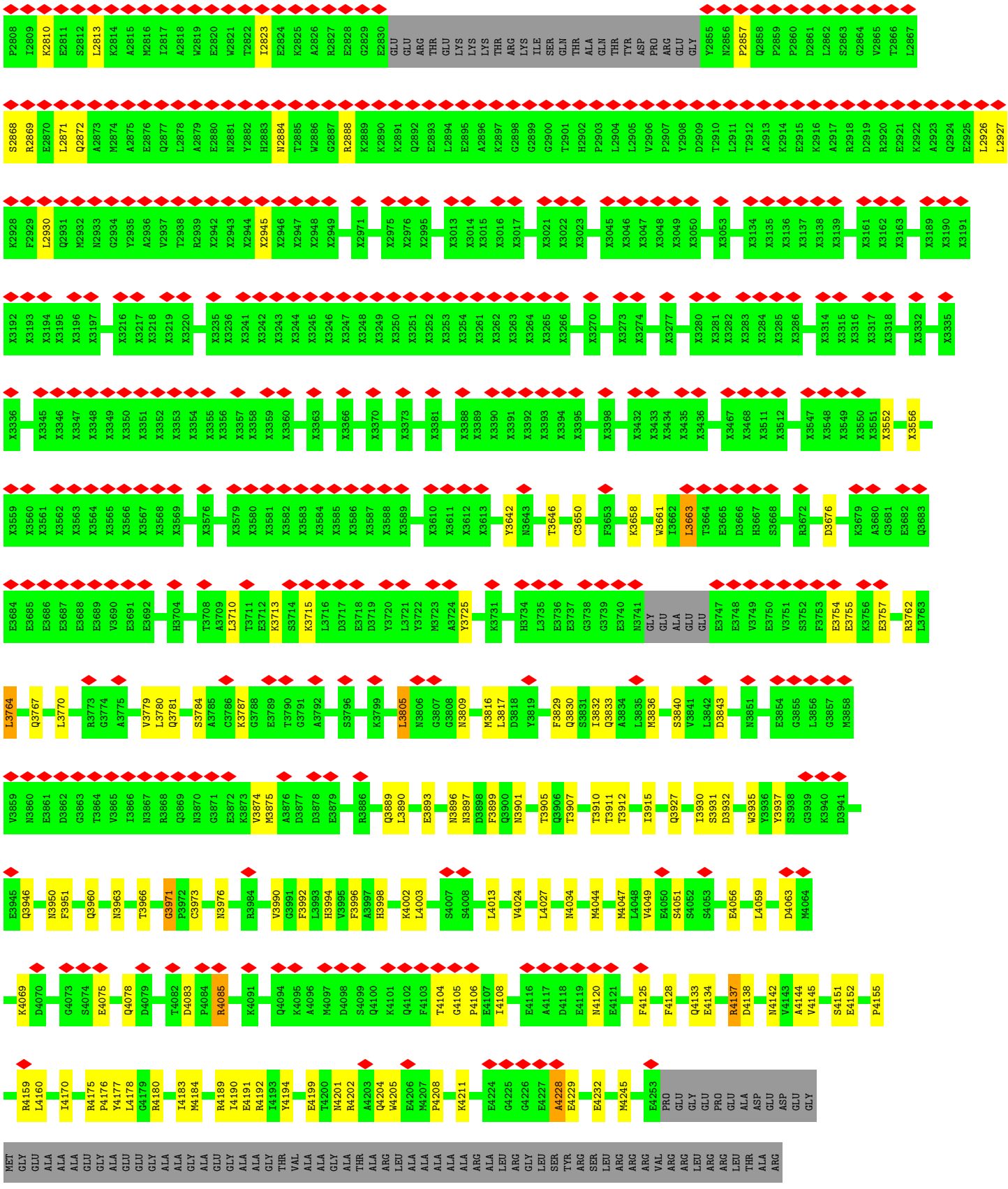
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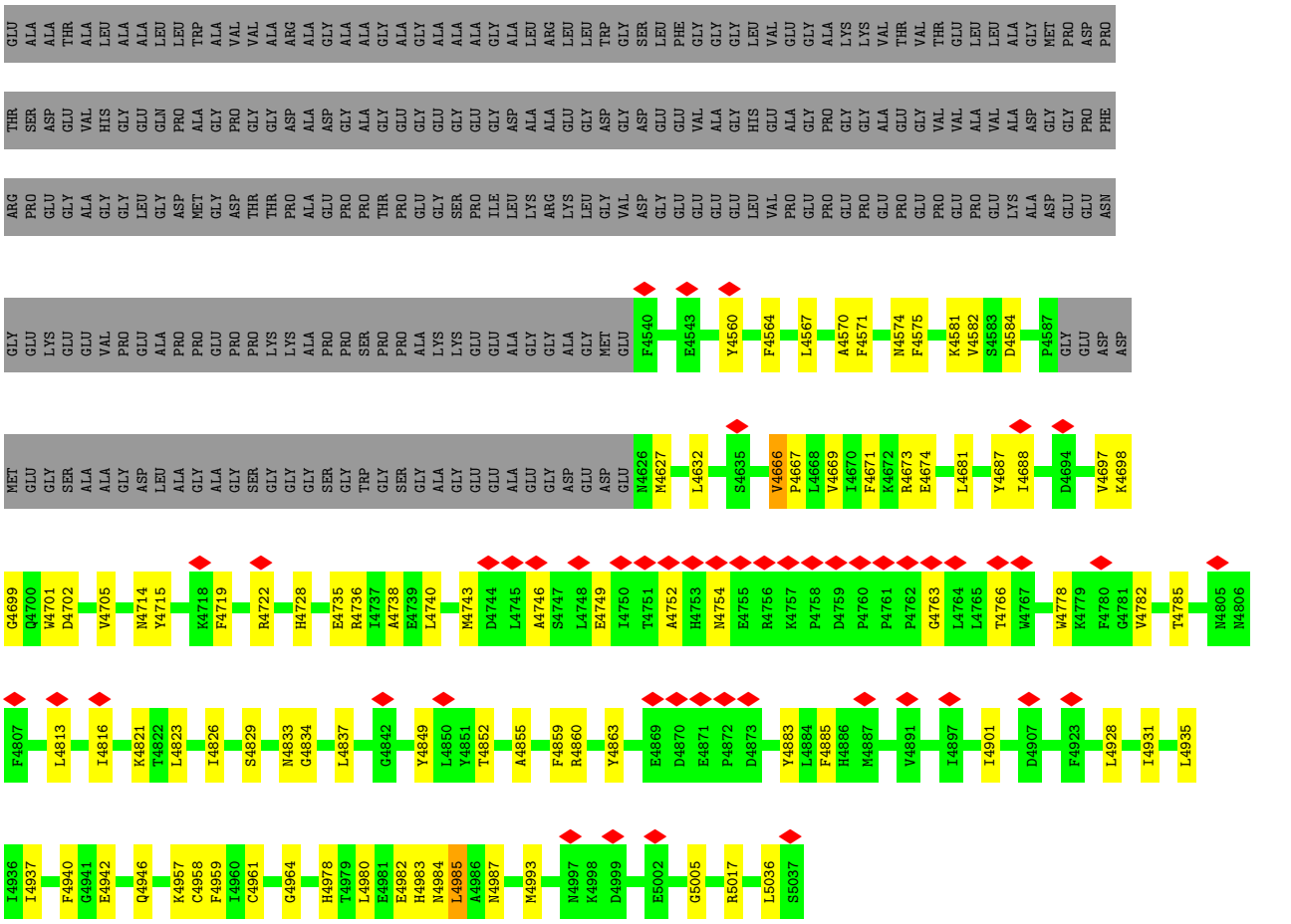

• Molecule 1: ryanodine receptor type 1

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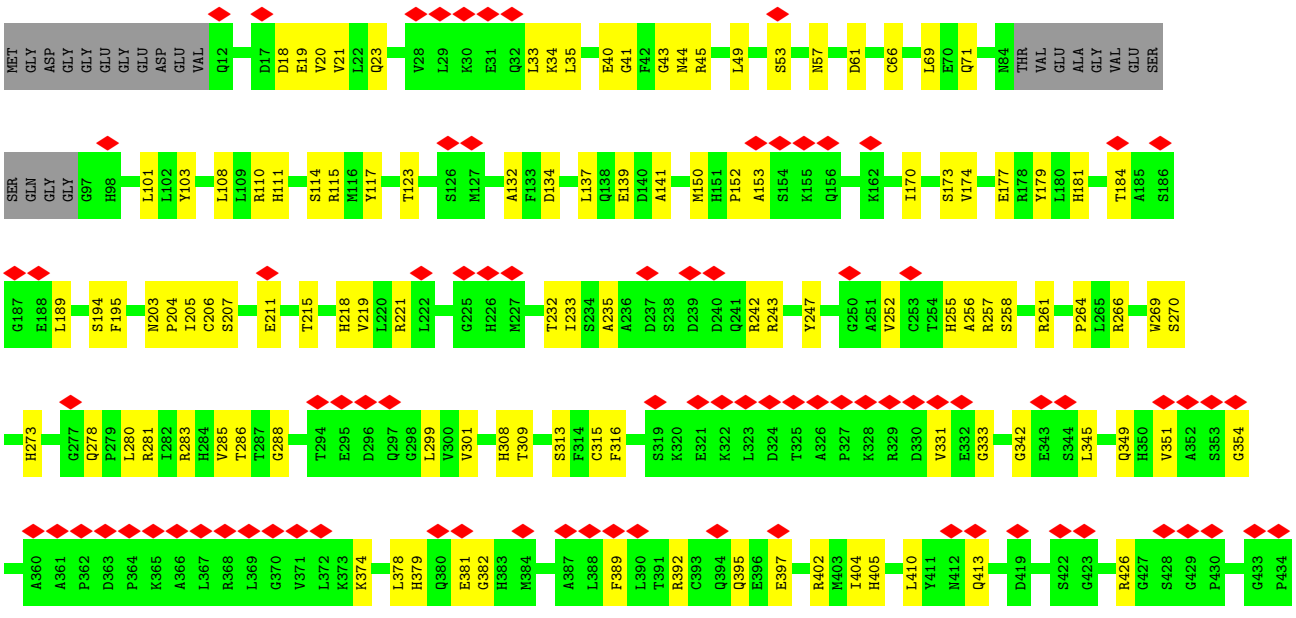

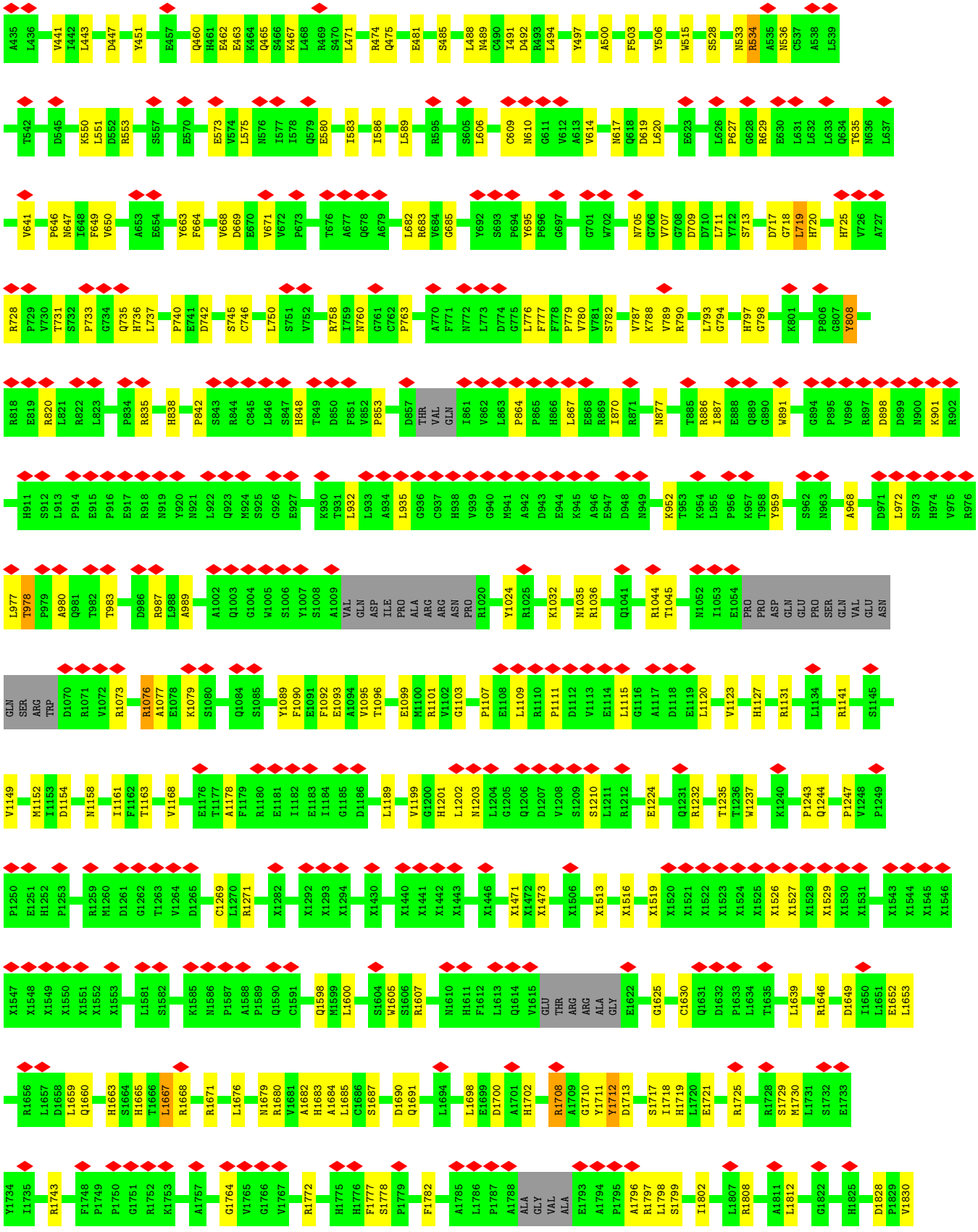
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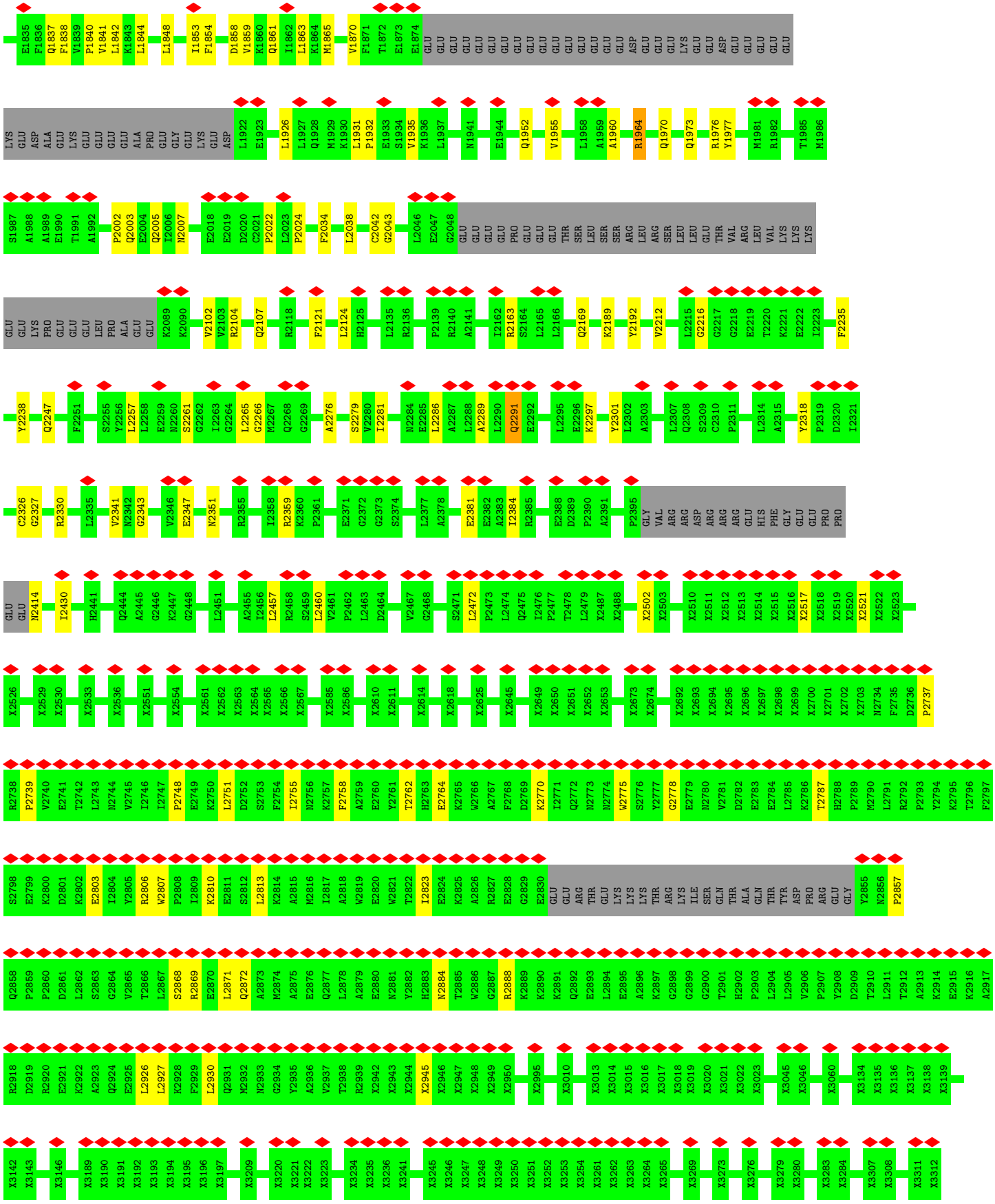
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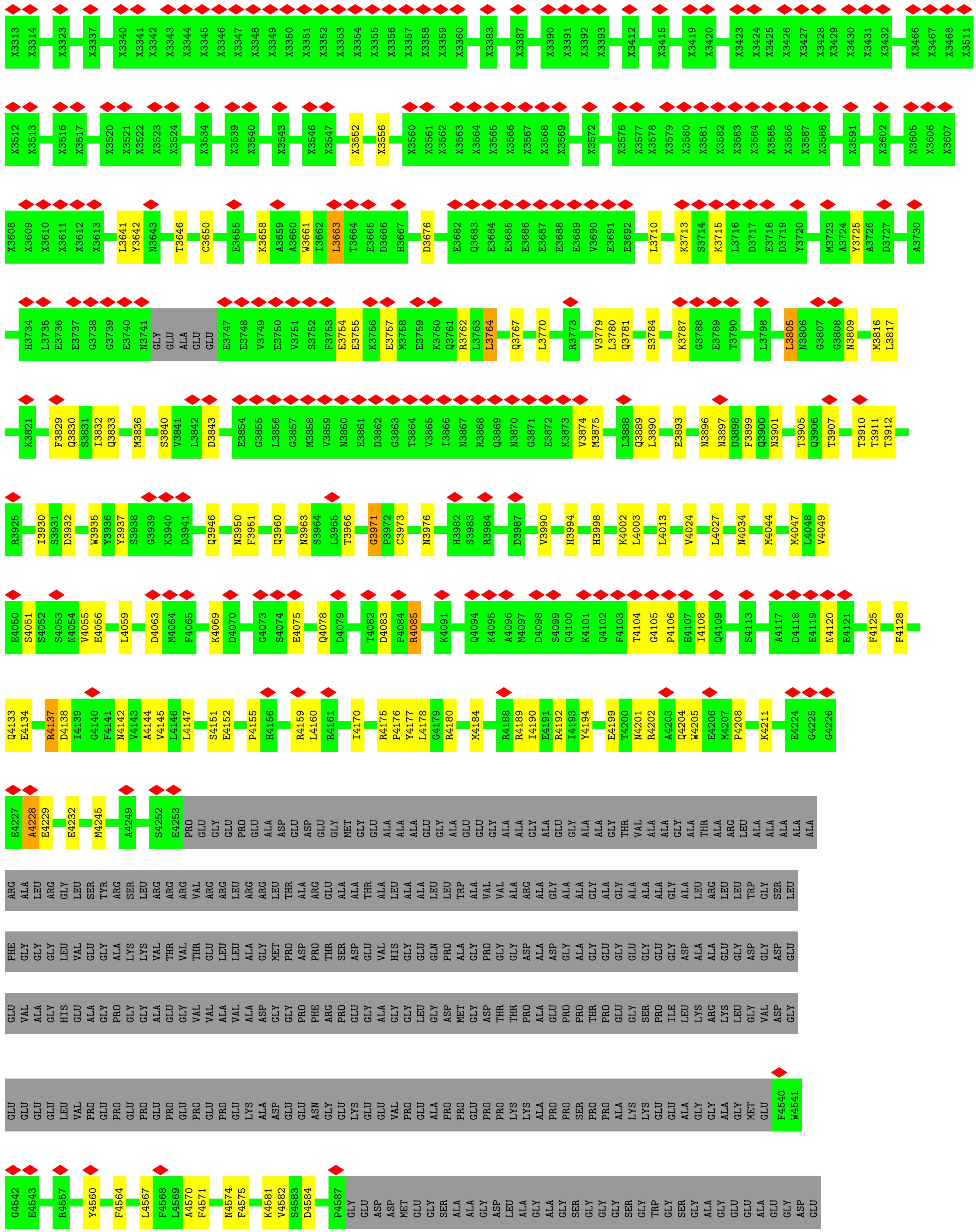
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PHE GLY GLY GLY LEU VAL GLU GLY ALA LYS LYS VAL THR VAL THR GLU LEU LEU ALA GLY MET PRO ASP PRO THR SER ASP GLU VAL HIS GLY GLU GLN PRO ALA GLY PRO GLY GLY ASP ALA ASP GLY ALA GLY GLU GLY GLU GLU GLY ASP ALA ALA GLU GLY ASP GLY ASP GLU
GLU VAL ALA GLY HIS GLU ALA GLY PRO GLY GLY ALA GLU GLY VAL VAL ALA VAL ALA ASP GLY GLY PRO PHE ARG PRO GLU GLY ALA GLY GLY LEU GLY ASP MET GLY ASP THR THR PRO ALA GLU PRO PRO THR PRO GLU GLY SER PRO ILE LEU LYS ARG LYS LEU GLY VAL ASP GLY
GLU GLU GLU GLU LEU VAL PRO GLU PRO GLU PRO GLU PRO GLU PRO GLU PRO GLU LYS ALA ASP GLU GLU ASN GLY GLU LYS GLU GLU VAL PRO GLU ALA PRO PRO GLU PRO PRO LYS LYS ALA PRO PRO SER PRO PRO ALA LYS LYS GLU GLU ALA GLY GLY ALA GLY MET GLU F4540 W4541
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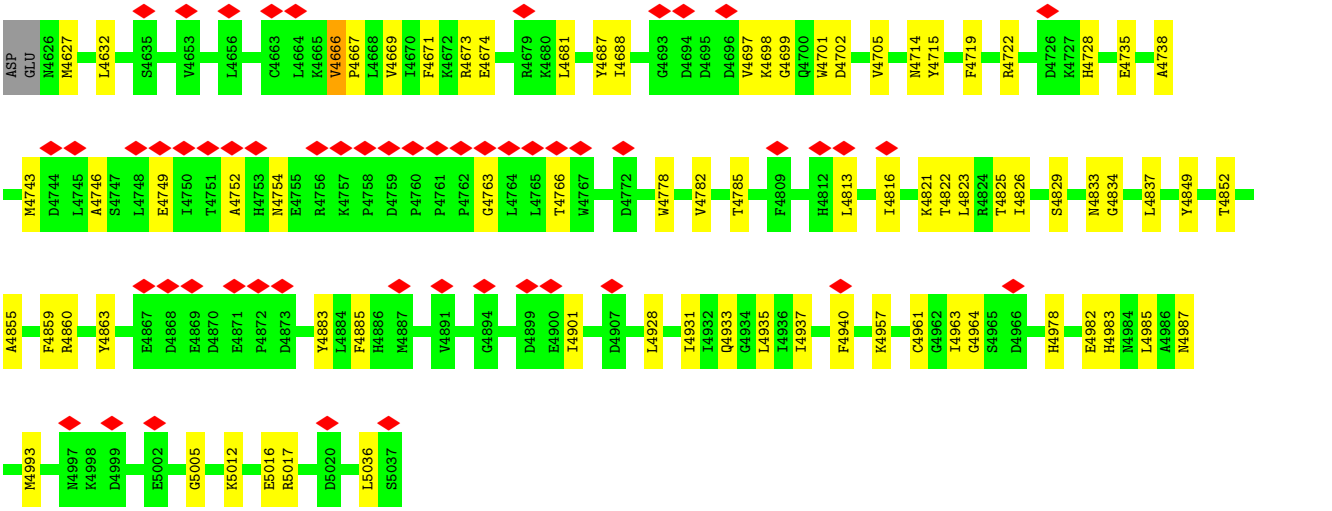
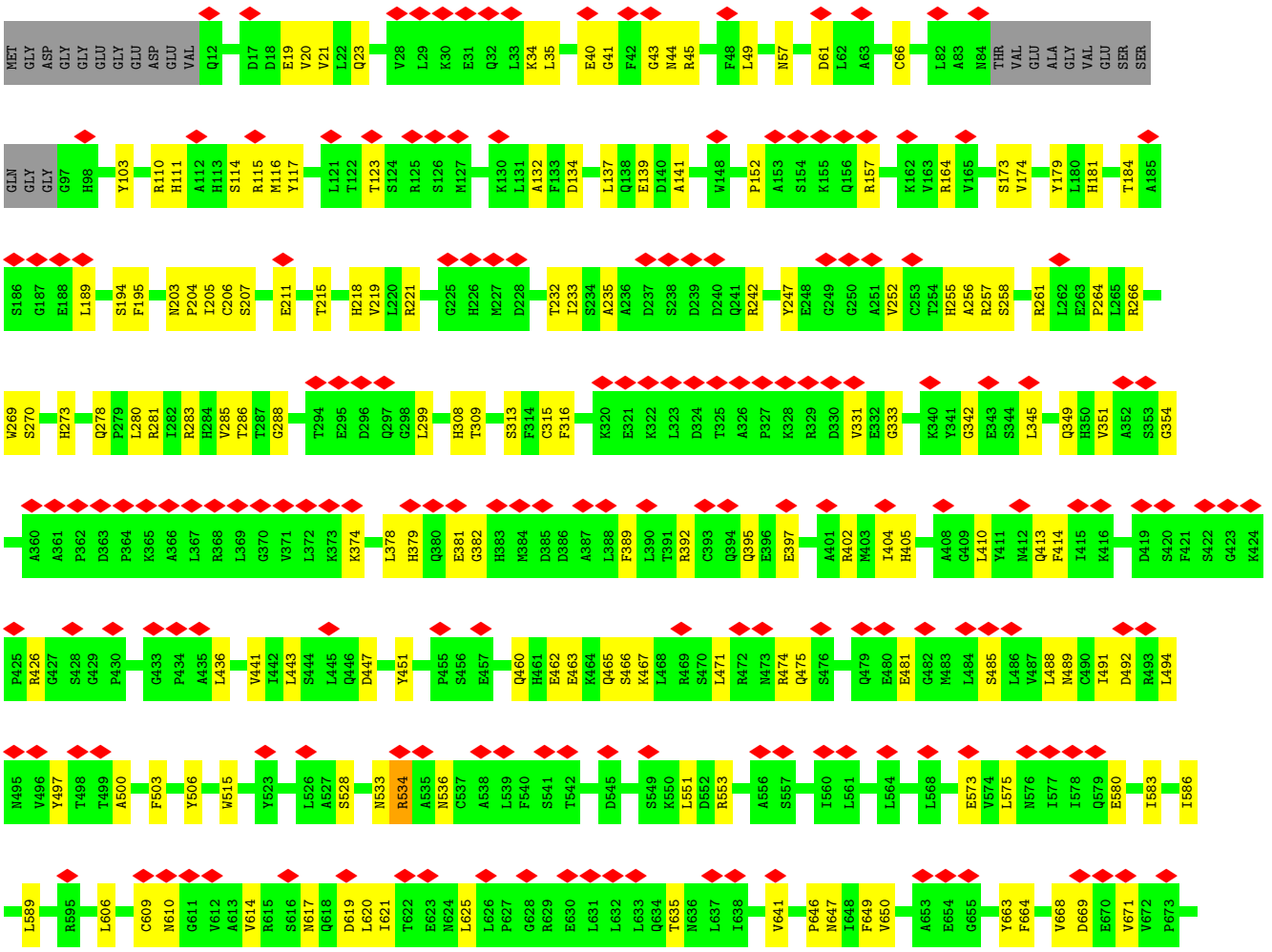


