Full wwPDB EM Validation Report ⓘ

Dec 7, 2022 – 04:09 PM JST

PDB ID	:	7VMM
EMDB ID	:	EMD-33936
Title	:	Structure of recombinant RyR2 (EGTA dataset, class 1, closed state)
Authors	:	Kobayashi, T.; Tsutsumi, A.; Kurebayashi, N.; Kodama, M.; Kikkawa, M.; Murayama, T.; Ogawa, H.
Deposited on	:	2021-10-09
Resolution	:	3.50 Å(reported)

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

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

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

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

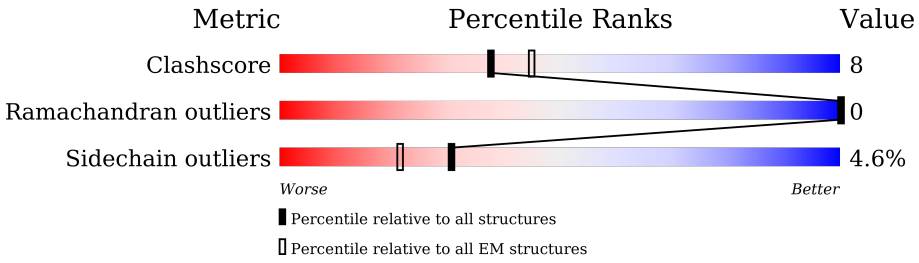
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.50 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	A	4966	26% 65% 15% • 19%
1	B	4966	26% 65% 15% • 19%
1	C	4966	26% 65% 15% • 19%
1	D	4966	26% 65% 15% • 19%
2	G	176	• 44% 16% 39%
2	H	176	• 45% 15% • 39%
2	I	176	• 43% 18% 39%
2	J	176	• 45% 16% 39%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 123564 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 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4044	Total	C	N	O	S	0	0
			30071	19035	5243	5617	176		
1	B	4044	Total	C	N	O	S	0	0
			30071	19035	5243	5617	176		
1	C	4044	Total	C	N	O	S	0	0
			30071	19035	5243	5617	176		
1	D	4044	Total	C	N	O	S	0	0
			30071	19035	5243	5617	176		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	G	107	Total	C	N	O	S	0	0
			819	516	144	155	4		
2	H	107	Total	C	N	O	S	0	0
			819	516	144	155	4		
2	I	107	Total	C	N	O	S	0	0
			819	516	144	155	4		
2	J	107	Total	C	N	O	S	0	0
			819	516	144	155	4		

There are 276 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	-67	MET	-	initiating methionine	UNP P68106
G	-66	GLY	-	expression tag	UNP P68106
G	-65	SER	-	expression tag	UNP P68106
G	-64	SER	-	expression tag	UNP P68106
G	-63	HIS	-	expression tag	UNP P68106
G	-62	HIS	-	expression tag	UNP P68106
G	-61	HIS	-	expression tag	UNP P68106
G	-60	HIS	-	expression tag	UNP P68106
G	-59	HIS	-	expression tag	UNP P68106

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
G	-58	HIS	-	expression tag	UNP P68106
G	-57	SER	-	expression tag	UNP P68106
G	-56	SER	-	expression tag	UNP P68106
G	-55	GLY	-	expression tag	UNP P68106
G	-54	LEU	-	expression tag	UNP P68106
G	-53	VAL	-	expression tag	UNP P68106
G	-52	PRO	-	expression tag	UNP P68106
G	-51	ARG	-	expression tag	UNP P68106
G	-50	GLY	-	expression tag	UNP P68106
G	-49	SER	-	expression tag	UNP P68106
G	-48	HIS	-	expression tag	UNP P68106
G	-47	MET	-	expression tag	UNP P68106
G	-46	ALA	-	expression tag	UNP P68106
G	-45	SER	-	expression tag	UNP P68106
G	-44	MET	-	expression tag	UNP P68106
G	-43	ASP	-	expression tag	UNP P68106
G	-42	GLU	-	expression tag	UNP P68106
G	-41	LYS	-	expression tag	UNP P68106
G	-40	THR	-	expression tag	UNP P68106
G	-39	THR	-	expression tag	UNP P68106
G	-38	GLY	-	expression tag	UNP P68106
G	-37	TRP	-	expression tag	UNP P68106
G	-36	ARG	-	expression tag	UNP P68106
G	-35	GLY	-	expression tag	UNP P68106
G	-34	GLY	-	expression tag	UNP P68106
G	-33	HIS	-	expression tag	UNP P68106
G	-32	VAL	-	expression tag	UNP P68106
G	-31	VAL	-	expression tag	UNP P68106
G	-30	GLU	-	expression tag	UNP P68106
G	-29	GLY	-	expression tag	UNP P68106
G	-28	LEU	-	expression tag	UNP P68106
G	-27	ALA	-	expression tag	UNP P68106
G	-26	GLY	-	expression tag	UNP P68106
G	-25	GLU	-	expression tag	UNP P68106
G	-24	LEU	-	expression tag	UNP P68106
G	-23	GLU	-	expression tag	UNP P68106
G	-22	GLN	-	expression tag	UNP P68106
G	-21	LEU	-	expression tag	UNP P68106
G	-20	ARG	-	expression tag	UNP P68106
G	-19	ALA	-	expression tag	UNP P68106
G	-18	ARG	-	expression tag	UNP P68106
G	-17	LEU	-	expression tag	UNP P68106

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
G	-16	GLU	-	expression tag	UNP P68106
G	-15	HIS	-	expression tag	UNP P68106
G	-14	HIS	-	expression tag	UNP P68106
G	-13	PRO	-	expression tag	UNP P68106
G	-12	GLN	-	expression tag	UNP P68106
G	-11	GLY	-	expression tag	UNP P68106
G	-10	GLN	-	expression tag	UNP P68106
G	-9	ARG	-	expression tag	UNP P68106
G	-8	GLU	-	expression tag	UNP P68106
G	-7	PRO	-	expression tag	UNP P68106
G	-6	GLY	-	expression tag	UNP P68106
G	-5	SER	-	expression tag	UNP P68106
G	-4	GLY	-	expression tag	UNP P68106
G	-3	GLY	-	expression tag	UNP P68106
G	-2	SER	-	expression tag	UNP P68106
G	-1	GLY	-	expression tag	UNP P68106
G	0	GLY	-	expression tag	UNP P68106
G	1	THR	-	expression tag	UNP P68106
H	-67	MET	-	initiating methionine	UNP P68106
H	-66	GLY	-	expression tag	UNP P68106
H	-65	SER	-	expression tag	UNP P68106
H	-64	SER	-	expression tag	UNP P68106
H	-63	HIS	-	expression tag	UNP P68106
H	-62	HIS	-	expression tag	UNP P68106
H	-61	HIS	-	expression tag	UNP P68106
H	-60	HIS	-	expression tag	UNP P68106
H	-59	HIS	-	expression tag	UNP P68106
H	-58	HIS	-	expression tag	UNP P68106
H	-57	SER	-	expression tag	UNP P68106
H	-56	SER	-	expression tag	UNP P68106
H	-55	GLY	-	expression tag	UNP P68106
H	-54	LEU	-	expression tag	UNP P68106
H	-53	VAL	-	expression tag	UNP P68106
H	-52	PRO	-	expression tag	UNP P68106
H	-51	ARG	-	expression tag	UNP P68106
H	-50	GLY	-	expression tag	UNP P68106
H	-49	SER	-	expression tag	UNP P68106
H	-48	HIS	-	expression tag	UNP P68106
H	-47	MET	-	expression tag	UNP P68106
H	-46	ALA	-	expression tag	UNP P68106
H	-45	SER	-	expression tag	UNP P68106
H	-44	MET	-	expression tag	UNP P68106

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
H	-43	ASP	-	expression tag	UNP P68106
H	-42	GLU	-	expression tag	UNP P68106
H	-41	LYS	-	expression tag	UNP P68106
H	-40	THR	-	expression tag	UNP P68106
H	-39	THR	-	expression tag	UNP P68106
H	-38	GLY	-	expression tag	UNP P68106
H	-37	TRP	-	expression tag	UNP P68106
H	-36	ARG	-	expression tag	UNP P68106
H	-35	GLY	-	expression tag	UNP P68106
H	-34	GLY	-	expression tag	UNP P68106
H	-33	HIS	-	expression tag	UNP P68106
H	-32	VAL	-	expression tag	UNP P68106
H	-31	VAL	-	expression tag	UNP P68106
H	-30	GLU	-	expression tag	UNP P68106
H	-29	GLY	-	expression tag	UNP P68106
H	-28	LEU	-	expression tag	UNP P68106
H	-27	ALA	-	expression tag	UNP P68106
H	-26	GLY	-	expression tag	UNP P68106
H	-25	GLU	-	expression tag	UNP P68106
H	-24	LEU	-	expression tag	UNP P68106
H	-23	GLU	-	expression tag	UNP P68106
H	-22	GLN	-	expression tag	UNP P68106
H	-21	LEU	-	expression tag	UNP P68106
H	-20	ARG	-	expression tag	UNP P68106
H	-19	ALA	-	expression tag	UNP P68106
H	-18	ARG	-	expression tag	UNP P68106
H	-17	LEU	-	expression tag	UNP P68106
H	-16	GLU	-	expression tag	UNP P68106
H	-15	HIS	-	expression tag	UNP P68106
H	-14	HIS	-	expression tag	UNP P68106
H	-13	PRO	-	expression tag	UNP P68106
H	-12	GLN	-	expression tag	UNP P68106
H	-11	GLY	-	expression tag	UNP P68106
H	-10	GLN	-	expression tag	UNP P68106
H	-9	ARG	-	expression tag	UNP P68106
H	-8	GLU	-	expression tag	UNP P68106
H	-7	PRO	-	expression tag	UNP P68106
H	-6	GLY	-	expression tag	UNP P68106
H	-5	SER	-	expression tag	UNP P68106
H	-4	GLY	-	expression tag	UNP P68106
H	-3	GLY	-	expression tag	UNP P68106
H	-2	SER	-	expression tag	UNP P68106

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
H	-1	GLY	-	expression tag	UNP P68106
H	0	GLY	-	expression tag	UNP P68106
H	1	THR	-	expression tag	UNP P68106
I	-67	MET	-	initiating methionine	UNP P68106
I	-66	GLY	-	expression tag	UNP P68106
I	-65	SER	-	expression tag	UNP P68106
I	-64	SER	-	expression tag	UNP P68106
I	-63	HIS	-	expression tag	UNP P68106
I	-62	HIS	-	expression tag	UNP P68106
I	-61	HIS	-	expression tag	UNP P68106
I	-60	HIS	-	expression tag	UNP P68106
I	-59	HIS	-	expression tag	UNP P68106
I	-58	HIS	-	expression tag	UNP P68106
I	-57	SER	-	expression tag	UNP P68106
I	-56	SER	-	expression tag	UNP P68106
I	-55	GLY	-	expression tag	UNP P68106
I	-54	LEU	-	expression tag	UNP P68106
I	-53	VAL	-	expression tag	UNP P68106
I	-52	PRO	-	expression tag	UNP P68106
I	-51	ARG	-	expression tag	UNP P68106
I	-50	GLY	-	expression tag	UNP P68106
I	-49	SER	-	expression tag	UNP P68106
I	-48	HIS	-	expression tag	UNP P68106
I	-47	MET	-	expression tag	UNP P68106
I	-46	ALA	-	expression tag	UNP P68106
I	-45	SER	-	expression tag	UNP P68106
I	-44	MET	-	expression tag	UNP P68106
I	-43	ASP	-	expression tag	UNP P68106
I	-42	GLU	-	expression tag	UNP P68106
I	-41	LYS	-	expression tag	UNP P68106
I	-40	THR	-	expression tag	UNP P68106
I	-39	THR	-	expression tag	UNP P68106
I	-38	GLY	-	expression tag	UNP P68106
I	-37	TRP	-	expression tag	UNP P68106
I	-36	ARG	-	expression tag	UNP P68106
I	-35	GLY	-	expression tag	UNP P68106
I	-34	GLY	-	expression tag	UNP P68106
I	-33	HIS	-	expression tag	UNP P68106
I	-32	VAL	-	expression tag	UNP P68106
I	-31	VAL	-	expression tag	UNP P68106
I	-30	GLU	-	expression tag	UNP P68106
I	-29	GLY	-	expression tag	UNP P68106

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
I	-28	LEU	-	expression tag	UNP P68106
I	-27	ALA	-	expression tag	UNP P68106
I	-26	GLY	-	expression tag	UNP P68106
I	-25	GLU	-	expression tag	UNP P68106
I	-24	LEU	-	expression tag	UNP P68106
I	-23	GLU	-	expression tag	UNP P68106
I	-22	GLN	-	expression tag	UNP P68106
I	-21	LEU	-	expression tag	UNP P68106
I	-20	ARG	-	expression tag	UNP P68106
I	-19	ALA	-	expression tag	UNP P68106
I	-18	ARG	-	expression tag	UNP P68106
I	-17	LEU	-	expression tag	UNP P68106
I	-16	GLU	-	expression tag	UNP P68106
I	-15	HIS	-	expression tag	UNP P68106
I	-14	HIS	-	expression tag	UNP P68106
I	-13	PRO	-	expression tag	UNP P68106
I	-12	GLN	-	expression tag	UNP P68106
I	-11	GLY	-	expression tag	UNP P68106
I	-10	GLN	-	expression tag	UNP P68106
I	-9	ARG	-	expression tag	UNP P68106
I	-8	GLU	-	expression tag	UNP P68106
I	-7	PRO	-	expression tag	UNP P68106
I	-6	GLY	-	expression tag	UNP P68106
I	-5	SER	-	expression tag	UNP P68106
I	-4	GLY	-	expression tag	UNP P68106
I	-3	GLY	-	expression tag	UNP P68106
I	-2	SER	-	expression tag	UNP P68106
I	-1	GLY	-	expression tag	UNP P68106
I	0	GLY	-	expression tag	UNP P68106
I	1	THR	-	expression tag	UNP P68106
J	-67	MET	-	initiating methionine	UNP P68106
J	-66	GLY	-	expression tag	UNP P68106
J	-65	SER	-	expression tag	UNP P68106
J	-64	SER	-	expression tag	UNP P68106
J	-63	HIS	-	expression tag	UNP P68106
J	-62	HIS	-	expression tag	UNP P68106
J	-61	HIS	-	expression tag	UNP P68106
J	-60	HIS	-	expression tag	UNP P68106
J	-59	HIS	-	expression tag	UNP P68106
J	-58	HIS	-	expression tag	UNP P68106
J	-57	SER	-	expression tag	UNP P68106
J	-56	SER	-	expression tag	UNP P68106

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
J	-55	GLY	-	expression tag	UNP P68106
J	-54	LEU	-	expression tag	UNP P68106
J	-53	VAL	-	expression tag	UNP P68106
J	-52	PRO	-	expression tag	UNP P68106
J	-51	ARG	-	expression tag	UNP P68106
J	-50	GLY	-	expression tag	UNP P68106
J	-49	SER	-	expression tag	UNP P68106
J	-48	HIS	-	expression tag	UNP P68106
J	-47	MET	-	expression tag	UNP P68106
J	-46	ALA	-	expression tag	UNP P68106
J	-45	SER	-	expression tag	UNP P68106
J	-44	MET	-	expression tag	UNP P68106
J	-43	ASP	-	expression tag	UNP P68106
J	-42	GLU	-	expression tag	UNP P68106
J	-41	LYS	-	expression tag	UNP P68106
J	-40	THR	-	expression tag	UNP P68106
J	-39	THR	-	expression tag	UNP P68106
J	-38	GLY	-	expression tag	UNP P68106
J	-37	TRP	-	expression tag	UNP P68106
J	-36	ARG	-	expression tag	UNP P68106
J	-35	GLY	-	expression tag	UNP P68106
J	-34	GLY	-	expression tag	UNP P68106
J	-33	HIS	-	expression tag	UNP P68106
J	-32	VAL	-	expression tag	UNP P68106
J	-31	VAL	-	expression tag	UNP P68106
J	-30	GLU	-	expression tag	UNP P68106
J	-29	GLY	-	expression tag	UNP P68106
J	-28	LEU	-	expression tag	UNP P68106
J	-27	ALA	-	expression tag	UNP P68106
J	-26	GLY	-	expression tag	UNP P68106
J	-25	GLU	-	expression tag	UNP P68106
J	-24	LEU	-	expression tag	UNP P68106
J	-23	GLU	-	expression tag	UNP P68106
J	-22	GLN	-	expression tag	UNP P68106
J	-21	LEU	-	expression tag	UNP P68106
J	-20	ARG	-	expression tag	UNP P68106
J	-19	ALA	-	expression tag	UNP P68106
J	-18	ARG	-	expression tag	UNP P68106
J	-17	LEU	-	expression tag	UNP P68106
J	-16	GLU	-	expression tag	UNP P68106
J	-15	HIS	-	expression tag	UNP P68106
J	-14	HIS	-	expression tag	UNP P68106

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
J	-13	PRO	-	expression tag	UNP P68106
J	-12	GLN	-	expression tag	UNP P68106
J	-11	GLY	-	expression tag	UNP P68106
J	-10	GLN	-	expression tag	UNP P68106
J	-9	ARG	-	expression tag	UNP P68106
J	-8	GLU	-	expression tag	UNP P68106
J	-7	PRO	-	expression tag	UNP P68106
J	-6	GLY	-	expression tag	UNP P68106
J	-5	SER	-	expression tag	UNP P68106
J	-4	GLY	-	expression tag	UNP P68106
J	-3	GLY	-	expression tag	UNP P68106
J	-2	SER	-	expression tag	UNP P68106
J	-1	GLY	-	expression tag	UNP P68106
J	0	GLY	-	expression tag	UNP P68106
J	1	THR	-	expression tag	UNP P68106

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

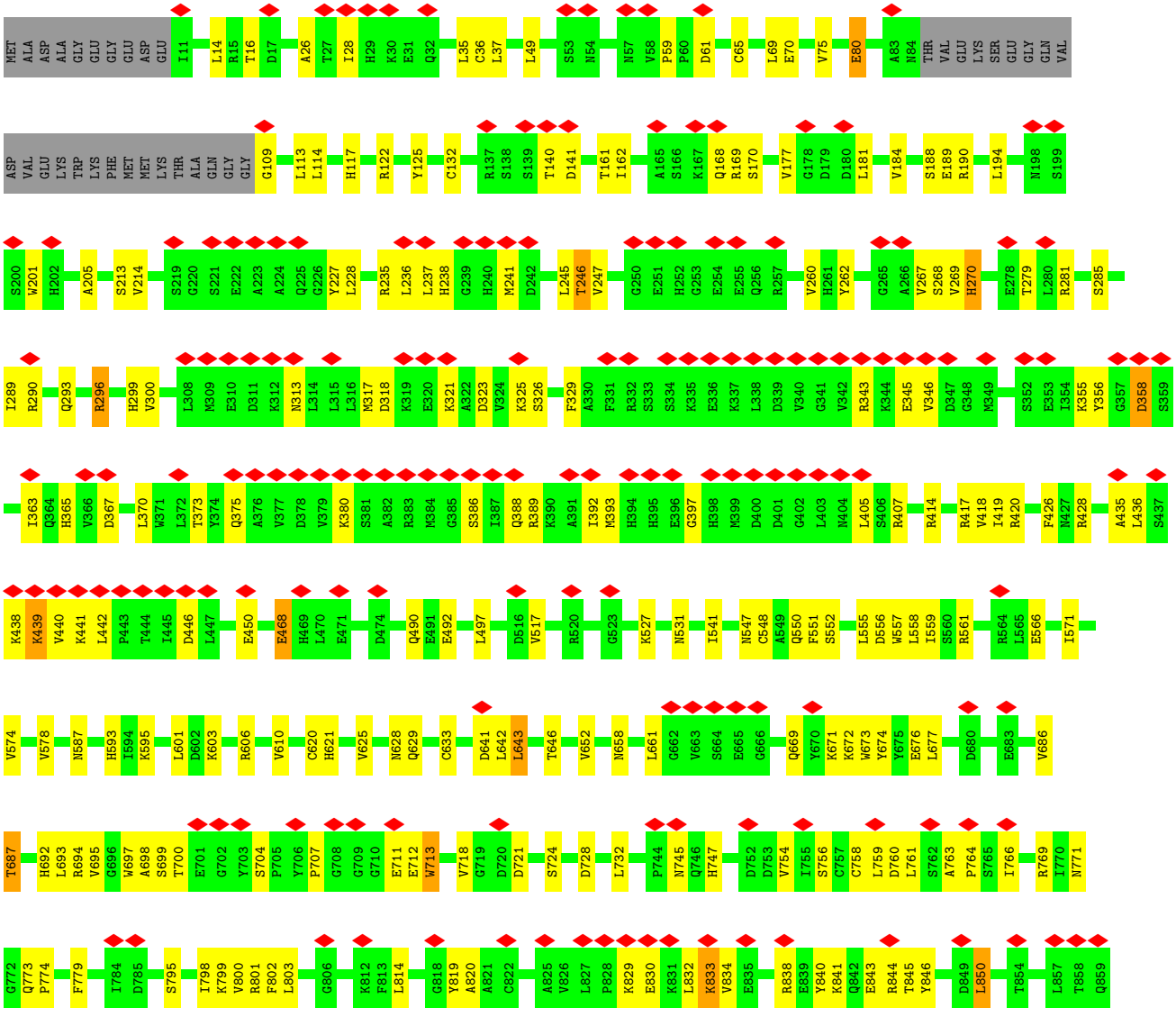
Mol	Chain	Residues	Atoms	AltConf
3	A	1	Total Zn 1 1	0
3	B	1	Total Zn 1 1	0
3	C	1	Total Zn 1 1	0
3	D	1	Total Zn 1 1	0

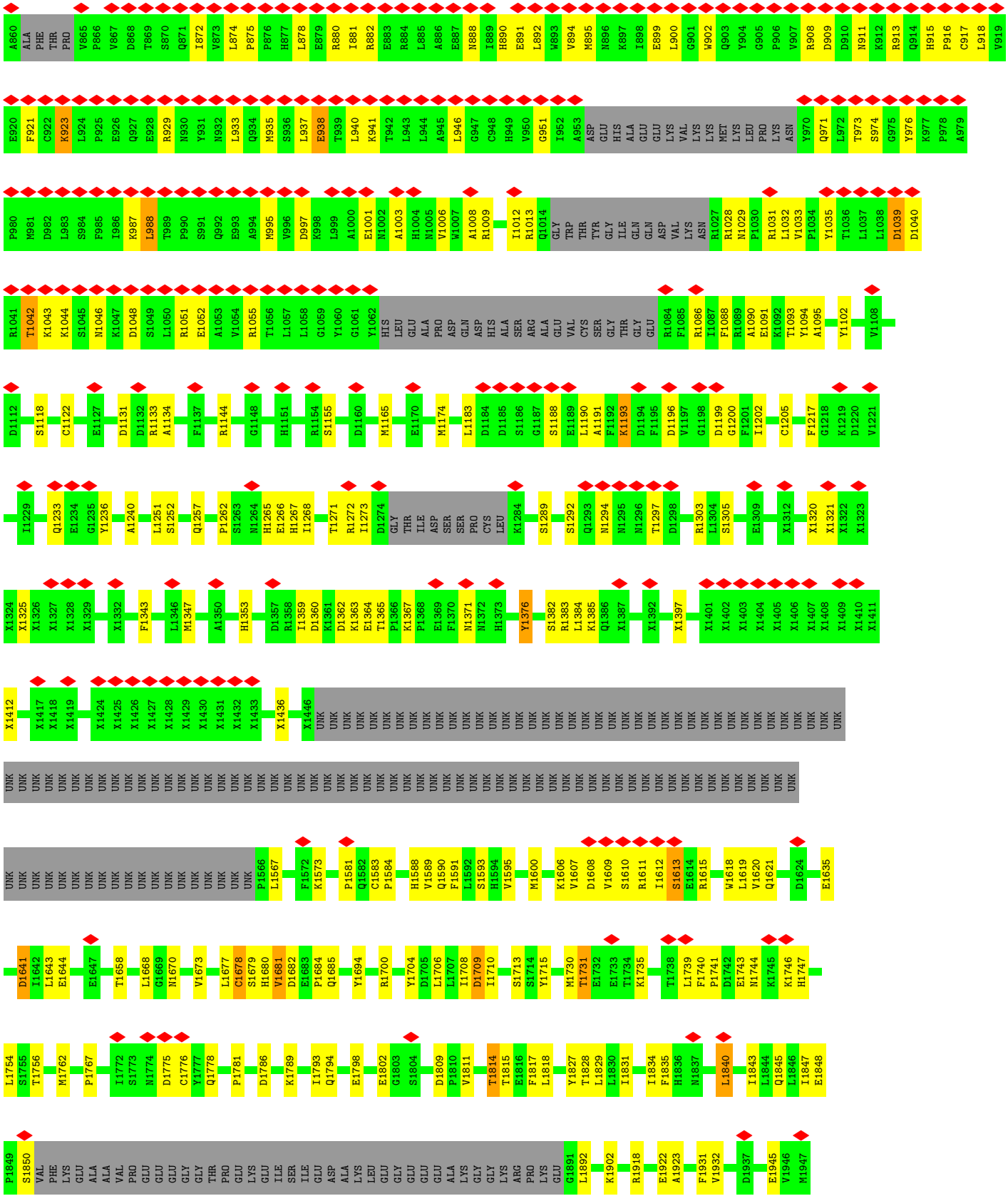
3 Residue-property plots (i)