• Molecule 1: ryanodine receptor type 1

Chain G:

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H848 T849 D850 F851 V852 P853 D857 THR VAL GLN I861 V862 L863 P864 P865 H866 L867 E868 R869 I870 R871 E876 N877 I878 H879 E880 L881 T885 R886 I887 E888 Q889 G890 W891 G894 P895 V896 R897 D898 D899 N900 K901 R902 L903 H911 S912 L913 P914 E915 P916 E917 R918 N919 Y920 N921
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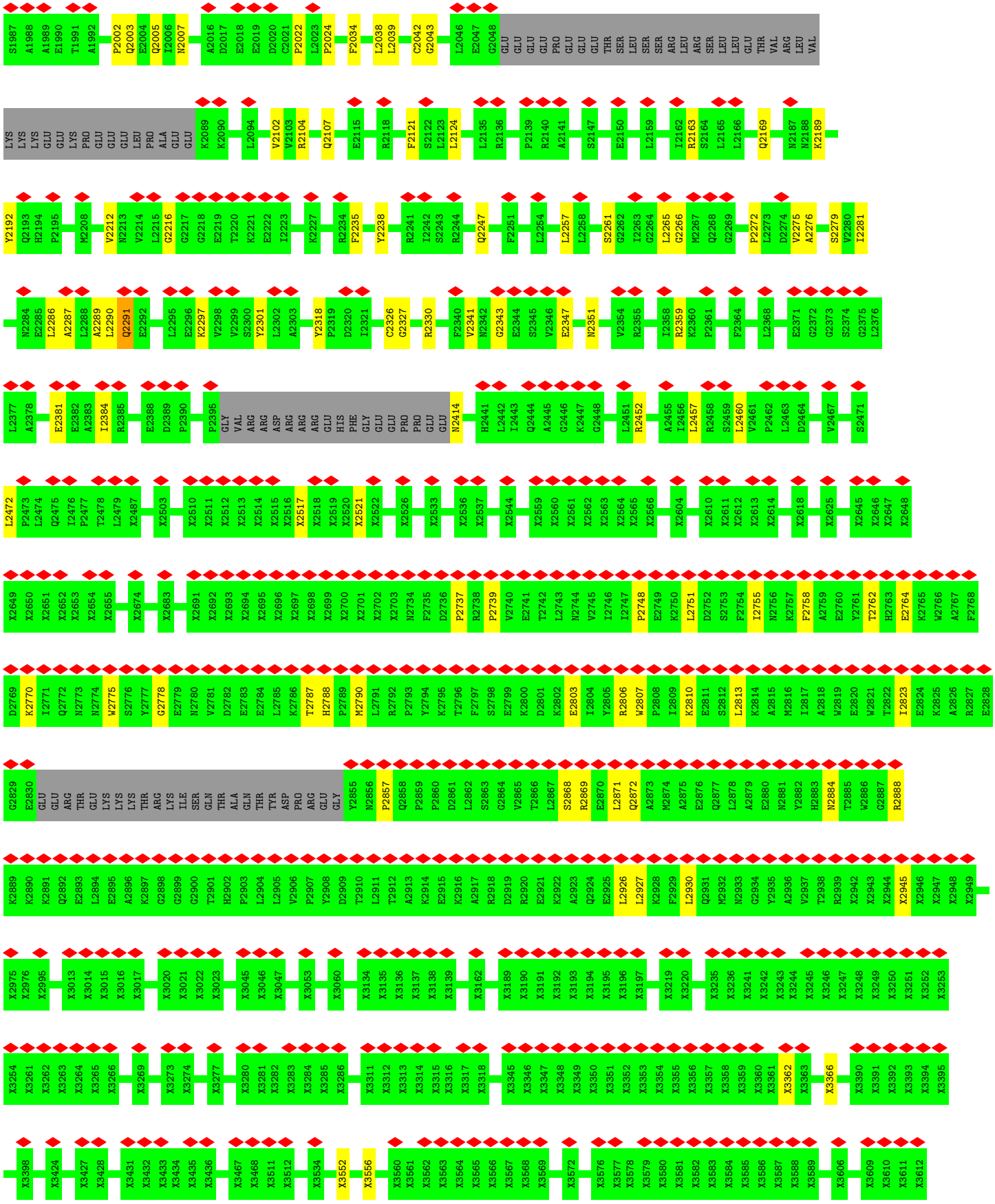
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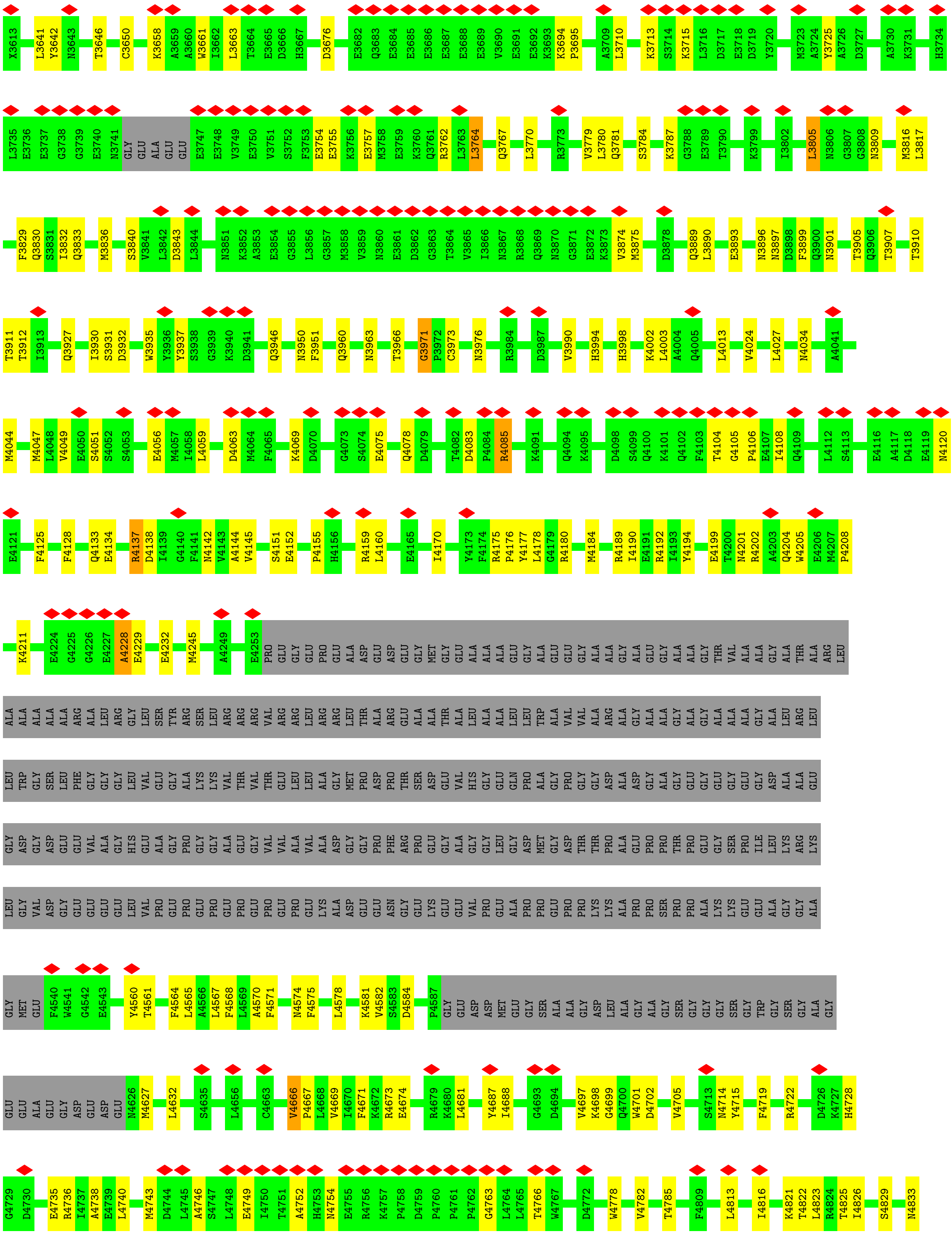
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GLY MET GLU F4540 W4541 G4542 E4543 Y4560 T4561 F4564 L4565 A4566 L4567 F4568 L4569 A4570 F4571 N4574 F4575 L4578 K4581 V4582 S4583 D4584 P4587 GLY GLU ASP ASP MET GLU GLY SER ALA ALA GLY ASP LEU ALA GLY ALA GLY SER GLY GLY GLY SER GLY TRP GLY SER GLY ALA GLY
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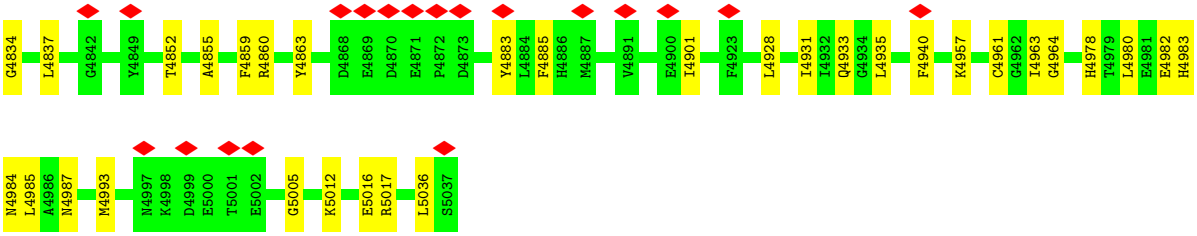
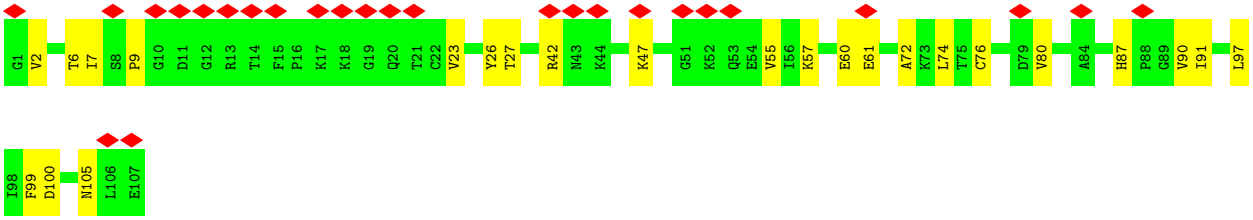


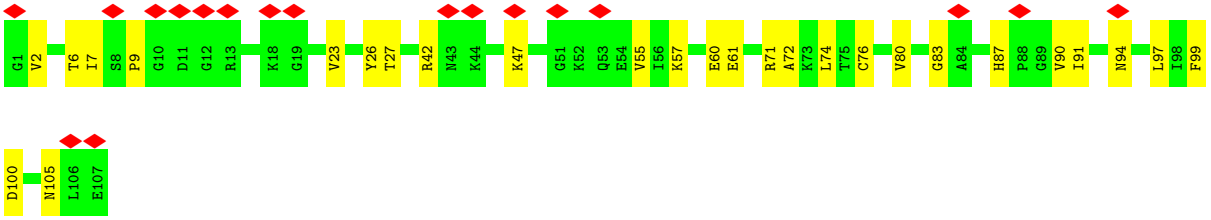
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain F:



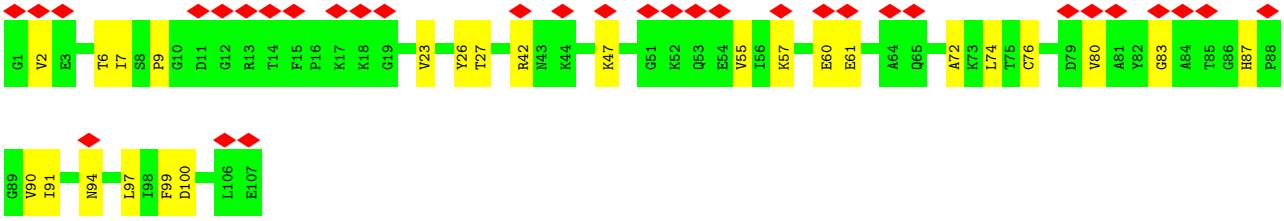
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain A:



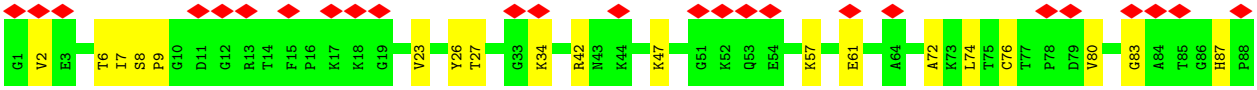
• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

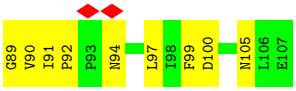
Chain H:



• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain J:




G89
V90
I91
P92
P93
N94
L97
T98
F99
D100
N105
L106
E107

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	791956	Depositor
Resolution determination method	OTHER	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.555	Depositor
Minimum map value	-0.221	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.030	Depositor
Recommended contour level	0.16	Depositor
Map size (Å)	502.0, 502.0, 502.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.255, 1.255, 1.255	Depositor

5 Model quality

5.1 Standard geometry

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

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	B	0.33	0/25428	0.56	5/34534 (0.0%)
1	E	0.33	0/25428	0.56	6/34534 (0.0%)
1	G	0.33	0/25428	0.56	5/34534 (0.0%)
1	I	0.33	0/25428	0.56	5/34534 (0.0%)
2	A	0.33	0/834	0.56	0/1123
2	F	0.33	0/834	0.56	0/1123
2	H	0.33	0/834	0.56	0/1123
2	J	0.33	0/834	0.56	0/1123
All	All	0.33	0/105048	0.56	21/142628 (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	B	0	12
1	E	0	12
1	G	0	12
1	I	0	12
All	All	0	48

There are no bond length outliers.

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	719	LEU	CA-CB-CG	6.77	130.87	115.30
1	E	719	LEU	CA-CB-CG	6.76	130.85	115.30
1	G	719	LEU	CA-CB-CG	6.75	130.81	115.30
1	B	719	LEU	CA-CB-CG	6.74	130.79	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	3764	LEU	CA-CB-CG	6.40	130.03	115.30
1	G	3764	LEU	CA-CB-CG	6.40	130.03	115.30
1	B	3764	LEU	CA-CB-CG	6.37	129.96	115.30
1	I	3764	LEU	CA-CB-CG	6.37	129.95	115.30
1	E	1667	LEU	CA-CB-CG	5.76	128.56	115.30
1	G	1667	LEU	CA-CB-CG	5.75	128.51	115.30
1	B	1667	LEU	CA-CB-CG	5.73	128.49	115.30
1	I	1667	LEU	CA-CB-CG	5.72	128.47	115.30
1	I	977	LEU	CA-CB-CG	5.55	128.07	115.30
1	B	977	LEU	CA-CB-CG	5.55	128.06	115.30
1	E	977	LEU	CA-CB-CG	5.54	128.05	115.30
1	G	977	LEU	CA-CB-CG	5.54	128.03	115.30
1	G	2291	GLN	C-N-CA	5.08	134.41	121.70
1	I	2291	GLN	C-N-CA	5.06	134.34	121.70
1	E	2291	GLN	C-N-CA	5.05	134.32	121.70
1	B	2291	GLN	C-N-CA	5.05	134.32	121.70
1	E	4985	LEU	CA-CB-CG	5.00	126.81	115.30

There are no chirality outliers.

All (48) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	1676	LEU	Peptide
1	B	1690	ASP	Peptide
1	B	1712	TYR	Peptide
1	B	1828	ASP	Peptide
1	B	2291	GLN	Peptide
1	B	2343	GLY	Peptide
1	B	2472	LEU	Peptide
1	B	2807	TRP	Peptide
1	B	3971	GLY	Peptide
1	B	4228	ALA	Peptide
1	B	4666	VAL	Peptide
1	B	808	TYR	Peptide
1	E	1676	LEU	Peptide
1	E	1690	ASP	Peptide
1	E	1712	TYR	Peptide
1	E	1828	ASP	Peptide
1	E	2291	GLN	Peptide
1	E	2343	GLY	Peptide
1	E	2472	LEU	Peptide
1	E	2807	TRP	Peptide

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Mol	Chain	Res	Type	Group
1	E	3971	GLY	Peptide
1	E	4228	ALA	Peptide
1	E	4666	VAL	Peptide
1	E	808	TYR	Peptide
1	G	1676	LEU	Peptide
1	G	1690	ASP	Peptide
1	G	1712	TYR	Peptide
1	G	1828	ASP	Peptide
1	G	2291	GLN	Peptide
1	G	2343	GLY	Peptide
1	G	2472	LEU	Peptide
1	G	2807	TRP	Peptide
1	G	3971	GLY	Peptide
1	G	4228	ALA	Peptide
1	G	4666	VAL	Peptide
1	G	808	TYR	Peptide
1	I	1676	LEU	Peptide
1	I	1690	ASP	Peptide
1	I	1712	TYR	Peptide
1	I	1828	ASP	Peptide
1	I	2291	GLN	Peptide
1	I	2343	GLY	Peptide
1	I	2472	LEU	Peptide
1	I	2807	TRP	Peptide
1	I	3971	GLY	Peptide
1	I	4228	ALA	Peptide
1	I	4666	VAL	Peptide
1	I	808	TYR	Peptide

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	B	29369	0	24714	390	0
1	E	29369	0	24715	385	0
1	G	29369	0	24713	387	0
1	I	29369	0	24715	388	0
2	A	818	0	824	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	F	818	0	824	14	0
2	H	818	0	824	14	0
2	J	818	0	824	20	0
3	B	1	0	0	0	0
3	E	1	0	0	0	0
3	G	1	0	0	0	0
3	I	1	0	0	0	0
4	B	1	0	0	0	0
4	E	1	0	0	0	0
4	G	1	0	0	0	0
4	I	1	0	0	0	0
All	All	120756	0	102153	1593	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 7.

All (1593) 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:E:4674:GLU:HG3	1:E:4714:ASN:HB3	1.69	0.75
1:G:4674:GLU:HG3	1:G:4714:ASN:HB3	1.69	0.74
1:B:4674:GLU:HG3	1:B:4714:ASN:HB3	1.69	0.73
1:I:4674:GLU:HG3	1:I:4714:ASN:HB3	1.69	0.73
1:G:788:LYS:HG2	1:G:1630:CYS:H	1.56	0.71
1:I:4855:ALA:HA	1:I:4859:PHE:HB2	1.73	0.70
1:B:788:LYS:HG2	1:B:1630:CYS:H	1.56	0.70
1:E:788:LYS:HG2	1:E:1630:CYS:H	1.56	0.70
1:E:4855:ALA:HA	1:E:4859:PHE:HB2	1.73	0.70
1:I:788:LYS:HG2	1:I:1630:CYS:H	1.56	0.70
1:B:4855:ALA:HA	1:B:4859:PHE:HB2	1.73	0.69
1:G:4855:ALA:HA	1:G:4859:PHE:HB2	1.73	0.69
1:B:103:TYR:HB3	1:B:152:PRO:HD3	1.76	0.67
1:G:1671:ARG:NH2	1:G:1710:GLY:O	2.27	0.67
1:B:1671:ARG:NH2	1:B:1710:GLY:O	2.27	0.67
1:E:1671:ARG:NH2	1:E:1710:GLY:O	2.27	0.67
1:I:1671:ARG:NH2	1:I:1710:GLY:O	2.27	0.67
1:G:4957:LYS:HG2	1:G:4964:GLY:HA2	1.76	0.67
1:E:103:TYR:HB3	1:E:152:PRO:HD3	1.76	0.67
1:G:103:TYR:HB3	1:G:152:PRO:HD3	1.76	0.67
1:E:4961:CYS:SG	1:E:4978:HIS:NE2	2.68	0.67
1:E:4957:LYS:HG2	1:E:4964:GLY:HA2	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:281:ARG:NH2	1:B:309:THR:OG1	2.29	0.66
1:I:4957:LYS:HG2	1:I:4964:GLY:HA2	1.77	0.66
1:I:745:SER:HB2	1:I:758:ARG:HB3	1.78	0.66
1:G:745:SER:HB2	1:G:758:ARG:HB3	1.77	0.66
1:B:745:SER:HB2	1:B:758:ARG:HB3	1.78	0.66
1:B:2359:ARG:NH1	1:I:179:TYR:OH	2.29	0.66
1:E:745:SER:HB2	1:E:758:ARG:HB3	1.78	0.66
1:G:219:VAL:HG13	1:G:285:VAL:HG21	1.78	0.66
1:G:281:ARG:NH2	1:G:309:THR:OG1	2.29	0.66
1:B:4961:CYS:SG	1:B:4978:HIS:NE2	2.69	0.66
1:I:103:TYR:HB3	1:I:152:PRO:HD3	1.76	0.66
1:G:4961:CYS:SG	1:G:4978:HIS:NE2	2.69	0.66
1:I:4961:CYS:SG	1:I:4978:HIS:NE2	2.69	0.66
1:B:219:VAL:HG13	1:B:285:VAL:HG21	1.78	0.65
1:B:4957:LYS:HG2	1:B:4964:GLY:HA2	1.77	0.65
1:E:281:ARG:NH2	1:E:309:THR:OG1	2.29	0.65
1:B:256:ALA:HB1	1:B:286:THR:HG21	1.79	0.65
1:E:219:VAL:HG13	1:E:285:VAL:HG21	1.78	0.65
1:I:219:VAL:HG13	1:I:285:VAL:HG21	1.78	0.65
1:I:256:ALA:HB1	1:I:286:THR:HG21	1.79	0.65
1:G:1247:PRO:HA	1:G:1598:GLN:HA	1.79	0.65
1:I:650:VAL:HB	1:I:777:PHE:HB2	1.79	0.65
1:E:426:ARG:HB2	1:E:506:TYR:HA	1.79	0.65
1:E:650:VAL:HB	1:E:777:PHE:HB2	1.79	0.65
1:I:1247:PRO:HA	1:I:1598:GLN:HA	1.79	0.65
1:G:989:ALA:O	1:G:1035:ASN:ND2	2.30	0.64
1:E:379:HIS:HD2	1:E:382:GLY:H	1.44	0.64
1:E:989:ALA:O	1:E:1035:ASN:ND2	2.30	0.64
1:G:1092:PHE:HB3	1:G:1149:VAL:HB	1.79	0.64
1:B:379:HIS:HD2	1:B:382:GLY:H	1.44	0.64
1:B:989:ALA:O	1:B:1035:ASN:ND2	2.30	0.64
1:E:1092:PHE:HB3	1:E:1149:VAL:HB	1.79	0.64
1:I:111:HIS:HD2	1:I:114:SER:H	1.46	0.64
1:G:256:ALA:HB1	1:G:286:THR:HG21	1.79	0.64
1:E:1247:PRO:HA	1:E:1598:GLN:HA	1.79	0.64
1:E:256:ALA:HB1	1:E:286:THR:HG21	1.79	0.64
1:G:426:ARG:HB2	1:G:506:TYR:HA	1.79	0.64
1:B:650:VAL:HB	1:B:777:PHE:HB2	1.79	0.64
1:I:281:ARG:NH2	1:I:309:THR:OG1	2.29	0.64
1:B:426:ARG:HB2	1:B:506:TYR:HA	1.79	0.64
1:G:379:HIS:HD2	1:G:382:GLY:H	1.44	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:650:VAL:HB	1:G:777:PHE:HB2	1.79	0.64
1:E:606:LEU:O	1:E:617:ASN:ND2	2.31	0.64
1:B:111:HIS:HD2	1:B:114:SER:H	1.46	0.63
1:B:1247:PRO:HA	1:B:1598:GLN:HA	1.79	0.63
1:I:989:ALA:O	1:I:1035:ASN:ND2	2.30	0.63
1:I:606:LEU:O	1:I:617:ASN:ND2	2.31	0.63
1:G:111:HIS:HD2	1:G:114:SER:H	1.46	0.63
1:G:606:LEU:O	1:G:617:ASN:ND2	2.31	0.63
1:E:497:TYR:HB3	1:E:500:ALA:HB2	1.81	0.63
1:I:426:ARG:HB2	1:I:506:TYR:HA	1.79	0.63
1:I:379:HIS:HD2	1:I:382:GLY:H	1.45	0.63
1:I:4192:ARG:HH12	1:I:4982:GLU:HG2	1.64	0.63
1:G:4192:ARG:HH12	1:G:4982:GLU:HG2	1.64	0.63
1:I:2755:ILE:HD13	1:I:2810:LYS:HG2	1.81	0.63
1:G:742:ASP:HA	1:G:760:ASN:HD21	1.64	0.63
1:I:1092:PHE:HB3	1:I:1149:VAL:HB	1.79	0.62
1:G:315:CYS:SG	1:G:316:PHE:N	2.72	0.62
1:B:315:CYS:SG	1:B:316:PHE:N	2.72	0.62
1:B:1092:PHE:HB3	1:B:1149:VAL:HB	1.79	0.62
1:B:2755:ILE:HD13	1:B:2810:LYS:HG2	1.81	0.62
1:E:4860:ARG:HD2	1:G:4582:VAL:HG11	1.81	0.62
1:G:497:TYR:HB3	1:G:500:ALA:HB2	1.81	0.62
1:B:606:LEU:O	1:B:617:ASN:ND2	2.31	0.62
1:B:609:CYS:SG	1:B:610:ASN:N	2.73	0.62
1:I:315:CYS:SG	1:I:316:PHE:N	2.72	0.62
1:B:4582:VAL:HG11	1:I:4860:ARG:HD2	1.82	0.62
1:E:742:ASP:HA	1:E:760:ASN:HD21	1.64	0.62
1:I:497:TYR:HB3	1:I:500:ALA:HB2	1.81	0.62
1:E:111:HIS:HD2	1:E:114:SER:H	1.46	0.62
1:E:315:CYS:SG	1:E:316:PHE:N	2.72	0.62
1:B:742:ASP:HA	1:B:760:ASN:HD21	1.64	0.62
1:E:2755:ILE:HD13	1:E:2810:LYS:HG2	1.81	0.62
1:E:3937:TYR:O	1:E:4002:LYS:NZ	2.32	0.62
1:I:3937:TYR:O	1:I:4002:LYS:NZ	2.32	0.62
1:I:742:ASP:HA	1:I:760:ASN:HD21	1.64	0.61
1:E:2003:GLN:O	1:E:2007:ASN:ND2	2.34	0.61
1:G:2003:GLN:O	1:G:2007:ASN:ND2	2.34	0.61
1:B:4192:ARG:HH12	1:B:4982:GLU:HG2	1.63	0.61
1:I:2003:GLN:O	1:I:2007:ASN:ND2	2.34	0.61
1:G:2755:ILE:HD13	1:G:2810:LYS:HG2	1.81	0.61
1:B:497:TYR:HB3	1:B:500:ALA:HB2	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:853:PRO:HB3	1:I:1024:TYR:H	1.66	0.61
2:F:6:THR:HA	2:F:72:ALA:HA	1.82	0.61
1:G:609:CYS:SG	1:G:610:ASN:N	2.73	0.61
1:B:1519:UNK:HA	1:B:1526:UNK:HA	1.83	0.61
1:E:4192:ARG:HH12	1:E:4982:GLU:HG2	1.64	0.61
1:I:609:CYS:SG	1:I:610:ASN:N	2.73	0.61
1:G:1743:ARG:O	1:G:1964:ARG:NH2	2.33	0.61
1:E:1519:UNK:HA	1:E:1526:UNK:HA	1.82	0.61
1:E:4201:ASN:O	1:E:4205:TRP:N	2.34	0.61
1:I:635:THR:O	2:J:34:LYS:NZ	2.34	0.61
1:B:4201:ASN:O	1:B:4205:TRP:N	2.34	0.61
2:H:6:THR:HA	2:H:72:ALA:HA	1.82	0.61
1:B:853:PRO:HB3	1:B:1024:TYR:H	1.66	0.61
1:E:609:CYS:SG	1:E:610:ASN:N	2.73	0.61
1:E:1743:ARG:O	1:E:1964:ARG:NH2	2.33	0.61
1:B:1743:ARG:O	1:B:1964:ARG:NH2	2.33	0.61
1:G:3937:TYR:O	1:G:4002:LYS:NZ	2.32	0.61
1:B:1700:ASP:OD2	1:B:1708:ARG:NH2	2.35	0.60
1:B:3937:TYR:O	1:B:4002:LYS:NZ	2.32	0.60
2:J:6:THR:HA	2:J:72:ALA:HA	1.83	0.60
1:B:1232:ARG:HD2	1:B:1702:HIS:HB3	1.83	0.60
1:B:2003:GLN:O	1:B:2007:ASN:ND2	2.34	0.60
1:B:2452:ARG:HH12	1:I:177:GLU:HG3	1.66	0.60
1:E:1700:ASP:OD2	1:E:1708:ARG:NH2	2.35	0.60
1:I:4201:ASN:O	1:I:4205:TRP:N	2.34	0.60
1:G:1232:ARG:HD2	1:G:1702:HIS:HB3	1.83	0.60
1:B:4201:ASN:ND2	1:B:4993:MET:SD	2.75	0.60
1:E:179:TYR:OH	1:G:2359:ARG:NH1	2.34	0.60
1:G:853:PRO:HB3	1:G:1024:TYR:H	1.66	0.60
2:A:6:THR:HA	2:A:72:ALA:HA	1.82	0.60
1:I:1721:GLU:OE2	1:I:1725:ARG:NH2	2.32	0.60
1:E:646:PRO:HD2	1:E:779:PRO:HB2	1.83	0.60
1:I:4201:ASN:ND2	1:I:4993:MET:SD	2.75	0.60
1:E:4201:ASN:ND2	1:E:4993:MET:SD	2.75	0.60
1:I:1700:ASP:OD2	1:I:1708:ARG:NH2	2.35	0.60
1:I:842:PRO:HD3	1:I:1073:ARG:HG3	1.84	0.60
1:I:1743:ARG:O	1:I:1964:ARG:NH2	2.33	0.60
1:G:4201:ASN:ND2	1:G:4993:MET:SD	2.75	0.60
1:E:842:PRO:HD3	1:E:1073:ARG:HG3	1.84	0.59
1:E:1232:ARG:HD2	1:E:1702:HIS:HB3	1.83	0.59
1:I:1152:MET:HB2	1:I:1161:ILE:HB	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:3990:VAL:HG13	1:G:4051:SER:HB2	1.84	0.59
1:G:4201:ASN:O	1:G:4205:TRP:N	2.34	0.59
1:E:853:PRO:HB3	1:E:1024:TYR:H	1.66	0.59
1:E:4134:GLU:O	1:E:4137:ARG:NH2	2.35	0.59
1:B:4134:GLU:O	1:B:4137:ARG:NH2	2.35	0.59
1:I:1232:ARG:HD2	1:I:1702:HIS:HB3	1.83	0.59
1:G:646:PRO:HD2	1:G:779:PRO:HB2	1.83	0.59
1:B:842:PRO:HD3	1:B:1073:ARG:HG3	1.84	0.59
1:G:1101:ARG:HE	1:G:1115:LEU:HB3	1.67	0.59
1:G:1700:ASP:OD2	1:G:1708:ARG:NH2	2.35	0.59
1:E:1101:ARG:HE	1:E:1115:LEU:HB3	1.67	0.59
1:B:1152:MET:HB2	1:B:1161:ILE:HB	1.84	0.59
1:G:1152:MET:HB2	1:G:1161:ILE:HB	1.84	0.59
1:G:4134:GLU:O	1:G:4137:ARG:NH2	2.35	0.59
1:G:842:PRO:HD3	1:G:1073:ARG:HG3	1.84	0.59
1:E:1721:GLU:OE2	1:E:1725:ARG:NH2	2.32	0.59
1:B:3990:VAL:HG13	1:B:4051:SER:HB2	1.84	0.58
1:I:719:LEU:HD22	1:I:735:GLN:HG2	1.85	0.58
1:I:4134:GLU:O	1:I:4137:ARG:NH2	2.35	0.58
1:G:575:LEU:HD22	1:G:609:CYS:HB3	1.85	0.58
1:B:4056:GLU:HA	1:B:4059:LEU:HB2	1.85	0.58
2:A:26:TYR:OH	2:A:42:ARG:NH2	2.36	0.58
1:E:575:LEU:HD22	1:E:609:CYS:HB3	1.86	0.58
1:G:1519:UNK:HA	1:G:1526:UNK:HA	1.83	0.58
1:B:132:ALA:HA	1:B:194:SER:HB2	1.85	0.58
1:I:646:PRO:HD2	1:I:779:PRO:HB2	1.83	0.58
2:H:26:TYR:OH	2:H:42:ARG:NH2	2.36	0.58
1:E:3897:ASN:O	1:E:3901:ASN:ND2	2.37	0.58
1:E:3990:VAL:HG13	1:E:4051:SER:HB2	1.84	0.58
1:I:1101:ARG:HE	1:I:1115:LEU:HB3	1.67	0.58
1:I:3990:VAL:HG13	1:I:4051:SER:HB2	1.84	0.58
1:B:646:PRO:HD2	1:B:779:PRO:HB2	1.83	0.58
1:E:719:LEU:HD22	1:E:735:GLN:HG2	1.85	0.58
1:I:132:ALA:HA	1:I:194:SER:HB2	1.85	0.58
1:I:575:LEU:HD22	1:I:609:CYS:HB3	1.86	0.58
1:I:3897:ASN:O	1:I:3901:ASN:ND2	2.37	0.58
1:E:132:ALA:HA	1:E:194:SER:HB2	1.85	0.58
1:E:1152:MET:HB2	1:E:1161:ILE:HB	1.84	0.58
1:G:3897:ASN:O	1:G:3901:ASN:ND2	2.37	0.58
1:B:221:ARG:NH2	1:B:255:HIS:O	2.37	0.58
1:B:1101:ARG:HE	1:B:1115:LEU:HB3	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2189:LYS:HA	1:B:2192:TYR:HD2	1.69	0.58
1:B:575:LEU:HD22	1:B:609:CYS:HB3	1.86	0.57
1:B:1808:ARG:NH1	1:B:1853:ILE:O	2.37	0.57
1:E:4056:GLU:HA	1:E:4059:LEU:HB2	1.85	0.57
2:J:26:TYR:OH	2:J:42:ARG:NH2	2.36	0.57
1:E:2189:LYS:HA	1:E:2192:TYR:HD2	1.69	0.57
1:I:671:VAL:HG22	1:I:740:PRO:HG3	1.87	0.57
1:G:2022:PRO:HB2	1:G:2024:PRO:HD2	1.87	0.57
2:F:26:TYR:OH	2:F:42:ARG:NH2	2.36	0.57
1:B:3897:ASN:O	1:B:3901:ASN:ND2	2.37	0.57
1:I:1667:LEU:HD23	1:I:1671:ARG:HH12	1.70	0.57
1:G:132:ALA:HA	1:G:194:SER:HB2	1.85	0.57
1:G:2189:LYS:HA	1:G:2192:TYR:HD2	1.69	0.57
1:G:4673:ARG:HH22	1:G:4698:LYS:HB2	1.69	0.57
1:B:671:VAL:HG22	1:B:740:PRO:HG3	1.87	0.57
1:I:4056:GLU:HA	1:I:4059:LEU:HB2	1.85	0.57
1:I:4813:LEU:HD12	1:I:4816:ILE:HD11	1.87	0.57
1:B:2737:PRO:O	1:B:2888:ARG:NH2	2.37	0.57
1:E:671:VAL:HG22	1:E:740:PRO:HG3	1.87	0.57
1:E:2737:PRO:O	1:E:2888:ARG:NH2	2.37	0.57
1:I:2189:LYS:HA	1:I:2192:TYR:HD2	1.69	0.57
1:G:719:LEU:HD22	1:G:735:GLN:HG2	1.85	0.57
2:F:23:VAL:HG22	2:F:47:LYS:HG2	1.87	0.57
2:A:23:VAL:HG22	2:A:47:LYS:HG2	1.87	0.57
2:J:23:VAL:HG22	2:J:47:LYS:HG2	1.87	0.57
1:B:1667:LEU:HD23	1:B:1671:ARG:HH12	1.69	0.57
1:B:4673:ARG:HH22	1:B:4698:LYS:HB2	1.69	0.57
1:B:4813:LEU:HD12	1:B:4816:ILE:HD11	1.87	0.57
1:E:4813:LEU:HD12	1:E:4816:ILE:HD11	1.87	0.57
1:I:221:ARG:NH2	1:I:255:HIS:O	2.37	0.57
1:I:2359:ARG:NH1	1:G:179:TYR:OH	2.37	0.57
1:I:2737:PRO:O	1:I:2888:ARG:NH2	2.37	0.57
1:G:1721:GLU:OE2	1:G:1725:ARG:NH2	2.32	0.57
1:G:2737:PRO:O	1:G:2888:ARG:NH2	2.38	0.57
1:G:4813:LEU:HD12	1:G:4816:ILE:HD11	1.87	0.57
1:B:1679:ASN:ND2	1:B:1798:LEU:O	2.38	0.57
1:I:1519:UNK:HA	1:I:1526:UNK:HA	1.85	0.57
1:G:57:ASN:HD22	1:G:308:HIS:HB2	1.69	0.57
1:G:717:ASP:OD1	1:G:720:HIS:ND1	2.38	0.57
1:E:1109:LEU:HA	1:E:1120:LEU:HD21	1.87	0.57
1:G:671:VAL:HG22	1:G:740:PRO:HG3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:719:LEU:HD22	1:B:735:GLN:HG2	1.85	0.57
1:B:1960:ALA:O	1:B:1964:ARG:NE	2.38	0.57
1:E:1679:ASN:ND2	1:E:1798:LEU:O	2.38	0.57
1:I:1109:LEU:HA	1:I:1120:LEU:HD21	1.87	0.57
1:G:1079:LYS:NZ	1:G:1107:PRO:O	2.36	0.57
1:B:2042:CYS:SG	1:B:2043:GLY:N	2.78	0.56
1:E:1960:ALA:O	1:E:1964:ARG:NE	2.39	0.56
1:I:4673:ARG:HH22	1:I:4698:LYS:HB2	1.69	0.56
1:B:695:TYR:OH	1:B:1073:ARG:NH1	2.38	0.56
1:B:717:ASP:OD1	1:B:720:HIS:ND1	2.38	0.56
1:E:4151:SER:HA	1:E:4160:LEU:HD21	1.87	0.56
1:I:1679:ASN:ND2	1:I:1798:LEU:O	2.38	0.56
1:I:2022:PRO:HB2	1:I:2024:PRO:HD2	1.87	0.56
1:G:1808:ARG:NH1	1:G:1853:ILE:O	2.37	0.56
2:H:23:VAL:HG22	2:H:47:LYS:HG2	1.87	0.56
1:B:57:ASN:HD22	1:B:308:HIS:HB2	1.69	0.56
1:E:2022:PRO:HB2	1:E:2024:PRO:HD2	1.87	0.56
1:E:4673:ARG:HH22	1:E:4698:LYS:HB2	1.69	0.56
1:I:57:ASN:HD22	1:I:308:HIS:HB2	1.69	0.56
1:I:695:TYR:OH	1:I:1073:ARG:NH1	2.38	0.56
1:I:717:ASP:OD1	1:I:720:HIS:ND1	2.38	0.56
1:G:972:LEU:O	1:G:1044:ARG:NH2	2.39	0.56
1:G:1667:LEU:HD23	1:G:1671:ARG:HH12	1.70	0.56
1:G:4056:GLU:HA	1:G:4059:LEU:HB2	1.85	0.56
1:G:4151:SER:HA	1:G:4160:LEU:HD21	1.87	0.56
1:B:4151:SER:HA	1:B:4160:LEU:HD21	1.86	0.56
1:B:4933:GLN:HE22	1:E:4937:ILE:HD11	1.71	0.56
1:E:2318:TYR:HH	1:E:2414:ASN:N	2.04	0.56
1:G:3764:LEU:HG	1:G:3767:GLN:HB3	1.88	0.56
1:E:57:ASN:HD22	1:E:308:HIS:HB2	1.69	0.56
1:I:1808:ARG:NH1	1:I:1853:ILE:O	2.37	0.56
1:G:221:ARG:NH2	1:G:255:HIS:O	2.37	0.56
1:G:4184:MET:HB3	1:G:4190:ILE:HD13	1.87	0.56
1:E:1808:ARG:NH1	1:E:1853:ILE:O	2.38	0.56
1:I:4151:SER:HA	1:I:4160:LEU:HD21	1.87	0.56
2:J:27:THR:HB	2:J:100:ASP:HB3	1.87	0.56
1:B:1079:LYS:NZ	1:B:1107:PRO:O	2.36	0.56
1:G:695:TYR:OH	1:G:1073:ARG:NH1	2.38	0.56
1:G:1679:ASN:ND2	1:G:1798:LEU:O	2.38	0.56
2:A:27:THR:HB	2:A:100:ASP:HB3	1.87	0.56
1:B:4184:MET:HB3	1:B:4190:ILE:HD13	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:110:ARG:HH21	1:E:115:ARG:HB3	1.71	0.56
1:E:717:ASP:OD1	1:E:720:HIS:ND1	2.38	0.56
1:E:1093:GLU:OE1	1:E:1201:HIS:NE2	2.38	0.56
1:I:1777:PHE:HA	1:I:1799:SER:HB2	1.88	0.56
1:G:110:ARG:HH21	1:G:115:ARG:HB3	1.71	0.56
1:G:1973:GLN:O	1:G:1977:TYR:N	2.36	0.56
1:B:2318:TYR:HH	1:B:2414:ASN:N	2.04	0.56
1:E:534:ARG:NH2	1:E:573:GLU:OE2	2.39	0.56
1:E:1079:LYS:NZ	1:E:1107:PRO:O	2.36	0.56
1:E:3889:GLN:OE1	1:E:3960:GLN:NE2	2.39	0.56
1:E:4232:GLU:OE2	1:E:5017:ARG:NH1	2.39	0.56
1:I:206:CYS:SG	1:I:207:SER:N	2.78	0.56
1:I:451:TYR:O	1:I:474:ARG:NH1	2.39	0.56
1:G:1777:PHE:HA	1:G:1799:SER:HB2	1.87	0.56
1:B:2022:PRO:HB2	1:B:2024:PRO:HD2	1.87	0.55
1:E:1667:LEU:HD23	1:E:1671:ARG:HH12	1.69	0.55
1:G:1109:LEU:HA	1:G:1120:LEU:HD21	1.87	0.55
1:G:1960:ALA:O	1:G:1964:ARG:NE	2.38	0.55
1:G:4687:TYR:OH	1:G:4699:GLY:O	2.25	0.55
1:B:1109:LEU:HA	1:B:1120:LEU:HD21	1.87	0.55
1:E:221:ARG:NH2	1:E:255:HIS:O	2.37	0.55
1:I:23:GLN:OE1	1:I:203:ASN:ND2	2.40	0.55
1:I:647:ASN:ND2	1:I:820:ARG:O	2.36	0.55
1:G:2318:TYR:HH	1:G:2414:ASN:N	2.04	0.55
1:E:451:TYR:O	1:E:474:ARG:NH1	2.39	0.55
1:I:2318:TYR:HH	1:I:2414:ASN:N	2.04	0.55
1:G:20:VAL:HG12	1:G:204:PRO:HA	1.89	0.55
1:B:647:ASN:ND2	1:B:820:ARG:O	2.36	0.55
1:B:3889:GLN:OE1	1:B:3960:GLN:NE2	2.39	0.55
1:E:683:ARG:HB2	1:E:782:SER:HB3	1.89	0.55
1:E:695:TYR:OH	1:E:1073:ARG:NH1	2.38	0.55
1:E:972:LEU:O	1:E:1044:ARG:NH2	2.39	0.55
1:E:1973:GLN:O	1:E:1977:TYR:N	2.36	0.55
1:G:3889:GLN:OE1	1:G:3960:GLN:NE2	2.39	0.55
2:F:27:THR:HB	2:F:100:ASP:HB3	1.87	0.55
1:B:110:ARG:HH21	1:B:115:ARG:HB3	1.70	0.55
1:B:488:LEU:O	1:B:492:ASP:N	2.39	0.55
1:B:4232:GLU:OE2	1:B:5017:ARG:NH1	2.39	0.55
1:E:23:GLN:OE1	1:E:203:ASN:ND2	2.40	0.55
1:E:1777:PHE:HA	1:E:1799:SER:HB2	1.87	0.55
1:I:887:ILE:HG21	1:I:959:TYR:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:1960:ALA:O	1:I:1964:ARG:NE	2.38	0.55
1:G:206:CYS:SG	1:G:207:SER:N	2.78	0.55
1:B:23:GLN:OE1	1:B:203:ASN:ND2	2.40	0.55
1:E:4184:MET:HB3	1:E:4190:ILE:HD13	1.87	0.55
1:E:4687:TYR:OH	1:E:4699:GLY:O	2.25	0.55
1:B:887:ILE:HG21	1:B:959:TYR:HA	1.88	0.55
1:E:20:VAL:HG12	1:E:204:PRO:HA	1.89	0.55
1:E:887:ILE:HG21	1:E:959:TYR:HA	1.88	0.55
1:E:1931:LEU:HB3	1:E:1935:VAL:HB	1.89	0.55
1:E:2042:CYS:SG	1:E:2043:GLY:N	2.78	0.55
1:I:3932:ASP:HA	1:I:3935:TRP:HD1	1.72	0.55
1:G:887:ILE:HG21	1:G:959:TYR:HA	1.88	0.55
1:G:3932:ASP:HA	1:G:3935:TRP:HD1	1.72	0.55
1:B:972:LEU:O	1:B:1044:ARG:NH2	2.39	0.55
1:B:1093:GLU:OE1	1:B:1201:HIS:NE2	2.39	0.55
1:B:1777:PHE:HA	1:B:1799:SER:HB2	1.87	0.55
1:I:110:ARG:HH21	1:I:115:ARG:HB3	1.70	0.55
1:I:4184:MET:HB3	1:I:4190:ILE:HD13	1.87	0.55
1:B:641:VAL:HG21	1:B:705:ASN:HA	1.89	0.55
1:B:3764:LEU:HG	1:B:3767:GLN:HB3	1.88	0.55
1:E:3932:ASP:HA	1:E:3935:TRP:HD1	1.72	0.55
1:I:641:VAL:HG21	1:I:705:ASN:HA	1.89	0.55
1:I:3889:GLN:OE1	1:I:3960:GLN:NE2	2.39	0.55
1:I:4687:TYR:OH	1:I:4699:GLY:O	2.25	0.55
1:G:2042:CYS:SG	1:G:2043:GLY:N	2.78	0.55
1:B:2281:ILE:HG23	1:B:2341:VAL:HG11	1.89	0.55
1:E:647:ASN:ND2	1:E:820:ARG:O	2.36	0.55
1:I:283:ARG:HH21	1:I:402:ARG:HH12	1.55	0.55
1:I:534:ARG:NH2	1:I:573:GLU:OE2	2.39	0.55
1:I:1667:LEU:O	1:I:1671:ARG:NH1	2.40	0.55
1:I:1973:GLN:O	1:I:1977:TYR:N	2.36	0.55
1:B:683:ARG:HB2	1:B:782:SER:HB3	1.89	0.54
1:I:1079:LYS:NZ	1:I:1107:PRO:O	2.36	0.54
1:I:1093:GLU:OE1	1:I:1201:HIS:NE2	2.39	0.54
1:I:4232:GLU:OE2	1:I:5017:ARG:NH1	2.39	0.54
1:G:683:ARG:HB2	1:G:782:SER:HB3	1.89	0.54
1:G:2748:PRO:HD2	1:G:2751:LEU:HD12	1.89	0.54
1:B:1667:LEU:O	1:B:1671:ARG:NH1	2.40	0.54
1:I:2748:PRO:HD2	1:I:2751:LEU:HD12	1.89	0.54
1:G:23:GLN:OE1	1:G:203:ASN:ND2	2.39	0.54
1:G:1931:LEU:HB3	1:G:1935:VAL:HB	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:87:HIS:N	2:F:91:ILE:O	2.41	0.54
1:I:20:VAL:HG12	1:I:204:PRO:HA	1.89	0.54
2:H:27:THR:HB	2:H:100:ASP:HB3	1.87	0.54
1:B:4687:TYR:OH	1:B:4699:GLY:O	2.25	0.54
1:G:1667:LEU:O	1:G:1671:ARG:NH1	2.40	0.54
1:B:1931:LEU:HB3	1:B:1935:VAL:HB	1.89	0.54
1:E:3764:LEU:HG	1:E:3767:GLN:HB3	1.88	0.54
2:J:87:HIS:N	2:J:91:ILE:O	2.41	0.54
1:B:551:LEU:HD11	1:B:589:LEU:HD13	1.89	0.54
1:B:3932:ASP:HA	1:B:3935:TRP:HD1	1.72	0.54
1:E:206:CYS:SG	1:E:207:SER:N	2.78	0.54
1:I:313:SER:HB3	1:I:351:VAL:HB	1.90	0.54
1:I:619:ASP:OD1	1:I:1680:ARG:NH1	2.41	0.54
1:I:2042:CYS:SG	1:I:2043:GLY:N	2.78	0.54
2:H:87:HIS:N	2:H:91:ILE:O	2.41	0.54
1:B:19:GLU:HB2	1:B:206:CYS:HB3	1.90	0.54
1:G:2281:ILE:HG23	1:G:2341:VAL:HG11	1.89	0.54
1:G:4834:GLY:HA2	1:G:4837:LEU:HD12	1.90	0.54
1:B:731:THR:OG1	1:B:1519:UNK:O	2.26	0.54
1:E:488:LEU:O	1:E:492:ASP:N	2.39	0.54
1:E:1667:LEU:O	1:E:1671:ARG:NH1	2.40	0.54
1:E:2748:PRO:HD2	1:E:2751:LEU:HD12	1.89	0.54
1:I:2281:ILE:HG23	1:I:2341:VAL:HG11	1.89	0.54
1:I:3764:LEU:HG	1:I:3767:GLN:HB3	1.88	0.54
1:I:4567:LEU:HD12	1:I:4816:ILE:HD12	1.90	0.54
1:G:313:SER:HB3	1:G:351:VAL:HB	1.90	0.54
1:G:4232:GLU:OE2	1:G:5017:ARG:NH1	2.39	0.54
1:E:313:SER:HB3	1:E:351:VAL:HB	1.90	0.54
2:A:87:HIS:N	2:A:91:ILE:O	2.40	0.54
1:B:20:VAL:HG12	1:B:204:PRO:HA	1.89	0.54
1:B:206:CYS:SG	1:B:207:SER:N	2.78	0.54
1:B:451:TYR:O	1:B:474:ARG:NH1	2.39	0.54
1:B:4567:LEU:HD12	1:B:4816:ILE:HD12	1.90	0.54
1:E:4567:LEU:HD12	1:E:4816:ILE:HD12	1.90	0.54
1:G:488:LEU:O	1:G:492:ASP:N	2.39	0.54
1:I:972:LEU:O	1:I:1044:ARG:NH2	2.39	0.53
1:G:19:GLU:HB2	1:G:206:CYS:HB3	1.90	0.53
1:G:619:ASP:OD1	1:G:1680:ARG:NH1	2.41	0.53
1:G:4178:LEU:HD11	1:G:4194:TYR:HB3	1.90	0.53
1:G:4567:LEU:HD12	1:G:4816:ILE:HD12	1.90	0.53
1:B:313:SER:HB3	1:B:351:VAL:HB	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1111:PRO:HD3	1:B:1605:TRP:HE1	1.74	0.53
1:E:177:GLU:HG3	1:G:2452:ARG:HH12	1.72	0.53
1:E:641:VAL:HG21	1:E:705:ASN:HA	1.89	0.53
1:I:19:GLU:HB2	1:I:206:CYS:HB3	1.89	0.53
1:I:551:LEU:HD11	1:I:589:LEU:HD13	1.89	0.53
1:G:641:VAL:HG21	1:G:705:ASN:HA	1.89	0.53
1:G:647:ASN:ND2	1:G:820:ARG:O	2.36	0.53
1:E:283:ARG:HH21	1:E:402:ARG:HH12	1.55	0.53
1:E:683:ARG:NH1	1:E:707:VAL:O	2.40	0.53
1:E:4178:LEU:HD11	1:E:4194:TYR:HB3	1.90	0.53
1:E:4834:GLY:HA2	1:E:4837:LEU:HD12	1.90	0.53
1:I:683:ARG:HB2	1:I:782:SER:HB3	1.89	0.53
1:G:551:LEU:HD11	1:G:589:LEU:HD13	1.89	0.53
1:I:1111:PRO:HD3	1:I:1605:TRP:HE1	1.74	0.53
1:I:1649:ASP:HB3	1:I:1652:GLU:HG2	1.91	0.53
1:B:41:GLY:O	1:B:45:ARG:NH1	2.42	0.53
1:I:488:LEU:O	1:I:492:ASP:N	2.39	0.53
1:I:1931:LEU:HB3	1:I:1935:VAL:HB	1.89	0.53
1:G:534:ARG:NH2	1:G:573:GLU:OE2	2.39	0.53
1:G:838:HIS:HA	1:G:1201:HIS:HB3	1.90	0.53
1:B:534:ARG:NH2	1:B:573:GLU:OE2	2.39	0.53
1:E:19:GLU:HB2	1:E:206:CYS:HB3	1.90	0.53
1:B:283:ARG:HH21	1:B:402:ARG:HH12	1.55	0.53
1:B:619:ASP:OD1	1:B:1680:ARG:NH1	2.41	0.53
1:B:4834:GLY:HA2	1:B:4837:LEU:HD12	1.90	0.53
1:E:41:GLY:O	1:E:45:ARG:NH1	2.42	0.53
1:I:4834:GLY:HA2	1:I:4837:LEU:HD12	1.90	0.53
1:B:1032:LYS:O	1:B:1036:ARG:N	2.40	0.53
1:B:4178:LEU:HD11	1:B:4194:TYR:HB3	1.90	0.53
1:E:551:LEU:HD11	1:E:589:LEU:HD13	1.89	0.53
1:E:2281:ILE:HG23	1:E:2341:VAL:HG11	1.89	0.53
1:I:683:ARG:NH1	1:I:707:VAL:O	2.40	0.53
1:I:4178:LEU:HD11	1:I:4194:TYR:HB3	1.90	0.53
1:G:451:TYR:O	1:G:474:ARG:NH1	2.39	0.53
1:G:1111:PRO:HD3	1:G:1605:TRP:HE1	1.74	0.53
1:I:4584:ASP:HA	1:I:4627:MET:HA	1.91	0.53
1:G:728:ARG:NH2	1:G:1527:UNK:O	2.42	0.53
1:G:1649:ASP:HB3	1:G:1652:GLU:HG2	1.91	0.53
1:G:3946:GLN:OE1	1:G:3950:ASN:ND2	2.42	0.53
1:B:2748:PRO:HD2	1:B:2751:LEU:HD12	1.89	0.53
1:G:463:GLU:OE2	1:G:467:LYS:NZ	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1093:GLU:OE1	1:G:1201:HIS:NE2	2.39	0.53
1:B:463:GLU:OE2	1:B:467:LYS:NZ	2.42	0.52
1:B:1649:ASP:HB3	1:B:1652:GLU:HG2	1.91	0.52
1:E:4584:ASP:HA	1:E:4627:MET:HA	1.91	0.52
1:I:278:GLN:N	1:I:315:CYS:SG	2.82	0.52
1:B:3973:CYS:SG	1:B:3976:ASN:ND2	2.82	0.52
1:E:123:THR:OG1	1:E:134:ASP:OD1	2.28	0.52
1:E:463:GLU:OE2	1:E:467:LYS:NZ	2.42	0.52
1:E:3973:CYS:SG	1:E:3976:ASN:ND2	2.82	0.52
1:I:838:HIS:HA	1:I:1201:HIS:HB3	1.90	0.52
1:E:731:THR:OG1	1:E:1519:UNK:O	2.27	0.52
1:E:838:HIS:HA	1:E:1201:HIS:HB3	1.90	0.52
1:E:1131:ARG:NH1	1:E:1178:ALA:O	2.42	0.52
1:E:3946:GLN:OE1	1:E:3950:ASN:ND2	2.42	0.52
1:I:41:GLY:O	1:I:45:ARG:NH1	2.42	0.52
1:B:1077:ALA:HB3	1:B:1189:LEU:HD11	1.92	0.52
1:B:2420:HIS:ND1	1:B:2493:UNK:O	2.32	0.52
1:E:728:ARG:NH2	1:E:1527:UNK:O	2.42	0.52
1:I:1032:LYS:O	1:I:1036:ARG:N	2.40	0.52
1:G:41:GLY:O	1:G:45:ARG:NH1	2.42	0.52
1:B:1694:LEU:O	1:B:1712:TYR:OH	2.24	0.52
1:B:2347:GLU:O	1:B:2351:ASN:N	2.43	0.52
1:E:1111:PRO:HD3	1:E:1605:TRP:HE1	1.74	0.52
1:I:221:ARG:NE	1:I:258:SER:OG	2.43	0.52
1:G:1653:LEU:HB3	1:G:1660:GLN:HB2	1.91	0.52
1:B:395:GLN:NE2	1:B:397:GLU:OE1	2.43	0.52
1:B:3946:GLN:OE1	1:B:3950:ASN:ND2	2.42	0.52
1:E:40:GLU:HB3	1:E:44:ASN:HB3	1.92	0.52
1:I:123:THR:OG1	1:I:134:ASP:OD1	2.28	0.52
1:I:3946:GLN:OE1	1:I:3950:ASN:ND2	2.42	0.52
1:I:4560:TYR:O	1:I:4564:PHE:N	2.41	0.52
1:G:40:GLU:HB3	1:G:44:ASN:HB3	1.92	0.52
1:G:1077:ALA:HB3	1:G:1189:LEU:HD11	1.92	0.52
1:G:1665:HIS:HA	1:G:1668:ARG:HG2	1.92	0.52
1:B:40:GLU:HB3	1:B:44:ASN:HB3	1.92	0.52
1:B:838:HIS:HA	1:B:1201:HIS:HB3	1.90	0.52
1:B:4155:PRO:HD2	1:B:5036:LEU:HD23	1.92	0.52
1:E:1649:ASP:HB3	1:E:1652:GLU:HG2	1.91	0.52
1:E:2457:LEU:HD23	1:E:2460:LEU:HD12	1.92	0.52
1:E:4155:PRO:HD2	1:E:5036:LEU:HD23	1.92	0.52
1:I:463:GLU:OE2	1:I:467:LYS:NZ	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:3973:CYS:SG	1:I:3976:ASN:ND2	2.83	0.52
1:G:283:ARG:HH21	1:G:402:ARG:HH12	1.55	0.52
1:G:2347:GLU:O	1:G:2351:ASN:N	2.43	0.52
1:B:1653:LEU:HB3	1:B:1660:GLN:HB2	1.91	0.52
1:E:1077:ALA:HB3	1:E:1189:LEU:HD11	1.92	0.52
1:I:1653:LEU:HB3	1:I:1660:GLN:HB2	1.91	0.52
1:G:1032:LYS:O	1:G:1036:ARG:N	2.40	0.52
1:B:1764:GLY:HA3	1:B:1859:VAL:HG11	1.92	0.52
1:E:395:GLN:NE2	1:E:397:GLU:OE1	2.43	0.52
1:E:619:ASP:OD1	1:E:1680:ARG:NH1	2.41	0.52
1:E:978:THR:HB	1:E:980:ALA:H	1.75	0.52
1:E:1665:HIS:HA	1:E:1668:ARG:HG2	1.92	0.52
1:I:40:GLU:HB3	1:I:44:ASN:HB3	1.92	0.52
1:I:1131:ARG:NH1	1:I:1178:ALA:O	2.42	0.52
1:I:1764:GLY:HA3	1:I:1859:VAL:HG11	1.92	0.52
1:I:4075:GLU:HA	1:I:4078:GLN:HB2	1.92	0.52
1:G:3973:CYS:SG	1:G:3976:ASN:ND2	2.82	0.52
1:B:123:THR:OG1	1:B:134:ASP:OD1	2.28	0.51
1:B:1237:TRP:HH2	1:B:1652:GLU:HA	1.75	0.51
1:B:1721:GLU:OE2	1:B:1725:ARG:NH2	2.32	0.51
1:B:4584:ASP:HA	1:B:4627:MET:HA	1.91	0.51
1:I:1271:ARG:HA	1:I:1471:UNK:HA	1.91	0.51
1:G:978:THR:HB	1:G:980:ALA:H	1.75	0.51
1:E:1271:ARG:HA	1:E:1471:UNK:HA	1.91	0.51
1:I:1077:ALA:HB3	1:I:1189:LEU:HD11	1.92	0.51
1:E:278:GLN:N	1:E:315:CYS:SG	2.82	0.51
1:E:309:THR:O	1:E:313:SER:OG	2.27	0.51
1:E:1764:GLY:HA3	1:E:1859:VAL:HG11	1.92	0.51
1:I:952:LYS:HB3	1:I:968:ALA:HB1	1.92	0.51
1:I:2347:GLU:O	1:I:2351:ASN:N	2.43	0.51
1:G:4155:PRO:HD2	1:G:5036:LEU:HD23	1.92	0.51
2:F:74:LEU:HB2	2:F:99:PHE:HB2	1.92	0.51
1:E:2347:GLU:O	1:E:2351:ASN:N	2.43	0.51
1:G:4075:GLU:HA	1:G:4078:GLN:HB2	1.92	0.51
1:B:111:HIS:CD2	1:B:114:SER:H	2.28	0.51
1:B:2457:LEU:HD23	1:B:2460:LEU:HD12	1.92	0.51
1:G:278:GLN:N	1:G:315:CYS:SG	2.82	0.51
1:B:1131:ARG:NH1	1:B:1178:ALA:O	2.42	0.51
1:E:61:ASP:OD1	1:E:402:ARG:NH2	2.44	0.51
1:E:1653:LEU:HB3	1:E:1660:GLN:HB2	1.91	0.51
1:E:4849:TYR:HE1	1:G:4578:LEU:HD21	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:728:ARG:NH2	1:I:1527:UNK:O	2.43	0.51
1:I:1237:TRP:HH2	1:I:1652:GLU:HA	1.76	0.51
1:I:4155:PRO:HD2	1:I:5036:LEU:HD23	1.92	0.51
1:G:242:ARG:NH1	1:G:481:GLU:OE1	2.39	0.51
2:J:74:LEU:HB2	2:J:99:PHE:HB2	1.92	0.51
1:E:4697:VAL:O	1:E:4701:TRP:N	2.44	0.51
1:G:1764:GLY:HA3	1:G:1859:VAL:HG11	1.92	0.51
1:G:2457:LEU:HD23	1:G:2460:LEU:HD12	1.92	0.51
1:B:952:LYS:HB3	1:B:968:ALA:HB1	1.92	0.51
1:B:978:THR:HB	1:B:980:ALA:H	1.75	0.51
1:B:1665:HIS:HA	1:B:1668:ARG:HG2	1.92	0.51
1:E:952:LYS:HB3	1:E:968:ALA:HB1	1.92	0.51
1:E:1237:TRP:HH2	1:E:1652:GLU:HA	1.75	0.51
1:E:1729:SER:O	1:E:2163:ARG:NH1	2.44	0.51
1:E:1865:MET:HB3	1:E:1926:LEU:HB2	1.93	0.51
1:G:952:LYS:HB3	1:G:968:ALA:HB1	1.92	0.51
1:B:61:ASP:OD1	1:B:402:ARG:NH2	2.44	0.51
1:G:4584:ASP:HA	1:G:4627:MET:HA	1.91	0.51
2:H:74:LEU:HB2	2:H:99:PHE:HB2	1.92	0.51
1:E:2927:LEU:HD23	1:E:2930:LEU:HD12	1.93	0.50
1:G:123:THR:OG1	1:G:134:ASP:OD1	2.28	0.50