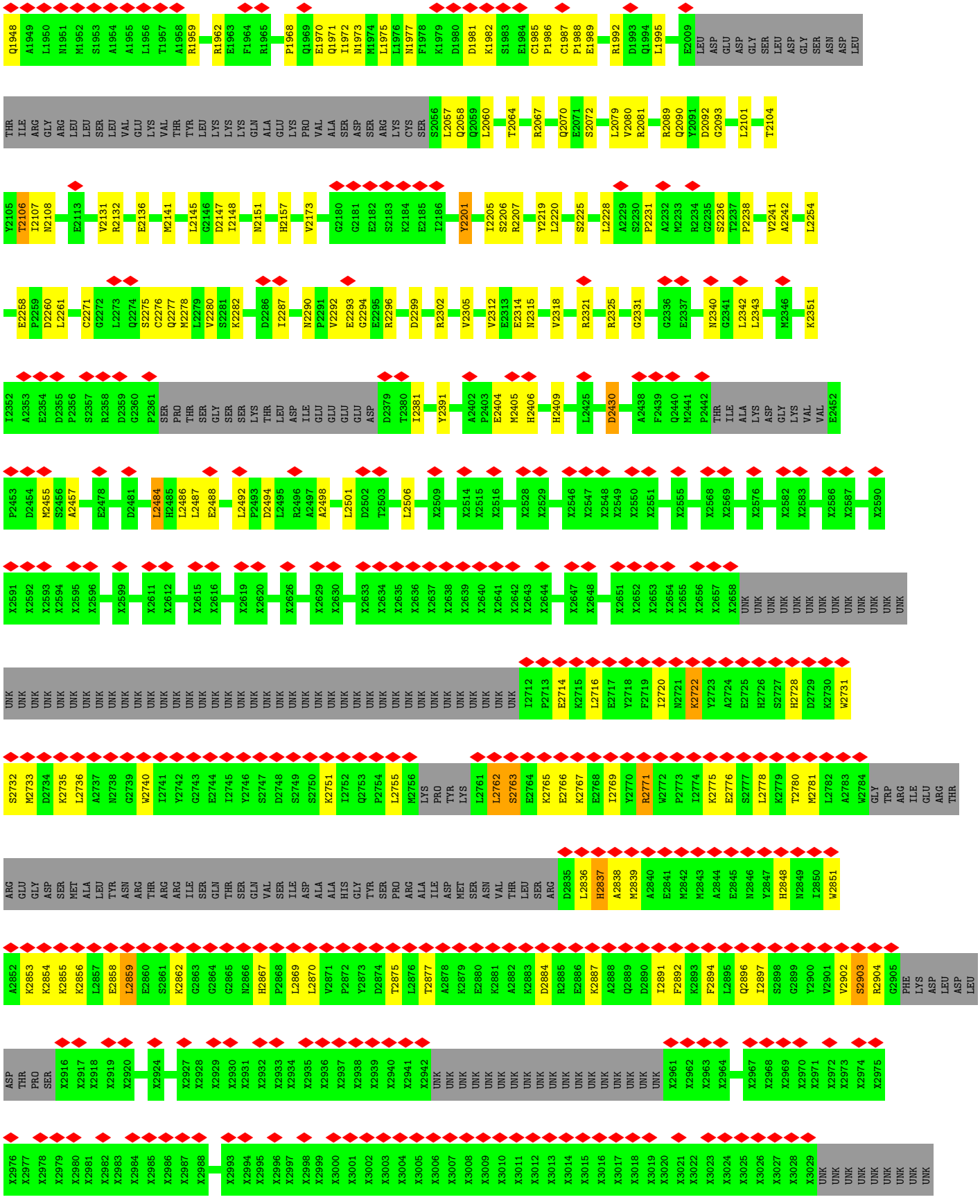
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

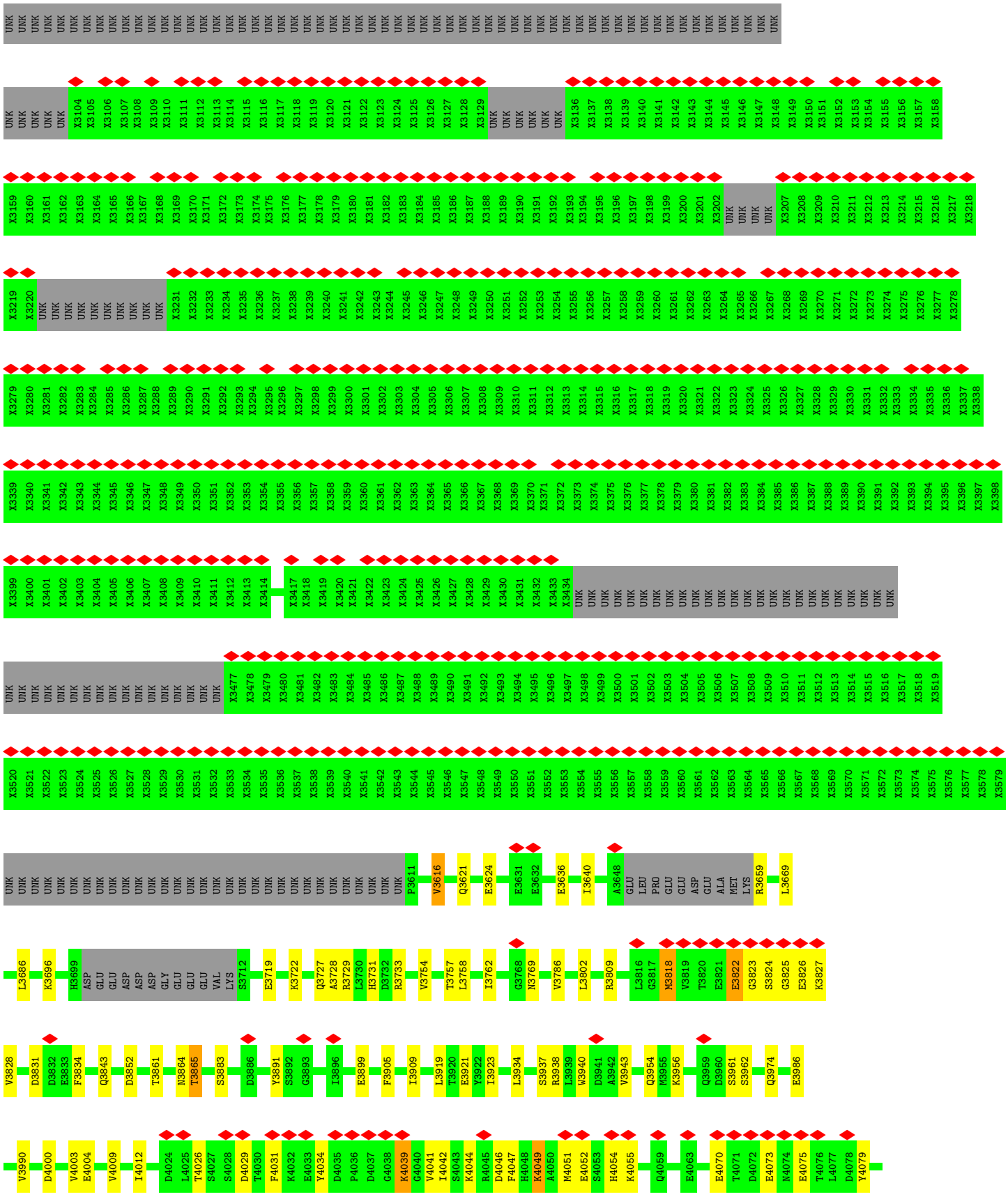
- Molecule 1: Ryanodine receptor 2

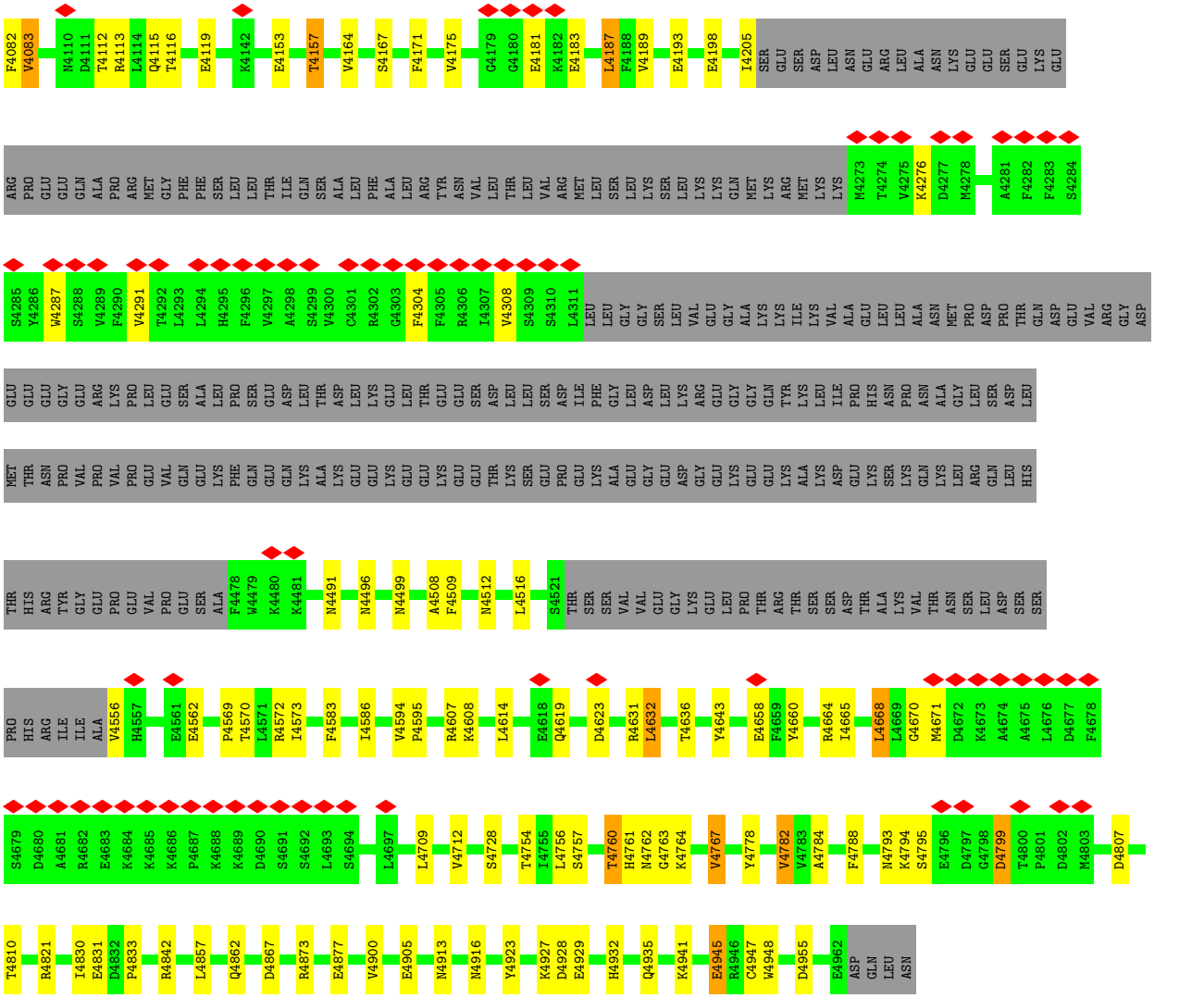
Chain A:





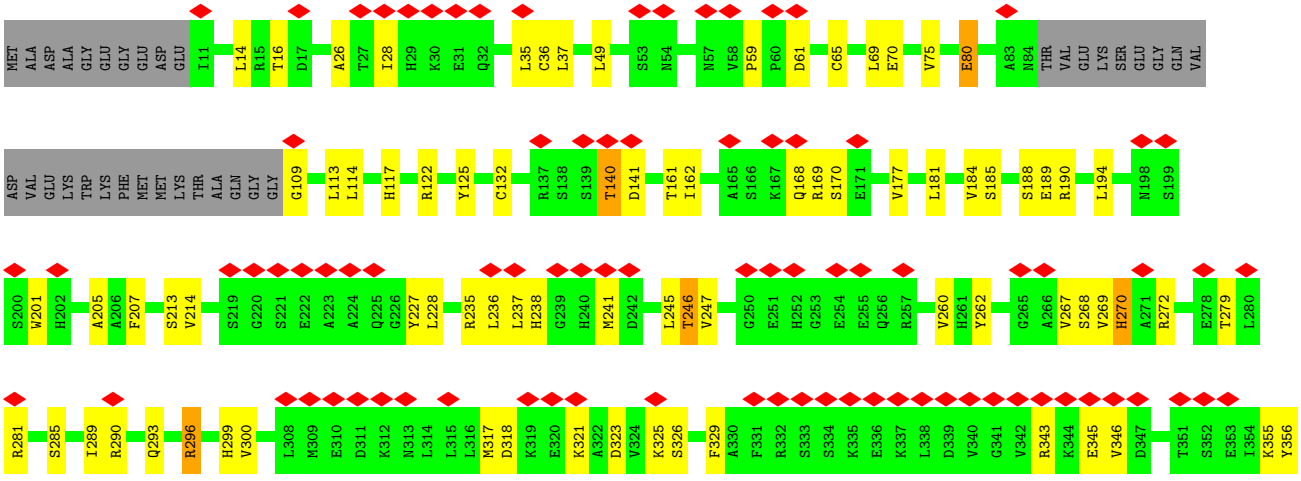


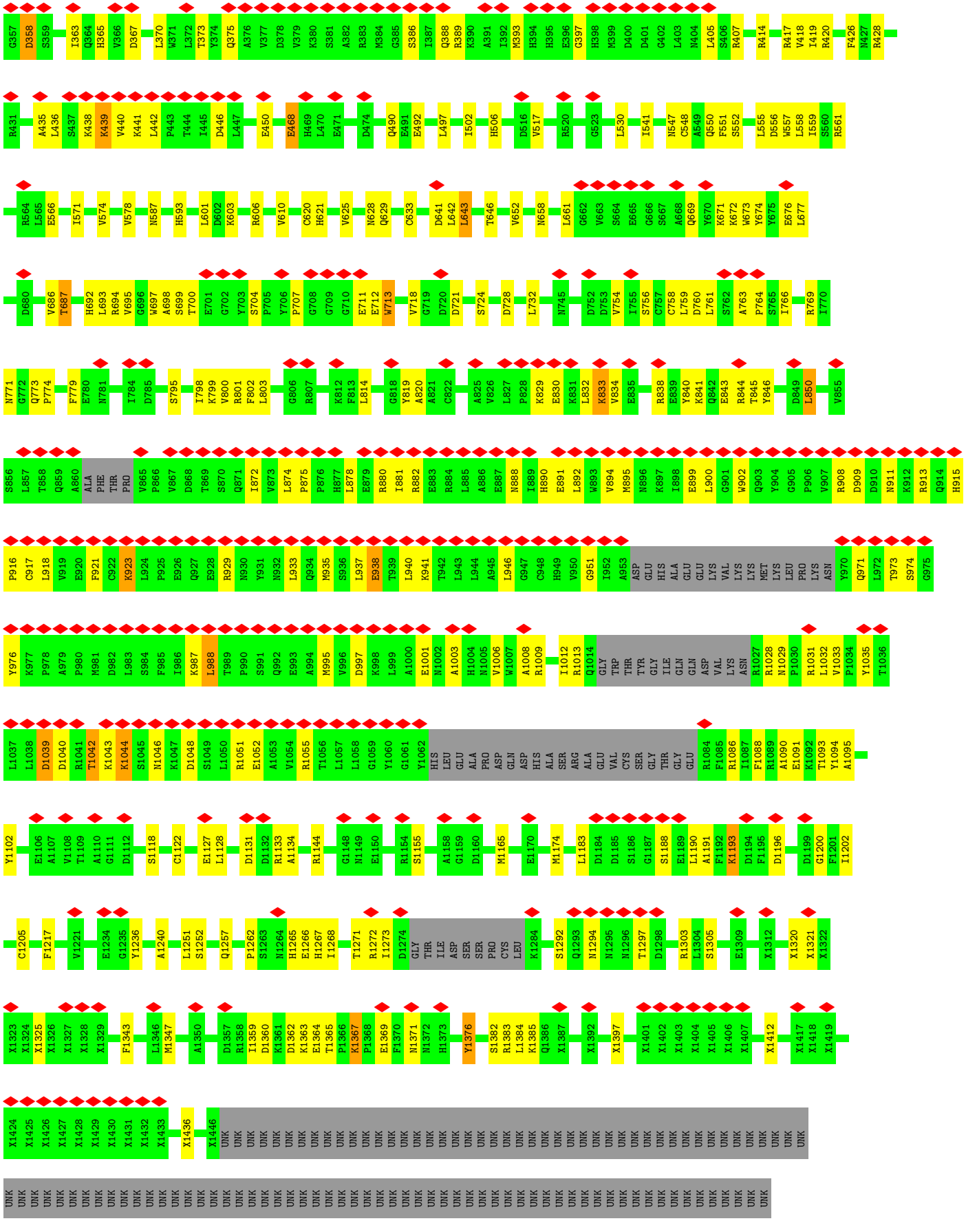

UNK
X3104 X3105 X3106 X3107 X3108 X3109 X3110 X3111 X3112 X3113 X3114 X3115 X3116 X3117 X3118 X3119 X3120 X3121 X3122 X3123 X3124 X3125 X3126 X3127 X3128 X3129
X3136 X3137 X3138 X3139 X3140 X3141 X3142 X3143 X3144 X3145 X3146 X3147 X3148 X3149 X3150 X3151 X3152 X3153 X3154 X3155 X3156 X3157 X3158
X3159 X3160 X3161 X3162 X3163 X3164 X3165 X3166 X3167 X3168 X3169 X3170 X3171 X3172 X3173 X3174 X3175 X3176 X3177 X3178 X3179 X3180 X3181 X3182 X3183 X3184 X3185 X3186 X3187 X3188 X3189 X3190 X3191 X3192 X3193 X3194 X3195 X3196 X3197 X3198 X3199 X3200 X3201 X3202
X3207 X3208 X3209 X3210 X3211 X3212 X3213 X3214 X3215 X3216 X3217 X3218
X3219 X3220
X3231 X3232 X3233 X3234 X3235 X3236 X3237 X3238 X3239 X3240 X3241 X3242 X3243 X3244 X3245 X3246 X3247 X3248 X3249 X3250 X3251 X3252 X3253 X3254 X3255 X3256 X3257 X3258 X3259 X3260 X3261 X3262 X3263 X3264 X3265 X3266 X3267 X3268 X3269 X3270 X3271 X3272 X3273 X3274 X3275 X3276 X3277 X3278
X3279 X3280 X3281 X3282 X3283 X3284 X3285 X3286 X3287 X3288 X3289 X3290 X3291 X3292 X3293 X3294 X3295 X3296 X3297 X3298 X3299 X3300 X3301 X3302 X3303 X3304 X3305 X3306 X3307 X3308 X3309 X3310 X3311 X3312 X3313 X3314 X3315 X3316 X3317 X3318 X3319 X3320 X3321 X3322 X3323 X3324 X3325 X3326 X3327 X3328 X3329 X3330 X3331 X3332 X3333 X3334 X3335 X3336 X3337 X3338
X3339 X3340 X3341 X3342 X3343 X3344 X3345 X3346 X3347 X3348 X3349 X3350 X3351 X3352 X3353 X3354 X3355 X3356 X3357 X3358 X3359 X3360 X3361 X3362 X3363 X3364 X3365 X3366 X3367 X3368 X3369 X3370 X3371 X3372 X3373 X3374 X3375 X3376 X3377 X3378 X3379 X3380 X3381 X3382 X3383 X3384 X3385 X3386 X3387 X3388 X3389 X3390 X3391 X3392 X3393 X3394 X3395 X3396 X3397 X3398
X3399 X3400 X3401 X3402 X3403 X3404 X3405 X3406 X3407 X3408 X3409 X3410 X3411 X3412 X3413 X3414
X3417 X3418 X3419 X3420 X3421 X3422 X3423 X3424 X3425 X3426 X3427 X3428 X3429 X3430 X3431 X3432 X3433 X3434
X3477 X3478 X3479 X3480 X3481 X3482 X3483 X3484 X3485 X3486 X3487 X3488 X3489 X3490 X3491 X3492 X3493 X3494 X3495 X3496 X3497 X3498 X3499 X3500 X3501 X3502 X3503 X3504 X3505 X3506 X3507 X3508 X3509 X3510 X3511 X3512 X3513 X3514 X3515 X3516 X3517 X3518 X3519
X3520 X3521 X3522 X3523 X3524 X3525 X3526 X3527 X3528 X3529 X3530 X3531 X3532 X3533 X3534 X3535 X3536 X3537 X3538 X3539 X3540 X3541 X3542 X3543 X3544 X3545 X3546 X3547 X3548 X3549 X3550 X3551 X3552 X3553 X3554 X3555 X3556 X3557 X3558 X3559 X3560 X3561 X3562 X3563 X3564 X3565 X3566 X3567 X3568 X3569 X3570 X3571 X3572 X3573 X3574 X3575 X3576 X3577 X3578 X3579
P3611 V3616 Q3621 E3624 E3631 E3632 E3636 I3640 A3648 GLU LEU PRO GLU GLU ASP GLU ALA MET LYS R3659 L3669
L3686 K3696 H3699 ASP GLU GLU ASP ASP ASP GLY GLU GLU GLU VAL LYS S3712 E3719 K3722 Q3727 A3728 R3729 L3730 H3731 D3732 R3733 V3754 T3757 L3758 I3762 G3768 N3769 V3786 L3802 R3809 L3816 G3817 M3818 Y3819 T3820 E3821 E3822 G3823 S3824 G3825 E3826 K3827
V3828 D3831 D3832 E3833 F3834 Q3843 D3852 T3861 N3864 T3865 S3883 D3886 Y3891 S3892 G3893 I3896 E3899 F3905 I3909 L3919 T3920 E3921 Y3922 I3923 L3934 S3937 R3938 L3939 W3940 D3941 A3942 V3943 Q3954 M3955 K3956 Q3959 D3960 S3961 S3962 Q3974 E3986
V3990 D4000 V4003 E4004 V4009 I4012 D4024 L4025 T4026 S4027 S4028 D4029 T4030 F4031 K4032 E4033 Y4034 D4035 P4036 D4037 G4038 K4039 G4040 V4041 I4042 S4043 K4044 R4045 D4046 F4047 H4048 K4049 A4050 M4051 E4052 S4053 H4054 K4055 Q4059 E4063 E4070 T4071 D4072 E4073 N4074 E4075 T4076 L4077 D4078 Y4079