1:B:683:ARG:NH1	1:B:707:VAL:O	2.40	0.50
1:B:1698:LEU:N	1:B:1712:TYR:OH	2.45	0.50
1:B:1973:GLN:O	1:B:1977:TYR:N	2.36	0.50
1:B:3762:ARG:H	1:B:4754:ASN:HA	1.76	0.50
1:G:4885:PHE:HE2	1:G:4901:ILE:HD11	1.77	0.50
1:B:1865:MET:HB3	1:B:1926:LEU:HB2	1.93	0.50
1:E:221:ARG:NE	1:E:258:SER:OG	2.43	0.50
1:E:1698:LEU:N	1:E:1712:TYR:OH	2.45	0.50
1:E:2803:GLU:OE2	1:E:2806:ARG:NH1	2.44	0.50
1:E:4885:PHE:HE2	1:E:4901:ILE:HD11	1.77	0.50
1:I:731:THR:OG1	1:I:1519:UNK:O	2.30	0.50
1:I:1698:LEU:N	1:I:1712:TYR:OH	2.45	0.50
1:I:2803:GLU:OE2	1:I:2806:ARG:NH1	2.44	0.50
1:I:4582:VAL:HG11	1:G:4860:ARG:HD2	1.94	0.50
2:H:2:VAL:HG21	2:H:61:GLU:HB2	1.94	0.50
1:B:1729:SER:O	1:B:2163:ARG:NH1	2.45	0.50
1:B:3781:GLN:HA	1:B:3784:SER:HB3	1.94	0.50
1:E:4075:GLU:HA	1:E:4078:GLN:HB2	1.91	0.50
1:I:1848:LEU:HB3	1:I:1853:ILE:HB	1.94	0.50
1:I:4885:PHE:HE2	1:I:4901:ILE:HD11	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4697:VAL:O	1:G:4701:TRP:N	2.44	0.50
1:B:886:ARG:HB3	1:B:891:TRP:HB2	1.94	0.50
1:I:1729:SER:O	1:I:2163:ARG:NH1	2.44	0.50
1:I:4697:VAL:O	1:I:4701:TRP:N	2.44	0.50
1:G:1237:TRP:HH2	1:G:1652:GLU:HA	1.75	0.50
2:F:2:VAL:HG21	2:F:61:GLU:HB2	1.94	0.50
1:B:2803:GLU:OE2	1:B:2806:ARG:NH1	2.44	0.50
1:E:1713:ASP:O	1:E:1717:SER:N	2.44	0.50
1:I:1865:MET:HB3	1:I:1926:LEU:HB2	1.93	0.50
1:I:2457:LEU:HD23	1:I:2460:LEU:HD12	1.92	0.50
1:G:3817:LEU:HD13	1:G:3899:PHE:HD1	1.77	0.50
1:B:309:THR:O	1:B:313:SER:OG	2.27	0.50
1:B:728:ARG:NH2	1:B:1527:UNK:O	2.45	0.50
1:B:4075:GLU:HA	1:B:4078:GLN:HB2	1.92	0.50
1:E:3780:LEU:HD11	1:E:3816:MET:HG3	1.94	0.50
1:I:61:ASP:OD1	1:I:402:ARG:NH2	2.44	0.50
1:G:61:ASP:OD1	1:G:402:ARG:NH2	2.44	0.50
1:G:2803:GLU:OE2	1:G:2806:ARG:NH1	2.44	0.50
1:G:3780:LEU:HD11	1:G:3816:MET:HG3	1.94	0.50
2:A:74:LEU:HB2	2:A:99:PHE:HB2	1.92	0.50
1:B:221:ARG:NE	1:B:258:SER:OG	2.43	0.50
1:B:278:GLN:N	1:B:315:CYS:SG	2.82	0.50
1:E:3762:ARG:H	1:E:4754:ASN:HA	1.76	0.50
1:I:1665:HIS:HA	1:I:1668:ARG:HG2	1.92	0.50
1:I:2927:LEU:HD23	1:I:2930:LEU:HD12	1.93	0.50
1:I:3840:SER:OG	1:I:3875:MET:O	2.24	0.50
1:G:1865:MET:HB3	1:G:1926:LEU:HB2	1.94	0.50
1:B:3780:LEU:HD11	1:B:3816:MET:HG3	1.94	0.50
1:I:395:GLN:NE2	1:I:397:GLU:OE1	2.43	0.50
1:I:2770:LYS:HB3	1:I:2775:TRP:HB2	1.94	0.50
1:G:886:ARG:HB3	1:G:891:TRP:HB2	1.94	0.50
1:G:1131:ARG:NH1	1:G:1178:ALA:O	2.42	0.50
1:G:1698:LEU:N	1:G:1712:TYR:OH	2.44	0.50
1:G:2758:PHE:O	1:G:2762:THR:N	2.45	0.50
2:A:2:VAL:HG21	2:A:61:GLU:HB2	1.94	0.50
1:G:261:ARG:HB3	1:G:283:ARG:HB3	1.94	0.49
1:B:2002:PRO:HA	1:B:2005:GLN:HB3	1.94	0.49
1:E:886:ARG:HB3	1:E:891:TRP:HB2	1.94	0.49
1:E:3843:ASP:H	1:E:3874:VAL:HG13	1.78	0.49
1:E:4749:GLU:HA	1:E:4752:ALA:HB3	1.94	0.49
1:G:3781:GLN:HA	1:G:3784:SER:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:4138:ASP:O	1:E:4142:ASN:ND2	2.46	0.49
1:I:682:LEU:HD13	1:I:787:VAL:HG11	1.94	0.49
1:I:978:THR:HB	1:I:980:ALA:H	1.75	0.49
1:G:4138:ASP:O	1:G:4142:ASN:ND2	2.46	0.49
1:B:4885:PHE:HE2	1:B:4901:ILE:HD11	1.77	0.49
1:I:3780:LEU:HD11	1:I:3816:MET:HG3	1.94	0.49
1:G:731:THR:OG1	1:G:1519:UNK:O	2.29	0.49
1:B:2927:LEU:HD23	1:B:2930:LEU:HD12	1.93	0.49
1:I:485:SER:O	1:I:489:ASN:N	2.44	0.49
1:I:2002:PRO:HA	1:I:2005:GLN:HB3	1.94	0.49
1:G:395:GLN:NE2	1:G:397:GLU:OE1	2.43	0.49
1:G:683:ARG:NH1	1:G:707:VAL:O	2.40	0.49
1:G:1729:SER:O	1:G:2163:ARG:NH1	2.44	0.49
1:G:1848:LEU:HB3	1:G:1853:ILE:HB	1.94	0.49
1:B:280:LEU:HD21	1:B:316:PHE:HE2	1.78	0.49
1:E:280:LEU:HD21	1:E:316:PHE:HE2	1.78	0.49
1:E:1848:LEU:HB3	1:E:1853:ILE:HB	1.94	0.49
1:E:2770:LYS:HB3	1:E:2775:TRP:HB2	1.94	0.49
1:I:886:ARG:HB3	1:I:891:TRP:HB2	1.94	0.49
1:I:3817:LEU:HD13	1:I:3899:PHE:HD1	1.77	0.49
1:G:2770:LYS:HB3	1:G:2775:TRP:HB2	1.94	0.49
1:G:3762:ARG:H	1:G:4754:ASN:HA	1.76	0.49
2:J:2:VAL:HG21	2:J:61:GLU:HB2	1.94	0.49
1:B:3843:ASP:H	1:B:3874:VAL:HG13	1.77	0.49
1:B:4138:ASP:O	1:B:4142:ASN:ND2	2.46	0.49
1:B:4749:GLU:HA	1:B:4752:ALA:HB3	1.94	0.49
1:E:3781:GLN:HA	1:E:3784:SER:HB3	1.93	0.49
1:I:111:HIS:CD2	1:I:114:SER:H	2.28	0.49
1:I:1970:GLN:HB2	1:I:3642:TYR:HA	1.95	0.49
1:I:2758:PHE:O	1:I:2762:THR:N	2.45	0.49
1:I:4138:ASP:O	1:I:4142:ASN:ND2	2.46	0.49
1:G:111:HIS:CD2	1:G:114:SER:H	2.28	0.49
1:G:280:LEU:HD21	1:G:316:PHE:HE2	1.78	0.49
1:G:485:SER:O	1:G:489:ASN:N	2.44	0.49
1:E:3755:GLU:OE1	1:E:3762:ARG:NH1	2.46	0.49
1:I:3762:ARG:H	1:I:4754:ASN:HA	1.76	0.49
1:I:3781:GLN:HA	1:I:3784:SER:HB3	1.94	0.49
1:G:1271:ARG:HA	1:G:1471:UNK:HA	1.93	0.49
1:B:1848:LEU:HB3	1:B:1853:ILE:HB	1.94	0.49
1:I:261:ARG:HB3	1:I:283:ARG:HB3	1.94	0.49
1:I:3755:GLU:OE1	1:I:3762:ARG:NH1	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:2927:LEU:HD23	1:G:2930:LEU:HD12	1.93	0.49
2:J:7:ILE:HG22	2:J:9:PRO:HD2	1.95	0.49
1:B:261:ARG:HB3	1:B:283:ARG:HB3	1.94	0.49
1:B:475:GLN:NE2	1:B:528:SER:O	2.46	0.49
1:B:580:GLU:HG3	1:B:620:LEU:HD22	1.94	0.49
1:B:3755:GLU:OE1	1:B:3762:ARG:NH1	2.46	0.49
1:E:580:GLU:HG3	1:E:620:LEU:HD22	1.94	0.49
1:E:3817:LEU:HD13	1:E:3899:PHE:HD1	1.77	0.49
1:I:460:GLN:HG2	1:I:462:GLU:H	1.78	0.49
1:I:4928:LEU:HA	1:I:4931:ILE:HD12	1.95	0.49
1:G:1830:VAL:HB	1:G:1837:GLN:HA	1.95	0.49
1:G:3840:SER:OG	1:G:3875:MET:O	2.24	0.49
1:B:3817:LEU:HD13	1:B:3899:PHE:HD1	1.77	0.48
1:I:280:LEU:HD21	1:I:316:PHE:HE2	1.78	0.48
1:G:580:GLU:HG3	1:G:620:LEU:HD22	1.94	0.48
1:G:3755:GLU:OE1	1:G:3762:ARG:NH1	2.46	0.48
1:B:1970:GLN:HB2	1:B:3642:TYR:HA	1.95	0.48
1:B:2758:PHE:O	1:B:2762:THR:N	2.45	0.48
1:E:2381:GLU:HA	1:E:2384:ILE:HD12	1.95	0.48
1:G:221:ARG:NE	1:G:258:SER:OG	2.43	0.48
1:G:309:THR:O	1:G:313:SER:OG	2.27	0.48
1:G:4749:GLU:HA	1:G:4752:ALA:HB3	1.94	0.48
1:I:45:ARG:NH2	1:I:447:ASP:OD1	2.45	0.48
1:I:1243:PRO:HB2	1:I:1600:LEU:HD13	1.95	0.48
1:B:709:ASP:O	1:B:725:HIS:ND1	2.46	0.48
1:B:4228:ALA:O	1:B:4232:GLU:N	2.46	0.48
1:B:4560:TYR:O	1:B:4564:PHE:N	2.41	0.48
1:E:4560:TYR:O	1:E:4564:PHE:N	2.41	0.48
1:I:4749:GLU:HA	1:I:4752:ALA:HB3	1.94	0.48
1:G:682:LEU:HD13	1:G:787:VAL:HG11	1.95	0.48
1:G:3843:ASP:H	1:G:3874:VAL:HG13	1.77	0.48
1:G:3910:THR:HG23	1:G:3911:THR:HG23	1.96	0.48
1:B:1269:CYS:HA	1:B:1473:UNK:HA	1.94	0.48
1:B:2770:LYS:HB3	1:B:2775:TRP:HB2	1.94	0.48
1:E:1032:LYS:O	1:E:1036:ARG:N	2.40	0.48
1:E:3910:THR:HG23	1:E:3911:THR:HG23	1.96	0.48
1:I:242:ARG:NH1	1:I:481:GLU:OE1	2.39	0.48
1:B:43:GLY:N	1:B:447:ASP:OD2	2.46	0.48
1:B:460:GLN:HG2	1:B:462:GLU:H	1.78	0.48
1:B:682:LEU:HD13	1:B:787:VAL:HG11	1.95	0.48
1:B:3910:THR:HG23	1:B:3911:THR:HG23	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:475:GLN:NE2	1:E:528:SER:O	2.46	0.48
1:E:2002:PRO:HA	1:E:2005:GLN:HB3	1.94	0.48
1:E:4852:THR:HG21	1:E:4883:TYR:HB2	1.96	0.48
1:I:736:HIS:HB3	2:J:8:SER:H	1.79	0.48
1:I:1830:VAL:HB	1:I:1837:GLN:HA	1.95	0.48
1:I:3910:THR:HG23	1:I:3911:THR:HG23	1.96	0.48
1:G:1095:VAL:HB	1:G:1199:VAL:HG23	1.96	0.48
1:B:1830:VAL:HB	1:B:1837:GLN:HA	1.95	0.48
1:E:682:LEU:HD13	1:E:787:VAL:HG11	1.95	0.48
1:E:1812:LEU:HD21	1:E:1861:GLN:HG2	1.96	0.48
1:E:4928:LEU:HA	1:E:4931:ILE:HD12	1.95	0.48
1:I:475:GLN:NE2	1:I:528:SER:O	2.46	0.48
1:I:3843:ASP:H	1:I:3874:VAL:HG13	1.77	0.48
1:G:709:ASP:O	1:G:725:HIS:ND1	2.46	0.48
1:G:1691:GLN:HE22	1:G:1802:ILE:HG12	1.79	0.48
1:B:1659:LEU:O	1:B:1663:HIS:N	2.43	0.48
1:B:4697:VAL:O	1:B:4701:TRP:N	2.44	0.48
1:E:43:GLY:N	1:E:447:ASP:OD2	2.46	0.48
1:E:288:GLY:HA3	1:E:405:HIS:CE1	2.49	0.48
1:E:709:ASP:HB3	1:E:725:HIS:CE1	2.49	0.48
1:E:1830:VAL:HB	1:E:1837:GLN:HA	1.95	0.48
1:E:4228:ALA:O	1:E:4232:GLU:N	2.46	0.48
1:G:475:GLN:NE2	1:G:528:SER:O	2.46	0.48
2:F:7:ILE:HG22	2:F:9:PRO:HD2	1.95	0.48
1:B:35:LEU:HD13	1:B:49:LEU:HD13	1.95	0.48
1:B:242:ARG:NH1	1:B:481:GLU:OE1	2.39	0.48
1:B:1812:LEU:HD21	1:B:1861:GLN:HG2	1.96	0.48
1:B:2257:LEU:HD11	1:B:2276:ALA:HB2	1.96	0.48
1:B:2868:SER:O	1:B:2872:GLN:N	2.47	0.48
1:B:4666:VAL:HG23	1:B:4669:VAL:HB	1.96	0.48
1:E:261:ARG:HB3	1:E:283:ARG:HB3	1.94	0.48
1:E:460:GLN:HG2	1:E:462:GLU:H	1.78	0.48
1:E:485:SER:O	1:E:489:ASN:N	2.44	0.48
1:E:2868:SER:O	1:E:2872:GLN:N	2.47	0.48
1:I:43:GLY:N	1:I:447:ASP:OD2	2.47	0.48
1:I:1713:ASP:O	1:I:1717:SER:N	2.44	0.48
1:B:2381:GLU:HA	1:B:2384:ILE:HD12	1.95	0.48
1:B:4852:THR:HG21	1:B:4883:TYR:HB2	1.96	0.48
1:B:4928:LEU:HA	1:B:4931:ILE:HD12	1.95	0.48
1:E:1243:PRO:HB2	1:E:1600:LEU:HD13	1.95	0.48
1:I:111:HIS:HB2	1:I:137:LEU:HD11	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:2257:LEU:HD11	1:I:2276:ALA:HB2	1.96	0.48
1:I:2868:SER:O	1:I:2872:GLN:N	2.47	0.48
1:I:4681:LEU:HD21	1:I:4687:TYR:HD2	1.78	0.48
1:G:288:GLY:HA3	1:G:405:HIS:CE1	2.49	0.48
1:G:4928:LEU:HA	1:G:4931:ILE:HD12	1.95	0.48
1:B:709:ASP:HB3	1:B:725:HIS:CE1	2.49	0.47
1:E:709:ASP:O	1:E:725:HIS:ND1	2.46	0.47
1:E:2758:PHE:O	1:E:2762:THR:N	2.45	0.47
1:B:111:HIS:HB2	1:B:137:LEU:HD11	1.96	0.47
1:B:404:ILE:HG21	1:B:481:GLU:HG3	1.97	0.47
1:B:1516:UNK:N	1:B:1529:UNK:O	2.47	0.47
1:E:1095:VAL:HB	1:E:1199:VAL:HG23	1.96	0.47
1:E:1691:GLN:HE22	1:E:1802:ILE:HG12	1.79	0.47
1:E:1970:GLN:HB2	1:E:3642:TYR:HA	1.95	0.47
1:I:288:GLY:HA3	1:I:405:HIS:CE1	2.49	0.47
1:I:1659:LEU:O	1:I:1663:HIS:N	2.43	0.47
1:G:1243:PRO:HB2	1:G:1600:LEU:HD13	1.95	0.47
1:G:4228:ALA:O	1:G:4232:GLU:N	2.46	0.47
2:H:7:ILE:HG22	2:H:9:PRO:HD2	1.95	0.47
1:B:4681:LEU:HD21	1:B:4687:TYR:HD2	1.78	0.47
1:E:35:LEU:HD13	1:E:49:LEU:HD13	1.95	0.47
1:I:580:GLU:HG3	1:I:620:LEU:HD22	1.95	0.47
1:I:709:ASP:HB3	1:I:725:HIS:CE1	2.49	0.47
1:I:1095:VAL:HB	1:I:1199:VAL:HG23	1.96	0.47
1:G:1970:GLN:HB2	1:G:3642:TYR:HA	1.95	0.47
1:G:2002:PRO:HA	1:G:2005:GLN:HB3	1.94	0.47
1:G:4666:VAL:HG23	1:G:4669:VAL:HB	1.96	0.47
1:G:4681:LEU:HD21	1:G:4687:TYR:HD2	1.78	0.47
1:G:4763:GLY:O	1:G:4766:THR:OG1	2.31	0.47
1:G:1269:CYS:HA	1:G:1473:UNK:HA	1.96	0.47
1:B:3830:GLN:HA	1:B:3833:GLN:HG2	1.96	0.47
1:E:877:ASN:HD22	1:E:1045:THR:HG23	1.79	0.47
1:E:4681:LEU:HD21	1:E:4687:TYR:HD2	1.79	0.47
1:I:35:LEU:HD13	1:I:49:LEU:HD13	1.95	0.47
1:I:669:ASP:OD2	1:I:790:ARG:NH2	2.47	0.47
1:G:460:GLN:HG2	1:G:462:GLU:H	1.78	0.47
1:G:709:ASP:HB3	1:G:725:HIS:CE1	2.49	0.47
1:G:4571:PHE:O	1:G:4575:PHE:N	2.47	0.47
2:A:7:ILE:HG22	2:A:9:PRO:HD2	1.95	0.47
1:E:242:ARG:NH1	1:E:481:GLU:OE1	2.39	0.47
1:I:404:ILE:HG21	1:I:481:GLU:HG3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:709:ASP:O	1:I:725:HIS:ND1	2.46	0.47
1:I:776:LEU:HG	1:I:848:HIS:HA	1.97	0.47
1:I:2381:GLU:HA	1:I:2384:ILE:HD12	1.95	0.47
1:I:3830:GLN:HA	1:I:3833:GLN:HG2	1.96	0.47
1:I:4826:ILE:O	1:I:4829:SER:OG	2.29	0.47
1:G:776:LEU:HG	1:G:848:HIS:HA	1.97	0.47
1:G:877:ASN:HD22	1:G:1045:THR:HG23	1.79	0.47
1:B:669:ASP:OD2	1:B:790:ARG:NH2	2.47	0.47
1:B:1095:VAL:HB	1:B:1199:VAL:HG23	1.96	0.47
1:E:776:LEU:HG	1:E:848:HIS:HA	1.97	0.47
1:E:3890:LEU:HA	1:E:3893:GLU:HB2	1.97	0.47
1:I:4180:ARG:O	1:I:4987:ASN:ND2	2.47	0.47
1:I:4782:VAL:O	1:I:4785:THR:OG1	2.28	0.47
1:G:404:ILE:HG21	1:G:481:GLU:HG3	1.97	0.47
1:G:669:ASP:OD2	1:G:790:ARG:NH2	2.47	0.47
1:G:1713:ASP:O	1:G:1717:SER:N	2.44	0.47
1:G:1812:LEU:HD21	1:G:1861:GLN:HG2	1.96	0.47
1:G:2381:GLU:HA	1:G:2384:ILE:HD12	1.96	0.47
1:G:3676:ASP:OD1	1:G:3676:ASP:N	2.48	0.47
1:G:4180:ARG:O	1:G:4987:ASN:ND2	2.48	0.47
1:G:4852:THR:HG21	1:G:4883:TYR:HB2	1.96	0.47
2:J:76:CYS:HB2	2:J:97:LEU:HB2	1.97	0.47
1:B:179:TYR:OH	1:E:2359:ARG:NH1	2.47	0.47
1:B:288:GLY:HA3	1:B:405:HIS:CE1	2.49	0.47
1:B:776:LEU:HG	1:B:848:HIS:HA	1.97	0.47
1:B:1679:ASN:HA	1:B:1682:ALA:HB3	1.97	0.47
1:B:4578:LEU:HD21	1:I:4849:TYR:HE1	1.80	0.47
1:E:111:HIS:CD2	1:E:114:SER:H	2.28	0.47
1:E:111:HIS:HB2	1:E:137:LEU:HD11	1.96	0.47
1:E:3963:ASN:O	1:E:3966:THR:OG1	2.29	0.47
1:I:264:PRO:HG2	1:I:270:SER:HB2	1.97	0.47
1:I:410:LEU:HD12	1:I:413:GLN:HE21	1.80	0.47
1:B:264:PRO:HG2	1:B:270:SER:HB2	1.97	0.47
1:B:664:PHE:HB2	1:B:746:CYS:HB2	1.97	0.47
1:B:2034:PHE:O	1:B:2038:LEU:N	2.48	0.47
1:B:4980:LEU:O	1:B:4984:ASN:ND2	2.43	0.47
1:E:649:PHE:HB3	1:E:776:LEU:HD13	1.97	0.47
1:E:1973:GLN:HA	1:E:1976:ARG:HB3	1.97	0.47
1:I:1691:GLN:HE22	1:I:1802:ILE:HG12	1.79	0.47
1:I:4852:THR:HG21	1:I:4883:TYR:HB2	1.96	0.47
1:B:614:VAL:HA	1:B:2169:GLN:HB3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1243:PRO:HB2	1:B:1600:LEU:HD13	1.96	0.47
1:E:410:LEU:HD12	1:E:413:GLN:HE21	1.80	0.47
1:E:4180:ARG:O	1:E:4987:ASN:ND2	2.48	0.47
1:E:4204:GLN:NE2	1:E:4245:MET:SD	2.88	0.47
1:E:4570:ALA:O	1:E:4574:ASN:ND2	2.48	0.47
1:E:4763:GLY:O	1:E:4766:THR:OG1	2.31	0.47
1:I:685:GLY:N	1:I:780:VAL:O	2.39	0.47
1:I:1163:THR:HA	1:I:1168:VAL:HA	1.97	0.47
1:I:2034:PHE:O	1:I:2038:LEU:N	2.48	0.47
1:G:664:PHE:HB2	1:G:746:CYS:HB2	1.97	0.47
1:G:2034:PHE:O	1:G:2038:LEU:N	2.48	0.47
1:B:2739:PRO:HB3	1:B:2884:ASN:HB3	1.98	0.46
1:E:669:ASP:OD2	1:E:790:ARG:NH2	2.47	0.46
1:E:4666:VAL:HG23	1:E:4669:VAL:HB	1.96	0.46
1:I:614:VAL:HA	1:I:2169:GLN:HB3	1.97	0.46
1:I:4571:PHE:O	1:I:4575:PHE:N	2.47	0.46
1:I:4581:LYS:HB2	1:I:4632:LEU:HB2	1.97	0.46
1:G:35:LEU:HD13	1:G:49:LEU:HD13	1.95	0.46
1:G:43:GLY:N	1:G:447:ASP:OD2	2.46	0.46
1:E:404:ILE:HG21	1:E:481:GLU:HG3	1.97	0.46
1:E:664:PHE:HB2	1:E:746:CYS:HB2	1.97	0.46
1:E:1163:THR:HA	1:E:1168:VAL:HA	1.97	0.46
1:E:2257:LEU:HD11	1:E:2276:ALA:HB2	1.96	0.46
1:E:3830:GLN:HA	1:E:3833:GLN:HG2	1.96	0.46
1:E:4826:ILE:HG23	1:E:4940:PHE:HZ	1.81	0.46
1:I:877:ASN:HD22	1:I:1045:THR:HG23	1.79	0.46
1:I:1679:ASN:HA	1:I:1682:ALA:HB3	1.97	0.46
1:I:1812:LEU:HD21	1:I:1861:GLN:HG2	1.96	0.46
1:I:4228:ALA:O	1:I:4232:GLU:N	2.46	0.46
1:G:1679:ASN:HA	1:G:1682:ALA:HB3	1.97	0.46
1:G:2257:LEU:HD11	1:G:2276:ALA:HB2	1.96	0.46
1:B:1639:LEU:HD12	1:B:1653:LEU:HD21	1.98	0.46
1:B:3890:LEU:HA	1:B:3893:GLU:HB2	1.97	0.46
1:E:111:HIS:N	1:E:116:MET:O	2.44	0.46
1:G:410:LEU:HD12	1:G:413:GLN:HE21	1.80	0.46
1:G:583:ILE:HA	1:G:586:ILE:HD12	1.98	0.46
1:G:1973:GLN:HA	1:G:1976:ARG:HB3	1.98	0.46
1:B:139:GLU:O	1:B:141:ALA:N	2.49	0.46
1:B:835:ARG:HD3	1:B:1210:SER:HA	1.98	0.46
1:B:877:ASN:HD22	1:B:1045:THR:HG23	1.79	0.46
1:B:1691:GLN:HE22	1:B:1802:ILE:HG12	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3840:SER:OG	1:B:3875:MET:O	2.24	0.46
1:B:4180:ARG:O	1:B:4987:ASN:ND2	2.48	0.46
1:E:2739:PRO:HB3	1:E:2884:ASN:HB3	1.98	0.46
1:I:664:PHE:HB2	1:I:746:CYS:HB2	1.97	0.46
1:I:4177:TYR:HA	1:I:4202:ARG:HH22	1.80	0.46
1:G:111:HIS:HB2	1:G:137:LEU:HD11	1.96	0.46
1:G:139:GLU:O	1:G:141:ALA:N	2.49	0.46
1:G:3830:GLN:HA	1:G:3833:GLN:HG2	1.96	0.46
1:B:3832:ILE:O	1:B:3836:MET:N	2.47	0.46
1:B:4674:GLU:HB3	1:B:4715:TYR:HB2	1.98	0.46
1:E:685:GLY:N	1:E:780:VAL:O	2.39	0.46
1:E:835:ARG:HD3	1:E:1210:SER:HA	1.98	0.46
1:E:4177:TYR:HE1	1:E:4199:GLU:HB2	1.81	0.46
1:I:3890:LEU:HA	1:I:3893:GLU:HB2	1.97	0.46
1:I:3971:GLY:H	1:I:5005:GLY:HA3	1.80	0.46
1:I:4666:VAL:HG23	1:I:4669:VAL:HB	1.96	0.46
1:I:4763:GLY:O	1:I:4766:THR:OG1	2.31	0.46
1:G:264:PRO:HG2	1:G:270:SER:HB2	1.97	0.46
1:G:838:HIS:CE1	1:G:1201:HIS:HD2	2.34	0.46
1:G:4826:ILE:O	1:G:4829:SER:OG	2.28	0.46
2:H:76:CYS:HB2	2:H:97:LEU:HB2	1.97	0.46
1:B:485:SER:O	1:B:489:ASN:N	2.44	0.46
1:B:583:ILE:HA	1:B:586:ILE:HD12	1.98	0.46
1:B:649:PHE:HB3	1:B:776:LEU:HD13	1.98	0.46
1:B:718:GLY:HA3	1:B:737:LEU:HA	1.97	0.46
1:B:1163:THR:HA	1:B:1168:VAL:HA	1.97	0.46
1:B:3905:THR:HA	1:B:3912:THR:HG23	1.98	0.46
1:B:4937:ILE:HD11	1:I:4933:GLN:HE22	1.80	0.46
1:E:184:THR:HB	1:E:189:LEU:HG	1.98	0.46
1:E:264:PRO:HG2	1:E:270:SER:HB2	1.97	0.46
1:E:3971:GLY:H	1:E:5005:GLY:HA3	1.80	0.46
1:I:139:GLU:O	1:I:141:ALA:N	2.49	0.46
1:I:4570:ALA:O	1:I:4574:ASN:ND2	2.49	0.46
1:B:3971:GLY:H	1:B:5005:GLY:HA3	1.80	0.46
1:E:1639:LEU:HD12	1:E:1653:LEU:HD21	1.98	0.46
1:E:2034:PHE:O	1:E:2038:LEU:N	2.48	0.46
1:I:309:THR:O	1:I:313:SER:OG	2.27	0.46
1:I:583:ILE:HA	1:I:586:ILE:HD12	1.98	0.46
1:I:4826:ILE:HG23	1:I:4940:PHE:HZ	1.80	0.46
1:G:184:THR:HB	1:G:189:LEU:HG	1.98	0.46
1:G:2257:LEU:O	1:G:2261:SER:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4177:TYR:HA	1:G:4202:ARG:HH22	1.81	0.46
1:B:410:LEU:HD12	1:B:413:GLN:HE21	1.80	0.46
1:B:4581:LYS:HB2	1:B:4632:LEU:HB2	1.97	0.46
1:E:45:ARG:NH2	1:E:447:ASP:OD1	2.45	0.46
1:E:718:GLY:HA3	1:E:737:LEU:HA	1.97	0.46
1:E:983:THR:O	1:E:987:ARG:N	2.47	0.46
1:I:718:GLY:HA3	1:I:737:LEU:HA	1.97	0.46
1:I:1684:ALA:HA	1:I:1782:PHE:HZ	1.81	0.46
1:I:3963:ASN:O	1:I:3966:THR:OG1	2.29	0.46
1:I:4822:THR:O	1:I:4825:THR:OG1	2.30	0.46
1:G:395:GLN:HG3	1:G:397:GLU:H	1.81	0.46
1:G:649:PHE:HB3	1:G:776:LEU:HD13	1.98	0.46
1:G:718:GLY:HA3	1:G:737:LEU:HA	1.97	0.46
1:G:1163:THR:HA	1:G:1168:VAL:HA	1.97	0.46
1:B:2257:LEU:O	1:B:2261:SER:N	2.49	0.46
1:B:4570:ALA:O	1:B:4574:ASN:ND2	2.49	0.46
1:E:215:THR:HG22	1:E:273:HIS:HA	1.98	0.46
1:E:614:VAL:HA	1:E:2169:GLN:HB3	1.97	0.46
1:E:4177:TYR:HA	1:E:4202:ARG:HH22	1.80	0.46
1:E:4980:LEU:O	1:E:4984:ASN:ND2	2.43	0.46
1:I:184:THR:HB	1:I:189:LEU:HG	1.98	0.46
1:I:2739:PRO:HB3	1:I:2884:ASN:HB3	1.98	0.46
1:I:3658:LYS:HA	1:I:3661:TRP:CD2	2.51	0.46
1:G:4581:LYS:HB2	1:G:4632:LEU:HB2	1.97	0.46
1:B:1713:ASP:O	1:B:1717:SER:N	2.44	0.46
1:B:4826:ILE:HG23	1:B:4940:PHE:HZ	1.81	0.46
1:E:1269:CYS:HA	1:E:1473:UNK:HA	1.97	0.46
1:E:3905:THR:HA	1:E:3912:THR:HG23	1.98	0.46
1:I:2813:LEU:HD21	1:I:2926:LEU:HD11	1.98	0.46
1:G:614:VAL:HA	1:G:2169:GLN:HB3	1.97	0.46
1:G:3658:LYS:HA	1:G:3661:TRP:CD2	2.51	0.46
1:G:4083:ASP:HA	1:G:4085:ARG:HH11	1.81	0.46
1:G:4570:ALA:O	1:G:4574:ASN:ND2	2.49	0.46
1:B:184:THR:HB	1:B:189:LEU:HG	1.98	0.45
1:B:2869:ARG:HA	1:B:2872:GLN:HB3	1.99	0.45
1:B:3658:LYS:HA	1:B:3661:TRP:CD2	2.51	0.45
1:E:139:GLU:O	1:E:141:ALA:N	2.49	0.45
1:E:583:ILE:HA	1:E:586:ILE:HD12	1.98	0.45
1:E:1679:ASN:HA	1:E:1682:ALA:HB3	1.97	0.45
1:E:3658:LYS:HA	1:E:3661:TRP:CD2	2.51	0.45
1:I:101:LEU:HB3	1:I:150:MET:HE3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:649:PHE:HB3	1:I:776:LEU:HD13	1.98	0.45
1:I:835:ARG:HD3	1:I:1210:SER:HA	1.98	0.45
1:I:2257:LEU:O	1:I:2261:SER:N	2.49	0.45
1:I:3805:LEU:HA	1:I:3809:ASN:HB2	1.98	0.45
1:G:215:THR:HG22	1:G:273:HIS:HA	1.98	0.45
1:G:235:ALA:HA	1:G:257:ARG:HD3	1.98	0.45
1:G:1639:LEU:HD12	1:G:1653:LEU:HD21	1.98	0.45
1:E:2257:LEU:O	1:E:2261:SER:N	2.49	0.45
1:E:2813:LEU:HD21	1:E:2926:LEU:HD11	1.98	0.45
1:E:4003:LEU:HB2	1:E:4013:LEU:HD13	1.99	0.45
1:I:3905:THR:HA	1:I:3912:THR:HG23	1.98	0.45
1:G:1203:ASN:ND2	1:G:1210:SER:O	2.49	0.45
1:G:2869:ARG:HA	1:G:2872:GLN:HB3	1.98	0.45
1:G:3971:GLY:H	1:G:5005:GLY:HA3	1.80	0.45
1:B:266:ARG:NH2	1:B:269:TRP:O	2.50	0.45
1:B:1271:ARG:HA	1:B:1471:UNK:HA	1.98	0.45
1:B:2764:GLU:HG3	1:B:2857:PRO:HB2	1.99	0.45
1:B:3963:ASN:O	1:B:3966:THR:OG1	2.29	0.45
1:E:331:VAL:HG12	1:E:333:GLY:H	1.82	0.45
1:E:733:PRO:HD2	1:E:763:PRO:HD2	1.97	0.45
1:E:1708:ARG:HG2	1:E:1711:TYR:CE2	2.52	0.45
1:E:4581:LYS:HB2	1:E:4632:LEU:HB2	1.97	0.45
1:I:733:PRO:HD2	1:I:763:PRO:HD2	1.98	0.45
1:I:2266:GLY:O	1:I:2330:ARG:NH2	2.50	0.45
1:I:2764:GLU:HG3	1:I:2857:PRO:HB2	1.99	0.45
1:I:4083:ASP:HA	1:I:4085:ARG:HH11	1.81	0.45
1:I:4177:TYR:HE1	1:I:4199:GLU:HB2	1.81	0.45
1:G:2266:GLY:O	1:G:2330:ARG:NH2	2.50	0.45
1:G:2739:PRO:HB3	1:G:2884:ASN:HB3	1.98	0.45
1:G:4204:GLN:NE2	1:G:4245:MET:SD	2.88	0.45
1:B:395:GLN:HG3	1:B:397:GLU:H	1.81	0.45
1:B:838:HIS:CE1	1:B:1201:HIS:HD2	2.34	0.45
1:B:1684:ALA:HA	1:B:1782:PHE:HZ	1.81	0.45
1:B:3805:LEU:HA	1:B:3809:ASN:HB2	1.98	0.45
1:E:838:HIS:CE1	1:E:1201:HIS:HD2	2.34	0.45
1:E:2764:GLU:HG3	1:E:2857:PRO:HB2	1.99	0.45
1:E:4674:GLU:HB3	1:E:4715:TYR:HB2	1.98	0.45
1:I:215:THR:HG22	1:I:273:HIS:HA	1.98	0.45
1:I:235:ALA:HA	1:I:257:ARG:HD3	1.98	0.45
1:I:1203:ASN:ND2	1:I:1210:SER:O	2.49	0.45
1:I:2869:ARG:HA	1:I:2872:GLN:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:3646:THR:O	1:I:3650:CYS:N	2.49	0.45
1:I:4674:GLU:HB3	1:I:4715:TYR:HB2	1.98	0.45
1:G:2813:LEU:HD21	1:G:2926:LEU:HD11	1.99	0.45
1:B:465:GLN:HG3	1:B:3710:LEU:HB3	1.99	0.45
1:B:2813:LEU:HD21	1:B:2926:LEU:HD11	1.98	0.45
1:E:395:GLN:HG3	1:E:397:GLU:H	1.81	0.45
1:E:1516:UNK:N	1:E:1529:UNK:O	2.49	0.45
1:E:3676:ASP:N	1:E:3676:ASP:OD1	2.48	0.45
1:E:4083:ASP:HA	1:E:4085:ARG:HH11	1.81	0.45
1:I:1708:ARG:HG2	1:I:1711:TYR:CE2	2.52	0.45
1:G:2764:GLU:HG3	1:G:2857:PRO:HB2	1.99	0.45
1:G:3890:LEU:HA	1:G:3893:GLU:HB2	1.97	0.45
1:G:3905:THR:HA	1:G:3912:THR:HG23	1.98	0.45
1:G:3963:ASN:O	1:G:3966:THR:OG1	2.29	0.45
1:B:983:THR:O	1:B:987:ARG:N	2.47	0.45
1:B:1973:GLN:HA	1:B:1976:ARG:HB3	1.98	0.45
1:B:4003:LEU:HB2	1:B:4013:LEU:HD13	1.99	0.45
1:B:4177:TYR:HA	1:B:4202:ARG:HH22	1.81	0.45
1:B:4571:PHE:O	1:B:4575:PHE:N	2.47	0.45
1:B:4735:GLU:HA	1:B:4738:ALA:HB3	1.98	0.45
1:E:2266:GLY:O	1:E:2330:ARG:NH2	2.50	0.45
1:E:2869:ARG:HH12	1:E:2945:UNK:C	2.29	0.45
1:E:3840:SER:OG	1:E:3875:MET:O	2.24	0.45
1:I:1973:GLN:HA	1:I:1976:ARG:HB3	1.98	0.45
1:I:2869:ARG:HH12	1:I:2945:UNK:C	2.29	0.45
1:I:4152:GLU:OE1	1:I:4194:TYR:OH	2.35	0.45
1:G:733:PRO:HD2	1:G:763:PRO:HD2	1.97	0.45
1:G:898:ASP:HB3	1:G:901:LYS:HB2	1.99	0.45
1:G:2868:SER:O	1:G:2872:GLN:N	2.47	0.45
1:G:4674:GLU:HB3	1:G:4715:TYR:HB2	1.98	0.45
1:B:235:ALA:HA	1:B:257:ARG:HD3	1.98	0.45
1:B:733:PRO:HD2	1:B:763:PRO:HD2	1.97	0.45
1:B:1708:ARG:HG2	1:B:1711:TYR:CE2	2.52	0.45
1:E:235:ALA:HA	1:E:257:ARG:HD3	1.98	0.45
1:E:2869:ARG:HA	1:E:2872:GLN:HB3	1.98	0.45
1:G:1684:ALA:HA	1:G:1782:PHE:HZ	1.81	0.45
1:G:3805:LEU:HA	1:G:3809:ASN:HB2	1.98	0.45
1:B:1203:ASN:ND2	1:B:1210:SER:O	2.49	0.45
1:E:898:ASP:HB3	1:E:901:LYS:HB2	1.99	0.45
1:E:3832:ILE:O	1:E:3836:MET:N	2.47	0.45
1:I:838:HIS:CE1	1:I:1201:HIS:HD2	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:1639:LEU:HD12	1:I:1653:LEU:HD21	1.97	0.45
1:I:3676:ASP:OD1	1:I:3676:ASP:N	2.48	0.45
1:G:1103:GLY:HA3	1:G:1123:VAL:HA	1.99	0.45
1:G:4003:LEU:HB2	1:G:4013:LEU:HD13	1.99	0.45
1:G:4152:GLU:OE1	1:G:4194:TYR:OH	2.35	0.45
1:G:4826:ILE:HG23	1:G:4940:PHE:HZ	1.81	0.45
2:A:76:CYS:HB2	2:A:97:LEU:HB2	1.97	0.45
1:B:215:THR:HG22	1:B:273:HIS:HA	1.98	0.45
1:B:1076:ARG:HD3	1:B:1237:TRP:HB2	1.99	0.45
1:B:4024:VAL:HG23	1:B:4027:LEU:HD12	1.99	0.45
1:E:266:ARG:NH2	1:E:269:TRP:O	2.50	0.45
1:E:1099:GLU:OE2	1:E:1127:HIS:ND1	2.40	0.45
1:E:1659:LEU:O	1:E:1663:HIS:N	2.43	0.45
1:E:3805:LEU:HA	1:E:3809:ASN:HB2	1.98	0.45
1:E:4152:GLU:OE1	1:E:4194:TYR:OH	2.35	0.45
1:I:4003:LEU:HB2	1:I:4013:LEU:HD13	1.99	0.45
1:G:331:VAL:HG12	1:G:333:GLY:H	1.82	0.45
1:G:1076:ARG:HD3	1:G:1237:TRP:HB2	1.99	0.45
1:G:3646:THR:O	1:G:3650:CYS:N	2.49	0.45
1:E:1203:ASN:ND2	1:E:1210:SER:O	2.49	0.45
1:E:1684:ALA:HA	1:E:1782:PHE:HZ	1.81	0.45
1:I:4735:GLU:HA	1:I:4738:ALA:HB3	1.98	0.45
1:G:835:ARG:HD3	1:G:1210:SER:HA	1.98	0.45
1:G:4560:TYR:O	1:G:4564:PHE:N	2.41	0.45
1:G:4688:ILE:HG21	1:G:4728:HIS:HB3	1.99	0.45
1:E:465:GLN:HG3	1:E:3710:LEU:HB3	1.99	0.44
1:E:4735:GLU:HA	1:E:4738:ALA:HB3	1.98	0.44
1:I:1076:ARG:HD3	1:I:1237:TRP:HB2	1.99	0.44
2:F:76:CYS:HB2	2:F:97:LEU:HB2	1.97	0.44
2:J:91:ILE:HD12	2:J:97:LEU:HD11	1.99	0.44
1:B:1286:UNK:HA	1:B:1461:UNK:HA	1.99	0.44
1:B:4152:GLU:OE1	1:B:4194:TYR:OH	2.35	0.44
1:B:4177:TYR:HE1	1:B:4199:GLU:HB2	1.81	0.44
1:E:1076:ARG:HD3	1:E:1237:TRP:HB2	1.99	0.44
1:E:4024:VAL:HG23	1:E:4027:LEU:HD12	1.99	0.44
1:G:4177:TYR:HE1	1:G:4199:GLU:HB2	1.81	0.44
2:F:57:LYS:HB2	2:F:80:VAL:HB	2.00	0.44
1:B:1103:GLY:HA3	1:B:1123:VAL:HA	1.99	0.44
1:B:3930:ILE:HG23	1:B:3951:PHE:HE1	1.83	0.44
1:E:870:ILE:HD12	1:E:870:ILE:HA	1.88	0.44
1:I:395:GLN:HG3	1:I:397:GLU:H	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:4142:ASN:HA	1:I:4145:VAL:HG12	1.99	0.44
1:G:1708:ARG:HG2	1:G:1711:TYR:CE2	2.52	0.44
1:B:1096:THR:HG23	1:B:1199:VAL:HG22	1.99	0.44
1:B:4688:ILE:HG21	1:B:4728:HIS:HB3	1.99	0.44
1:E:1936:LYS:O	1:E:1940:CYS:N	2.45	0.44
1:E:2265:LEU:HD22	1:E:2330:ARG:HB3	1.99	0.44
1:E:4782:VAL:O	1:E:4785:THR:OG1	2.29	0.44
1:I:266:ARG:NH2	1:I:269:TRP:O	2.50	0.44
1:G:1659:LEU:O	1:G:1663:HIS:N	2.43	0.44
1:G:2265:LEU:HD22	1:G:2330:ARG:HB3	1.99	0.44
1:G:4142:ASN:HA	1:G:4145:VAL:HG12	1.99	0.44
1:G:4980:LEU:O	1:G:4984:ASN:ND2	2.43	0.44
2:H:91:ILE:HD12	2:H:97:LEU:HD11	1.99	0.44
1:B:4083:ASP:HA	1:B:4085:ARG:HH11	1.82	0.44
1:B:4763:GLY:O	1:B:4766:THR:OG1	2.31	0.44
1:E:1718:ILE:HG13	1:E:1719:HIS:CD2	2.53	0.44
1:I:1096:THR:HG23	1:I:1199:VAL:HG22	2.00	0.44
1:I:1099:GLU:OE2	1:I:1127:HIS:ND1	2.40	0.44
1:I:2778:GLY:HA3	1:I:2787:THR:HB	1.99	0.44
1:I:4204:GLN:NE2	1:I:4245:MET:SD	2.88	0.44
1:G:1244:GLN:HB3	1:G:1646:ARG:HH12	1.83	0.44
1:G:3930:ILE:HG23	1:G:3951:PHE:HE1	1.83	0.44
1:B:331:VAL:HG12	1:B:333:GLY:H	1.82	0.44
1:B:794:GLY:H	1:B:798:GLY:HA3	1.83	0.44
1:B:2266:GLY:O	1:B:2330:ARG:NH2	2.50	0.44
1:B:3676:ASP:OD1	1:B:3676:ASP:N	2.48	0.44
1:B:4069:LYS:HD2	1:B:4133:GLN:HG3	2.00	0.44
1:B:4204:GLN:NE2	1:B:4245:MET:SD	2.88	0.44
1:E:218:HIS:HB3	1:E:392:ARG:HD3	2.00	0.44
1:E:4688:ILE:HG21	1:E:4728:HIS:HB3	1.99	0.44
1:I:342:GLY:HA2	1:I:389:PHE:HD2	1.83	0.44
1:I:1103:GLY:HA3	1:I:1123:VAL:HA	1.99	0.44
1:I:1854:PHE:HD1	1:I:1858:ASP:HB3	1.83	0.44
1:I:3930:ILE:HG23	1:I:3951:PHE:HE1	1.83	0.44
2:J:57:LYS:HB2	2:J:80:VAL:HB	1.99	0.44
1:B:45:ARG:NH2	1:B:447:ASP:OD1	2.45	0.44
1:B:4147:LEU:O	1:B:4151:SER:OG	2.32	0.44
1:E:1244:GLN:HB3	1:E:1646:ARG:HH12	1.83	0.44
1:E:4826:ILE:O	1:E:4829:SER:OG	2.29	0.44
1:I:794:GLY:H	1:I:798:GLY:HA3	1.83	0.44
2:F:91:ILE:HD12	2:F:97:LEU:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1089:TYR:N	1:B:1224:GLU:O	2.51	0.44
1:B:2265:LEU:HD22	1:B:2330:ARG:HB3	1.99	0.44
1:E:3930:ILE:HG23	1:E:3951:PHE:HE1	1.83	0.44
1:I:21:VAL:HG12	1:I:66:CYS:HA	2.00	0.44
1:I:465:GLN:HG3	1:I:3710:LEU:HB3	1.99	0.44
1:I:898:ASP:HB3	1:I:901:LYS:HB2	1.99	0.44
1:G:266:ARG:NH2	1:G:269:TRP:O	2.50	0.44
1:G:794:GLY:H	1:G:798:GLY:HA3	1.82	0.44
2:H:57:LYS:HB2	2:H:80:VAL:HB	1.99	0.44
1:B:898:ASP:HB3	1:B:901:LYS:HB2	1.99	0.44
1:B:1865:MET:SD	1:B:1865:MET:N	2.91	0.44
1:E:1103:GLY:HA3	1:E:1123:VAL:HA	1.99	0.44
1:I:4743:MET:HB3	1:I:4746:ALA:HB3	2.00	0.44
1:G:1854:PHE:HD1	1:G:1858:ASP:HB3	1.83	0.44
1:G:4125:PHE:HA	1:G:4128:PHE:HB3	2.00	0.44
1:B:1718:ILE:HG13	1:B:1719:HIS:CD2	2.53	0.43
1:B:3992:PHE:O	1:B:3996:PHE:N	2.43	0.43
1:E:663:TYR:HB2	1:E:808:TYR:HB3	2.00	0.43
1:E:750:LEU:HD21	1:E:777:PHE:HE2	1.83	0.43
1:I:1865:MET:SD	1:I:1865:MET:N	2.91	0.43
1:I:3994:HIS:O	1:I:3998:HIS:ND1	2.45	0.43
1:G:45:ARG:NH2	1:G:447:ASP:OD1	2.45	0.43
1:G:465:GLN:HG3	1:G:3710:LEU:HB3	1.99	0.43
1:G:4735:GLU:HA	1:G:4738:ALA:HB3	1.98	0.43
1:B:1090:PHE:HD2	1:B:1202:LEU:HD11	1.84	0.43
1:B:4125:PHE:HA	1:B:4128:PHE:HB3	2.00	0.43
1:B:4826:ILE:O	1:B:4829:SER:OG	2.29	0.43
1:E:342:GLY:HA2	1:E:389:PHE:HD2	1.83	0.43
1:E:4142:ASN:HA	1:E:4145:VAL:HG12	1.99	0.43
1:I:4024:VAL:HG23	1:I:4027:LEU:HD12	1.99	0.43
1:G:218:HIS:HB3	1:G:392:ARG:HD3	2.00	0.43
1:G:4069:LYS:HD2	1:G:4133:GLN:HG3	2.00	0.43
1:B:4142:ASN:HA	1:B:4145:VAL:HG12	1.99	0.43
1:E:794:GLY:H	1:E:798:GLY:HA3	1.83	0.43
1:E:1854:PHE:HD1	1:E:1858:ASP:HB3	1.83	0.43
1:E:2318:TYR:OH	1:E:2414:ASN:N	2.52	0.43
1:E:4104:THR:HG22	1:E:4106:PRO:HD2	2.01	0.43
1:E:4125:PHE:HA	1:E:4128:PHE:HB3	2.00	0.43
1:E:4743:MET:HB3	1:E:4746:ALA:HB3	2.00	0.43
1:I:2121:PHE:O	1:I:3725:TYR:OH	2.35	0.43
1:I:4671:PHE:HE1	1:I:4715:TYR:HA	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:21:VAL:HG12	1:G:66:CYS:HA	2.00	0.43
1:G:750:LEU:HD21	1:G:777:PHE:HE2	1.83	0.43
1:G:1863:LEU:HB3	1:G:1870:VAL:HG11	2.01	0.43
1:G:2121:PHE:O	1:G:3725:TYR:OH	2.35	0.43
1:G:3832:ILE:O	1:G:3836:MET:N	2.47	0.43
2:A:7:ILE:N	2:A:71:ARG:O	2.44	0.43
1:B:218:HIS:HB3	1:B:392:ARG:HD3	2.00	0.43
1:B:342:GLY:HA2	1:B:389:PHE:HD2	1.83	0.43
1:E:1090:PHE:HD2	1:E:1202:LEU:HD11	1.84	0.43
1:E:4671:PHE:HE1	1:E:4715:TYR:HA	1.84	0.43
1:I:1244:GLN:HB3	1:I:1646:ARG:HH12	1.83	0.43
1:I:1730:MET:O	1:I:1772:ARG:NH1	2.51	0.43
1:I:2265:LEU:HD22	1:I:2330:ARG:HB3	1.99	0.43
1:I:4125:PHE:HA	1:I:4128:PHE:HB3	2.00	0.43
1:I:4937:ILE:HD11	1:G:4933:GLN:HE22	1.83	0.43
1:G:685:GLY:N	1:G:780:VAL:O	2.39	0.43
1:G:2326:CYS:SG	1:G:2327:GLY:N	2.92	0.43
2:A:57:LYS:HB2	2:A:80:VAL:HB	1.99	0.43
2:A:91:ILE:HD12	2:A:97:LEU:HD11	1.99	0.43
1:B:750:LEU:HD21	1:B:777:PHE:HE2	1.83	0.43
1:B:864:PRO:HD2	1:B:867:LEU:HD12	2.00	0.43
1:I:45:ARG:HG2	1:I:443:LEU:HD21	2.00	0.43
1:I:663:TYR:HB2	1:I:808:TYR:HB3	2.00	0.43
1:G:342:GLY:HA2	1:G:389:PHE:HD2	1.83	0.43
1:G:4104:THR:HG22	1:G:4106:PRO:HD2	2.01	0.43
1:B:232:THR:HB	1:B:252:VAL:HG11	2.01	0.43
1:B:1863:LEU:HB3	1:B:1870:VAL:HG11	2.01	0.43
1:B:2778:GLY:HA3	1:B:2787:THR:HB	1.99	0.43
1:B:4144:ALA:HB2	1:B:4170:ILE:HG22	2.01	0.43
1:B:4671:PHE:HE1	1:B:4715:TYR:HA	1.84	0.43
1:E:345:LEU:HD23	1:E:389:PHE:HB3	2.01	0.43
1:E:488:LEU:HD23	1:E:491:ILE:HD12	2.00	0.43
1:E:1730:MET:O	1:E:1772:ARG:NH1	2.51	0.43
1:E:2326:CYS:SG	1:E:2327:GLY:N	2.92	0.43
1:E:2778:GLY:HA3	1:E:2787:THR:HB	1.99	0.43
1:E:4069:LYS:HD2	1:E:4133:GLN:HG3	2.00	0.43
1:E:4144:ALA:HB2	1:E:4170:ILE:HG22	2.01	0.43
1:E:4719:PHE:HD1	1:E:4722:ARG:HD3	1.84	0.43
1:I:331:VAL:HG12	1:I:333:GLY:H	1.82	0.43
1:I:1089:TYR:N	1:I:1224:GLU:O	2.51	0.43
1:I:4719:PHE:HD1	1:I:4722:ARG:HD3	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:111:HIS:N	1:G:116:MET:O	2.44	0.43
1:G:283:ARG:NH2	1:G:402:ARG:HH12	2.17	0.43
1:G:488:LEU:HD23	1:G:491:ILE:HD12	2.00	0.43
1:G:1952:GLN:HA	1:G:1955:VAL:HG12	2.01	0.43
1:G:4719:PHE:HD1	1:G:4722:ARG:HD3	1.84	0.43
2:F:90:VAL:HG12	2:F:91:ILE:HG12	2.00	0.43
1:B:2326:CYS:SG	1:B:2327:GLY:N	2.92	0.43
1:B:3927:GLN:O	1:B:3931:SER:N	2.49	0.43
1:E:1089:TYR:N	1:E:1224:GLU:O	2.51	0.43
1:E:3713:LYS:HG2	1:E:3715:LYS:H	1.84	0.43
1:E:3889:GLN:HE22	1:E:3963:ASN:HB3	1.84	0.43
1:I:283:ARG:NH2	1:I:402:ARG:HH12	2.17	0.43
1:I:1679:ASN:O	1:I:1683:HIS:ND1	2.37	0.43
1:I:2326:CYS:SG	1:I:2327:GLY:N	2.92	0.43
1:G:494:LEU:HD22	1:G:515:TRP:HE1	1.84	0.43
1:G:864:PRO:HD2	1:G:867:LEU:HD12	2.00	0.43
1:G:983:THR:O	1:G:987:ARG:N	2.47	0.43
1:G:2778:GLY:HA3	1:G:2787:THR:HB	1.99	0.43
1:G:3713:LYS:HG2	1:G:3715:LYS:H	1.84	0.43
1:G:3889:GLN:HE22	1:G:3963:ASN:HB3	1.84	0.43
1:G:4024:VAL:HG23	1:G:4027:LEU:HD12	1.99	0.43
1:G:4144:ALA:HB2	1:G:4170:ILE:HG22	2.01	0.43
1:G:4743:MET:HB3	1:G:4746:ALA:HB3	2.00	0.43
1:B:110:ARG:HA	1:B:117:TYR:HA	2.01	0.43
1:B:2102:VAL:HB	1:B:2124:LEU:HD12	2.01	0.43
1:E:1096:THR:HG23	1:E:1199:VAL:HG22	1.99	0.43
1:E:1952:GLN:HA	1:E:1955:VAL:HG12	2.01	0.43
1:I:494:LEU:HD22	1:I:515:TRP:HE1	1.84	0.43
1:I:1090:PHE:HD2	1:I:1202:LEU:HD11	1.83	0.43
1:I:1718:ILE:HG13	1:I:1719:HIS:CD2	2.53	0.43
1:I:4688:ILE:HG21	1:I:4728:HIS:HB3	1.99	0.43
1:G:345:LEU:HD23	1:G:389:PHE:HB3	2.01	0.43
2:J:90:VAL:HG12	2:J:91:ILE:HG12	2.00	0.43
1:B:4719:PHE:HD1	1:B:4722:ARG:HD3	1.84	0.43
1:B:4782:VAL:O	1:B:4785:THR:OG1	2.28	0.43
1:E:232:THR:HB	1:E:252:VAL:HG11	2.01	0.43
1:E:3927:GLN:O	1:E:3931:SER:N	2.49	0.43
1:I:218:HIS:HB3	1:I:392:ARG:HD3	2.00	0.43
1:I:349:GLN:HE21	1:I:354:GLY:HA2	1.84	0.43
1:I:864:PRO:HD2	1:I:867:LEU:HD12	2.00	0.43
1:I:1841:VAL:HA	1:I:1844:LEU:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1936:LYS:O	1:G:1940:CYS:N	2.45	0.43
1:B:494:LEU:HD22	1:B:515:TRP:HE1	1.84	0.43
1:B:1679:ASN:O	1:B:1683:HIS:ND1	2.37	0.43
1:B:3646:THR:O	1:B:3650:CYS:N	2.49	0.43
1:B:3829:PHE:HA	1:B:3832:ILE:HD12	2.00	0.43
1:B:4104:THR:HG22	1:B:4106:PRO:HD2	2.01	0.43
1:E:21:VAL:HG12	1:E:66:CYS:HA	2.00	0.43
1:E:2102:VAL:HB	1:E:2124:LEU:HD12	2.01	0.43
1:I:2102:VAL:HB	1:I:2124:LEU:HD12	2.01	0.43
1:I:2751:LEU:HD11	1:I:2823:ILE:HG21	2.01	0.43
1:I:4144:ALA:HB2	1:I:4170:ILE:HG22	2.01	0.43
1:I:4702:ASP:HA	1:I:4778:TRP:HE1	1.84	0.43
1:G:349:GLN:HE21	1:G:354:GLY:HA2	1.84	0.43
1:G:1089:TYR:N	1:G:1224:GLU:O	2.51	0.43
1:G:1096:THR:HG23	1:G:1199:VAL:HG22	2.00	0.43
1:G:1865:MET:SD	1:G:1865:MET:N	2.91	0.43
1:G:2102:VAL:HB	1:G:2124:LEU:HD12	2.01	0.43
1:G:4702:ASP:HA	1:G:4778:TRP:HE1	1.84	0.43
1:B:345:LEU:HD23	1:B:389:PHE:HB3	2.01	0.42
1:B:876:GLU:O	1:B:880:GLU:N	2.51	0.42
1:B:1244:GLN:HB3	1:B:1646:ARG:HH12	1.83	0.42
1:B:2318:TYR:OH	1:B:2414:ASN:N	2.52	0.42
1:B:4049:VAL:HG21	1:B:4159:ARG:HD2	2.01	0.42
1:B:4743:MET:HB3	1:B:4746:ALA:HB3	2.00	0.42
1:E:494:LEU:HD22	1:E:515:TRP:HE1	1.84	0.42
1:E:864:PRO:HD2	1:E:867:LEU:HD12	2.00	0.42
1:E:1865:MET:SD	1:E:1865:MET:N	2.91	0.42
1:E:4049:VAL:HG21	1:E:4159:ARG:HD2	2.01	0.42
1:I:345:LEU:HD23	1:I:389:PHE:HB3	2.01	0.42
1:I:488:LEU:HD23	1:I:491:ILE:HD12	2.00	0.42
1:I:2247:GLN:O	1:I:2279:SER:OG	2.37	0.42
1:G:1718:ILE:HG13	1:G:1719:HIS:CD2	2.53	0.42
1:G:1848:LEU:HD22	1:G:1853:ILE:HG13	2.01	0.42
1:G:2517:UNK:O	1:G:2521:UNK:N	2.52	0.42
1:G:2869:ARG:HH12	1:G:2945:UNK:C	2.31	0.42
1:B:349:GLN:HE21	1:B:354:GLY:HA2	1.84	0.42
1:B:1854:PHE:HD1	1:B:1858:ASP:HB3	1.83	0.42
1:B:2021:CYS:HA	1:B:2022:PRO:HD3	1.93	0.42
1:E:23:GLN:HE21	1:E:34:LYS:HB3	1.84	0.42
1:E:349:GLN:HE21	1:E:354:GLY:HA2	1.84	0.42
1:E:615:ARG:NH1	1:E:1677:GLY:O	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:1848:LEU:HD22	1:E:1853:ILE:HG13	2.01	0.42
1:I:23:GLN:HE21	1:I:34:LYS:HB3	1.84	0.42
1:I:983:THR:O	1:I:987:ARG:N	2.47	0.42
1:I:3829:PHE:HA	1:I:3832:ILE:HD12	2.00	0.42
1:I:4069:LYS:HD2	1:I:4133:GLN:HG3	2.00	0.42
1:G:663:TYR:HB2	1:G:808:TYR:HB3	2.01	0.42
1:G:4229:GLU:HA	1:G:4232:GLU:HB3	2.01	0.42
1:B:21:VAL:HG12	1:B:66:CYS:HA	2.00	0.42
1:B:4229:GLU:HA	1:B:4232:GLU:HB3	2.02	0.42
1:E:1863:LEU:HB3	1:E:1870:VAL:HG11	2.01	0.42
1:E:3754:GLU:HA	1:E:3757:GLU:HG2	2.01	0.42
1:I:627:PRO:HB2	2:J:92:PRO:HD3	2.00	0.42
1:I:750:LEU:HD21	1:I:777:PHE:HE2	1.83	0.42
1:I:1516:UNK:N	1:I:1529:UNK:O	2.52	0.42
1:I:1668:ARG:HA	1:I:1671:ARG:HH11	1.84	0.42
1:I:1838:PHE:HB3	1:I:1842:LEU:HD11	2.02	0.42
1:I:1848:LEU:HD22	1:I:1853:ILE:HG13	2.01	0.42
1:I:1952:GLN:HA	1:I:1955:VAL:HG12	2.01	0.42
1:I:4229:GLU:HA	1:I:4232:GLU:HB3	2.01	0.42
1:B:379:HIS:CD2	1:B:381:GLU:H	2.38	0.42
1:B:635:THR:HB	1:B:1639:LEU:HD23	2.02	0.42
1:B:1685:LEU:HD22	1:B:1718:ILE:HD13	2.01	0.42
1:B:1841:VAL:HA	1:B:1844:LEU:HB3	2.01	0.42
1:B:3889:GLN:HE22	1:B:3963:ASN:HB3	1.84	0.42
1:E:247:TYR:HB2	1:E:374:LYS:HB2	2.02	0.42
1:E:1841:VAL:HA	1:E:1844:LEU:HB3	2.01	0.42
1:E:2286:LEU:HA	1:E:2289:ALA:HB3	2.01	0.42
1:E:3829:PHE:HA	1:E:3832:ILE:HD12	2.00	0.42
1:I:1269:CYS:HA	1:I:1473:UNK:HA	2.01	0.42
1:I:2517:UNK:O	1:I:2521:UNK:N	2.52	0.42
1:I:3889:GLN:HE22	1:I:3963:ASN:HB3	1.84	0.42
1:G:232:THR:HB	1:G:252:VAL:HG11	2.01	0.42
1:G:1778:SER:N	1:G:1799:SER:O	2.52	0.42
1:G:2247:GLN:O	1:G:2279:SER:OG	2.37	0.42
1:G:3927:GLN:O	1:G:3931:SER:N	2.49	0.42
1:G:4671:PHE:HE1	1:G:4715:TYR:HA	1.84	0.42
1:G:4822:THR:O	1:G:4825:THR:OG1	2.30	0.42
1:G:5012:LYS:O	1:G:5016:GLU:N	2.49	0.42
2:A:90:VAL:HG12	2:A:91:ILE:HG12	2.00	0.42
2:H:90:VAL:HG12	2:H:91:ILE:HG12	2.00	0.42
1:B:621:ILE:O	1:B:625:LEU:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1099:GLU:OE2	1:B:1127:HIS:ND1	2.40	0.42
1:B:1668:ARG:HA	1:B:1671:ARG:HH11	1.84	0.42
1:B:1778:SER:N	1:B:1799:SER:O	2.52	0.42
1:B:1952:GLN:HA	1:B:1955:VAL:HG12	2.01	0.42
1:B:2247:GLN:O	1:B:2279:SER:OG	2.37	0.42
1:E:110:ARG:HA	1:E:117:TYR:HA	2.01	0.42
1:E:932:LEU:HD23	1:E:935:LEU:HD12	2.02	0.42
1:E:1668:ARG:HA	1:E:1671:ARG:HH11	1.84	0.42
1:E:1778:SER:N	1:E:1799:SER:O	2.52	0.42
1:E:1796:ALA:HB1	1:E:1797:ARG:HH21	1.85	0.42
1:I:668:VAL:HG22	1:I:789:VAL:HG23	2.01	0.42
1:I:4176:PRO:O	1:I:4202:ARG:NH2	2.52	0.42
1:G:1090:PHE:HD2	1:G:1202:LEU:HD11	1.83	0.42
1:B:23:GLN:HE21	1:B:34:LYS:HB3	1.85	0.42
1:B:488:LEU:HD23	1:B:491:ILE:HD12	2.00	0.42
1:B:1848:LEU:HD22	1:B:1853:ILE:HG13	2.01	0.42
1:B:2121:PHE:O	1:B:3725:TYR:OH	2.35	0.42
1:E:283:ARG:NH2	1:E:402:ARG:HH12	2.17	0.42
1:E:299:LEU:HD13	1:E:378:LEU:HG	2.02	0.42
1:E:379:HIS:CD2	1:E:381:GLU:H	2.38	0.42
1:E:2121:PHE:O	1:E:3725:TYR:OH	2.35	0.42
1:E:2517:UNK:O	1:E:2521:UNK:N	2.53	0.42
1:E:4571:PHE:O	1:E:4575:PHE:N	2.47	0.42
1:E:4823:LEU:HD13	1:E:4826:ILE:HD12	2.01	0.42
1:E:4942:GLU:O	1:E:4946:GLN:N	2.45	0.42
1:I:2318:TYR:OH	1:I:2414:ASN:N	2.52	0.42
1:G:20:VAL:HA	1:G:205:ILE:H	1.85	0.42
1:G:932:LEU:HD23	1:G:935:LEU:HD12	2.02	0.42
1:G:1668:ARG:HA	1:G:1671:ARG:HH11	1.84	0.42
1:G:3829:PHE:HA	1:G:3832:ILE:HD12	2.00	0.42
1:B:283:ARG:NH2	1:B:402:ARG:HH12	2.17	0.42
1:B:1838:PHE:HB3	1:B:1842:LEU:HD11	2.02	0.42
1:B:2235:PHE:HA	1:B:2238:TYR:HD2	1.84	0.42
1:B:4702:ASP:HA	1:B:4778:TRP:HE1	1.84	0.42
1:B:4822:THR:O	1:B:4825:THR:OG1	2.30	0.42
1:E:45:ARG:HG2	1:E:443:LEU:HD21	2.00	0.42
1:E:1685:LEU:HD22	1:E:1718:ILE:HD13	2.01	0.42
1:E:2751:LEU:HD11	1:E:2823:ILE:HG21	2.01	0.42
1:E:4229:GLU:HA	1:E:4232:GLU:HB3	2.02	0.42
1:I:110:ARG:HA	1:I:117:TYR:HA	2.01	0.42
1:I:247:TYR:HB2	1:I:374:LYS:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:299:LEU:HD13	1:I:378:LEU:HG	2.02	0.42
1:I:4104:THR:HG22	1:I:4106:PRO:HD2	2.01	0.42
1:G:173:SER:OG	1:G:174:VAL:N	2.53	0.42
1:G:4705:VAL:HB	1:G:4778:TRP:CG	2.55	0.42
1:B:45:ARG:HG2	1:B:443:LEU:HD21	2.00	0.42
1:B:1730:MET:O	1:B:1772:ARG:NH1	2.51	0.42
1:B:2286:LEU:HA	1:B:2289:ALA:HB3	2.01	0.42
1:B:3754:GLU:HA	1:B:3757:GLU:HG2	2.01	0.42
1:E:20:VAL:HA	1:E:205:ILE:H	1.85	0.42
1:E:2247:GLN:O	1:E:2279:SER:OG	2.37	0.42
1:E:4736:ARG:O	1:E:4740:LEU:N	2.51	0.42
1:I:232:THR:HB	1:I:252:VAL:HG11	2.01	0.42
1:I:1863:LEU:HB3	1:I:1870:VAL:HG11	2.01	0.42
1:I:3713:LYS:HG2	1:I:3715:LYS:H	1.84	0.42
1:I:4049:VAL:HG21	1:I:4159:ARG:HD2	2.01	0.42
1:I:5012:LYS:O	1:I:5016:GLU:N	2.49	0.42
1:G:23:GLN:HE21	1:G:34:LYS:HB3	1.84	0.42
1:G:247:TYR:HB2	1:G:374:LYS:HB2	2.02	0.42
1:B:173:SER:OG	1:B:174:VAL:N	2.53	0.42
1:B:3713:LYS:HG2	1:B:3715:LYS:H	1.84	0.42
1:I:211:GLU:OE2	1:I:3907:THR:OG1	2.38	0.42
1:I:1778:SER:N	1:I:1799:SER:O	2.52	0.42
1:I:2235:PHE:HA	1:I:2238:TYR:HD2	1.85	0.42
1:G:45:ARG:HG2	1:G:443:LEU:HD21	2.00	0.42
1:G:110:ARG:HA	1:G:117:TYR:HA	2.01	0.42
1:G:299:LEU:HD13	1:G:378:LEU:HG	2.02	0.42
1:G:635:THR:HB	1:G:1639:LEU:HD23	2.02	0.42
1:G:1838:PHE:HB3	1:G:1842:LEU:HD11	2.02	0.42
1:G:4049:VAL:HG21	1:G:4159:ARG:HD2	2.01	0.42
1:G:4863:TYR:HA	1:G:4901:ILE:HG23	2.02	0.42
1:G:4987:ASN:OD1	1:G:4987:ASN:N	2.53	0.42
1:B:1663:HIS:O	1:B:1667:LEU:N	2.51	0.42
1:B:1796:ALA:HB1	1:B:1797:ARG:HH21	1.85	0.42
1:B:2871:LEU:HD22	1:B:2927:LEU:HD22	2.02	0.42
1:B:4823:LEU:HD13	1:B:4826:ILE:HD12	2.01	0.42
1:E:173:SER:OG	1:E:174:VAL:N	2.53	0.42
1:E:3646:THR:O	1:E:3650:CYS:N	2.49	0.42
1:I:629:ARG:NH2	2:J:89:GLY:O	2.53	0.42
1:I:793:LEU:HG	1:I:1625:GLY:HA2	2.02	0.42
1:I:1685:LEU:HD22	1:I:1718:ILE:HD13	2.01	0.42
1:I:4863:TYR:HA	1:I:4901:ILE:HG23	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:1679:ASN:O	1:G:1683:HIS:ND1	2.37	0.42
1:B:247:TYR:HB2	1:B:374:LYS:HB2	2.02	0.41
1:B:2751:LEU:HD11	1:B:2823:ILE:HG21	2.01	0.41
1:E:467:LYS:O	1:E:471:LEU:N	2.53	0.41
1:E:2272:PRO:HA	1:E:2275:VAL:HG12	2.02	0.41
1:E:4961:CYS:HB3	1:E:4983:HIS:HE1	1.85	0.41
1:I:467:LYS:O	1:I:471:LEU:N	2.53	0.41
1:I:1687:SER:OG	2:J:90:VAL:HG22	2.20	0.41
1:G:379:HIS:CD2	1:G:381:GLU:H	2.38	0.41
1:G:707:VAL:HG23	1:G:713:SER:HB2	2.02	0.41
1:G:4176:PRO:O	1:G:4202:ARG:NH2	2.53	0.41
1:B:233:ILE:HD12	1:B:242:ARG:HB3	2.02	0.41
1:B:793:LEU:HD12	1:B:797:HIS:HB2	2.02	0.41
1:B:2517:UNK:O	1:B:2521:UNK:N	2.53	0.41
1:B:2869:ARG:HH12	1:B:2945:UNK:C	2.33	0.41
1:B:4176:PRO:O	1:B:4202:ARG:NH2	2.52	0.41
1:E:233:ILE:HD12	1:E:242:ARG:HB3	2.02	0.41
1:E:635:THR:HB	1:E:1639:LEU:HD23	2.01	0.41
1:E:793:LEU:HD12	1:E:797:HIS:HB2	2.02	0.41
1:E:1154:ASP:O	1:E:1158:ASN:N	2.53	0.41
1:E:2235:PHE:HA	1:E:2238:TYR:HD2	1.84	0.41
1:E:3779:VAL:HG23	1:E:3780:LEU:HD12	2.02	0.41
1:E:4176:PRO:O	1:E:4202:ARG:NH2	2.53	0.41
1:E:4702:ASP:HA	1:E:4778:TRP:HE1	1.84	0.41
1:I:233:ILE:HD12	1:I:242:ARG:HB3	2.02	0.41
1:I:793:LEU:HD12	1:I:797:HIS:HB2	2.02	0.41
1:I:2286:LEU:HA	1:I:2289:ALA:HB3	2.01	0.41
1:I:3754:GLU:HA	1:I:3757:GLU:HG2	2.01	0.41
1:I:4987:ASN:OD1	1:I:4987:ASN:N	2.53	0.41
1:G:463:GLU:O	1:G:466:SER:OG	2.31	0.41
1:G:500:ALA:HA	1:G:503:PHE:HB3	2.02	0.41
1:G:793:LEU:HD12	1:G:797:HIS:HB2	2.02	0.41
1:G:876:GLU:O	1:G:880:GLU:N	2.51	0.41
1:G:1841:VAL:HA	1:G:1844:LEU:HB3	2.01	0.41
2:F:55:VAL:HG23	2:F:60:GLU:HB2	2.02	0.41
1:B:33:LEU:HD12	1:B:53:SER:HB2	2.03	0.41
1:B:4705:VAL:HB	1:B:4778:TRP:CG	2.55	0.41
1:B:4987:ASN:OD1	1:B:4987:ASN:N	2.53	0.41
1:E:4044:MET:HA	1:E:4047:MET:HG2	2.03	0.41
1:E:4705:VAL:HB	1:E:4778:TRP:CG	2.55	0.41
1:E:4863:TYR:HA	1:E:4901:ILE:HG23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:173:SER:OG	1:I:174:VAL:N	2.53	0.41
1:I:932:LEU:HD23	1:I:935:LEU:HD12	2.01	0.41
1:I:2871:LEU:HD22	1:I:2927:LEU:HD22	2.02	0.41
1:I:4823:LEU:HD13	1:I:4826:ILE:HD12	2.01	0.41
1:G:414:PHE:HE1	1:G:436:LEU:HB3	1.86	0.41
1:G:668:VAL:HG22	1:G:789:VAL:HG23	2.01	0.41
1:G:731:THR:OG1	1:G:1520:UNK:O	2.38	0.41
1:G:1796:ALA:HB1	1:G:1797:ARG:HH21	1.85	0.41
1:G:2297:LYS:O	1:G:2301:TYR:N	2.51	0.41
1:G:2318:TYR:OH	1:G:2414:ASN:N	2.52	0.41
1:G:2751:LEU:HD11	1:G:2823:ILE:HG21	2.01	0.41
1:G:4736:ARG:O	1:G:4740:LEU:N	2.51	0.41
1:B:299:LEU:HD13	1:B:378:LEU:HG	2.02	0.41
1:B:663:TYR:HB2	1:B:808:TYR:HB3	2.00	0.41
1:B:4044:MET:HA	1:B:4047:MET:HG2	2.03	0.41
1:E:243:ARG:HA	1:E:301:VAL:HB	2.02	0.41
1:E:668:VAL:HG22	1:E:789:VAL:HG23	2.01	0.41
1:E:4987:ASN:OD1	1:E:4987:ASN:N	2.53	0.41
1:I:500:ALA:HA	1:I:503:PHE:HB3	2.02	0.41
1:I:870:ILE:HD12	1:I:870:ILE:HA	1.88	0.41
1:I:1931:LEU:HD22	1:I:1935:VAL:HG11	2.03	0.41
1:I:2430:ILE:HG21	1:I:2502:UNK:HA	2.02	0.41
1:I:4961:CYS:HB3	1:I:4983:HIS:HE1	1.85	0.41
1:G:410:LEU:HD21	1:G:441:VAL:HA	2.03	0.41
1:G:2286:LEU:HA	1:G:2289:ALA:HB3	2.01	0.41
1:G:4044:MET:HA	1:G:4047:MET:HG2	2.03	0.41
1:B:467:LYS:O	1:B:471:LEU:N	2.53	0.41
1:B:1931:LEU:HD22	1:B:1935:VAL:HG11	2.03	0.41
1:B:2104:ARG:HA	1:B:2107:GLN:HB3	2.03	0.41
1:B:3779:VAL:HG23	1:B:3780:LEU:HD12	2.02	0.41
1:B:4184:MET:HE1	1:B:4188:ARG:HA	2.03	0.41
1:E:533:ASN:ND2	1:E:536:ASN:OD1	2.47	0.41
1:E:876:GLU:O	1:E:880:GLU:N	2.51	0.41
1:E:2297:LYS:O	1:E:2301:TYR:N	2.51	0.41
1:E:4105:GLY:HA2	1:E:4108:ILE:HD12	2.02	0.41
1:I:379:HIS:CD2	1:I:381:GLU:H	2.38	0.41
1:I:707:VAL:HG23	1:I:713:SER:HB2	2.02	0.41
1:I:1796:ALA:HB1	1:I:1797:ARG:HH21	1.85	0.41
1:G:211:GLU:OE2	1:G:3907:THR:OG1	2.38	0.41
1:G:1685:LEU:HD22	1:G:1718:ILE:HD13	2.01	0.41
1:G:2104:ARG:HA	1:G:2107:GLN:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:4823:LEU:HD13	1:G:4826:ILE:HD12	2.01	0.41
2:A:55:VAL:HG23	2:A:60:GLU:HB2	2.02	0.41
1:B:20:VAL:HA	1:B:205:ILE:H	1.85	0.41
1:B:668:VAL:HG22	1:B:789:VAL:HG23	2.01	0.41
1:B:1936:LYS:O	1:B:1940:CYS:N	2.45	0.41
1:B:4568:PHE:HA	1:B:4571:PHE:HD2	1.86	0.41
1:E:211:GLU:OE2	1:E:3907:THR:OG1	2.38	0.41
1:E:711:LEU:HD13	1:E:1513:UNK:HA	2.02	0.41
1:I:243:ARG:HA	1:I:301:VAL:HB	2.02	0.41
1:I:3832:ILE:O	1:I:3836:MET:N	2.47	0.41
1:G:1099:GLU:OE2	1:G:1127:HIS:ND1	2.40	0.41
1:G:1235:THR:OG1	1:G:1607:ARG:NE	2.54	0.41
1:G:2272:PRO:HA	1:G:2275:VAL:HG12	2.02	0.41
1:G:4568:PHE:HA	1:G:4571:PHE:HD2	1.86	0.41
1:G:4833:ASN:ND2	1:G:4935:LEU:O	2.54	0.41
1:B:181:HIS:ND1	1:B:195:PHE:HB2	2.36	0.41
1:B:243:ARG:HA	1:B:301:VAL:HB	2.02	0.41
1:B:932:LEU:HD23	1:B:935:LEU:HD12	2.01	0.41
1:B:4863:TYR:HA	1:B:4901:ILE:HG23	2.02	0.41
1:E:257:ARG:O	1:E:284:HIS:NE2	2.44	0.41
1:E:793:LEU:HG	1:E:1625:GLY:HA2	2.02	0.41
1:E:1838:PHE:HB3	1:E:1842:LEU:HD11	2.02	0.41
1:E:2104:ARG:HA	1:E:2107:GLN:HB3	2.03	0.41
1:E:3915:ILE:H	1:E:3915:ILE:HG13	1.71	0.41
1:I:33:LEU:HD12	1:I:53:SER:HB2	2.03	0.41
1:G:1663:HIS:O	1:G:1667:LEU:N	2.50	0.41
1:G:3552:UNK:O	1:G:3556:UNK:N	2.54	0.41
1:G:3754:GLU:HA	1:G:3757:GLU:HG2	2.01	0.41
1:G:4961:CYS:HB3	1:G:4983:HIS:HE1	1.85	0.41
1:B:500:ALA:HA	1:B:503:PHE:HB3	2.02	0.41
1:E:153:ALA:HA	1:E:170:ILE:HG12	2.03	0.41
1:E:181:HIS:ND1	1:E:195:PHE:HB2	2.36	0.41
1:E:621:ILE:O	1:E:625:LEU:N	2.53	0.41
1:I:4044:MET:HA	1:I:4047:MET:HG2	2.03	0.41
1:G:233:ILE:HD12	1:G:242:ARG:HB3	2.02	0.41
1:G:533:ASN:ND2	1:G:536:ASN:OD1	2.47	0.41
1:G:2235:PHE:HA	1:G:2238:TYR:HD2	1.85	0.41
2:H:55:VAL:HG23	2:H:60:GLU:HB2	2.02	0.41
1:B:153:ALA:HA	1:B:170:ILE:HG12	2.03	0.41
1:B:211:GLU:OE2	1:B:3907:THR:OG1	2.38	0.41
1:B:793:LEU:HG	1:B:1625:GLY:HA2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1235:THR:OG1	1:B:1607:ARG:NE	2.54	0.41
1:B:1284:UNK:HA	1:B:1463:UNK:HA	2.03	0.41
1:B:3994:HIS:O	1:B:3998:HIS:ND1	2.45	0.41
1:B:4961:CYS:HB3	1:B:4983:HIS:HE1	1.84	0.41
1:E:414:PHE:HE1	1:E:436:LEU:HB3	1.86	0.41
1:E:2788:HIS:CE1	1:E:2790:MET:HB2	2.56	0.41
1:E:2871:LEU:HD22	1:E:2927:LEU:HD22	2.02	0.41
1:E:3992:PHE:O	1:E:3996:PHE:N	2.43	0.41
1:I:533:ASN:ND2	1:I:536:ASN:OD1	2.48	0.41
1:I:3552:UNK:O	1:I:3556:UNK:N	2.54	0.41
1:I:4147:LEU:O	1:I:4151:SER:OG	2.32	0.41
1:G:1730:MET:O	1:G:1772:ARG:NH1	2.51	0.41
1:G:2871:LEU:HD22	1:G:2927:LEU:HD22	2.02	0.41
1:G:3994:HIS:O	1:G:3998:HIS:ND1	2.45	0.41
1:G:4208:PRO:HA	1:G:4211:LYS:HB3	2.03	0.41
2:F:23:VAL:HB	2:F:105:ASN:HA	2.03	0.41
2:A:23:VAL:HB	2:A:105:ASN:HA	2.03	0.41
2:H:83:GLY:HA2	2:H:94:ASN:H	1.86	0.41
2:J:83:GLY:HA2	2:J:94:ASN:H	1.86	0.41
1:B:707:VAL:HG23	1:B:713:SER:HB2	2.02	0.41
1:B:2788:HIS:CE1	1:B:2790:MET:HB2	2.56	0.41
1:B:4860:ARG:HD2	1:E:4582:VAL:HG11	2.03	0.41
1:E:410:LEU:HD21	1:E:441:VAL:HA	2.03	0.41
1:E:3552:UNK:O	1:E:3556:UNK:N	2.54	0.41
1:I:410:LEU:HD21	1:I:441:VAL:HA	2.03	0.41
1:I:550:LYS:HD3	1:I:550:LYS:HA	1.91	0.41
1:I:3779:VAL:HG23	1:I:3780:LEU:HD12	2.02	0.41
1:I:4105:GLY:HA2	1:I:4108:ILE:HD12	2.02	0.41
1:I:4705:VAL:HB	1:I:4778:TRP:CG	2.55	0.41
1:G:181:HIS:ND1	1:G:195:PHE:HB2	2.36	0.41
1:G:2287:ALA:HA	1:G:2290:LEU:HD13	2.03	0.41
1:G:4105:GLY:HA2	1:G:4108:ILE:HD12	2.02	0.41
1:G:4782:VAL:O	1:G:4785:THR:OG1	2.29	0.41
1:B:18:ASP:HB2	1:B:69:LEU:HD12	2.03	0.40
1:B:414:PHE:HE1	1:B:436:LEU:HB3	1.86	0.40
1:B:4208:PRO:HA	1:B:4211:LYS:HB3	2.03	0.40
1:E:33:LEU:HD12	1:E:53:SER:HB2	2.03	0.40
1:E:157:ARG:HH21	1:E:164:ARG:HD2	1.86	0.40
1:E:3994:HIS:O	1:E:3998:HIS:ND1	2.45	0.40
1:I:18:ASP:HB2	1:I:69:LEU:HD12	2.03	0.40
1:I:736:HIS:HB2	2:J:7:ILE:HG23	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:1235:THR:OG1	1:I:1607:ARG:NE	2.54	0.40
1:I:2104:ARG:HA	1:I:2107:GLN:HB3	2.03	0.40
1:I:4055:VAL:O	1:I:4059:LEU:N	2.54	0.40
1:I:4961:CYS:HB2	1:I:4963:ILE:HD12	2.03	0.40
1:G:157:ARG:HH21	1:G:164:ARG:HD2	1.86	0.40
1:G:793:LEU:HG	1:G:1625:GLY:HA2	2.02	0.40
1:G:2788:HIS:CE1	1:G:2790:MET:HB2	2.56	0.40
1:G:4561:THR:O	1:G:4565:LEU:N	2.54	0.40
1:B:2039:LEU:HA	1:B:2042:CYS:HB3	2.04	0.40
1:B:2272:PRO:HA	1:B:2275:VAL:HG12	2.02	0.40
1:B:3552:UNK:O	1:B:3556:UNK:N	2.54	0.40
1:B:4105:GLY:HA2	1:B:4108:ILE:HD12	2.02	0.40
1:B:4736:ARG:O	1:B:4740:LEU:N	2.51	0.40
1:I:711:LEU:HD13	1:I:1513:UNK:HA	2.02	0.40
1:I:1154:ASP:O	1:I:1158:ASN:N	2.53	0.40
1:I:4208:PRO:HA	1:I:4211:LYS:HB3	2.04	0.40
1:G:1154:ASP:O	1:G:1158:ASN:N	2.53	0.40
1:G:3694:LYS:HA	1:G:3695:PRO:HD3	1.96	0.40
1:G:3779:VAL:HG23	1:G:3780:LEU:HD12	2.02	0.40
2:A:83:GLY:HA2	2:A:94:ASN:H	1.86	0.40
1:B:1092:PHE:N	1:B:1149:VAL:O	2.38	0.40
1:E:71:GLN:O	1:E:108:LEU:N	2.54	0.40
1:I:20:VAL:HA	1:I:205:ILE:H	1.85	0.40
1:I:181:HIS:ND1	1:I:195:PHE:HB2	2.36	0.40
1:I:635:THR:HB	1:I:1639:LEU:HD23	2.01	0.40
1:I:2297:LYS:O	1:I:2301:TYR:N	2.51	0.40
1:G:467:LYS:O	1:G:471:LEU:N	2.53	0.40
1:G:1931:LEU:HD22	1:G:1935:VAL:HG11	2.03	0.40
1:G:2039:LEU:HA	1:G:2042:CYS:HB3	2.03	0.40
1:G:4961:CYS:HB2	1:G:4963:ILE:HD12	2.03	0.40
1:B:157:ARG:HH21	1:B:164:ARG:HD2	1.86	0.40
1:B:1497:UNK:HA	1:B:1535:UNK:HA	2.03	0.40
1:B:4961:CYS:HB2	1:B:4963:ILE:HD12	2.03	0.40
1:E:4208:PRO:HA	1:E:4211:LYS:HB3	2.03	0.40
1:E:4958:CYS:SG	1:E:4959:PHE:N	2.95	0.40
1:I:1970:GLN:HA	1:I:3641:LEU:HG	2.03	0.40
1:I:2212:VAL:O	1:I:2216:GLY:N	2.51	0.40
1:I:4833:ASN:ND2	1:I:4935:LEU:O	2.54	0.40
1:G:1970:GLN:HA	1:G:3641:LEU:HG	2.04	0.40
1:G:2212:VAL:O	1:G:2216:GLY:N	2.51	0.40
1:G:3362:UNK:O	1:G:3366:UNK:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:111:HIS:N	1:B:116:MET:O	2.44	0.40
1:B:410:LEU:HD21	1:B:441:VAL:HA	2.03	0.40
1:B:2287:ALA:HA	1:B:2290:LEU:HD13	2.04	0.40
1:E:25:SER:HA	1:E:34:LYS:HA	2.04	0.40
1:E:500:ALA:HA	1:E:503:PHE:HB3	2.02	0.40
1:E:3663:LEU:H	1:E:3663:LEU:HG	1.64	0.40
1:E:4183:ILE:O	1:E:4191:GLU:N	2.38	0.40
1:E:4833:ASN:ND2	1:E:4935:LEU:O	2.54	0.40
1:I:71:GLN:O	1:I:108:LEU:N	2.54	0.40
1:I:153:ALA:HA	1:I:170:ILE:HG12	2.03	0.40
1:I:3663:LEU:H	1:I:3663:LEU:HG	1.64	0.40
1:G:621:ILE:O	1:G:625:LEU:N	2.53	0.40
2:J:23:VAL:HB	2:J:105:ASN:HA	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	B	3235/4687 (69%)	2897 (90%)	334 (10%)	4 (0%)	51	85
1	E	3235/4687 (69%)	2895 (90%)	336 (10%)	4 (0%)	51	85
1	G	3235/4687 (69%)	2896 (90%)	335 (10%)	4 (0%)	51	85
1	I	3235/4687 (69%)	2895 (90%)	336 (10%)	4 (0%)	51	85
2	A	105/107 (98%)	95 (90%)	10 (10%)	0	100	100
2	F	105/107 (98%)	95 (90%)	10 (10%)	0	100	100
2	H	105/107 (98%)	95 (90%)	10 (10%)	0	100	100
2	J	105/107 (98%)	95 (90%)	10 (10%)	0	100	100
All	All	13360/19176 (70%)	11963 (90%)	1381 (10%)	16 (0%)	54	85