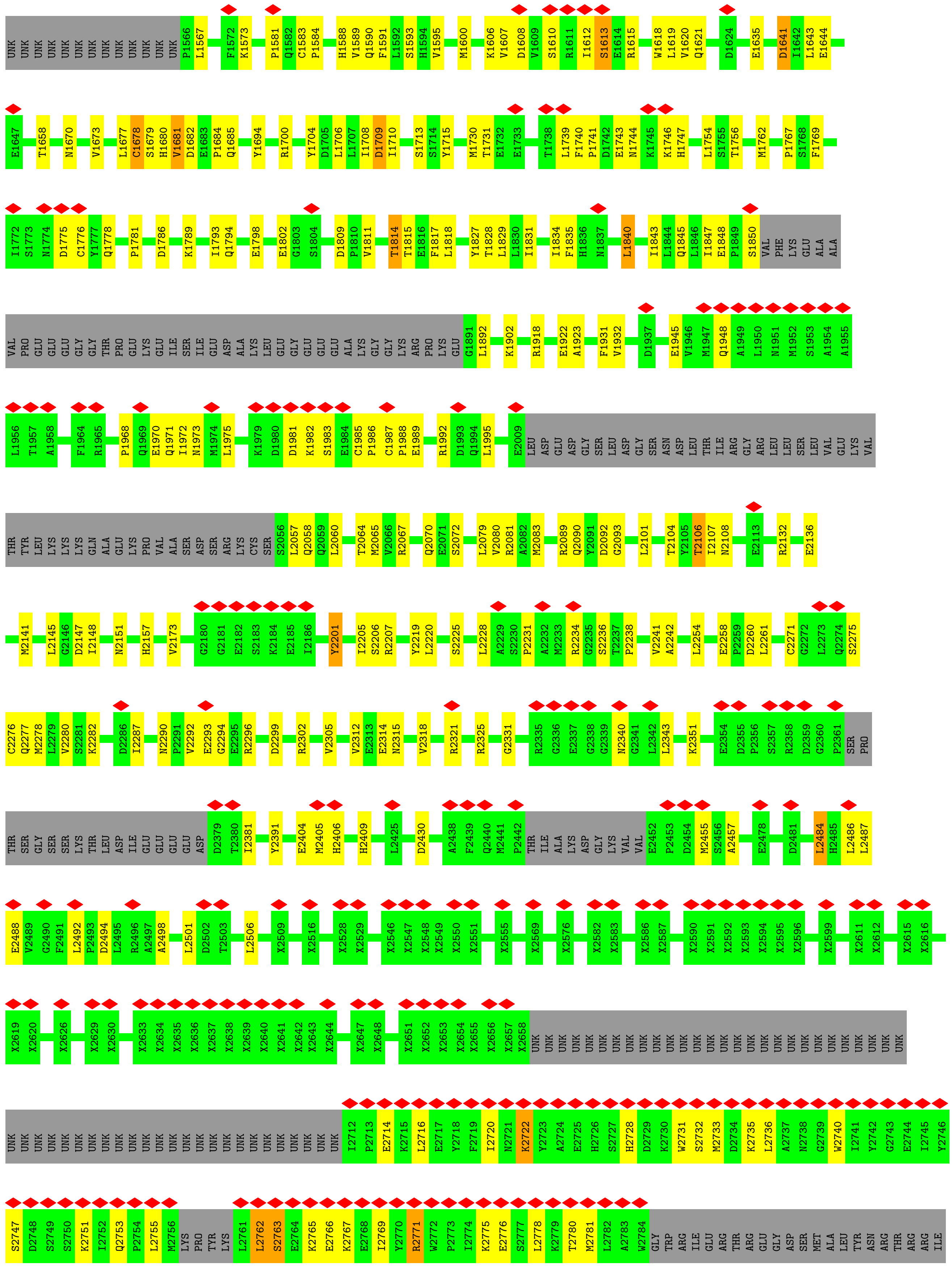


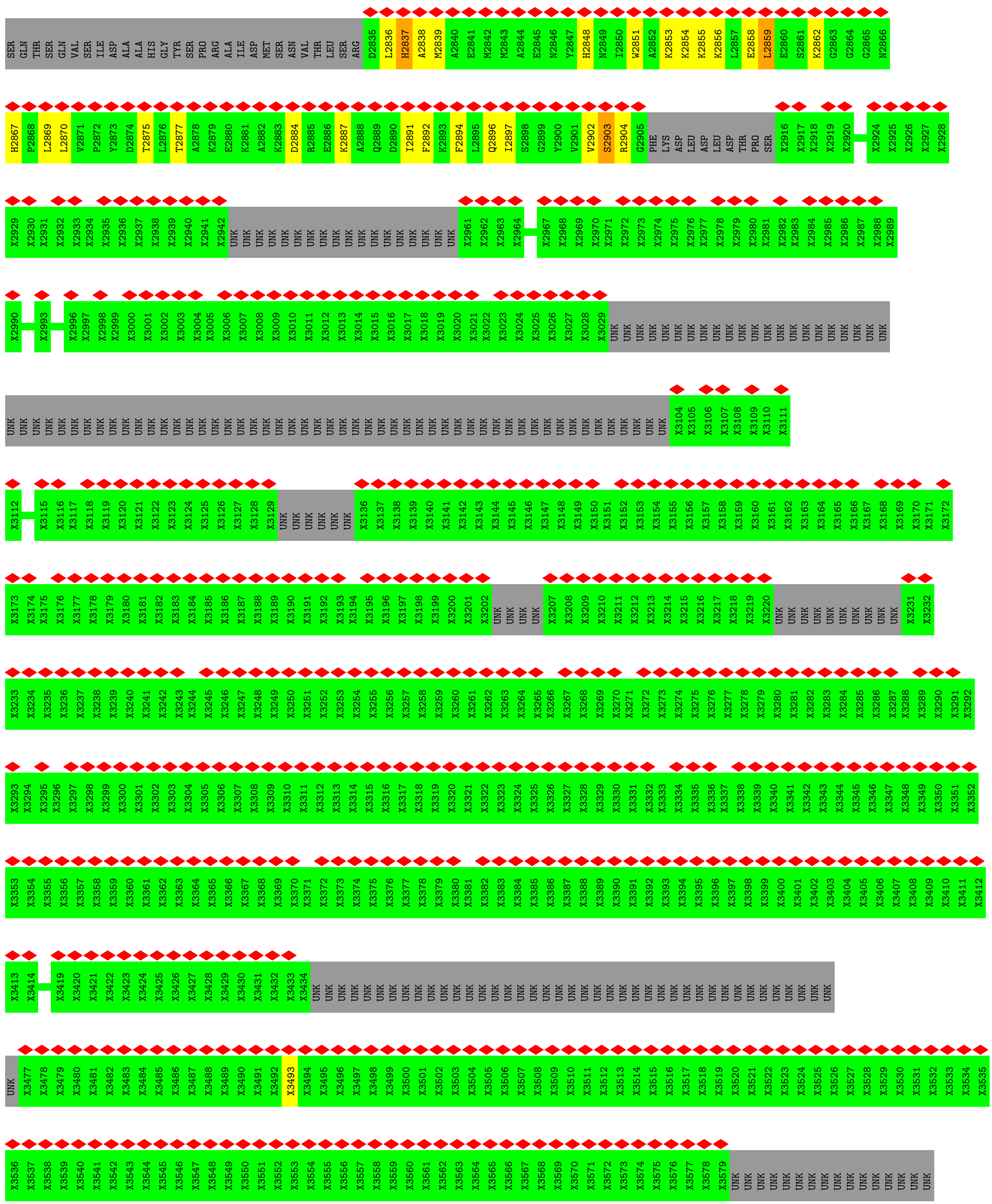
• Molecule 1: Ryanodine receptor 2

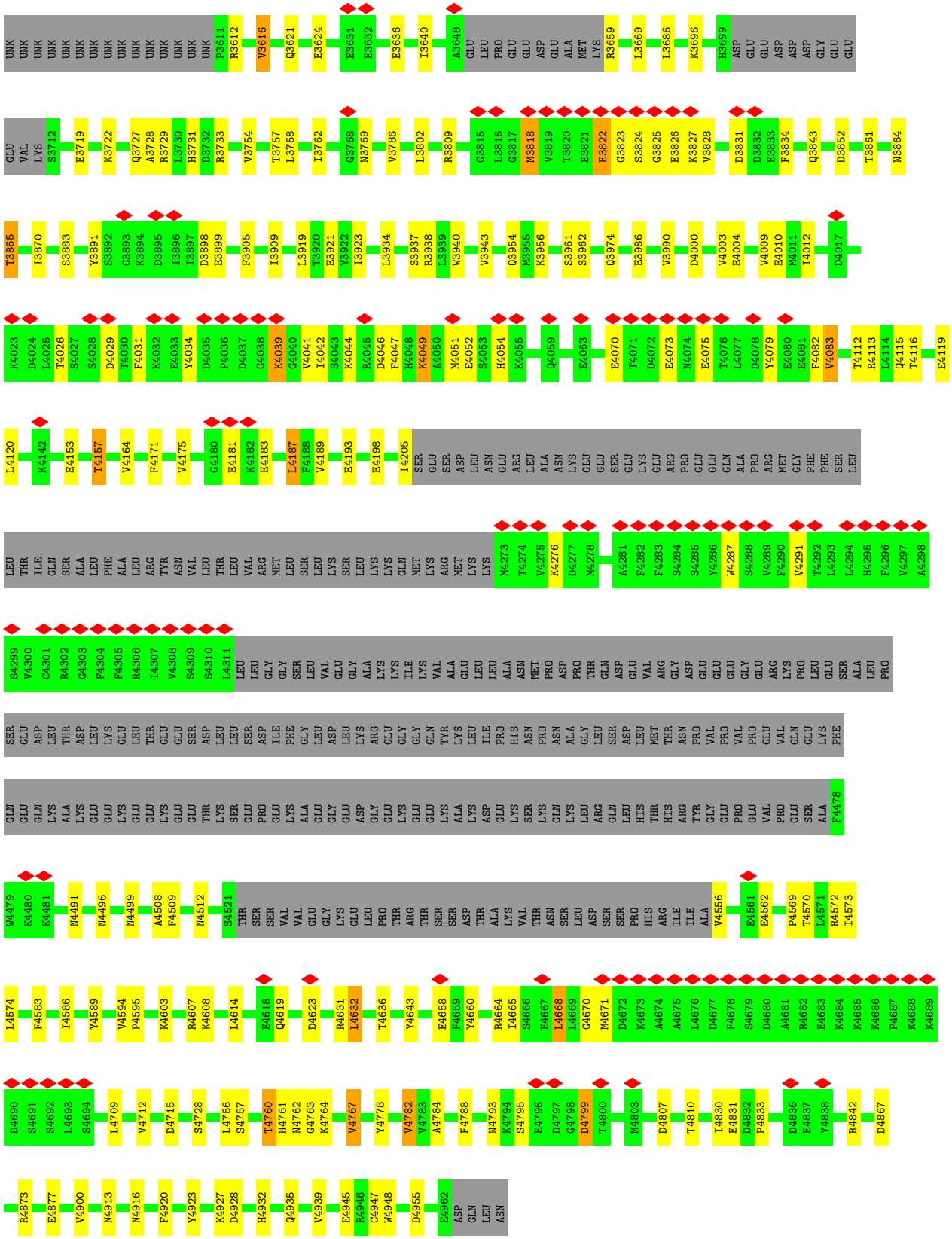
Chain B:




G357 D358 S359 I363 Q364 H365 V366 D367 L370 W371 L372 T373 Y374 Q375 A376 V377 D378 V379 K380 S381 A382 R383 M384 G385 S386 I387 Q388 R389 K390 A391 I392 M393 H394 H395 E396 G397 H398 M399 D400 D401 G402 L403 N404 L405 S406 R407 R414 R417 V418 I419 R420 F426 N427 R428
R431 A435 L436 S437 K438 K439 V440 K441 L442 P443 T444 I445 D446 L447 E450 E468 H469 L470 E471 D474 Q490 E491 E492 L497 I502 H506 D516 V517 R520 G523 L530 I541 N547 C548 A549 Q550 F551 S552 L555 D556 W557 L558 I559 S560 R561
R564 L565 E566 I571 V574 V578 N587 H593 L601 D602 K603 R606 V610 C620 H621 V625 W628 Q629 C633 D641 L642 L643 T646 V652 N658 L661 G662 V663 S664 E665 G666 S667 A668 Q669 Y670 K671 K672 W673 Y674 Y675 E676 L677
D680 V686 T687 H692 L693 R694 V695 G696 W697 A698 S699 T700 E701 G702 Y703 S704 P705 Y706 P707 G708 G709 G710 E711 E712 W713 V718 G719 D720 D721 S724 D728 L732 N745 D752 D753 V754 I755 S756 C757 C758 L759 D760 L761 S762 A763 P764 S765 I766 R769 I770
N771 G772 Q773 P774 F779 E780 N781 I784 D785 S795 I798 K799 V800 R801 F802 L803 G806 R807 K812 F813 L814 G818 Y819 A820 A821 C822 A825 V826 L827 P828 K829 E830 K831 L832 K833 V834 E835 R838 E839 Y840 K841 Q842 E843 R844 T845 Y846 D849 L850 V855
S856 L857 T858 Q859 A860 ALA PHE THR PRO V865 P866 V867 D868 T869 S870 Q871 I872 V873 L874 P875 P876 H877 L878 E879 R880 I881 R882 E883 R884 L885 A886 E887 N888 I889 H890 E891 L892 W893 V894 M895 N896 K897 I898 E899 L900 G901 W902 Q903 Y904 G905 P906 V907 R908 D909 D910 N911 K912 R913 Q914 H915
P916 C917 L918 V919 E920 F921 C922 K923 L924 P925 E926 Q927 E928 R929 N930 Y931 N932 L933 Q934 M935 S936 L937 E938 T939 L940 K941 T942 L943 L944 A945 L946 G947 C948 H949 V950 G951 I952 A953 ASP GLU HIS ALA GLU GLU LYS VAL LYS LYS MET LYS LEU PRO LYS ASN Y970 Q971 L972 T973 S974 G975
Y976 K977 P978 A979 P980 N981 D982 L983 S984 F985 I986 K987 L988 T989 P990 S991 Q992 E993 A994 M995 V996 D997 K998 L999 A1000 E1001 N1002 A1003 H1004 N1005 V1006 W1007 A1008 R1009 I1012 R1013 Q1014 GLY TRP THR TYR GLY ILE GLN GLN ASP VAL LYS ASN R1027 R1028 N1029 P1030 R1031 L1032 V1033 P1034 Y1035 T1036
L1037 L1038 D1039 D1040 R1041 T1042 K1043 K1044 S1045 N1046 K1047 D1048 S1049 L1050 R1051 E1052 A1053 V1054 R1055 T1056 L1057 L1058 G1059 Y1060 G1061 Y1062 HIS LEU GLU ALA PRO ASP GLN ASP HIS ALA SER ARG ALA GLU VAL CYS SER GLY THR GLY GLU R1084 F1085 R1086 I1087 F1088 R1089 A1090 E1091 K1092 T1093 Y1094 A1095
Y1102 E1106 A1107 V1108 T1109 A1110 G1111 D1112 S1118 C1122 E1127 L1128 D1131 D1132 R1133 A1134 R1144 G1148 N1149 E1150 R1154 S1155 A1158 G1159 D1160 M1165 E1170 M1174 L1183 D1184 D1185 S1186 G1187 S1188 E1189 L1190 A1191 F1192 K1193 D1194 F1195 D1196 D1199 G1200 F1201 I1202
C1205 F1217 V1221 E1234 G1235 Y1236 A1240 L1251 S1252 Q1257 P1262 S1263 N1264 H1265 E1266 H1267 I1268 T1271 R1272 I1273 D1274 GLY THR ILE ASP SER SER PRO CYS LEU K1284 S1292 Q1293 N1294 N1295 N1296 T1297 D1298 R1303 L1304 S1305 E1309 X1312 X1320 X1321 X1322
X1323 X1324 X1325 X1326 X1327 X1328 X1329 F1343 L1346 M1347 A1350 D1357 R1358 I1359 D1360 K1361 D1362 K1363 E1364 T1365 P1366 K1367 P1368 E1369 F1370 N1371 N1372 H1373 Y1376 S1382 R1383 L1384 K1385 Q1386 X1387 X1392 X1397 X1401 X1402 X1403 X1404 X1405 X1406 X1407 X1412 X1417 X1418 X1419
X1424 X1425 X1426 X1427 X1428 X1429 X1430 X1431 X1432 X1433 X1436 X1446 UNK
UNK

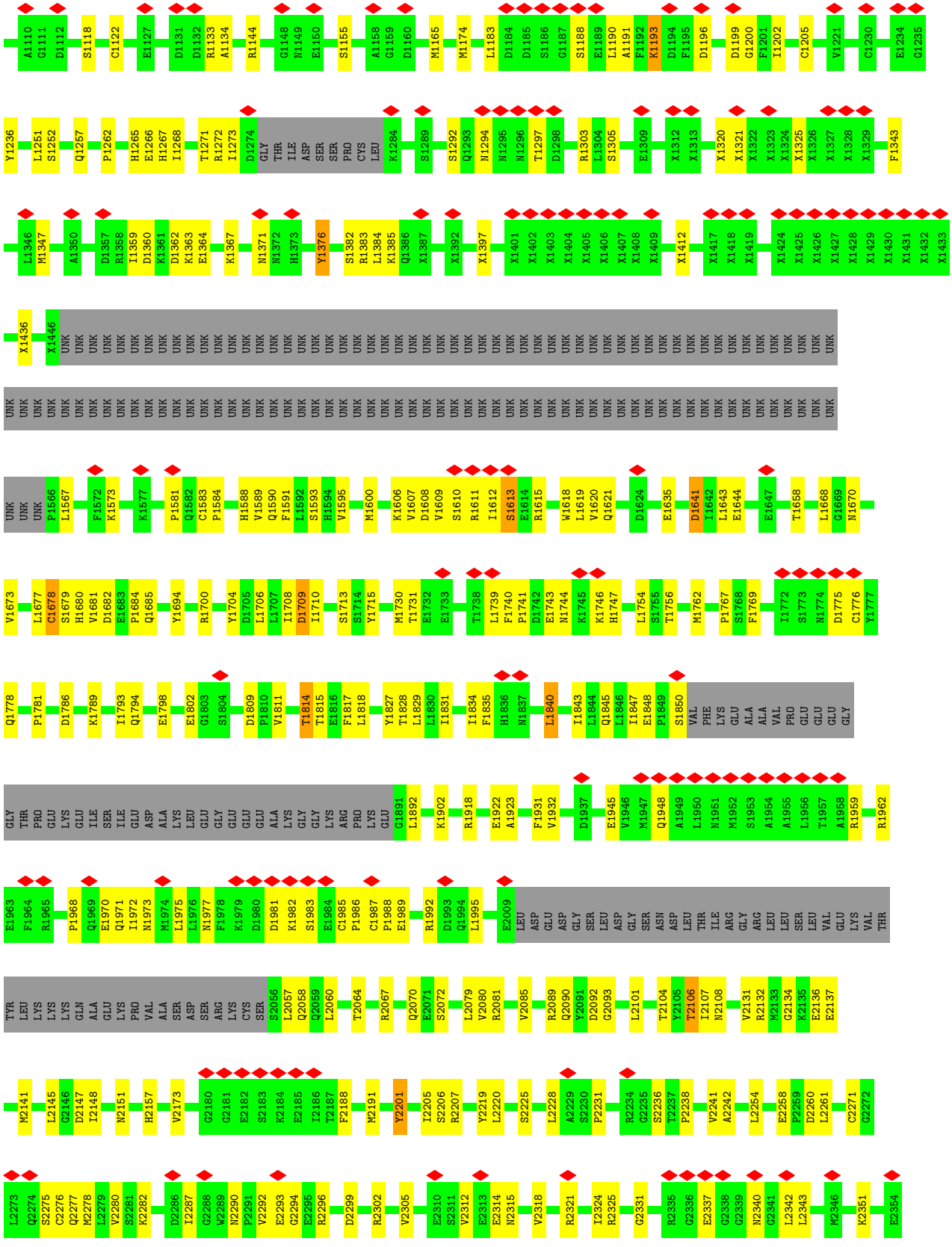

UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK P1566 L1567 F1572 K1573 P1581 Q1582 C1583 P1584 H1588 V1589 Q1590 F1591 L1592 S1593 H1594 V1595 M1600 K1606 V1607 D1608 V1609 S1610 R1611 I1612 S1613 E1614 R1615 W1618 L1619 V1620 Q1621 D1624 E1635 D1641 I1642 L1643 E1644
E1647 T1658 N1670 V1673 L1677 C1678 S1679 H1680 V1681 D1682 E1683 P1684 Q1685 Y1694 R1700 Y1704 D1705 L1706 L1707 I1708 D1709 I1710 S1713 S1714 Y1715 M1730 T1731 E1732 E1733 T1738 L1739 F1740 P1741 D1742 E1743 N1744 K1745 K1746 H1747 L1754 S1755 T1756 M1762 P1767 S1768 F1769
I1772 S1773 N1774 D1775 C1776 Y1777 Q1778 P1781 D1786 K1789 I1793 Q1794 E1798 E1802 G1803 S1804 D1809 P1810 V1811 T1814 T1815 E1816 F1817 L1818 Y1827 T1828 L1829 L1830 I1831 I1834 F1835 H1836 N1837 L1840 I1843 L1844 Q1845 L1846 I1847 E1848 P1849 S1850 VAL PHE LYS GLU ALA ALA
VAL PRO GLU GLU GLU GLY GLY THR PRO GLU LYS GLU ILE SER ILE GLU ASP ALA LYS LEU GLU GLY GLU GLU GLU ALA LYS GLY GLY LYS ARG PRO LYS GLU G1891 L1892 K1902 R1918 E1922 A1923 F1931 V1932 D1937 E1945 V1946 M1947 Q1948 A1949 L1950 N1951 M1952 S1953 A1954 A1955
L1956 T1957 A1958 F1964 R1965 P1968 Q1969 E1970 Q1971 I1972 N1973 M1974 L1975 K1979 D1980 D1981 K1982 S1983 E1984 C1985 P1986 C1987 P1988 E1989 R1992 D1993 Q1994 L1995 E2009 LEU ASP GLU ASP GLY SER LEU ASP GLY SER ASN ASP LEU THR ILE ARG GLY ARG LEU LEU SER LEU VAL GLU LYS VAL
THR TYR LEU LYS LYS LYS GLN ALA GLU LYS PRO VAL ALA SER ASP SER ARG LYS CYS SER S2056 L2057 Q2058 Q2059 L2060 T2064 M2065 V2066 R2067 Q2070 E2071 S2072 L2079 V2080 R2081 A2082 M2083 R2089 Q2090 Y2091 D2092 G2093 L2101 T2104 Y2105 T2106 I2107 N2108 E2113 R2132 E2136
M2141 L2145 G2146 D2147 I2148 N2151 H2157 V2173 G2180 G2181 E2182 S2183 K2184 E2185 I2186 Y2201 I2205 S2206 R2207 Y2219 L2220 S2225 L2228 A2229 S2230 P2231 A2232 M2233 R2234 G2235 S2236 T2237 P2238 V2241 A2242 L2254 E2258 P2259 D2260 L2261 C2271 G2272 L2273 Q2274 S2275
G2276 Q2277 M2278 L2279 V2280 S2281 K2282 D2286 I2287 N2290 P2291 V2292 E2293 G2294 E2295 R2296 D2299 R2302 V2305 V2312 E2313 E2314 N2315 V2318 R2321 R2325 G2331 R2335 G2336 E2337 G2338 G2339 N2340 G2341 L2342 L2343 K2351 E2354 D2355 P2356 S2357 R2358 D2359 G2360 P2361 SER PRO
THR SER GLY SER SER LYS THR LEU ASP ILE GLU GLU GLU ASP D2379 T2380 I2381 Y2391 E2404 M2405 H2406 H2409 L2425 D2430 A2438 F2439 Q2440 M2441 P2442 THR ILE ALA LYS ASP GLY LYS VAL VAL E2452 P2453 D2454 M2455 S2456 A2457 E2478 D2481 L2484 H2485 L2486 L2487
E2488 V2489 G2490 F2491 L2492 P2493 D2494 L2495 R2496 A2497 A2498 L2501 D2502 T2503 L2506 X2509 X2516 X2528 X2529 X2546 X2547 X2548 X2549 X2550 X2551 X2555 X2569 X2576 X2582 X2583 X2586 X2587 X2590 X2591 X2592 X2593 X2594 X2595 X2596 X2599 X2611 X2612 X2615 X2616
X2619 X2620 X2626 X2629 X2630 X2633 X2634 X2635 X2636 X2637 X2638 X2639 X2640 X2641 X2642 X2643 X2644 X2647 X2648 X2651 X2652 X2653 X2654 X2655 X2656 X2657 X2658 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK
UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK I2712 P2713 E2714 K2715 L2716 E2717 Y2718 F2719 I2720 N2721 K2722 Y2723 A2724 E2725 H2726 S2727 H2728 D2729 K2730 W2731 S2732 M2733 D2734 K2735 L2736 A2737 N2738 G2739 W2740 I2741 Y2742 G2743 E2744 I2745 Y2746
S2747 D2748 S2749 S2750 K2751 I2752 Q2753 P2754 L2755 M2756 LYS PRO TYR LYS L2761 L2762 S2763 E2764 K2765 E2766 K2767 E2768 I2769 Y2770 R2771 W2772 P2773 I2774 K2775 E2776 S2777 L2778 K2779 T2780 M2781 L2782 A2783 W2784 GLY TRP ARG ILE GLU ARG THR ARG GLU GLY ASP SER MET ALA LEU TYR ASN ARG THR ARG ARG ILE