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	1708	ARG
1	E	1708	ARG
1	I	1708	ARG
1	G	1708	ARG
1	B	1932	PRO
1	E	1932	PRO
1	I	1932	PRO
1	G	1932	PRO
1	B	1840	PRO
1	B	4667	PRO
1	E	1840	PRO
1	E	4667	PRO
1	I	1840	PRO
1	I	4667	PRO
1	G	1840	PRO
1	G	4667	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	B	2493/3209 (78%)	2473 (99%)	20 (1%)	81	89
1	E	2493/3209 (78%)	2473 (99%)	20 (1%)	81	89
1	G	2493/3209 (78%)	2473 (99%)	20 (1%)	81	89
1	I	2493/3209 (78%)	2473 (99%)	20 (1%)	81	89
2	A	88/88 (100%)	88 (100%)	0	100	100
2	F	88/88 (100%)	88 (100%)	0	100	100
2	H	88/88 (100%)	88 (100%)	0	100	100
2	J	88/88 (100%)	88 (100%)	0	100	100
All	All	10324/13188 (78%)	10244 (99%)	80 (1%)	82	89

All (80) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	534	ARG
1	B	553	ARG
1	B	978	THR
1	B	1076	ARG
1	B	1141	ARG
1	B	1964	ARG
1	B	3663	LEU
1	B	3770	LEU
1	B	3787	LYS
1	B	3805	LEU
1	B	3896	ASN
1	B	4034	ASN
1	B	4063	ASP
1	B	4085	ARG
1	B	4120	ASN
1	B	4137	ARG
1	B	4175	ARG
1	B	4189	ARG
1	B	4821	LYS
1	B	4985	LEU
1	E	534	ARG
1	E	553	ARG
1	E	978	THR
1	E	1076	ARG
1	E	1141	ARG
1	E	1964	ARG
1	E	3663	LEU
1	E	3770	LEU
1	E	3787	LYS
1	E	3805	LEU
1	E	3896	ASN
1	E	4034	ASN
1	E	4063	ASP
1	E	4085	ARG
1	E	4120	ASN
1	E	4137	ARG
1	E	4175	ARG
1	E	4189	ARG
1	E	4821	LYS
1	E	4985	LEU
1	I	534	ARG
1	I	553	ARG
1	I	978	THR