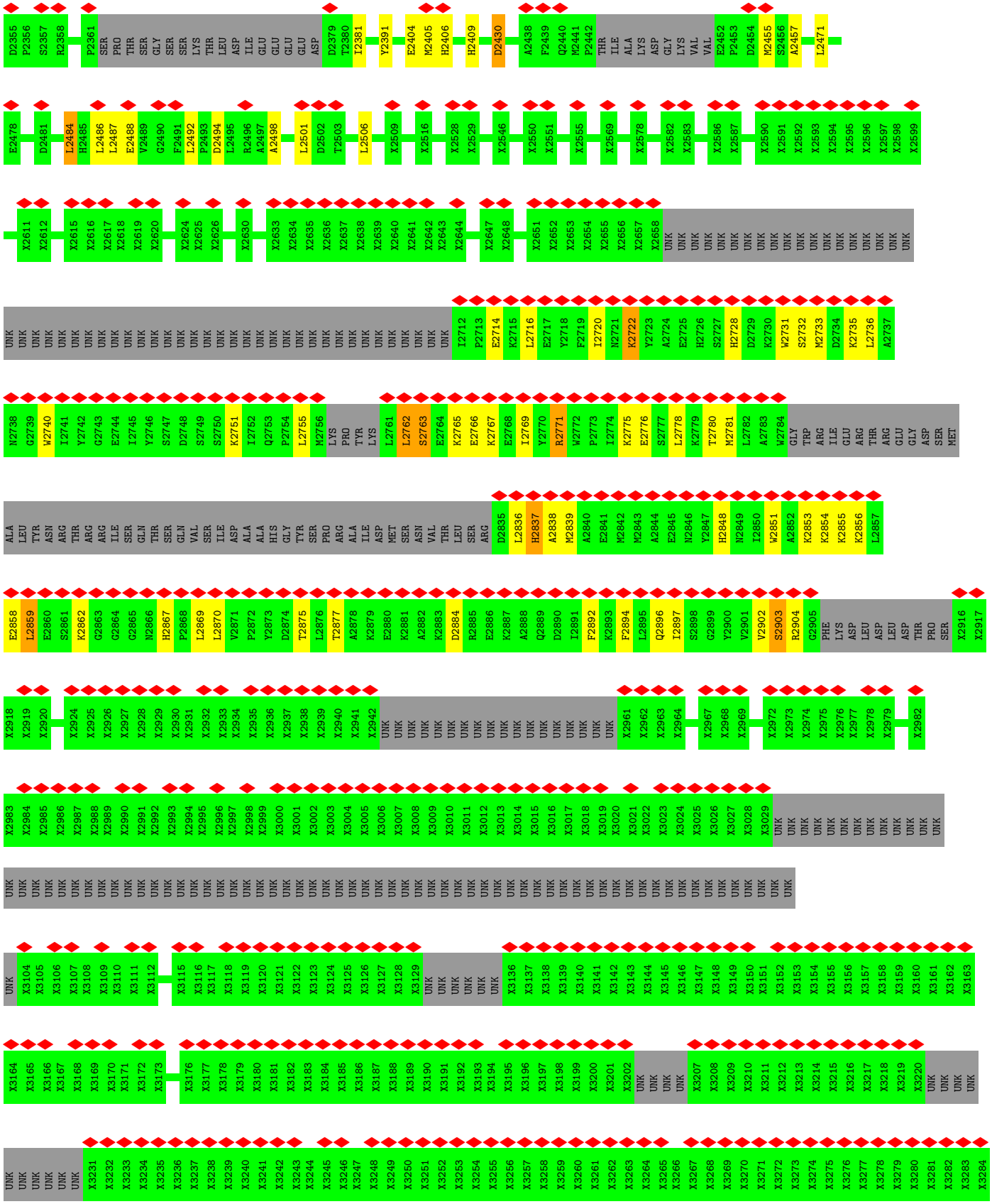

SER GLN THR SER GLN VAL SER ILE ASP ALA ALA HIS GLY TYR SER PRO ARG ALA ILE ASP MET SER ASN VAL THR LEU SER ARG D2835 L2836 H2837 A2838 M2839 A2840 E2841 M2842 M2843 A2844 E2845 N2846 Y2847 H2848 N2849 I2850 W2851 A2852 K2853 K2854 K2855 K2856 L2857 E2858 L2859 E2860 S2861 K2862 G2863 G2864 G2865 N2866
H2867 P2868 L2869 L2870 V2871 P2872 Y2873 D2874 T2875 L2876 T2877 A2878 K2879 E2880 K2881 A2882 K2883 D2884 R2885 E2886 K2887 A2888 Q2889 D2890 I2891 F2892 K2893 F2894 L2895 Q2896 I2897 S2898 G2899 Y2900 V2901 V2902 S2903 R2904 G2905 PHE LYS ASP LEU ASP LEU ASP THR PRO SER X2916 X2917 X2918 X2919 X2920 X2924 X2925 X2926 X2927 X2928
X2929 X2930 X2931 X2932 X2933 X2934 X2935 X2936 X2937 X2938 X2939 X2940 X2941 X2942 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK X2961 X2962 X2963 X2964 X2967 X2968 X2969 X2970 X2971 X2972 X2973 X2974 X2975 X2976 X2977 X2978 X2979 X2980 X2981 X2982 X2983 X2984 X2985 X2986 X2987 X2988 X2989
X2990 X2993 X2996 X2997 X2998 X2999 X3000 X3001 X3002 X3003 X3004 X3005 X3006 X3007 X3008 X3009 X3010 X3011 X3012 X3013 X3014 X3015 X3016 X3017 X3018 X3019 X3020 X3021 X3022 X3023 X3024 X3025 X3026 X3027 X3028 X3029 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK
UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK X3104 X3105 X3106 X3107 X3108 X3109 X3110 X3111
X3112 X3115 X3116 X3117 X3118 X3119 X3120 X3121 X3122 X3123 X3124 X3125 X3126 X3127 X3128 X3129 UNK UNK UNK UNK UNK UNK X3136 X3137 X3138 X3139 X3140 X3141 X3142 X3143 X3144 X3145 X3146 X3147 X3148 X3149 X3150 X3151 X3152 X3153 X3154 X3155 X3156 X3157 X3158 X3159 X3160 X3161 X3162 X3163 X3164 X3165 X3166 X3167 X3168 X3169 X3170 X3171 X3172
X3173 X3174 X3175 X3176 X3177 X3178 X3179 X3180 X3181 X3182 X3183 X3184 X3185 X3186 X3187 X3188 X3189 X3190 X3191 X3192 X3193 X3194 X3195 X3196 X3197 X3198 X3199 X3200 X3201 X3202 UNK UNK UNK UNK X3207 X3208 X3209 X3210 X3211 X3212 X3213 X3214 X3215 X3216 X3217 X3218 X3219 X3220 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK X3231 X3232
X3233 X3234 X3235 X3236 X3237 X3238 X3239 X3240 X3241 X3242 X3243 X3244 X3245 X3246 X3247 X3248 X3249 X3250 X3251 X3252 X3253 X3254 X3255 X3256 X3257 X3258 X3259 X3260 X3261 X3262 X3263 X3264 X3265 X3266 X3267 X3268 X3269 X3270 X3271 X3272 X3273 X3274 X3275 X3276 X3277 X3278 X3279 X3280 X3281 X3282 X3283 X3284 X3285 X3286 X3287 X3288 X3289 X3290 X3291 X3292
X3293 X3294 X3295 X3296 X3297 X3298 X3299 X3300 X3301 X3302 X3303 X3304 X3305 X3306 X3307 X3308 X3309 X3310 X3311 X3312 X3313 X3314 X3315 X3316 X3317 X3318 X3319 X3320 X3321 X3322 X3323 X3324 X3325 X3326 X3327 X3328 X3329 X3330 X3331 X3332 X3333 X3334 X3335 X3336 X3337 X3338 X3339 X3340 X3341 X3342 X3343 X3344 X3345 X3346 X3347 X3348 X3349 X3350 X3351 X3352
X3353 X3354 X3355 X3356 X3357 X3358 X3359 X3360 X3361 X3362 X3363 X3364 X3365 X3366 X3367 X3368 X3369 X3370 X3371 X3372 X3373 X3374 X3375 X3376 X3377 X3378 X3379 X3380 X3381 X3382 X3383 X3384 X3385 X3386 X3387 X3388 X3389 X3390 X3391 X3392 X3393 X3394 X3395 X3396 X3397 X3398 X3399 X3400 X3401 X3402 X3403 X3404 X3405 X3406 X3407 X3408 X3409 X3410 X3411 X3412
X3413 X3414 X3419 X3420 X3421 X3422 X3423 X3424 X3425 X3426 X3427 X3428 X3429 X3430 X3431 X3432 X3433 X3434 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK
UNK X3477 X3478 X3479 X3480 X3481 X3482 X3483 X3484 X3485 X3486 X3487 X3488 X3489 X3490 X3491 X3492 X3493 X3494 X3495 X3496 X3497 X3498 X3499 X3500 X3501 X3502 X3503 X3504 X3505 X3506 X3507 X3508 X3509 X3510 X3511 X3512 X3513 X3514 X3515 X3516 X3517 X3518 X3519 X3520 X3521 X3522 X3523 X3524 X3525 X3526 X3527 X3528 X3529 X3530 X3531 X3532 X3533 X3534 X3535
X3536 X3537 X3538 X3539 X3540 X3541 X3542 X3543 X3544 X3545 X3546 X3547 X3548 X3549 X3550 X3551 X3552 X3553 X3554 X3555 X3556 X3557 X3558 X3559 X3560 X3561 X3562 X3563 X3564 X3565 X3566 X3567 X3568 X3569 X3570 X3571 X3572 X3573 X3574 X3575 X3576 X3577 X3578 X3579 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK

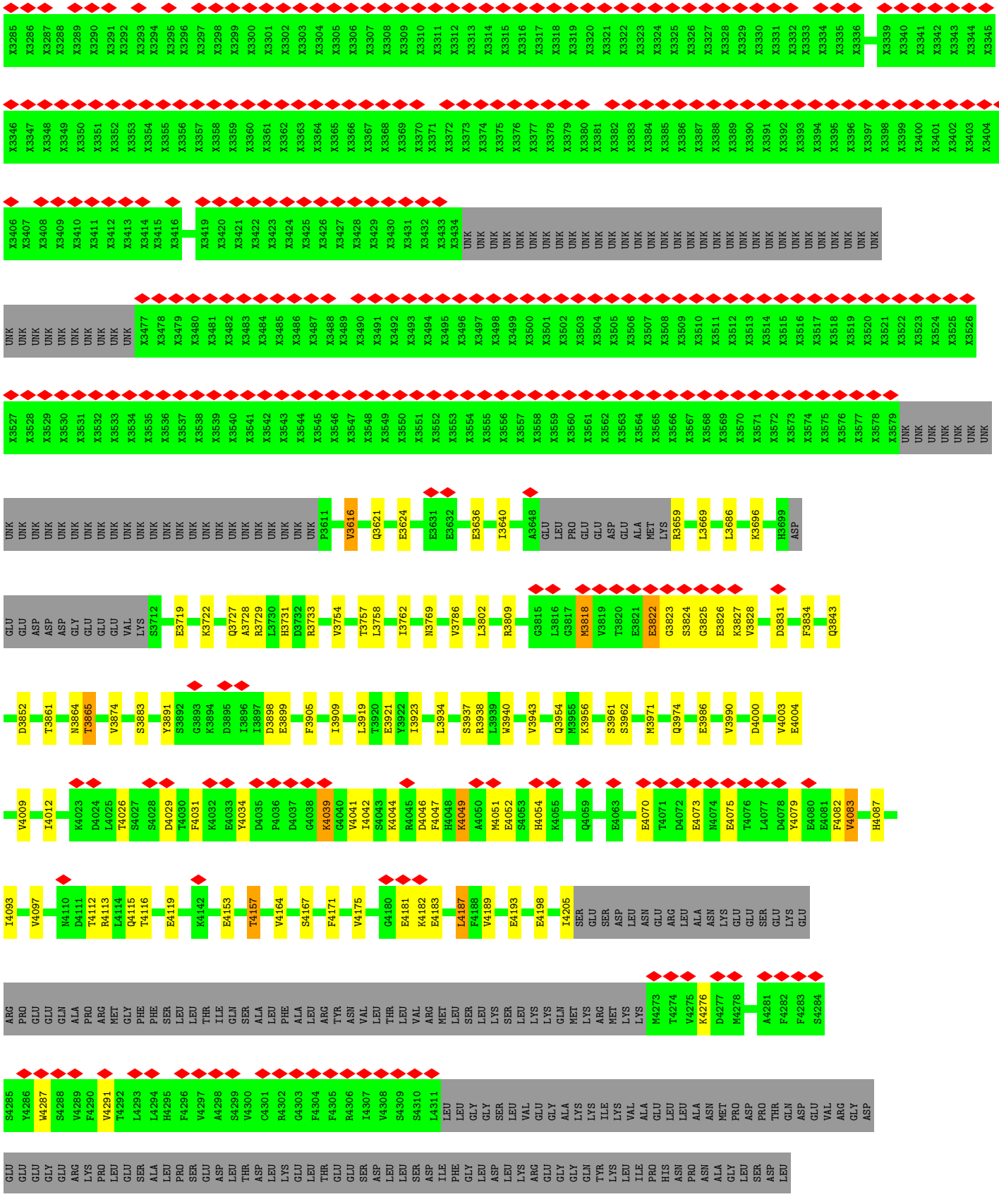


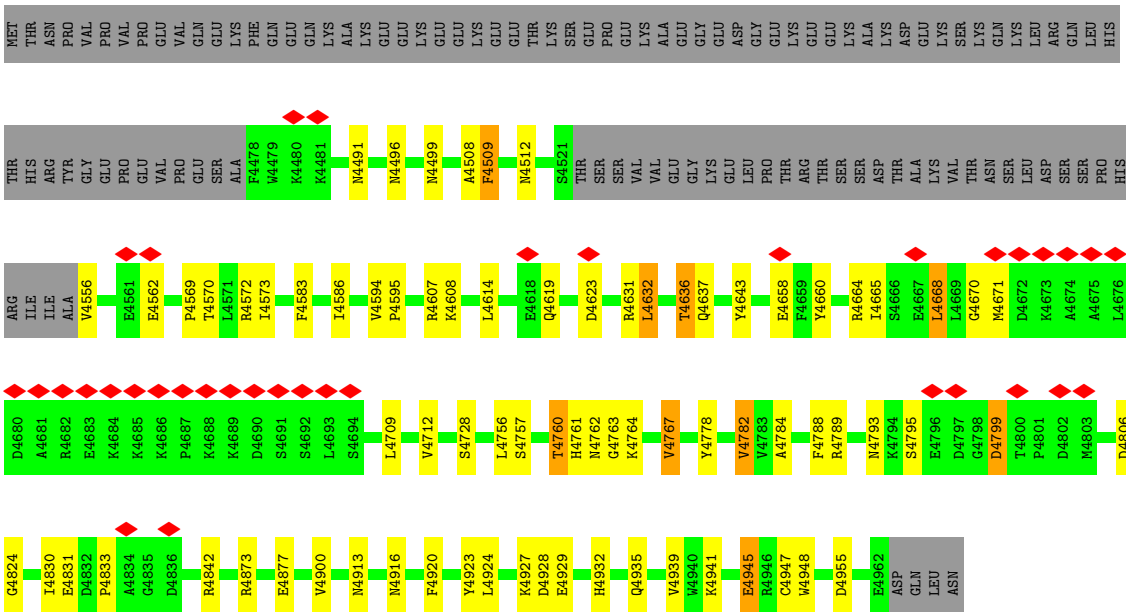
• Molecule 1: Ryanodine receptor 2

Chain C:



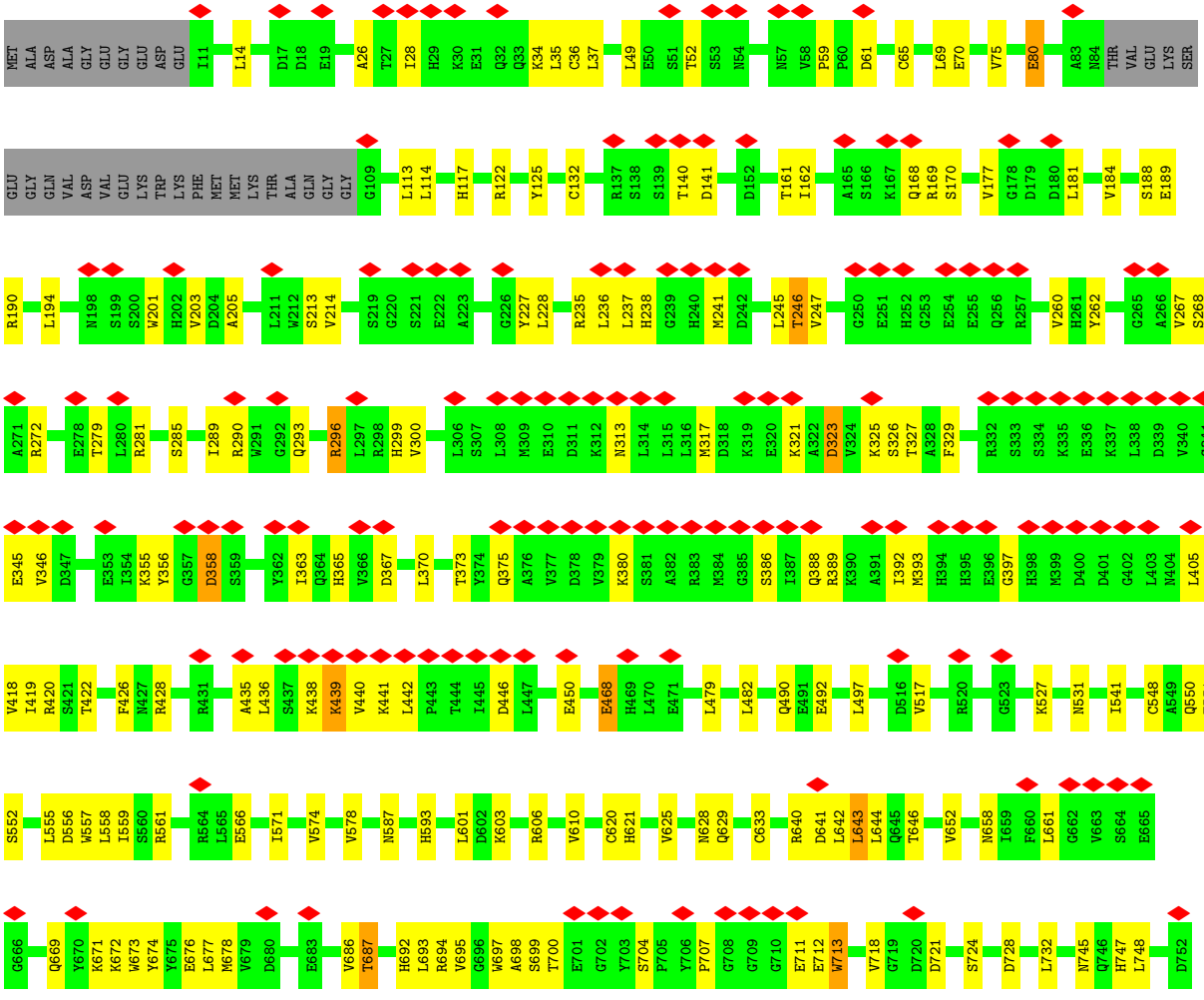

D2355 P2356 S2357 R2358 P2361 SER PRO THR SER GLY SER SER LYS THR LEU ASP ILE GLU GLU GLU ASP D2379 T2380 I2381 Y2391 E2404 M2405 H2406 H2409 D2430 A2438 P2439 Q2440 M2441 P2442 THR ILE ALA LYS ASP GLY LYS VAL E2452 P2453 D2454 M2455 S2456 A2457 L2471
E2478 D2481 L2484 H2485 L2486 L2487 E2488 V2489 G2490 P2491 L2492 P2493 D2494 L2495 R2496 A2497 A2498 L2501 D2502 T2503 L2506 X2509 X2516 X2528 X2529 X2546 X2550 X2551 X2555 X2569 X2578 X2582 X2583 X2586 X2587 X2590 X2591 X2592 X2593 X2594 X2595 X2596 X2597 X2598 X2599
X2611 X2612 X2615 X2616 X2617 X2618 X2619 X2620 X2624 X2625 X2626 X2630 X2633 X2634 X2635 X2636 X2637 X2638 X2639 X2640 X2641 X2642 X2643 X2644 X2647 X2648 X2651 X2652 X2653 X2654 X2655 X2656 X2657 X2658 UNK
UNK I2712 P2713 E2714 K2715 L2716 E2717 Y2718 F2719 I2720 N2721 K2722 Y2723 A2724 E2725 H2726 S2727 H2728 D2729 K2730 W2731 S2732 M2733 D2734 K2735 L2736 A2737
N2738 G2739 W2740 I2741 Y2742 G2743 E2744 I2745 Y2746 S2747 D2748 S2749 S2750 K2751 I2752 Q2753 P2754 L2755 M2756 LYS PRO TYR LYS L2761 L2762 S2763 E2764 K2765 E2766 K2767 E2768 I2769 Y2770 R2771 W2772 P2773 I2774 K2775 E2776 S2777 L2778 K2779 T2780 M2781 L2782 A2783 W2784 GLY TRP ARG ILE GLU ARG THR ARG GLU GLY ASP SER MET
ALA LEU TYR ASN ARG THR ARG ARG ILE SER GLN THR SER GLN VAL SER ILE ASP ALA ALA HIS GLY TYR SER PRO ARG ALA ILE ASP MET SER ASN VAL THR LEU SER ARG D2835 L2836 H2837 A2838 M2839 A2840 E2841 M2842 M2843 A2844 E2845 N2846 Y2847 H2848 N2849 I2850 W2851 A2852 K2853 K2854 K2855 K2856 L2857
E2858 L2859 E2860 S2861 K2862 G2863 G2864 G2865 N2866 H2867 P2868 L2869 L2870 V2871 P2872 Y2873 D2874 T2875 L2876 T2877 A2878 K2879 E2880 K2881 A2882 K2883 D2884 R2885 E2886 K2887 A2888 Q2889 D2890 I2891 F2892 K2893 F2894 L2895 Q2896 I2897 S2898 G2899 Y2900 V2901 V2902 S2903 R2904 G2905 PHE LYS ASP LEU ASP LEU ASP THR PRO SER X2916 X2917
X2918 X2919 X2920 X2924 X2925 X2926 X2927 X2928 X2929 X2930 X2931 X2932 X2933 X2934 X2935 X2936 X2937 X2938 X2939 X2940 X2941 X2942 UNK X2961 X2962 X2963 X2964 X2967 X2968 X2969 X2972 X2973 X2974 X2975 X2976 X2977 X2978 X2979 X2982
X2983 X2984 X2985 X2986 X2987 X2988 X2989 X2990 X2991 X2992 X2993 X2994 X2995 X2996 X2997 X2998 X2999 X3000 X3001 X3002 X3003 X3004 X3005 X3006 X3007 X3008 X3009 X3010 X3011 X3012 X3013 X3014 X3015 X3016 X3017 X3018 X3019 X3020 X3021 X3022 X3023 X3024 X3025 X3026 X3027 X3028 X3029 UNK
UNK
UNK X3104 X3105 X3106 X3107 X3108 X3109 X3110 X3111 X3112 X3115 X3116 X3117 X3118 X3119 X3120 X3121 X3122 X3123 X3124 X3125 X3126 X3127 X3128 X3129 UNK X3136 X3137 X3138 X3139 X3140 X3141 X3142 X3143 X3144 X3145 X3146 X3147 X3148 X3149 X3150 X3151 X3152 X3153 X3154 X3155 X3156 X3157 X3158 X3159 X3160 X3161 X3162 X3163
X3164 X3165 X3166 X3167 X3168 X3169 X3170 X3171 X3172 X3173 X3176 X3177 X3178 X3179 X3180 X3181 X3182 X3183 X3184 X3185 X3186 X3187 X3188 X3189 X3190 X3191 X3192 X3193 X3194 X3195 X3196 X3197 X3198 X3199 X3200 X3201 X3202 UNK X3207 X3208 X3209 X3210 X3211 X3212 X3213 X3214 X3215 X3216 X3217 X3218 X3219 X3220 UNK
UNK X3231 X3232 X3233 X3234 X3235 X3236 X3237 X3238 X3239 X3240 X3241 X3242 X3243 X3244 X3245 X3246 X3247 X3248 X3249 X3250 X3251 X3252 X3253 X3254 X3255 X3256 X3257 X3258 X3259 X3260 X3261 X3262 X3263 X3264 X3265 X3266 X3267 X3268 X3269 X3270 X3271 X3272 X3273 X3274 X3275 X3276 X3277 X3278 X3279 X3280 X3281 X3282 X3283 X3284

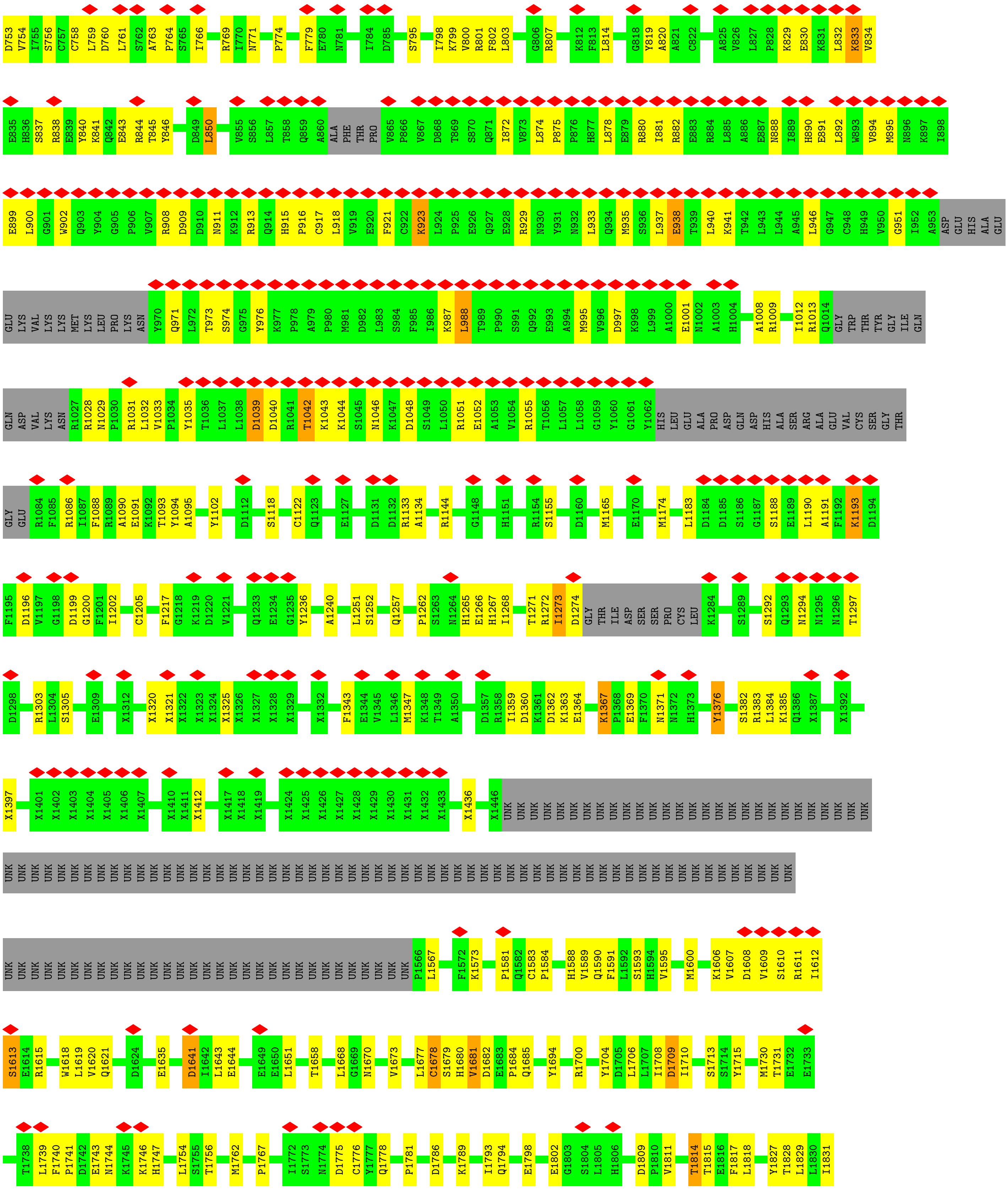

X3285 X3286 X3287 X3288 X3289 X3290 X3291 X3292 X3293 X3294 X3295 X3296 X3297 X3298 X3299 X3300 X3301 X3302 X3303 X3304 X3305 X3306 X3307 X3308 X3309 X3310 X3311 X3312 X3313 X3314 X3315 X3316 X3317 X3318 X3319 X3320 X3321 X3322 X3323 X3324 X3325 X3326 X3327 X3328 X3329 X3330 X3331 X3332 X3333 X3334 X3335 X3336 X3339 X3340 X3341 X3342 X3343 X3344 X3345
X3346 X3347 X3348 X3349 X3350 X3351 X3352 X3353 X3354 X3355 X3356 X3357 X3358 X3359 X3360 X3361 X3362 X3363 X3364 X3365 X3366 X3367 X3368 X3369 X3370 X3371 X3372 X3373 X3374 X3375 X3376 X3377 X3378 X3379 X3380 X3381 X3382 X3383 X3384 X3385 X3386 X3387 X3388 X3389 X3390 X3391 X3392 X3393 X3394 X3395 X3396 X3397 X3398 X3399 X3400 X3401 X3402 X3403 X3404 X3405
X3406 X3407 X3408 X3409 X3410 X3411 X3412 X3413 X3414 X3415 X3416 X3419 X3420 X3421 X3422 X3423 X3424 X3425 X3426 X3427 X3428 X3429 X3430 X3431 X3432 X3433 X3434 UNK UNK UNK

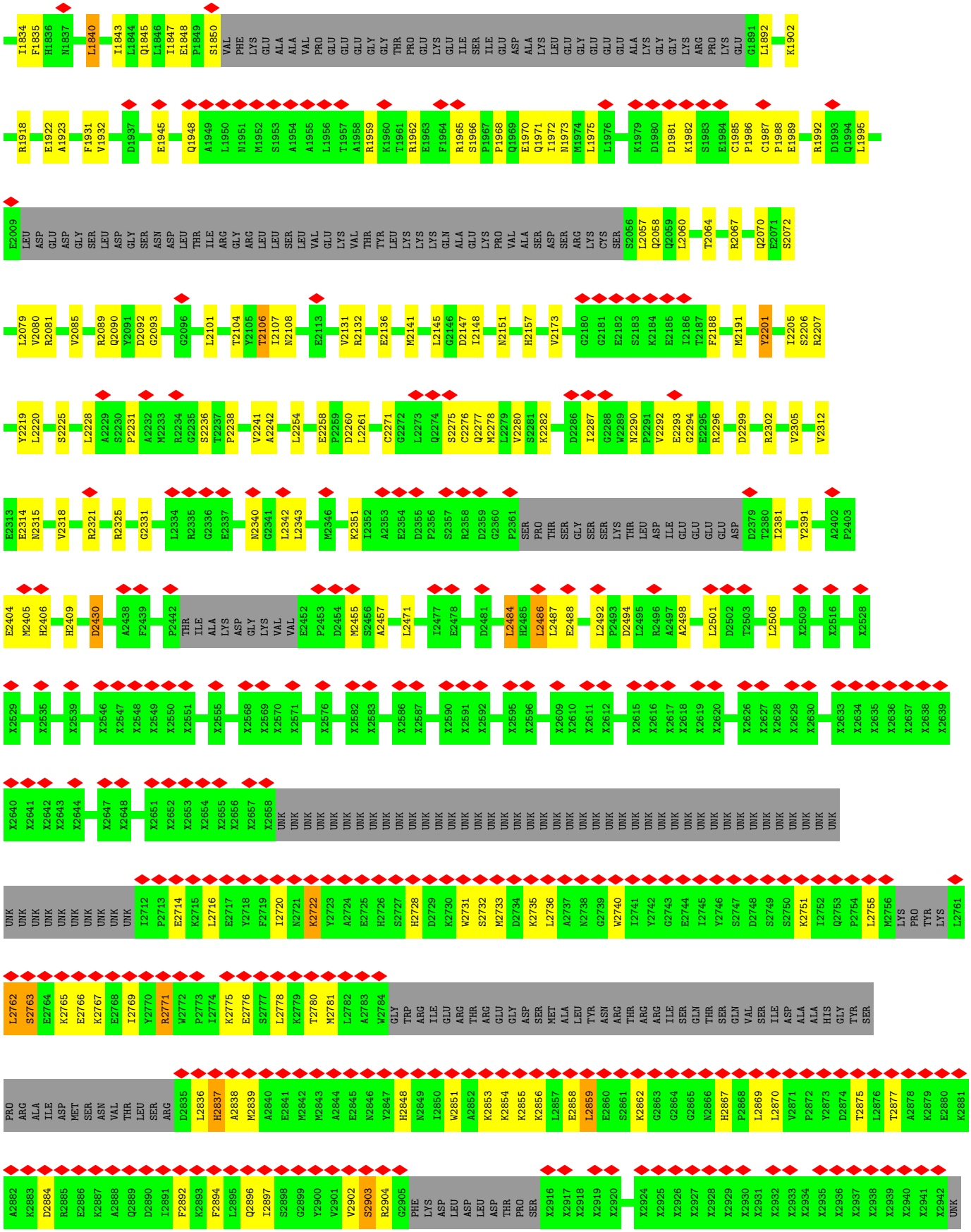


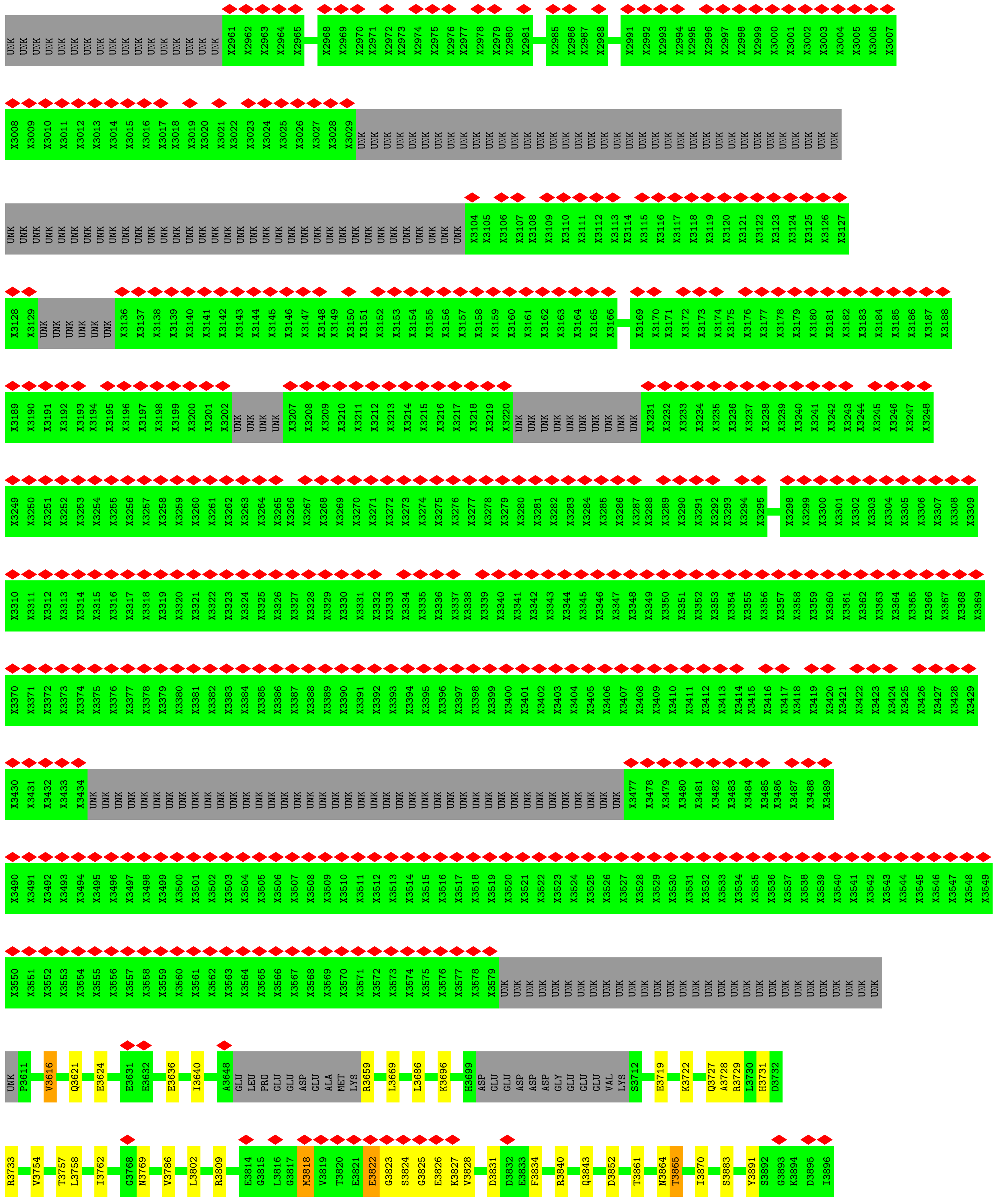
• Molecule 1: Ryanodine receptor 2

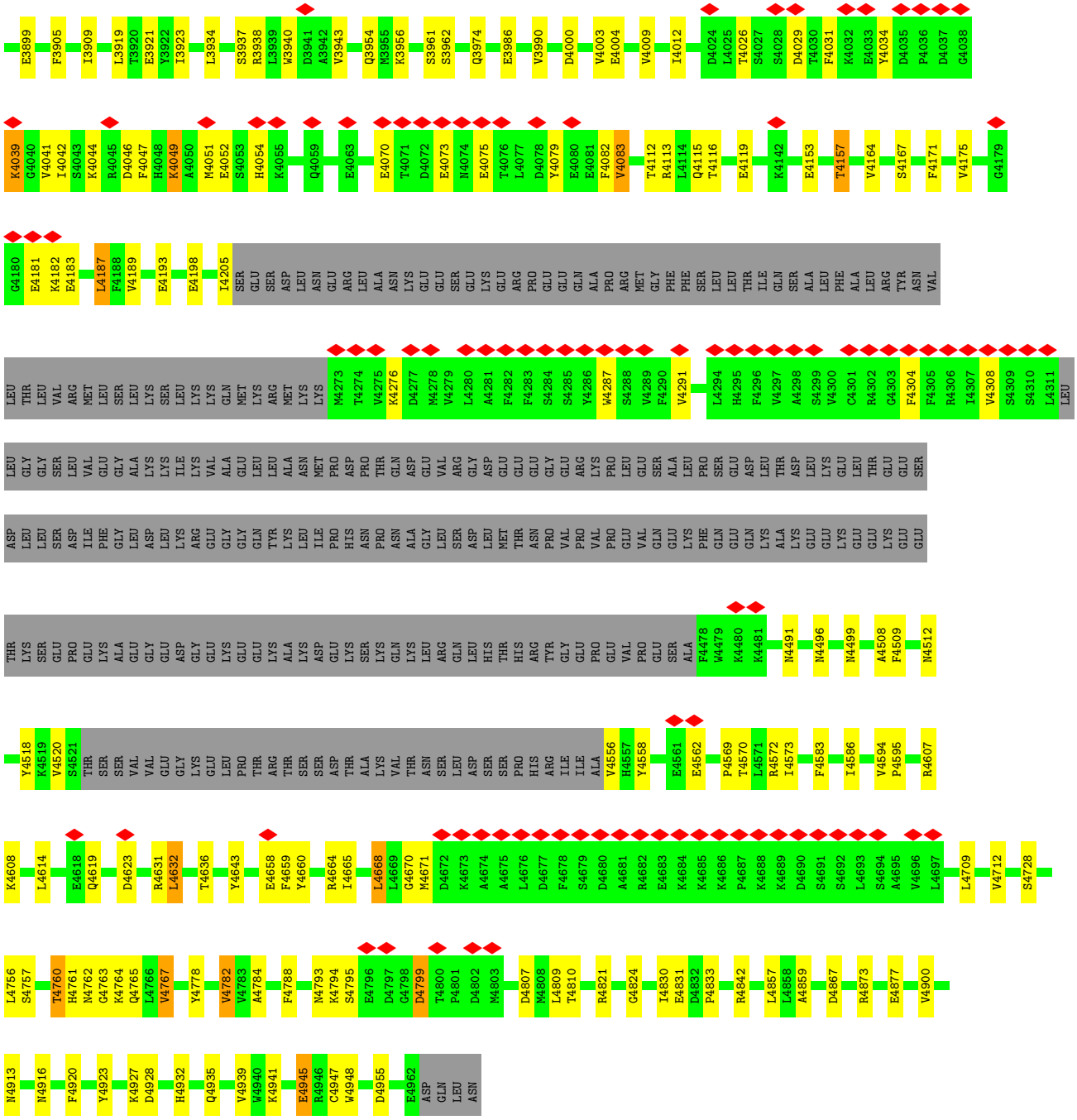
Chain D:




D753 V754 I755 S756 C757 C758 L759 D760 L761 S762 A763 P764 S765 I766 R769 I770 N771 P774 F779 E780 N781 I784 D785 S795 I798 K799 V800 R801 F802 L803 G806 R807 K812 F813 L814 G818 Y819 A820 A821 C822 A825 V826 L827 P828 K829 E830 K831 L832 K833 V834
E835 H836 S837 R838 E839 Y840 K841 Q842 E843 R844 T845 Y846 D849 L850 V855 S856 L857 T858 Q859 A860 ALA PHE THR PRO V865 P866 V867 D868 T869 S870 Q871 I872 V873 L874 P875 P876 H877 L878 E879 R880 I881 R882 E883 R884 L885 A886 E887 N888 I889 H890 E891 L892 W893 V894 M895 N896 K897 I898
E899 L900 G901 W902 Q903 Y904 G905 P906 V907 R908 D909 D910 N911 K912 R913 Q914 H915 P916 C917 L918 V919 E920 F921 C922 K923 L924 P925 E926 Q927 E928 R929 N930 Y931 N932 L933 Q934 M935 S936 L937 E938 T939 L940 K941 T942 L943 L944 A945 L946 G947 C948 H949 V950 G951 I952 A953 ASP GLU HIS ALA GLU
GLU LYS VAL LYS LYS MET LYS LEU PRO LYS ASN Y970 Q971 L972 T973 S974 G975 Y976 K977 P978 A979 P980 M981 D982 L983 S984 F985 I986 K987 L988 T989 P990 S991 Q992 E993 A994 M995 V996 D997 K998 L999 A1000 E1001 N1002 A1003 H1004 A1008 R1009 I1012 R1013 Q1014 GLY TRP THR TYR GLY ILE GLN
GLN ASP VAL LYS ASN R1027 R1028 N1029 P1030 R1031 L1032 V1033 P1034 Y1035 T1036 L1037 L1038 D1039 D1040 R1041 T1042 K1043 K1044 S1045 N1046 K1047 D1048 S1049 L1050 R1051 E1052 A1053 V1054 R1055 T1056 L1057 L1058 G1059 Y1060 G1061 Y1062 HIS LEU GLU ALA PRO ASP GLN ASP HIS ALA SER ARG ALA GLU VAL CYS SER GLY THR
GLY GLU R1084 F1085 R1086 I1087 F1088 R1089 A1090 E1091 K1092 T1093 Y1094 A1095 Y1102 D1112 S1118 C1122 Q1123 E1127 D1131 D1132 R1133 A1134 R1144 G1148 H1151 R1154 S1155 D1160 M1165 E1170 M1174 L1183 D1184 D1185 S1186 G1187 S1188 E1189 L1190 A1191 F1192 K1193 D1194
F1195 D1196 V1197 G1198 D1199 G1200 F1201 I1202 C1205 F1217 G1218 K1219 D1220 V1221 Q1233 E1234 G1235 Y1236 A1240 L1251 S1252 Q1257 P1262 S1263 N1264 H1265 E1266 H1267 I1268 T1271 R1272 I1273 D1274 GLY THR ILE ASP SER SER PRO CYS LEU K1284 S1289 S1292 Q1293 N1294 N1295 N1296 T1297
D1298 R1303 L1304 S1305 E1309 X1312 X1320 X1321 X1322 X1323 X1324 X1325 X1326 X1327 X1328 X1329 X1332 F1343 E1344 V1345 L1346 M1347 K1348 T1349 A1350 D1357 R1358 I1359 D1360 K1361 D1362 K1363 E1364 K1367 P1368 E1369 F1370 N1371 N1372 H1373 Y1376 S1382 R1383 L1384 K1385 Q1386 X1387 X1392
X1397 X1401 X1402 X1403 X1404 X1405 X1406 X1407 X1410 X1411 X1412 X1417 X1418 X1419 X1424 X1425 X1426 X1427 X1428 X1429 X1430 X1431 X1432 X1433 X1436 X1446 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK
UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK
UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK P1566 L1567 F1572 K1573 P1581 Q1582 C1583 P1584 H1588 V1589 Q1590 F1591 L1592 S1593 H1594 V1595 M1600 K1606 V1607 D1608 V1609 S1610 R1611 I1612
S1613 E1614 R1615 W1618 L1619 V1620 Q1621 D1624 E1635 D1641 I1642 L1643 E1644 E1649 E1650 L1651 T1658 L1668 G1669 N1670 V1673 L1677 C1678 S1679 H1680 V1681 D1682 E1683 P1684 Q1685 Y1694 R1700 Y1704 D1705 L1706 L1707 I1708 D1709 I1710 S1713 S1714 Y1715 M1730 T1731 E1732 E1733
T1738 L1739 F1740 P1741 D1742 E1743 N1744 K1745 K1746 H1747 L1754 S1755 T1756 M1762 P1767 I1772 S1773 N1774 D1775 C1776 Y1777 Q1778 P1781 D1786 K1789 I1793 Q1794 E1798 E1802 G1803 S1804 L1805 H1806 D1809 P1810 V1811 T1814 T1815 E1816 F1817 L1818 Y1827 T1828 L1829 L1830 I1831

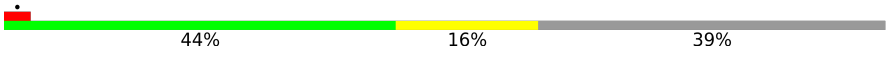

I1834 F1835 H1836 N1837 L1840 I1843 L1844 Q1845 L1846 I1847 E1848 P1849 S1850 VAL PHE LYS GLU ALA ALA VAL PRO GLU GLU GLU GLY GLY THR PRO GLU LYS GLU ILE SER ILE GLU ASP ALA LYS LEU GLU GLY GLU GLU ALA LYS GLY LYS ARG PRO LYS GLU G1891 L1892 K1902
R1918 E1922 A1923 F1931 V1932 D1937 E1945 Q1948 A1949 L1950 N1951 M1952 S1953 A1954 A1955 L1956 T1957 A1958 R1959 K1960 T1961 R1962 E1963 F1964 R1965 S1966 P1967 P1968 Q1969 E1970 Q1971 I1972 N1973 M1974 L1975 L1976 K1979 D1980 D1981 K1982 S1983 E1984 C1985 P1986 C1987 P1988 E1989 R1992 D1993 Q1994 L1995
E2009 LEU ASP GLU ASP GLY SER LEU ASP GLY SER ASN ASP LEU THR ILE ARG GLY ARG LEU LEU SER LEU VAL GLU LYS VAL THR TYR LEU LYS LYS LYS GLN ALA GLU LYS PRO VAL ALA SER ASP SER ARG LYS CYS SER S2056 L2057 Q2058 Q2059 L2060 T2064 R2067 Q2070 E2071 S2072
L2079 V2080 R2081 V2085 R2089 Q2090 Y2091 D2092 G2093 G2096 L2101 T2104 Y2105 T2106 I2107 N2108 E2113 V2131 R2132 E2136 M2141 L2145 G2146 D2147 I2148 N2151 H2157 V2173 G2180 G2181 E2182 S2183 K2184 E2185 I2186 T2187 F2188 M2191 Y2201 I2205 S2206 R2207
Y2219 L2220 S2225 L2228 A2229 S2230 P2231 A2232 M2233 R2234 G2235 S2236 T2237 P2238 V2241 A2242 L2254 E2258 P2259 D2260 L2261 C2271 G2272 L2273 Q2274 S2275 C2276 Q2277 M2278 L2279 V2280 S2281 K2282 D2286 I2287 G2288 W2289 N2290 P2291 V2292 E2293 G2294 E2295 R2296 D2299 R2302 V2305 V2312
E2313 E2314 N2315 V2318 R2321 R2325 G2331 L2334 R2335 G2336 E2337 N2340 G2341 L2342 L2343 M2346 K2351 I2352 A2353 E2354 D2355 P2356 S2357 R2358 D2359 G2360 P2361 SER PRO THR SER GLY SER SER LYS THR LEU ASP ILE GLU GLU GLU GLU ASP D2379 T2380 I2381 Y2391 A2402 P2403
E2404 M2405 H2406 H2409 D2430 A2438 F2439 P2442 THR ILE ALA LYS ASP GLY LYS VAL VAL E2452 P2453 D2454 M2455 S2456 A2457 L2471 I2477 E2478 D2481 L2484 H2485 L2486 L2487 E2488 L2492 P2493 D2494 L2495 R2496 A2497 A2498 L2501 D2502 T2503 L2506 X2509 X2516 X2528
X2529 X2535 X2539 X2546 X2547 X2548 X2549 X2550 X2551 X2555 X2568 X2569 X2570 X2571 X2576 X2582 X2583 X2586 X2587 X2590 X2591 X2592 X2595 X2596 X2609 X2610 X2611 X2612 X2615 X2616 X2617 X2618 X2619 X2620 X2626 X2627 X2628 X2629 X2630 X2633 X2634 X2635 X2636 X2637 X2638 X2639
X2640 X2641 X2642 X2643 X2644 X2647 X2648 X2651 X2652 X2653 X2654 X2655 X2656 X2657 X2658 UNK
UNK UNK UNK UNK UNK UNK UNK UNK I2712 P2713 E2714 K2715 L2716 E2717 Y2718 F2719 I2720 N2721 K2722 Y2723 A2724 E2725 H2726 S2727 H2728 D2729 K2730 W2731 S2732 M2733 D2734 K2735 L2736 A2737 N2738 G2739 W2740 I2741 Y2742 G2743 E2744 I2745 Y2746 S2747 D2748 S2749 S2750 K2751 I2752 Q2753 P2754 L2755 M2756 LYS PRO TYR LYS L2761
L2762 S2763 E2764 K2765 E2766 K2767 E2768 I2769 Y2770 R2771 W2772 P2773 I2774 K2775 E2776 S2777 L2778 K2779 T2780 M2781 L2782 A2783 W2784 GLY TRP ARG ILE GLU ARG THR ARG GLU GLY ASP SER MET ALA LEU TYR ASN ARG THR ARG ARG ILE SER GLN THR SER GLN VAL SER ILE ASP ALA ALA HIS GLY TYR SER
PRO ARG ALA ILE ASP MET SER ASN VAL THR LEU SER ARG D2835 L2836 H2837 A2838 M2839 A2840 E2841 M2842 M2843 A2844 E2845 N2846 Y2847 H2848 N2849 I2850 W2851 A2852 K2853 K2854 K2855 K2856 L2857 E2858 L2859 E2860 S2861 K2862 G2863 G2864 G2865 N2866 H2867 P2868 L2869 L2870 V2871 P2872 Y2873 D2874 T2875 L2876 T2877 A2878 K2879 E2880 K2881
A2882 K2883 D2884 R2885 E2886 K2887 A2888 Q2889 D2890 I2891 F2892 K2893 F2894 L2895 Q2896 I2897 S2898 G2899 Y2900 V2901 V2902 S2903 R2904 G2905 PHE LYS ASP LEU ASP LEU THR PRO SER X2916 X2917 X2918 X2919 X2920 X2924 X2925 X2926 X2927 X2928 X2929 X2930 X2931 X2932 X2933 X2934 X2935 X2936 X2937 X2938 X2939 X2940 X2941 X2942 UNK

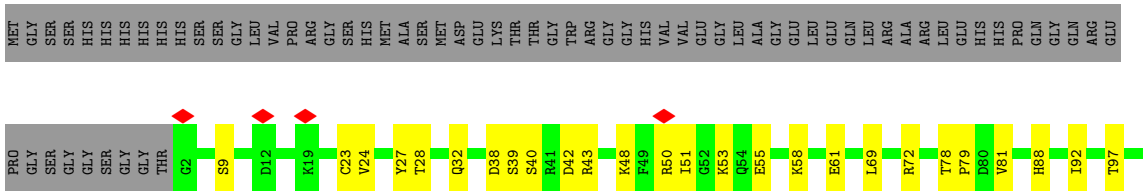

UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK X2961 X2962 X2963 X2964 X2965 X2968 X2969 X2970 X2971 X2972 X2973 X2974 X2975 X2976 X2977 X2978 X2979 X2980 X2981 X2985 X2986 X2987 X2988 X2991 X2992 X2993 X2994 X2995 X2996 X2997 X2998 X2999 X3000 X3001 X3002 X3003 X3004 X3005 X3006 X3007
X3008 X3009 X3010 X3011 X3012 X3013 X3014 X3015 X3016 X3017 X3018 X3019 X3020 X3021 X3022 X3023 X3024 X3025 X3026 X3027 X3028 X3029 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK
UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK X3104 X3105 X3106 X3107 X3108 X3109 X3110 X3111 X3112 X3113 X3114 X3115 X3116 X3117 X3118 X3119 X3120 X3121 X3122 X3123 X3124 X3125 X3126 X3127
X3128 X3129 UNK UNK UNK UNK UNK UNK X3136 X3137 X3138 X3139 X3140 X3141 X3142 X3143 X3144 X3145 X3146 X3147 X3148 X3149 X3150 X3151 X3152 X3153 X3154 X3155 X3156 X3157 X3158 X3159 X3160 X3161 X3162 X3163 X3164 X3165 X3166 X3169 X3170 X3171 X3172 X3173 X3174 X3175 X3176 X3177 X3178 X3179 X3180 X3181 X3182 X3183 X3184 X3185 X3186 X3187 X3188
X3189 X3190 X3191 X3192 X3193 X3194 X3195 X3196 X3197 X3198 X3199 X3200 X3201 X3202 UNK UNK UNK UNK X3207 X3208 X3209 X3210 X3211 X3212 X3213 X3214 X3215 X3216 X3217 X3218 X3219 X3220 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK X3231 X3232 X3233 X3234 X3235 X3236 X3237 X3238 X3239 X3240 X3241 X3242 X3243 X3244 X3245 X3246 X3247 X3248
X3249 X3250 X3251 X3252 X3253 X3254 X3255 X3256 X3257 X3258 X3259 X3260 X3261 X3262 X3263 X3264 X3265 X3266 X3267 X3268 X3269 X3270 X3271 X3272 X3273 X3274 X3275 X3276 X3277 X3278 X3279 X3280 X3281 X3282 X3283 X3284 X3285 X3286 X3287 X3288 X3289 X3290 X3291 X3292 X3293 X3294 X3295 X3298 X3299 X3300 X3301 X3302 X3303 X3304 X3305 X3306 X3307 X3308 X3309
X3310 X3311 X3312 X3313 X3314 X3315 X3316 X3317 X3318 X3319 X3320 X3321 X3322 X3323 X3324 X3325 X3326 X3327 X3328 X3329 X3330 X3331 X3332 X3333 X3334 X3335 X3336 X3337 X3338 X3339 X3340 X3341 X3342 X3343 X3344 X3345 X3346 X3347 X3348 X3349 X3350 X3351 X3352 X3353 X3354 X3355 X3356 X3357 X3358 X3359 X3360 X3361 X3362 X3363 X3364 X3365 X3366 X3367 X3368 X3369
X3370 X3371 X3372 X3373 X3374 X3375 X3376 X3377 X3378 X3379 X3380 X3381 X3382 X3383 X3384 X3385 X3386 X3387 X3388 X3389 X3390 X3391 X3392 X3393 X3394 X3395 X3396 X3397 X3398 X3399 X3400 X3401 X3402 X3403 X3404 X3405 X3406 X3407 X3408 X3409 X3410 X3411 X3412 X3413 X3414 X3415 X3416 X3417 X3418 X3419 X3420 X3421 X3422 X3423 X3424 X3425 X3426 X3427 X3428 X3429
X3430 X3431 X3432 X3433 X3434 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK X3477 X3478 X3479 X3480 X3481 X3482 X3483 X3484 X3485 X3486 X3487 X3488 X3489
X3490 X3491 X3492 X3493 X3494 X3495 X3496 X3497 X3498 X3499 X3500 X3501 X3502 X3503 X3504 X3505 X3506 X3507 X3508 X3509 X3510 X3511 X3512 X3513 X3514 X3515 X3516 X3517 X3518 X3519 X3520 X3521 X3522 X3523 X3524 X3525 X3526 X3527 X3528 X3529 X3530 X3531 X3532 X3533 X3534 X3535 X3536 X3537 X3538 X3539 X3540 X3541 X3542 X3543 X3544 X3545 X3546 X3547 X3548 X3549
X3550 X3551 X3552 X3553 X3554 X3555 X3556 X3557 X3558 X3559 X3560 X3561 X3562 X3563 X3564 X3565 X3566 X3567 X3568 X3569 X3570 X3571 X3572 X3573 X3574 X3575 X3576 X3577 X3578 X3579 UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK UNK
UNK P3611 V3616 Q3621 E3624 E3631 E3632 E3636 I3640 A3648 GLU LEU PRO GLU GLU ASP GLU ALA MET LYS R3659 L3669 L3686 K3696 H3699 ASP GLU GLU ASP ASP ASP GLY GLU GLU GLU VAL LYS S3712 E3719 K3722 Q3727 A3728 R3729 L3730 H3731 D3732
R3733 V3754 T3757 L3758 I3762 G3768 N3769 V3786 L3802 R3809 E3814 G3815 L3816 G3817 M3818 V3819 T3820 E3821 E3822 G3823 S3824 G3825 E3826 K3827 V3828 D3831 D3832 E3833 F3834 R3840 Q3843 D3852 T3861 N3864 T3865 I3870 S3883 Y3891 S3892 G3893 K3894 D3895 I3896

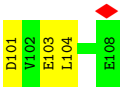


• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain G:

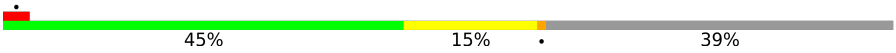


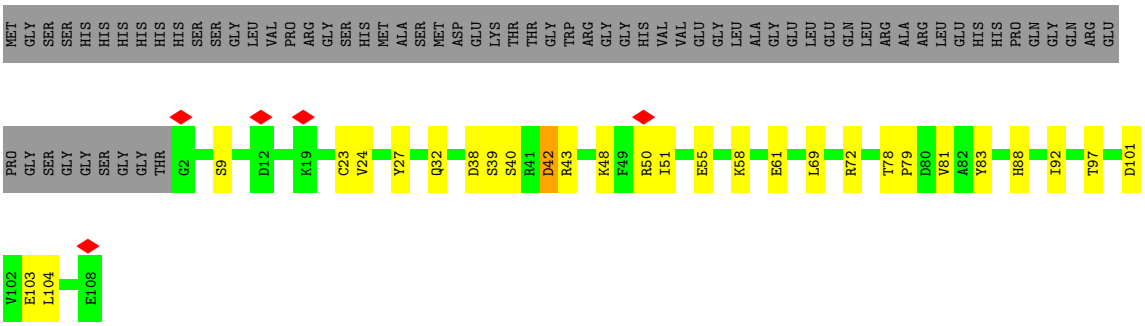




• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

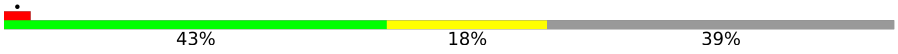
Chain H:

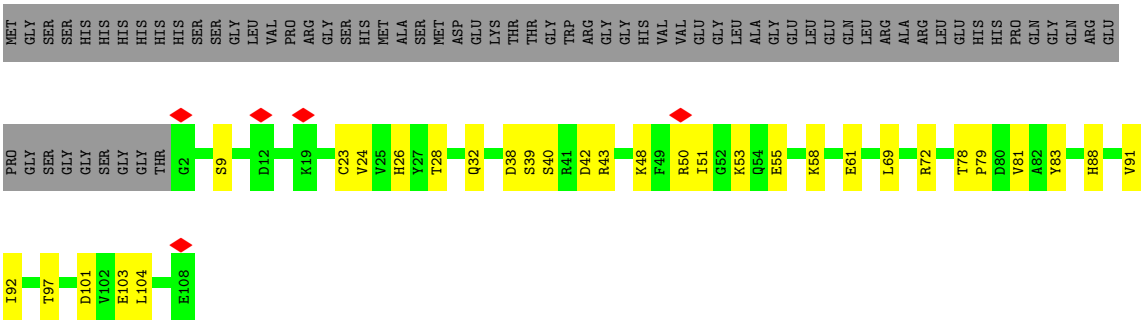




• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

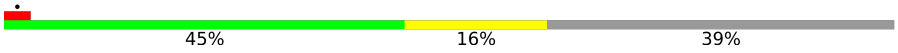
Chain I:

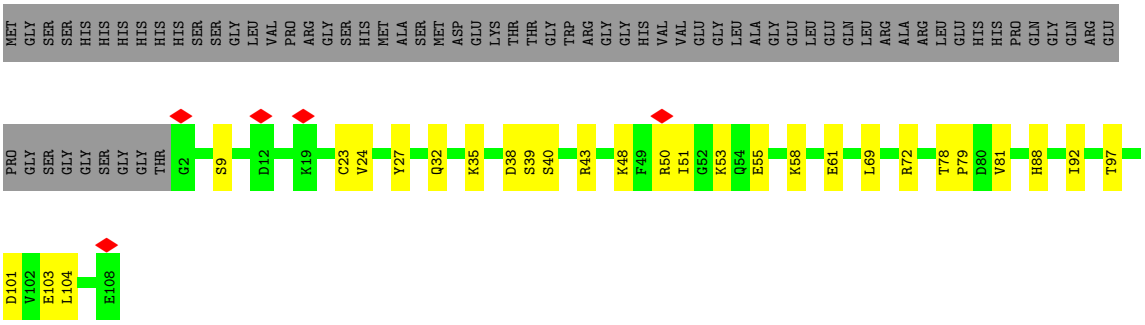




• Molecule 2: Peptidyl-prolyl cis-trans isomerase FKBP1B

Chain J:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	45120	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.129	Depositor
Minimum map value	-0.069	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.019	Depositor
Map size (Å)	513.60004, 513.60004, 513.60004	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.284, 1.284, 1.284	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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.25	0/26895	0.42	0/36316
1	B	0.25	0/26895	0.42	0/36316
1	C	0.25	0/26895	0.42	0/36316
1	D	0.25	0/26895	0.42	0/36316
2	G	0.26	0/835	0.47	0/1123
2	H	0.26	0/835	0.47	0/1123
2	I	0.26	0/835	0.47	0/1123
2	J	0.26	0/835	0.47	0/1123
All	All	0.25	0/110920	0.42	0/149756

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	A	0	1
1	B	0	1
1	C	0	1
1	D	0	1
All	All	0	4

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	468	GLU	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
1	B	468	GLU	Peptide
1	C	468	GLU	Peptide
1	D	468	GLU	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	A	30071	0	26714	459	0
1	B	30071	0	26714	452	0
1	C	30071	0	26714	462	0
1	D	30071	0	26714	466	0
2	G	819	0	821	18	0
2	H	819	0	821	17	0
2	I	819	0	821	20	0
2	J	819	0	821	17	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
All	All	123564	0	110140	1884	0

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

All (1884) 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:A:2404:GLU:HG3	1:A:2405:MET:H	1.38	0.89
1:B:2404:GLU:HG3	1:B:2405:MET:H	1.38	0.89
1:D:2404:GLU:HG3	1:D:2405:MET:H	1.38	0.88
1:C:2404:GLU:HG3	1:C:2405:MET:H	1.38	0.87
1:A:4821:ARG:NH2	1:D:4824:GLY:O	2.08	0.86
1:D:1190:LEU:HD21	1:D:1193:LYS:HB3	1.58	0.85
1:A:1190:LEU:HD21	1:A:1193:LYS:HB3	1.59	0.85
1:C:1190:LEU:HD21	1:C:1193:LYS:HB3	1.59	0.85