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Mol	Chain	Res	Type
1	I	1076	ARG
1	I	1141	ARG
1	I	1964	ARG
1	I	3663	LEU
1	I	3770	LEU
1	I	3787	LYS
1	I	3805	LEU
1	I	3896	ASN
1	I	4034	ASN
1	I	4063	ASP
1	I	4085	ARG
1	I	4120	ASN
1	I	4137	ARG
1	I	4175	ARG
1	I	4189	ARG
1	I	4821	LYS
1	I	4985	LEU
1	G	534	ARG
1	G	553	ARG
1	G	978	THR
1	G	1076	ARG
1	G	1141	ARG
1	G	1964	ARG
1	G	3663	LEU
1	G	3770	LEU
1	G	3787	LYS
1	G	3805	LEU
1	G	3896	ASN
1	G	4034	ASN
1	G	4063	ASP
1	G	4085	ARG
1	G	4120	ASN
1	G	4137	ARG
1	G	4175	ARG
1	G	4189	ARG
1	G	4821	LYS
1	G	4985	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (150) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	23	GLN

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Mol	Chain	Res	Type
1	B	57	ASN
1	B	105	HIS
1	B	111	HIS
1	B	113	HIS
1	B	203	ASN
1	B	273	HIS
1	B	379	HIS
1	B	383	HIS
1	B	395	GLN
1	B	413	GLN
1	B	479	GLN
1	B	838	HIS
1	B	1035	ASN
1	B	1158	ASN
1	B	1598	GLN
1	B	1679	ASN
1	B	1691	GLN
1	B	1719	HIS
1	B	1775	HIS
1	B	1973	GLN
1	B	2005	GLN
1	B	2127	GLN
1	B	3771	HIS
1	B	3889	GLN
1	B	3896	ASN
1	B	3946	GLN
1	B	3950	ASN
1	B	3960	GLN
1	B	3976	ASN
1	B	4120	ASN
1	B	4142	ASN
1	B	4201	ASN
1	B	4553	ASN
1	B	4714	ASN
1	B	4728	HIS
1	B	4933	GLN
1	E	23	GLN
1	E	57	ASN
1	E	105	HIS
1	E	111	HIS
1	E	113	HIS
1	E	203	ASN

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Mol	Chain	Res	Type
1	E	273	HIS
1	E	379	HIS
1	E	383	HIS
1	E	395	GLN
1	E	413	GLN
1	E	479	GLN
1	E	797	HIS
1	E	838	HIS
1	E	1035	ASN
1	E	1158	ASN
1	E	1598	GLN
1	E	1679	ASN
1	E	1691	GLN
1	E	1719	HIS
1	E	1775	HIS
1	E	1973	GLN
1	E	2005	GLN
1	E	2127	GLN
1	E	3771	HIS
1	E	3889	GLN
1	E	3896	ASN
1	E	3946	GLN
1	E	3950	ASN
1	E	3960	GLN
1	E	3976	ASN
1	E	4120	ASN
1	E	4142	ASN
1	E	4201	ASN
1	E	4553	ASN
1	E	4714	ASN
1	E	4728	HIS
1	E	4933	GLN
1	I	23	GLN
1	I	57	ASN
1	I	105	HIS
1	I	111	HIS
1	I	113	HIS
1	I	203	ASN
1	I	273	HIS
1	I	379	HIS
1	I	383	HIS
1	I	395	GLN

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Mol	Chain	Res	Type
1	I	413	GLN
1	I	479	GLN
1	I	797	HIS
1	I	838	HIS
1	I	1035	ASN
1	I	1158	ASN
1	I	1598	GLN
1	I	1679	ASN
1	I	1691	GLN
1	I	1719	HIS
1	I	1775	HIS
1	I	1973	GLN
1	I	2005	GLN
1	I	2127	GLN
1	I	3771	HIS
1	I	3889	GLN
1	I	3896	ASN
1	I	3946	GLN
1	I	3950	ASN
1	I	3960	GLN
1	I	3976	ASN
1	I	4120	ASN
1	I	4142	ASN
1	I	4201	ASN
1	I	4553	ASN
1	I	4714	ASN
1	I	4728	HIS
1	I	4933	GLN
1	G	23	GLN
1	G	57	ASN
1	G	105	HIS
1	G	111	HIS
1	G	113	HIS
1	G	203	ASN
1	G	273	HIS
1	G	379	HIS
1	G	383	HIS
1	G	395	GLN
1	G	413	GLN
1	G	479	GLN
1	G	838	HIS
1	G	1035	ASN

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Mol	Chain	Res	Type
1	G	1158	ASN
1	G	1598	GLN
1	G	1679	ASN
1	G	1691	GLN
1	G	1719	HIS
1	G	1775	HIS
1	G	1973	GLN
1	G	2005	GLN
1	G	2127	GLN
1	G	3771	HIS
1	G	3889	GLN
1	G	3896	ASN
1	G	3946	GLN
1	G	3950	ASN
1	G	3960	GLN
1	G	3976	ASN
1	G	4120	ASN
1	G	4142	ASN
1	G	4201	ASN
1	G	4553	ASN
1	G	4714	ASN
1	G	4728	HIS
1	G	4933	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 monosaccharides in this entry.

5.6 Ligand geometry

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

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	G	12
1	I	12
1	E	12
1	B	12

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	3613:UNK	C	3639:THR	N	45.09
1	I	3613:UNK	C	3639:THR	N	45.04
1	E	3613:UNK	C	3639:THR	N	45.01
1	B	3613:UNK	C	3639:THR	N	44.86
1	G	3163:UNK	C	3170:UNK	N	16.51
1	E	3163:UNK	C	3170:UNK	N	16.50
1	I	3163:UNK	C	3170:UNK	N	16.49
1	B	3163:UNK	C	3170:UNK	N	16.48
1	B	3468:UNK	C	3511:UNK	N	14.92
1	E	3468:UNK	C	3511:UNK	N	14.89
1	I	3468:UNK	C	3511:UNK	N	14.87
1	G	3468:UNK	C	3511:UNK	N	14.84
1	E	3063:UNK	C	3134:UNK	N	14.77
1	B	3063:UNK	C	3134:UNK	N	14.76
1	I	3063:UNK	C	3134:UNK	N	14.74
1	G	3063:UNK	C	3134:UNK	N	14.74
1	G	2703:UNK	C	2734:ASN	N	14.44
1	B	2703:UNK	C	2734:ASN	N	14.40

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	2703:UNK	C	2734:ASN	N	14.36
1	I	2703:UNK	C	2734:ASN	N	14.33
1	B	3236:UNK	C	3241:UNK	N	13.36
1	E	3236:UNK	C	3241:UNK	N	13.36
1	I	3236:UNK	C	3241:UNK	N	13.36
1	G	3236:UNK	C	3241:UNK	N	13.34
1	I	1564:UNK	C	1573:MET	N	12.87
1	G	1564:UNK	C	1573:MET	N	12.87
1	E	1564:UNK	C	1573:MET	N	12.84
1	B	1564:UNK	C	1573:MET	N	12.70
1	G	2976:UNK	C	2995:UNK	N	12.39
1	E	2976:UNK	C	2995:UNK	N	12.38
1	I	2976:UNK	C	2995:UNK	N	12.38
1	B	2976:UNK	C	2995:UNK	N	12.37
1	I	3254:UNK	C	3261:UNK	N	8.68
1	G	3254:UNK	C	3261:UNK	N	8.67
1	B	3254:UNK	C	3261:UNK	N	8.65
1	E	3254:UNK	C	3261:UNK	N	8.65
1	E	1297:UNK	C	1430:UNK	N	5.75
1	I	1297:UNK	C	1430:UNK	N	5.75
1	B	1297:UNK	C	1430:UNK	N	5.71
1	G	1297:UNK	C	1430:UNK	N	5.67
1	I	2939:ARG	C	2942:UNK	N	3.79
1	G	2479:LEU	C	2487:UNK	N	3.78
1	E	2939:ARG	C	2942:UNK	N	3.76
1	G	2939:ARG	C	2942:UNK	N	3.74
1	B	2939:ARG	C	2942:UNK	N	3.64
1	I	2479:LEU	C	2487:UNK	N	3.64
1	B	2479:LEU	C	2487:UNK	N	3.61
1	E	2479:LEU	C	2487:UNK	N	3.60

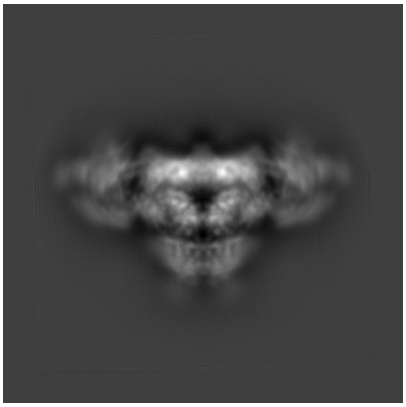
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-22393. These allow visual inspection of the internal detail of the map and identification of artifacts.