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1190:LEU:HD21	1:B:1193:LYS:HB3	1.59	0.85
1:A:2406:HIS:HA	1:A:2409:HIS:HB3	1.62	0.82
1:B:2406:HIS:HA	1:B:2409:HIS:HB3	1.61	0.82
1:C:2406:HIS:HA	1:C:2409:HIS:HB3	1.62	0.81
1:C:4789:ARG:NH2	1:D:4558:TYR:OH	2.14	0.80
1:A:358:ASP:OD1	1:A:358:ASP:N	2.15	0.80
1:D:2406:HIS:HA	1:D:2409:HIS:HB3	1.62	0.80
1:C:358:ASP:OD1	1:C:358:ASP:N	2.15	0.79
1:D:358:ASP:N	1:D:358:ASP:OD1	2.15	0.78
1:B:358:ASP:N	1:B:358:ASP:OD1	2.15	0.77
1:C:4833:PRO:HB3	1:C:4842:ARG:HD3	1.66	0.77
2:J:58:LYS:HA	2:J:61:GLU:HG2	1.66	0.77
2:G:58:LYS:HA	2:G:61:GLU:HG2	1.66	0.77
1:B:4833:PRO:HB3	1:B:4842:ARG:HD3	1.66	0.76
2:H:58:LYS:HA	2:H:61:GLU:HG2	1.66	0.76
1:C:1741:PRO:HB3	1:C:1746:LYS:HE3	1.67	0.76
1:A:4833:PRO:HB3	1:A:4842:ARG:HD3	1.66	0.76
1:D:4833:PRO:HB3	1:D:4842:ARG:HD3	1.66	0.76
2:I:58:LYS:HA	2:I:61:GLU:HG2	1.66	0.76
1:B:1741:PRO:HB3	1:B:1746:LYS:HE3	1.67	0.75
1:D:1741:PRO:HB3	1:D:1746:LYS:HE3	1.67	0.75
1:A:4867:ASP:OD1	1:B:4873:ARG:NH1	2.19	0.74
1:A:1741:PRO:HB3	1:A:1746:LYS:HE3	1.67	0.74
1:C:760:ASP:HB3	1:C:764:PRO:HG2	1.70	0.74
1:A:760:ASP:HB3	1:A:764:PRO:HG2	1.70	0.74
1:C:4042:ILE:HG22	1:C:4044:LYS:H	1.53	0.73
1:B:4042:ILE:HG22	1:B:4044:LYS:H	1.53	0.73
1:D:4042:ILE:HG22	1:D:4044:LYS:H	1.53	0.73
1:A:4042:ILE:HG22	1:A:4044:LYS:H	1.53	0.73
1:C:558:LEU:HB3	1:C:571:ILE:HD11	1.71	0.73
1:A:558:LEU:HB3	1:A:571:ILE:HD11	1.71	0.72
1:B:760:ASP:HB3	1:B:764:PRO:HG2	1.70	0.72
1:D:3843:GLN:HG3	1:D:3921:GLU:HG3	1.72	0.72
1:B:694:ARG:HG2	1:B:728:ASP:HB3	1.71	0.72
1:A:3843:GLN:HG3	1:A:3921:GLU:HG3	1.72	0.72
1:B:558:LEU:HB3	1:B:571:ILE:HD11	1.71	0.72
1:B:3843:GLN:HG3	1:B:3921:GLU:HG3	1.72	0.72
1:C:3843:GLN:HG3	1:C:3921:GLU:HG3	1.72	0.72
1:A:694:ARG:HG2	1:A:728:ASP:HB3	1.72	0.72
1:A:162:ILE:HD11	1:A:181:LEU:HD22	1.72	0.72
1:D:760:ASP:HB3	1:D:764:PRO:HG2	1.70	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:162:ILE:HD11	1:D:181:LEU:HD22	1.72	0.71
1:D:558:LEU:HB3	1:D:571:ILE:HD11	1.71	0.71
1:C:2853:LYS:HA	1:C:2856:LYS:HE2	1.74	0.70
1:A:4873:ARG:NH1	1:D:4867:ASP:OD1	2.25	0.70
1:C:162:ILE:HD11	1:C:181:LEU:HD22	1.72	0.70
1:B:2853:LYS:HA	1:B:2856:LYS:HE2	1.74	0.70
1:B:162:ILE:HD11	1:B:181:LEU:HD22	1.72	0.70
1:C:694:ARG:HG2	1:C:728:ASP:HB3	1.71	0.70
1:D:694:ARG:HG2	1:D:728:ASP:HB3	1.72	0.70
1:B:1989:GLU:HG2	1:B:1992:ARG:HD3	1.74	0.69
1:D:2853:LYS:HA	1:D:2856:LYS:HE2	1.74	0.69
1:A:2853:LYS:HA	1:A:2856:LYS:HE2	1.74	0.69
1:C:1272:ARG:NH2	1:C:1584:PRO:O	2.26	0.69
1:A:1989:GLU:HG2	1:A:1992:ARG:HD3	1.74	0.69
1:D:1613:SER:O	1:D:1615:ARG:NH2	2.26	0.69
1:A:1613:SER:O	1:A:1615:ARG:NH2	2.26	0.69
1:A:1730:MET:SD	1:A:2106:THR:OG1	2.52	0.68
1:A:1682:ASP:HB2	1:A:1685:GLN:HB3	1.76	0.68
1:C:1682:ASP:HB2	1:C:1685:GLN:HB3	1.76	0.68
1:A:1272:ARG:NH2	1:A:1584:PRO:O	2.26	0.68
1:B:1682:ASP:HB2	1:B:1685:GLN:HB3	1.75	0.68
1:B:1272:ARG:NH2	1:B:1584:PRO:O	2.26	0.68
1:C:671:LYS:HB3	1:C:761:LEU:HB2	1.76	0.68
1:D:1272:ARG:NH2	1:D:1584:PRO:O	2.26	0.68
1:C:1613:SER:O	1:C:1615:ARG:NH2	2.26	0.68
1:C:1989:GLU:HG2	1:C:1992:ARG:HD3	1.74	0.68
1:D:1989:GLU:HG2	1:D:1992:ARG:HD3	1.74	0.67
1:B:1613:SER:O	1:B:1615:ARG:NH2	2.26	0.67
1:A:1262:PRO:HG2	1:A:1265:HIS:HB2	1.77	0.67
1:C:1262:PRO:HG2	1:C:1265:HIS:HB2	1.77	0.67
1:D:900:LEU:HD22	1:D:902:TRP:HE1	1.59	0.67
1:D:1682:ASP:HB2	1:D:1685:GLN:HB3	1.75	0.67
1:C:1730:MET:SD	1:C:2106:THR:OG1	2.52	0.67
1:D:1744:ASN:HD21	1:D:1746:LYS:HE2	1.60	0.67
1:A:671:LYS:HB3	1:A:761:LEU:HB2	1.76	0.67
1:C:1769:PHE:O	2:I:83:TYR:OH	2.12	0.67
1:B:671:LYS:HB3	1:B:761:LEU:HB2	1.76	0.67
1:D:1262:PRO:HG2	1:D:1265:HIS:HB2	1.77	0.67
1:B:1262:PRO:HG2	1:B:1265:HIS:HB2	1.77	0.66
1:D:1730:MET:SD	1:D:2106:THR:OG1	2.52	0.66
1:D:1775:ASP:OD1	1:D:1776:CYS:N	2.26	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:900:LEU:HD22	1:A:902:TRP:HE1	1.59	0.66
1:C:900:LEU:HD22	1:C:902:TRP:HE1	1.59	0.66
1:C:1775:ASP:OD1	1:C:1776:CYS:N	2.26	0.66
1:D:671:LYS:HB3	1:D:761:LEU:HB2	1.76	0.66
1:C:2731:TRP:HE1	1:C:2735:LYS:HZ2	1.42	0.66
1:D:4619:GLN:HE22	1:D:4631:ARG:HH12	1.44	0.66
1:A:1744:ASN:HD21	1:A:1746:LYS:HE2	1.60	0.66
1:B:900:LEU:HD22	1:B:902:TRP:HE1	1.60	0.66
1:B:1730:MET:SD	1:B:2106:THR:OG1	2.52	0.66
1:C:4115:GLN:O	1:C:4119:GLU:HG2	1.96	0.66
1:B:3727:GLN:OE1	1:B:3769:ASN:ND2	2.29	0.65
1:B:1744:ASN:HD21	1:B:1746:LYS:HE2	1.60	0.65
1:A:759:LEU:HD13	1:A:766:ILE:HG12	1.79	0.65
1:C:4619:GLN:HE22	1:C:4631:ARG:HH12	1.44	0.65
1:B:4115:GLN:O	1:B:4119:GLU:HG2	1.96	0.65
1:A:3727:GLN:OE1	1:A:3769:ASN:ND2	2.29	0.65
1:A:2731:TRP:HE1	1:A:2735:LYS:HZ2	1.44	0.65
1:D:759:LEU:HD13	1:D:766:ILE:HG12	1.79	0.65
1:D:4115:GLN:O	1:D:4119:GLU:HG2	1.96	0.65
1:B:1775:ASP:OD1	1:B:1776:CYS:N	2.26	0.65
1:C:4042:ILE:HG21	1:C:4047:PHE:HB2	1.79	0.65
1:B:2731:TRP:HE1	1:B:2735:LYS:HZ2	1.43	0.65
1:C:759:LEU:HD13	1:C:766:ILE:HG12	1.79	0.65
1:A:1266:GLU:O	1:A:1267:HIS:ND1	2.30	0.65
1:C:1744:ASN:HD21	1:C:1746:LYS:HE2	1.60	0.65
1:A:1267:HIS:O	1:A:1292:SER:OG	2.15	0.65
1:B:1267:HIS:O	1:B:1292:SER:OG	2.15	0.65
1:B:4003:VAL:HG11	1:B:4113:ARG:HG2	1.80	0.64
1:D:4003:VAL:HG11	1:D:4113:ARG:HG2	1.80	0.64
1:C:1266:GLU:O	1:C:1267:HIS:ND1	2.30	0.64
1:A:4115:GLN:O	1:A:4119:GLU:HG2	1.96	0.64
1:A:4619:GLN:HE22	1:A:4631:ARG:HH12	1.44	0.64
1:B:1266:GLU:O	1:B:1267:HIS:ND1	2.30	0.64
1:B:1359:ILE:HG12	1:B:1363:LYS:HD2	1.79	0.64
1:C:3727:GLN:OE1	1:C:3769:ASN:ND2	2.29	0.64
1:D:1266:GLU:O	1:D:1267:HIS:ND1	2.30	0.64
1:D:3818:MET:SD	1:D:3818:MET:N	2.68	0.64
1:C:3818:MET:SD	1:C:3818:MET:N	2.68	0.64
1:B:4619:GLN:HE22	1:B:4631:ARG:HH12	1.44	0.64
1:A:4003:VAL:HG11	1:A:4113:ARG:HG2	1.80	0.64
1:B:426:PHE:HB3	1:B:497:LEU:HD21	1.80	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:759:LEU:HD13	1:B:766:ILE:HG12	1.79	0.64
1:B:3822:GLU:HB3	1:B:3826:GLU:HA	1.80	0.64
1:C:1265:HIS:HD2	1:C:1268:ILE:HB	1.63	0.64
1:C:4003:VAL:HG11	1:C:4113:ARG:HG2	1.80	0.64
1:A:426:PHE:HB3	1:A:497:LEU:HD21	1.80	0.64
1:A:1775:ASP:OD1	1:A:1776:CYS:N	2.26	0.63
1:D:2731:TRP:HE1	1:D:2735:LYS:HZ2	1.44	0.63
1:D:3822:GLU:HB3	1:D:3826:GLU:HA	1.80	0.63
1:A:3822:GLU:HB3	1:A:3826:GLU:HA	1.80	0.63
1:A:4042:ILE:HG21	1:A:4047:PHE:HB2	1.79	0.63
1:B:4042:ILE:HG21	1:B:4047:PHE:HB2	1.79	0.63
1:C:3822:GLU:HB3	1:C:3826:GLU:HA	1.80	0.63
1:D:1267:HIS:O	1:D:1292:SER:OG	2.15	0.63
1:A:1265:HIS:HD2	1:A:1268:ILE:HB	1.63	0.63
1:A:3954:GLN:NE2	1:A:3974:GLN:OE1	2.32	0.63
1:D:1359:ILE:HG12	1:D:1363:LYS:HD2	1.79	0.63
1:C:1267:HIS:O	1:C:1292:SER:OG	2.15	0.63
1:C:3954:GLN:NE2	1:C:3974:GLN:OE1	2.32	0.63
1:C:426:PHE:HB3	1:C:497:LEU:HD21	1.80	0.63
1:B:36:CYS:SG	1:B:37:LEU:N	2.72	0.63
1:B:1847:ILE:HG23	1:B:1892:LEU:HB3	1.81	0.63
1:A:14:LEU:HD11	1:A:214:VAL:HG11	1.81	0.62
1:B:1265:HIS:HD2	1:B:1268:ILE:HB	1.63	0.62
1:B:2735:LYS:HD2	1:B:2740:TRP:CD1	2.34	0.62
1:C:14:LEU:HD11	1:C:214:VAL:HG11	1.81	0.62
1:A:36:CYS:SG	1:A:37:LEU:N	2.72	0.62
1:A:1359:ILE:HG12	1:A:1363:LYS:HD2	1.79	0.62
1:A:4055:LYS:NZ	1:D:4659:PHE:O	2.26	0.62
1:C:2735:LYS:HD2	1:C:2740:TRP:CD1	2.34	0.62
1:B:3954:GLN:NE2	1:B:3974:GLN:OE1	2.32	0.62
1:C:3822:GLU:OE2	1:C:3824:SER:N	2.32	0.62
1:D:36:CYS:SG	1:D:37:LEU:N	2.72	0.62
1:D:1265:HIS:HD2	1:D:1268:ILE:HB	1.63	0.62
1:D:1847:ILE:HG23	1:D:1892:LEU:HB3	1.81	0.62
1:D:3727:GLN:OE1	1:D:3769:ASN:ND2	2.29	0.62
1:D:4042:ILE:HG21	1:D:4047:PHE:HB2	1.79	0.62
1:C:36:CYS:SG	1:C:37:LEU:N	2.72	0.62
1:D:325:LYS:HG3	1:D:367:ASP:OD1	2.00	0.62
1:D:3954:GLN:NE2	1:D:3974:GLN:OE1	2.32	0.62
1:A:2735:LYS:HD2	1:A:2740:TRP:CD1	2.34	0.62
1:D:426:PHE:HB3	1:D:497:LEU:HD21	1.80	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:325:LYS:HG3	1:A:367:ASP:OD1	2.00	0.62
1:C:325:LYS:HG3	1:C:367:ASP:OD1	2.00	0.62
1:C:1359:ILE:HG12	1:C:1363:LYS:HD2	1.79	0.62
1:C:3754:VAL:HA	1:C:3757:THR:HG22	1.82	0.62
1:A:3822:GLU:OE2	1:A:3824:SER:N	2.32	0.62
1:B:14:LEU:HD11	1:B:214:VAL:HG11	1.81	0.62
1:D:2735:LYS:HD2	1:D:2740:TRP:CD1	2.34	0.61
1:D:3754:VAL:HA	1:D:3757:THR:HG22	1.82	0.61
1:A:1847:ILE:HG23	1:A:1892:LEU:HB3	1.81	0.61
1:A:3754:VAL:HA	1:A:3757:THR:HG22	1.82	0.61
2:H:69:LEU:HA	2:H:104:LEU:HD22	1.82	0.61
1:C:872:ILE:HD11	1:C:941:LYS:HA	1.83	0.61
1:C:1847:ILE:HG23	1:C:1892:LEU:HB3	1.81	0.61
1:A:281:ARG:NH1	1:A:345:GLU:OE2	2.33	0.61
2:I:69:LEU:HA	2:I:104:LEU:HD22	1.83	0.61
1:D:1052:GLU:HA	1:D:1055:ARG:HB2	1.82	0.61
1:B:325:LYS:HG3	1:B:367:ASP:OD1	2.00	0.61
1:B:4079:TYR:O	1:B:4083:VAL:HG13	2.01	0.61
1:D:14:LEU:HD11	1:D:214:VAL:HG11	1.81	0.61
1:B:3754:VAL:HA	1:B:3757:THR:HG22	1.82	0.61
2:H:79:PRO:HD3	2:H:97:THR:HG22	1.83	0.61
1:C:880:ARG:HG3	1:C:881:ILE:HD12	1.82	0.61
1:D:872:ILE:HD11	1:D:941:LYS:HA	1.82	0.61
1:A:4079:TYR:O	1:A:4083:VAL:HG13	2.01	0.61
1:B:1829:LEU:HB3	1:B:1834:ILE:HD11	1.83	0.61
1:A:880:ARG:HG3	1:A:881:ILE:HD12	1.82	0.61
1:D:281:ARG:NH1	1:D:345:GLU:OE2	2.33	0.61
2:J:69:LEU:HA	2:J:104:LEU:HD22	1.83	0.61
1:A:1829:LEU:HB3	1:A:1834:ILE:HD11	1.83	0.60
2:G:24:VAL:HG22	2:G:48:LYS:HG2	1.83	0.60
2:G:79:PRO:HD3	2:G:97:THR:HG22	1.83	0.60
1:B:373:THR:HG22	1:B:397:GLY:HA2	1.82	0.60
1:B:872:ILE:HD11	1:B:941:LYS:HA	1.83	0.60
2:I:24:VAL:HG22	2:I:48:LYS:HG2	1.83	0.60
1:A:3822:GLU:HG3	1:A:3827:LYS:HG3	1.83	0.60
1:C:1829:LEU:HB3	1:C:1834:ILE:HD11	1.83	0.60
1:C:4079:TYR:O	1:C:4083:VAL:HG13	2.01	0.60
2:I:79:PRO:HD3	2:I:97:THR:HG22	1.83	0.60
1:D:4079:TYR:O	1:D:4083:VAL:HG13	2.01	0.60
1:B:3822:GLU:HG3	1:B:3827:LYS:HG3	1.84	0.60
1:B:4044:LYS:HB2	1:B:4075:GLU:HG2	1.83	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:188:SER:HB2	1:C:190:ARG:HH21	1.67	0.60
1:D:1829:LEU:HB3	1:D:1834:ILE:HD11	1.83	0.60
1:D:2275:SER:OG	1:D:2287:ILE:O	2.17	0.60
1:D:3891:TYR:O	1:D:3956:LYS:NZ	2.35	0.60
1:C:281:ARG:NH1	1:C:345:GLU:OE2	2.33	0.60
1:C:373:THR:HG22	1:C:397:GLY:HA2	1.82	0.60
1:C:1052:GLU:HA	1:C:1055:ARG:HB2	1.82	0.60
1:C:2275:SER:OG	1:C:2287:ILE:O	2.17	0.60
1:B:880:ARG:HG3	1:B:881:ILE:HD12	1.82	0.60
1:A:373:THR:HG22	1:A:397:GLY:HA2	1.82	0.60
2:G:69:LEU:HA	2:G:104:LEU:HD22	1.82	0.60
1:B:2855:LYS:HA	1:B:2855:LYS:HE3	1.84	0.60
1:C:1681:VAL:HG23	1:C:1682:ASP:H	1.67	0.60
1:D:4153:GLU:O	1:D:4157:THR:OG1	2.19	0.60
1:A:4044:LYS:HB2	1:A:4075:GLU:HG2	1.83	0.60
1:A:2855:LYS:HE3	1:A:2855:LYS:HA	1.84	0.60
1:C:676:GLU:HB2	1:C:803:LEU:HB2	1.84	0.60
2:J:79:PRO:HD3	2:J:97:THR:HG22	1.83	0.60
1:A:188:SER:HB2	1:A:190:ARG:HH21	1.67	0.60
1:B:3822:GLU:OE2	1:B:3824:SER:N	2.32	0.60
1:B:4153:GLU:O	1:B:4157:THR:OG1	2.19	0.60
1:C:1091:GLU:HB3	1:C:1094:TYR:HD2	1.67	0.60
1:C:1684:PRO:HD3	2:I:42:ASP:HB3	1.83	0.60
1:A:872:ILE:HD11	1:A:941:LYS:HA	1.83	0.60
1:A:4153:GLU:O	1:A:4157:THR:OG1	2.19	0.60
1:C:69:LEU:HD22	1:C:113:LEU:HD11	1.84	0.60
1:B:188:SER:HB2	1:B:190:ARG:HH21	1.67	0.59
1:B:1052:GLU:HA	1:B:1055:ARG:HB2	1.82	0.59
1:D:69:LEU:HD22	1:D:113:LEU:HD11	1.84	0.59
1:D:279:THR:HG22	1:D:281:ARG:H	1.67	0.59
1:C:279:THR:HG22	1:C:281:ARG:H	1.67	0.59
1:C:4044:LYS:HB2	1:C:4075:GLU:HG2	1.83	0.59
1:D:1091:GLU:HB3	1:D:1094:TYR:HD2	1.67	0.59
1:A:365:HIS:NE2	1:A:367:ASP:OD2	2.35	0.59
1:A:2275:SER:OG	1:A:2287:ILE:O	2.17	0.59
1:B:69:LEU:HD22	1:B:113:LEU:HD11	1.84	0.59
1:B:1681:VAL:HG23	1:B:1682:ASP:H	1.67	0.59
1:D:676:GLU:HB2	1:D:803:LEU:HB2	1.84	0.59
1:A:900:LEU:HD22	1:A:902:TRP:NE1	2.18	0.59
1:C:3831:ASP:HB3	1:C:3834:PHE:HB3	1.85	0.59
1:D:373:THR:HG22	1:D:397:GLY:HA2	1.82	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1681:VAL:HG23	1:D:1682:ASP:H	1.67	0.59
1:B:365:HIS:NE2	1:B:367:ASP:OD2	2.35	0.59
1:B:386:SER:HB3	1:B:388:GLN:HE22	1.67	0.59
2:H:24:VAL:HG22	2:H:48:LYS:HG2	1.83	0.59
1:D:4044:LYS:HB2	1:D:4075:GLU:HG2	1.83	0.59
1:A:69:LEU:HD22	1:A:113:LEU:HD11	1.84	0.59
1:A:1052:GLU:HA	1:A:1055:ARG:HB2	1.82	0.59
1:B:279:THR:HG22	1:B:281:ARG:H	1.67	0.59
1:C:4153:GLU:O	1:C:4157:THR:OG1	2.19	0.59
1:C:4778:TYR:O	1:C:4782:VAL:HG12	2.03	0.59
1:D:188:SER:HB2	1:D:190:ARG:HH21	1.67	0.59
1:D:880:ARG:HG3	1:D:881:ILE:HD12	1.82	0.59
1:D:3831:ASP:HB3	1:D:3834:PHE:HB3	1.85	0.59
1:D:4778:TYR:O	1:D:4782:VAL:HG12	2.03	0.59
1:B:2148:ILE:HA	1:B:2151:ASN:HD22	1.68	0.59
1:D:386:SER:HB3	1:D:388:GLN:HE22	1.67	0.59
1:D:2148:ILE:HA	1:D:2151:ASN:HD22	1.68	0.59
1:D:2855:LYS:HA	1:D:2855:LYS:HE3	1.84	0.59
1:C:386:SER:HB3	1:C:388:GLN:HE22	1.67	0.59
1:D:3822:GLU:HG3	1:D:3827:LYS:HG3	1.84	0.59
2:J:24:VAL:HG22	2:J:48:LYS:HG2	1.83	0.59
1:A:676:GLU:HB2	1:A:803:LEU:HB2	1.84	0.59
1:C:2148:ILE:HA	1:C:2151:ASN:HD22	1.68	0.59
1:C:3822:GLU:HG3	1:C:3827:LYS:HG3	1.84	0.59
1:A:1091:GLU:HB3	1:A:1094:TYR:HD2	1.67	0.59
1:D:900:LEU:HD22	1:D:902:TRP:NE1	2.18	0.59
1:C:365:HIS:NE2	1:C:367:ASP:OD2	2.35	0.58
1:A:279:THR:HG22	1:A:281:ARG:H	1.67	0.58
1:B:281:ARG:NH1	1:B:345:GLU:OE2	2.33	0.58
1:C:2855:LYS:HA	1:C:2855:LYS:HE3	1.84	0.58
1:A:3831:ASP:HB3	1:A:3834:PHE:HB3	1.85	0.58
1:B:3818:MET:SD	1:B:3818:MET:N	2.68	0.58
1:B:3937:SER:OG	1:B:3938:ARG:N	2.37	0.58
1:A:3937:SER:OG	1:A:3938:ARG:N	2.37	0.58
1:B:290:ARG:H	1:B:293:GLN:HE21	1.51	0.58
1:B:900:LEU:HD22	1:B:902:TRP:NE1	2.18	0.58
1:A:2148:ILE:HA	1:A:2151:ASN:HD22	1.68	0.58
1:B:676:GLU:HB2	1:B:803:LEU:HB2	1.84	0.58
1:B:1091:GLU:HB3	1:B:1094:TYR:HD2	1.67	0.58
1:C:2312:VAL:HG23	1:C:2315:ASN:HB2	1.86	0.58
1:D:365:HIS:NE2	1:D:367:ASP:OD2	2.35	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2312:VAL:HG23	1:D:2315:ASN:HB2	1.86	0.58
1:D:4756:LEU:O	1:D:4760:THR:OG1	2.21	0.58
1:A:4756:LEU:O	1:A:4760:THR:OG1	2.21	0.58