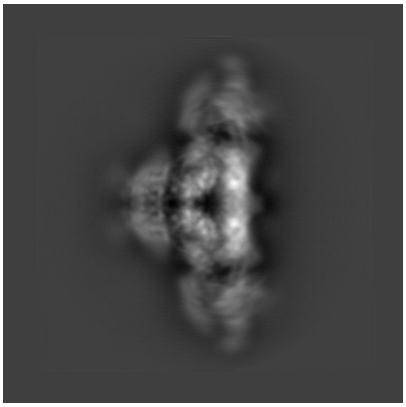
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

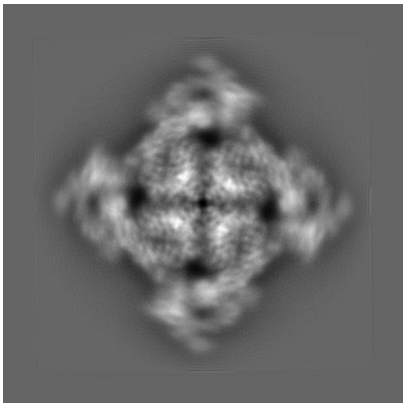
6.1.1 Primary map



X



Y

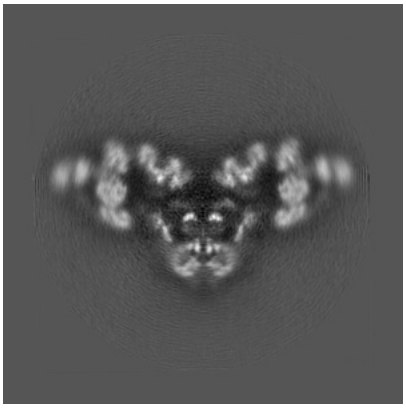


Z

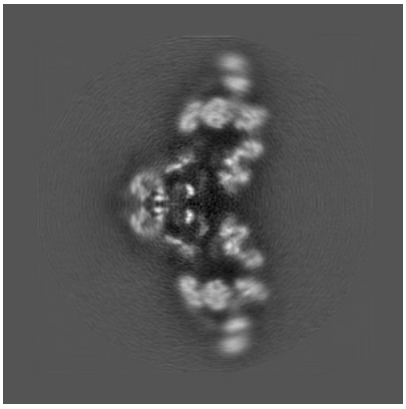
The images above show the map projected in three orthogonal directions.

6.2 Central slices

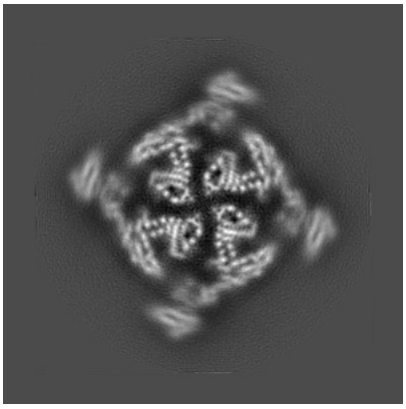
6.2.1 Primary map



X Index: 200



Y Index: 200

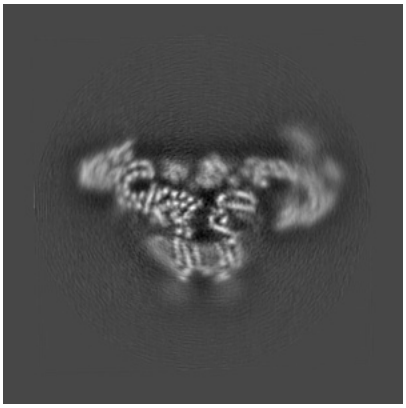


Z Index: 200

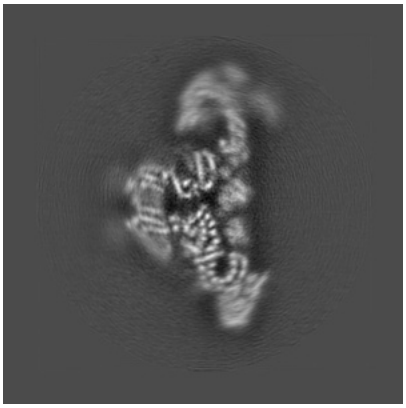
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

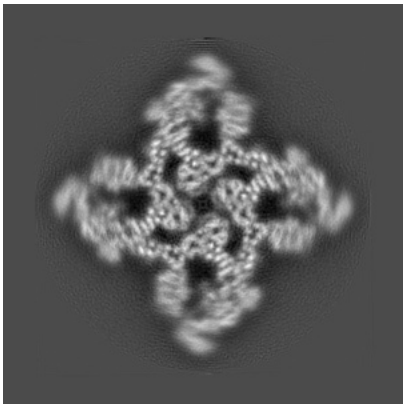
6.3.1 Primary map



X Index: 222



Y Index: 177

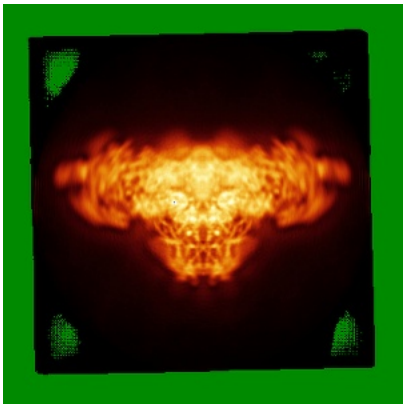


Z Index: 230

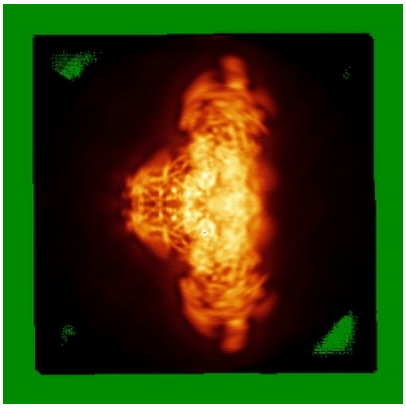
The images above show the largest variance slices of the map in three orthogonal directions.

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

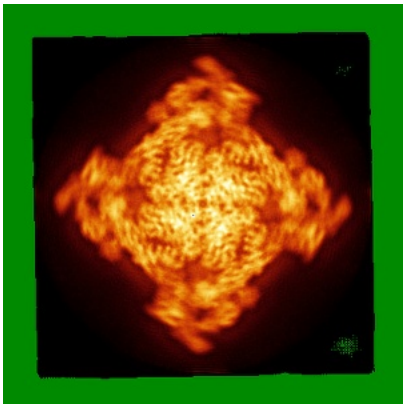
6.4.1 Primary map



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

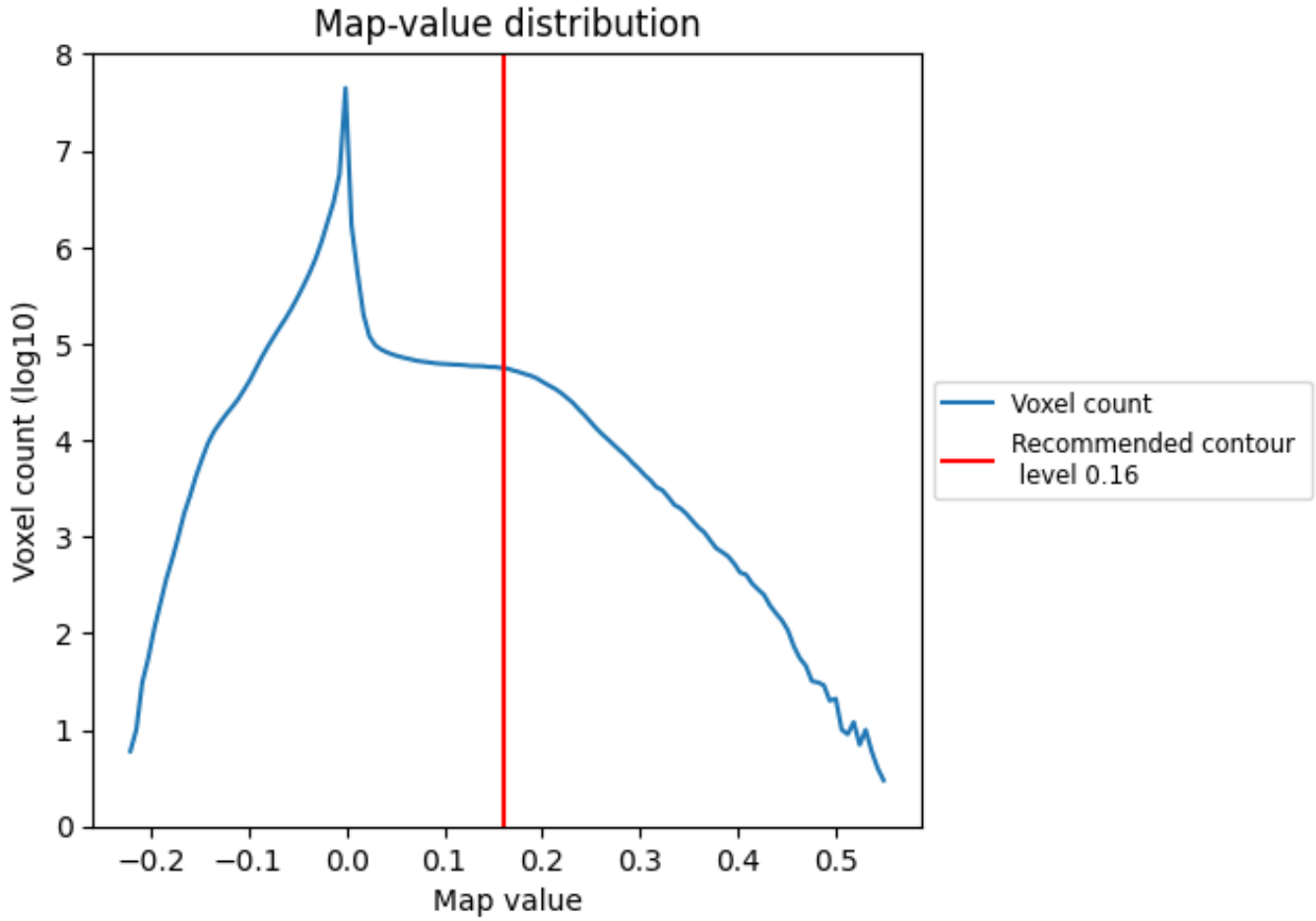
6.6 Mask visualisation (i)

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

7 Map analysis

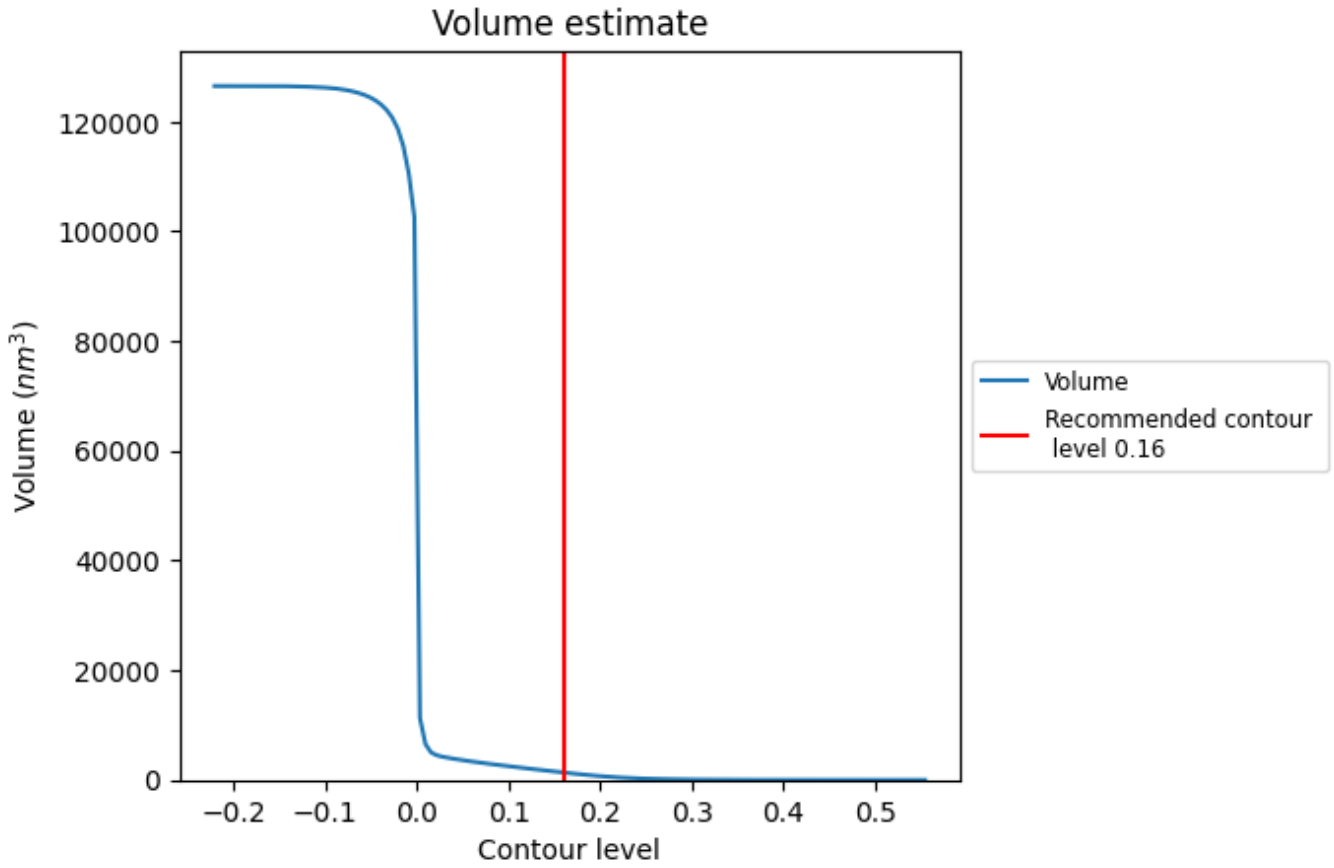
This section contains the results of statistical analysis of the map.

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.

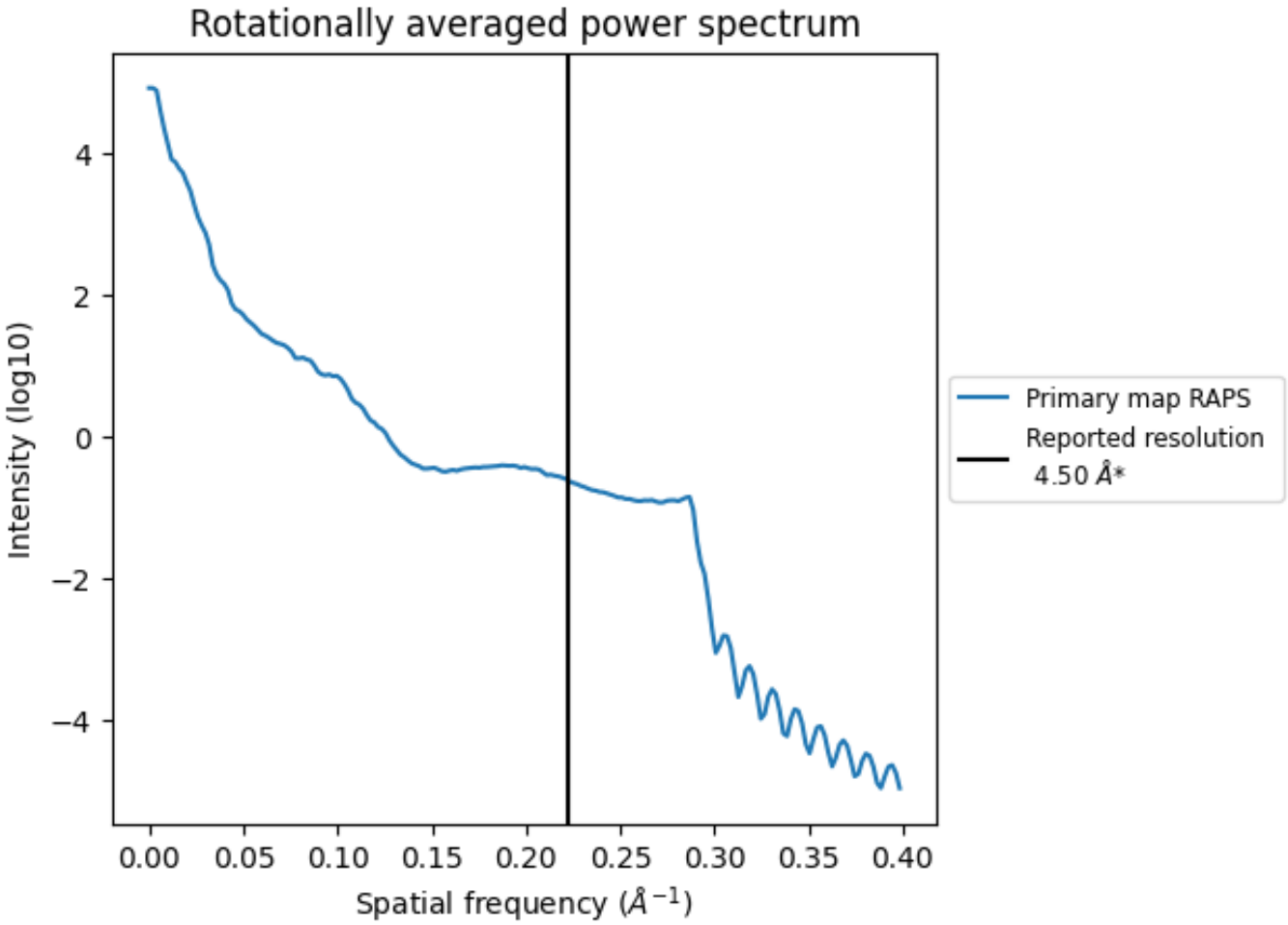
7.2 Volume estimate



The volume at the recommended contour level is 1358 nm^3; this corresponds to an approximate mass of 1227 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 0.222 Å^{-1}

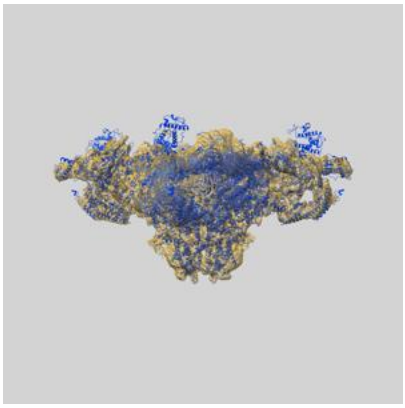
8 Fourier-Shell correlation

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

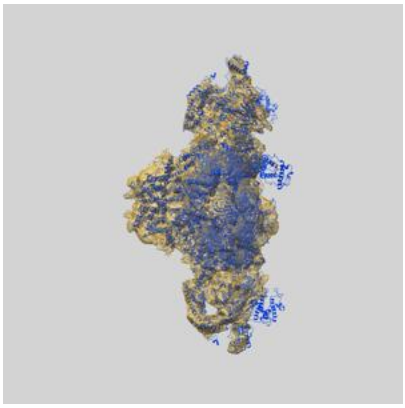
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-22393 and PDB model 7JMG. Per-residue inclusion information can be found in section 3 on page 5.

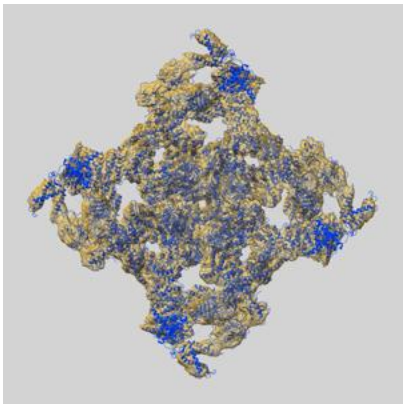
9.1 Map-model overlay



X



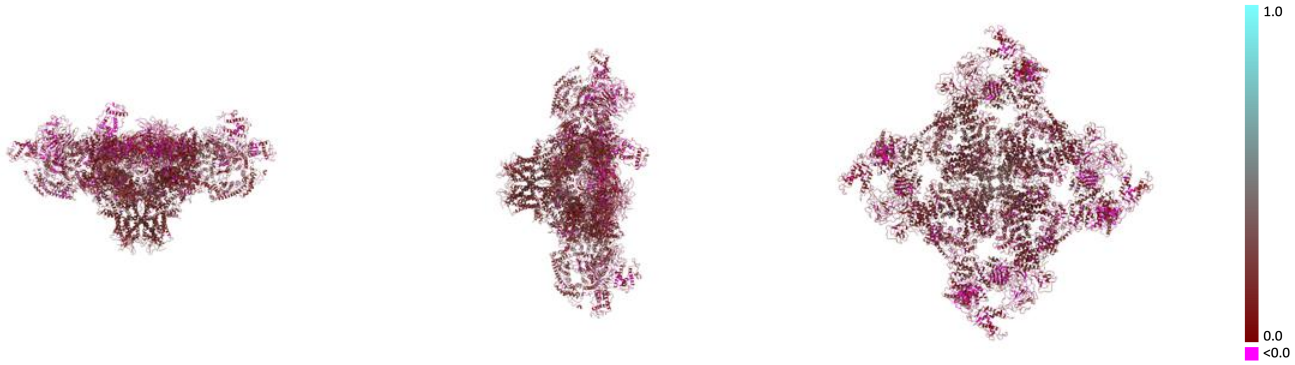
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.16 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.

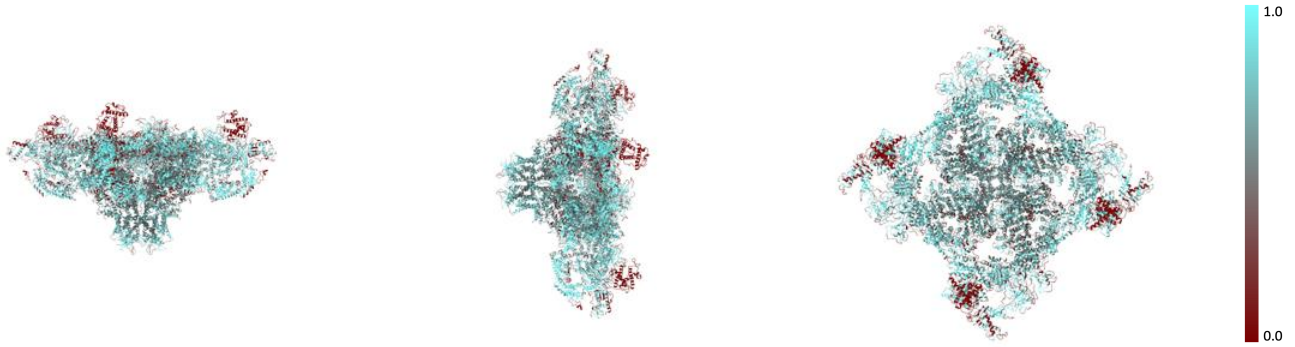
9.2 Q-score mapped to coordinate model



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.

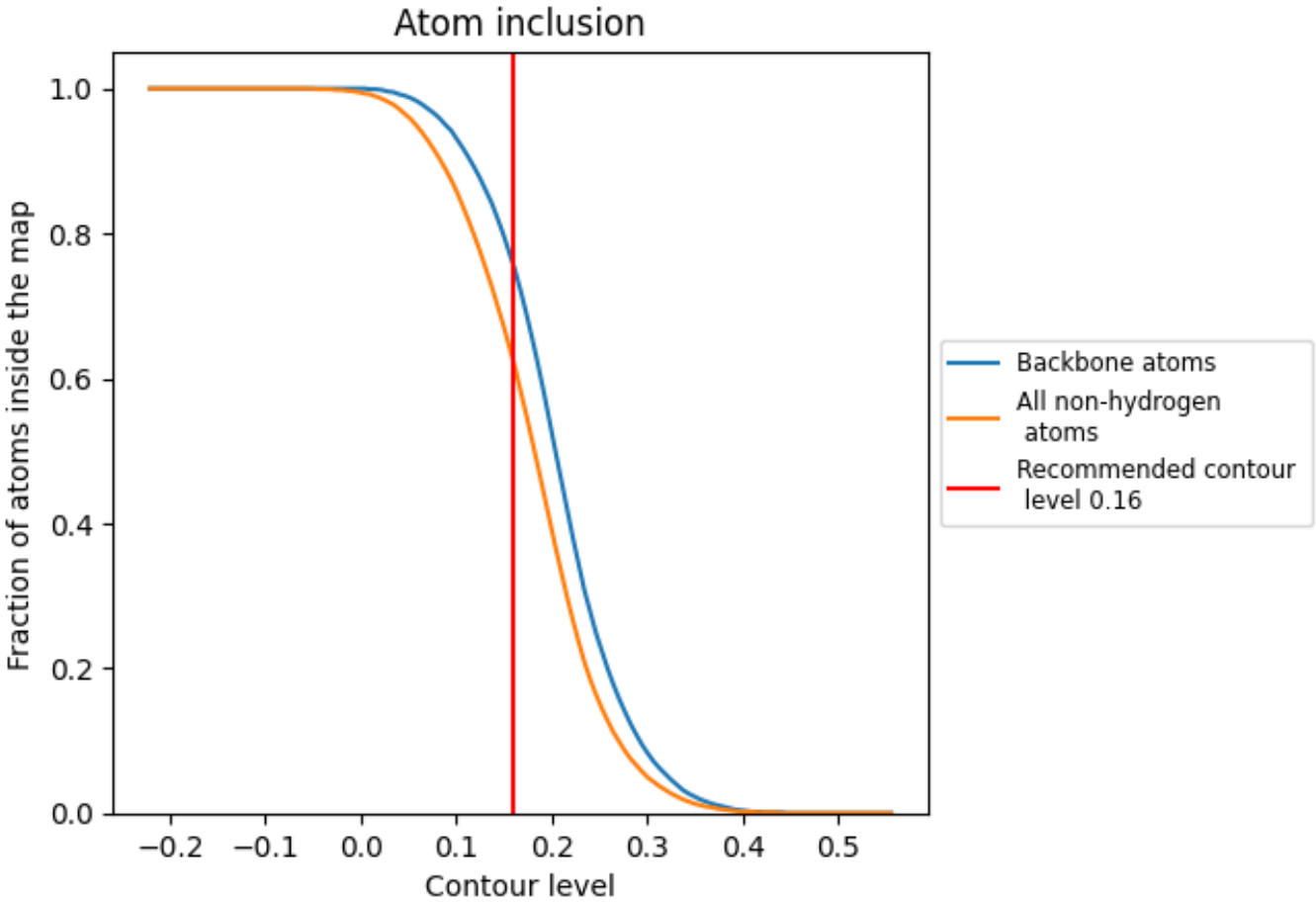
9.3 Atom inclusion mapped to coordinate model



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 (0.16).

9.4 Atom inclusion (i)



At the recommended contour level, 76% of all backbone atoms, 62% 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 (0.16) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6220	0.1550
A	0.7060	0.1500
B	0.6410	0.1760
E	0.6130	0.1450
F	0.6580	0.1250
G	0.6060	0.1410
H	0.6150	0.1140
I	0.6220	0.1600
J	0.6740	0.1360