1:C:900:LEU:HD22	1:C:902:TRP:NE1	2.18	0.58
1:B:2275:SER:OG	1:B:2287:ILE:O	2.17	0.58
1:C:3937:SER:OG	1:C:3938:ARG:N	2.37	0.58
1:A:290:ARG:H	1:A:293:GLN:HE21	1.51	0.58
1:A:1814:THR:OG1	1:A:1815:THR:N	2.36	0.58
1:A:1681:VAL:HG23	1:A:1682:ASP:H	1.67	0.58
1:B:3891:TYR:O	1:B:3956:LYS:NZ	2.35	0.58
1:B:4778:TYR:O	1:B:4782:VAL:HG12	2.03	0.58
1:C:1814:THR:OG1	1:C:1815:THR:N	2.36	0.58
1:D:769:ARG:HA	1:D:774:PRO:HA	1.86	0.57
1:D:908:ARG:HG2	1:D:916:PRO:HG3	1.86	0.57
1:A:2325:ARG:NH2	1:D:189:GLU:O	2.36	0.57
1:B:3831:ASP:HB3	1:B:3834:PHE:HB3	1.85	0.57
1:D:3937:SER:OG	1:D:3938:ARG:N	2.37	0.57
1:A:2312:VAL:HG23	1:A:2315:ASN:HB2	1.86	0.57
1:A:4778:TYR:O	1:A:4782:VAL:HG12	2.03	0.57
1:C:769:ARG:HA	1:C:774:PRO:HA	1.87	0.57
1:C:2404:GLU:HG3	1:C:2405:MET:N	2.16	0.57
1:C:4756:LEU:O	1:C:4760:THR:OG1	2.21	0.57
1:D:933:LEU:O	1:D:937:LEU:HG	2.05	0.57
1:A:908:ARG:HG2	1:A:916:PRO:HG3	1.86	0.57
1:A:1918:ARG:O	1:A:1922:GLU:HG2	2.04	0.57
1:B:2141:MET:SD	1:B:2173:VAL:HG11	2.45	0.57
1:A:386:SER:HB3	1:A:388:GLN:HE22	1.67	0.57
1:D:1918:ARG:O	1:D:1922:GLU:HG2	2.04	0.57
1:A:2276:CYS:SG	1:A:2290:ASN:ND2	2.78	0.57
1:B:1814:THR:OG1	1:B:1815:THR:N	2.36	0.57
1:B:2312:VAL:HG23	1:B:2315:ASN:HB2	1.86	0.57
1:C:908:ARG:HG2	1:C:916:PRO:HG3	1.86	0.57
1:C:3891:TYR:O	1:C:3956:LYS:NZ	2.35	0.57
1:A:933:LEU:O	1:A:937:LEU:HG	2.05	0.57
1:A:2141:MET:SD	1:A:2173:VAL:HG11	2.45	0.57
1:A:3818:MET:SD	1:A:3818:MET:N	2.68	0.57
1:B:1009:ARG:O	1:B:1013:ARG:NH1	2.38	0.57
1:C:933:LEU:O	1:C:937:LEU:HG	2.05	0.57
1:D:2276:CYS:SG	1:D:2290:ASN:ND2	2.78	0.57
1:C:2716:LEU:O	1:C:2720:ILE:HG12	2.05	0.57
1:D:1814:THR:OG1	1:D:1815:THR:N	2.36	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:769:ARG:HA	1:A:774:PRO:HA	1.86	0.57
1:A:2716:LEU:O	1:A:2720:ILE:HG12	2.05	0.57
1:B:1267:HIS:HB2	1:B:1294:ASN:HB2	1.87	0.57
1:B:1918:ARG:O	1:B:1922:GLU:HG2	2.04	0.57
1:B:4756:LEU:O	1:B:4760:THR:OG1	2.21	0.57
1:C:548:CYS:HB3	1:C:578:VAL:HG23	1.86	0.57
1:A:1684:PRO:HD3	2:G:42:ASP:HB3	1.87	0.57
1:A:2228:LEU:HD22	1:A:2296:ARG:HG3	1.87	0.57
1:B:548:CYS:HB3	1:B:578:VAL:HG23	1.86	0.57
1:B:2716:LEU:O	1:B:2720:ILE:HG12	2.05	0.57
1:C:1009:ARG:O	1:C:1013:ARG:NH1	2.38	0.57
1:C:2145:LEU:HD23	1:C:2148:ILE:HD11	1.87	0.57
1:D:290:ARG:H	1:D:293:GLN:HE21	1.51	0.57
1:D:2228:LEU:HD22	1:D:2296:ARG:HG3	1.87	0.57
1:B:769:ARG:HA	1:B:774:PRO:HA	1.86	0.56
1:C:2141:MET:SD	1:C:2173:VAL:HG11	2.45	0.56
1:D:1009:ARG:O	1:D:1013:ARG:NH1	2.38	0.56
1:A:548:CYS:HB3	1:A:578:VAL:HG23	1.86	0.56
1:B:2145:LEU:HD23	1:B:2148:ILE:HD11	1.87	0.56
1:C:290:ARG:H	1:C:293:GLN:HE21	1.51	0.56
1:D:2145:LEU:HD23	1:D:2148:ILE:HD11	1.87	0.56
1:A:2145:LEU:HD23	1:A:2148:ILE:HD11	1.87	0.56
1:B:908:ARG:HG2	1:B:916:PRO:HG3	1.86	0.56
1:B:933:LEU:O	1:B:937:LEU:HG	2.05	0.56
1:B:1383:ARG:HE	1:B:1385:LYS:HE2	1.71	0.56
1:B:2070:GLN:O	1:B:3659:ARG:NH1	2.38	0.56
1:C:1918:ARG:O	1:C:1922:GLU:HG2	2.04	0.56
1:D:3822:GLU:OE2	1:D:3824:SER:N	2.32	0.56
1:A:1267:HIS:HB2	1:A:1294:ASN:HB2	1.87	0.56
1:A:1383:ARG:HE	1:A:1385:LYS:HE2	1.71	0.56
1:A:2404:GLU:HG3	1:A:2405:MET:N	2.16	0.56
2:G:88:HIS:H	2:G:92:ILE:HB	1.71	0.56
1:B:606:ARG:NH2	1:B:1635:GLU:OE1	2.34	0.56
1:C:587:ASN:OD1	1:C:2132:ARG:NH1	2.38	0.56
1:C:1383:ARG:HE	1:C:1385:LYS:HE2	1.71	0.56
1:C:2228:LEU:HD22	1:C:2296:ARG:HG3	1.87	0.56
1:C:2276:CYS:SG	1:C:2290:ASN:ND2	2.78	0.56
1:C:2836:LEU:HA	1:C:2839:MET:HE3	1.86	0.56
1:D:548:CYS:HB3	1:D:578:VAL:HG23	1.86	0.56
1:D:1383:ARG:HE	1:D:1385:LYS:HE2	1.71	0.56
1:D:2716:LEU:O	1:D:2720:ILE:HG12	2.05	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:88:HIS:H	2:J:92:ILE:HB	1.71	0.56
1:A:35:LEU:HD13	1:A:49:LEU:HD13	1.88	0.56
1:A:1122:CYS:HA	1:A:1133:ARG:HD3	1.88	0.56
1:B:1684:PRO:HD3	2:H:42:ASP:HB3	1.86	0.56
1:B:2276:CYS:SG	1:B:2290:ASN:ND2	2.78	0.56
1:B:2277:GLN:HA	1:B:2280:VAL:HG22	1.87	0.56
2:H:32:GLN:NE2	2:H:97:THR:OG1	2.34	0.56
1:D:2141:MET:SD	1:D:2173:VAL:HG11	2.45	0.56
1:A:677:LEU:HD12	1:A:802:PHE:HA	1.87	0.56
1:A:1678:CYS:SG	1:A:1679:SER:N	2.78	0.56
1:A:2314:GLU:O	1:A:2318:VAL:HG13	2.06	0.56
1:B:2228:LEU:HD22	1:B:2296:ARG:HG3	1.87	0.56
1:C:4824:GLY:O	1:D:4821:ARG:NH2	2.39	0.56
1:A:587:ASN:OD1	1:A:2132:ARG:NH1	2.38	0.56
1:A:1009:ARG:O	1:A:1013:ARG:NH1	2.38	0.56
1:B:973:THR:OG1	1:B:976:TYR:O	2.18	0.56
1:B:1122:CYS:HA	1:B:1133:ARG:HD3	1.88	0.56
1:C:2314:GLU:O	1:C:2318:VAL:HG13	2.06	0.56
2:I:88:HIS:H	2:I:92:ILE:HB	1.71	0.56
1:D:1678:CYS:SG	1:D:1679:SER:N	2.78	0.56
1:B:35:LEU:HD13	1:B:49:LEU:HD13	1.88	0.56
1:B:168:GLN:HG3	1:B:169:ARG:HG3	1.88	0.56
2:H:88:HIS:H	2:H:92:ILE:HB	1.71	0.56
1:C:606:ARG:NH2	1:C:1635:GLU:OE1	2.34	0.56
1:C:1267:HIS:HB2	1:C:1294:ASN:HB2	1.87	0.56
1:D:35:LEU:HD13	1:D:49:LEU:HD13	1.88	0.56
1:C:2070:GLN:O	1:C:3659:ARG:NH1	2.38	0.56
1:C:3728:ALA:HA	1:C:3731:HIS:ND1	2.21	0.56
1:A:3891:TYR:O	1:A:3956:LYS:NZ	2.35	0.56
1:D:677:LEU:HD12	1:D:802:PHE:HA	1.87	0.56
1:B:2731:TRP:NE1	1:B:2762:LEU:HD13	2.21	0.55
1:D:3728:ALA:HA	1:D:3731:HIS:ND1	2.21	0.55
1:B:1678:CYS:SG	1:B:1679:SER:N	2.78	0.55
1:C:1678:CYS:SG	1:C:1679:SER:N	2.78	0.55
1:C:2064:THR:HG22	1:C:2067:ARG:HH12	1.72	0.55
1:D:1267:HIS:HB2	1:D:1294:ASN:HB2	1.87	0.55
1:B:677:LEU:HD12	1:B:802:PHE:HA	1.87	0.55
1:B:2314:GLU:O	1:B:2318:VAL:HG13	2.06	0.55
1:B:3728:ALA:HA	1:B:3731:HIS:ND1	2.21	0.55
1:C:677:LEU:HD12	1:C:802:PHE:HA	1.87	0.55
1:A:168:GLN:HG3	1:A:169:ARG:HG3	1.87	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2731:TRP:NE1	1:A:2762:LEU:HD13	2.22	0.55
1:B:235:ARG:NH1	1:B:268:SER:O	2.40	0.55
1:D:2314:GLU:O	1:D:2318:VAL:HG13	2.06	0.55
1:A:732:LEU:HB3	1:A:779:PHE:CZ	2.42	0.55
1:C:35:LEU:HD13	1:C:49:LEU:HD13	1.88	0.55
1:C:1122:CYS:HA	1:C:1133:ARG:HD3	1.88	0.55
1:D:2064:THR:HG22	1:D:2067:ARG:HH12	1.72	0.55
1:D:2147:ASP:O	1:D:2151:ASN:ND2	2.40	0.55
1:D:2858:GLU:HG3	1:D:2859:LEU:HD23	1.88	0.55
1:A:2064:THR:HG22	1:A:2067:ARG:HH12	1.72	0.55
1:A:2766:GLU:HA	1:A:2769:ILE:HG23	1.89	0.55
1:B:732:LEU:HB3	1:B:779:PHE:CZ	2.42	0.55
1:B:2220:LEU:HD11	1:B:2242:ALA:HB2	1.89	0.55
1:C:168:GLN:HG3	1:C:169:ARG:HG3	1.87	0.55
1:C:2220:LEU:HD11	1:C:2242:ALA:HB2	1.89	0.55
1:D:1122:CYS:HA	1:D:1133:ARG:HD3	1.88	0.55
1:A:2147:ASP:O	1:A:2151:ASN:ND2	2.40	0.55
1:C:2731:TRP:NE1	1:C:2762:LEU:HD13	2.22	0.55
1:C:2851:TRP:HA	1:C:2854:LYS:HE2	1.88	0.55
2:I:32:GLN:NE2	2:I:97:THR:OG1	2.34	0.55
1:D:235:ARG:NH1	1:D:268:SER:O	2.40	0.55
1:D:1042:THR:O	1:D:1046:ASN:ND2	2.40	0.55
1:A:1794:GLN:O	1:A:1798:GLU:HG2	2.06	0.55
1:A:2070:GLN:O	1:A:3659:ARG:NH1	2.38	0.55
1:B:587:ASN:OD1	1:B:2132:ARG:NH1	2.38	0.55
1:D:2277:GLN:HA	1:D:2280:VAL:HG22	1.88	0.55
1:C:1265:HIS:CD2	1:C:1268:ILE:HB	2.43	0.55
1:D:1794:GLN:O	1:D:1798:GLU:HG2	2.06	0.55
1:D:2731:TRP:NE1	1:D:2762:LEU:HD13	2.22	0.55
1:A:1042:THR:O	1:A:1046:ASN:ND2	2.40	0.54
1:A:2220:LEU:HD11	1:A:2242:ALA:HB2	1.89	0.54
1:A:2851:TRP:HA	1:A:2854:LYS:HE2	1.89	0.54
1:A:3728:ALA:HA	1:A:3731:HIS:ND1	2.21	0.54
1:B:2064:THR:HG22	1:B:2067:ARG:HH12	1.72	0.54
1:B:2766:GLU:HA	1:B:2769:ILE:HG23	1.89	0.54
1:C:732:LEU:HB3	1:C:779:PHE:CZ	2.42	0.54
1:C:1794:GLN:O	1:C:1798:GLU:HG2	2.06	0.54
1:A:235:ARG:NH1	1:A:268:SER:O	2.40	0.54
1:B:1794:GLN:O	1:B:1798:GLU:HG2	2.06	0.54
2:H:39:SER:O	2:H:43:ARG:NH1	2.41	0.54
1:C:235:ARG:NH1	1:C:268:SER:O	2.40	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2277:GLN:HA	1:C:2280:VAL:HG22	1.88	0.54
2:H:78:THR:O	2:H:81:VAL:HG12	2.08	0.54
1:D:168:GLN:HG3	1:D:169:ARG:HG3	1.88	0.54
1:A:2858:GLU:HG3	1:A:2859:LEU:HD23	1.88	0.54
2:I:23:CYS:SG	2:I:51:ILE:HD11	2.48	0.54
1:D:587:ASN:OD1	1:D:2132:ARG:NH1	2.38	0.54
1:D:2404:GLU:HG3	1:D:2405:MET:N	2.16	0.54
1:A:2277:GLN:HA	1:A:2280:VAL:HG22	1.88	0.54
1:B:2147:ASP:O	1:B:2151:ASN:ND2	2.40	0.54
2:H:23:CYS:SG	2:H:51:ILE:HD11	2.48	0.54
1:D:1265:HIS:CD2	1:D:1268:ILE:HB	2.42	0.54
1:D:2070:GLN:O	1:D:3659:ARG:NH1	2.38	0.54
1:D:2851:TRP:HA	1:D:2854:LYS:HE2	1.88	0.54
1:A:59:PRO:HB3	1:A:296:ARG:HH12	1.73	0.54
1:B:356:TYR:HA	1:B:405:LEU:HB2	1.90	0.54
1:B:838:ARG:H	1:B:841:LYS:HZ3	1.55	0.54
1:C:1397:UNK:HA	1:C:1412:UNK:HA	1.90	0.54
1:A:4049:LYS:HA	1:A:4052:GLU:HG2	1.90	0.54
1:B:1610:SER:HB3	1:B:1619:LEU:HB3	1.89	0.54
1:B:2762:LEU:HD23	1:B:2767:LYS:HA	1.90	0.54
1:C:2858:GLU:HG3	1:C:2859:LEU:HD23	1.88	0.54
1:D:2220:LEU:HD11	1:D:2242:ALA:HB2	1.89	0.54
1:B:2404:GLU:HG3	1:B:2405:MET:N	2.16	0.54
1:B:4049:LYS:HA	1:B:4052:GLU:HG2	1.90	0.54
1:C:2147:ASP:O	1:C:2151:ASN:ND2	2.40	0.54
1:C:4164:VAL:HG22	1:C:4198:GLU:OE2	2.08	0.54
1:D:2766:GLU:HA	1:D:2769:ILE:HG23	1.89	0.54
1:A:2762:LEU:HD23	1:A:2767:LYS:HA	1.90	0.54
1:B:2851:TRP:HA	1:B:2854:LYS:HE2	1.89	0.54
1:C:1042:THR:O	1:C:1046:ASN:ND2	2.40	0.54
1:D:356:TYR:HA	1:D:405:LEU:HB2	1.90	0.54
1:A:902:TRP:HA	1:A:913:ARG:O	2.08	0.54
1:A:1610:SER:HB3	1:A:1619:LEU:HB3	1.89	0.54
1:B:1767:PRO:HG3	1:B:1781:PRO:HB3	1.90	0.54
2:I:78:THR:O	2:I:81:VAL:HG12	2.08	0.54
1:A:1767:PRO:HG3	1:A:1781:PRO:HB3	1.90	0.53
1:A:1845:GLN:NE2	1:A:1848:GLU:OE2	2.41	0.53
2:G:23:CYS:SG	2:G:51:ILE:HD11	2.48	0.53
1:B:59:PRO:HB3	1:B:296:ARG:HH12	1.73	0.53
1:B:228:LEU:HD13	1:B:405:LEU:HD13	1.90	0.53
1:B:902:TRP:HA	1:B:913:ARG:O	2.08	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:59:PRO:HB3	1:C:296:ARG:HH12	1.73	0.53
1:C:902:TRP:HA	1:C:913:ARG:O	2.08	0.53
2:I:39:SER:O	2:I:43:ARG:NH1	2.41	0.53
2:J:78:THR:O	2:J:81:VAL:HG12	2.08	0.53
1:A:973:THR:OG1	1:A:976:TYR:O	2.18	0.53
1:B:1265:HIS:CD2	1:B:1268:ILE:HB	2.42	0.53
1:B:2858:GLU:HG3	1:B:2859:LEU:HD23	1.88	0.53
1:C:1845:GLN:NE2	1:C:1848:GLU:OE2	2.41	0.53
1:D:921:PHE:O	1:D:929:ARG:NH1	2.37	0.53
2:J:23:CYS:SG	2:J:51:ILE:HD11	2.48	0.53
2:G:78:THR:O	2:G:81:VAL:HG12	2.08	0.53
1:B:1042:THR:O	1:B:1046:ASN:ND2	2.40	0.53
2:H:58:LYS:HG3	2:H:81:VAL:HG22	1.91	0.53
1:C:356:TYR:HA	1:C:405:LEU:HB2	1.90	0.53
1:D:1397:UNK:HA	1:D:1412:UNK:HA	1.90	0.53
1:C:1199:ASP:OD1	1:C:1199:ASP:N	2.40	0.53
1:D:1767:PRO:HG3	1:D:1781:PRO:HB3	1.91	0.53
1:B:1397:UNK:HA	1:B:1412:UNK:HA	1.90	0.53
2:I:58:LYS:HG3	2:I:81:VAL:HG22	1.91	0.53
1:D:732:LEU:HB3	1:D:779:PHE:CZ	2.42	0.53
1:A:228:LEU:HD13	1:A:405:LEU:HD13	1.90	0.53
1:C:2766:GLU:HA	1:C:2769:ILE:HG23	1.89	0.53
1:B:1845:GLN:NE2	1:B:1848:GLU:OE2	2.41	0.53
1:B:4183:GLU:O	1:B:4187:LEU:HG	2.09	0.53
1:C:61:ASP:OD2	1:C:417:ARG:NH2	2.42	0.53
1:C:1610:SER:HB3	1:C:1619:LEU:HB3	1.89	0.53
1:D:228:LEU:HD13	1:D:405:LEU:HD13	1.90	0.53
1:D:902:TRP:HA	1:D:913:ARG:O	2.08	0.53
1:D:4046:ASP:OD1	1:D:4046:ASP:N	2.42	0.53
1:D:4049:LYS:HA	1:D:4052:GLU:HG2	1.89	0.53
2:J:39:SER:O	2:J:43:ARG:NH1	2.41	0.53
2:G:39:SER:O	2:G:43:ARG:NH1	2.41	0.53
1:B:246:THR:OG1	1:B:247:VAL:N	2.42	0.53
1:C:189:GLU:O	1:D:2325:ARG:NH2	2.41	0.53
1:C:228:LEU:HD13	1:C:405:LEU:HD13	1.90	0.53
1:C:1767:PRO:HG3	1:C:1781:PRO:HB3	1.91	0.53
1:D:61:ASP:OD2	1:D:417:ARG:NH2	2.42	0.53
1:D:1588:HIS:HE1	1:D:1590:GLN:HE21	1.57	0.53
1:A:1588:HIS:HE1	1:A:1590:GLN:HE21	1.57	0.53
1:A:4046:ASP:OD1	1:A:4046:ASP:N	2.42	0.53
1:B:61:ASP:OD2	1:B:417:ARG:NH2	2.42	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2404:GLU:HG3	1:B:2405:MET:HG3	1.91	0.53
1:C:2762:LEU:HD23	1:C:2767:LYS:HA	1.90	0.53
1:D:246:THR:OG1	1:D:247:VAL:N	2.42	0.53
1:D:2762:LEU:HD23	1:D:2767:LYS:HA	1.90	0.53
1:A:356:TYR:HA	1:A:405:LEU:HB2	1.90	0.53
1:A:3899:GLU:N	1:A:3899:GLU:OE2	2.42	0.53
1:B:1588:HIS:HE1	1:B:1590:GLN:HE21	1.57	0.53
1:D:1610:SER:HB3	1:D:1619:LEU:HB3	1.89	0.53
1:D:4183:GLU:O	1:D:4187:LEU:HG	2.09	0.53
1:A:629:GLN:HE21	1:A:1670:ASN:HD22	1.57	0.52
1:C:973:THR:OG1	1:C:976:TYR:O	2.18	0.52
1:D:59:PRO:HB3	1:D:296:ARG:HH12	1.73	0.52
1:A:606:ARG:NH2	1:A:1635:GLU:OE1	2.34	0.52
1:A:1397:UNK:HA	1:A:1412:UNK:HA	1.90	0.52
2:G:58:LYS:HG3	2:G:81:VAL:HG22	1.91	0.52
1:C:833:LYS:HE3	1:C:834:VAL:H	1.75	0.52
1:A:246:THR:OG1	1:A:247:VAL:N	2.42	0.52
1:A:707:PRO:O	1:A:838:ARG:NH1	2.43	0.52
1:A:4183:GLU:O	1:A:4187:LEU:HG	2.09	0.52
1:B:674:TYR:HD2	1:B:758:CYS:HG	1.57	0.52
1:B:707:PRO:O	1:B:838:ARG:NH1	2.43	0.52
1:C:246:THR:OG1	1:C:247:VAL:N	2.42	0.52
1:D:707:PRO:O	1:D:838:ARG:NH1	2.43	0.52
1:C:707:PRO:O	1:C:838:ARG:NH1	2.43	0.52
1:C:4183:GLU:O	1:C:4187:LEU:HG	2.09	0.52
1:B:3729:ARG:O	1:B:3733:ARG:NH1	2.43	0.52
1:C:238:HIS:HB2	1:C:241:MET:HB2	1.92	0.52
1:C:601:LEU:HB2	1:C:610:VAL:HG11	1.92	0.52
1:C:844:ARG:HE	1:C:845:THR:H	1.57	0.52
1:A:238:HIS:HB2	1:A:241:MET:HB2	1.92	0.52
1:A:4754:THR:OG1	1:D:4765:GLN:OE1	2.28	0.52
1:C:3729:ARG:O	1:C:3733:ARG:NH1	2.43	0.52
1:C:3899:GLU:N	1:C:3899:GLU:OE2	2.42	0.52
1:C:4049:LYS:HA	1:C:4052:GLU:HG2	1.90	0.52
1:D:3729:ARG:O	1:D:3733:ARG:NH1	2.43	0.52
1:D:3961:SER:OG	1:D:3962:SER:N	2.43	0.52
1:A:61:ASP:OD2	1:A:417:ARG:NH2	2.42	0.52
1:A:1265:HIS:CD2	1:A:1268:ILE:HB	2.43	0.52
1:A:1567:LEU:HD22	1:A:1581:PRO:HB3	1.92	0.52
1:A:2404:GLU:HG3	1:A:2405:MET:HG3	1.91	0.52
1:A:3729:ARG:O	1:A:3733:ARG:NH1	2.43	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4784:ALA:HA	1:A:4788:PHE:HD2	1.75	0.52
1:D:238:HIS:HB2	1:D:241:MET:HB2	1.92	0.52
1:D:2254:LEU:O	1:D:3809:ARG:HD3	2.10	0.52
1:D:2404:GLU:HG3	1:D:2405:MET:HG3	1.91	0.52
2:G:9:SER:HB2	2:G:72:ARG:HB2	1.91	0.52
1:B:629:GLN:HE21	1:B:1670:ASN:HD22	1.57	0.52
1:B:643:LEU:HD13	1:B:1658:THR:HG23	1.92	0.52
1:B:3899:GLU:OE2	1:B:3899:GLU:N	2.42	0.52
1:C:629:GLN:HE21	1:C:1670:ASN:HD22	1.57	0.52
1:C:2254:LEU:O	1:C:3809:ARG:HD3	2.10	0.52
1:D:3899:GLU:N	1:D:3899:GLU:OE2	2.42	0.52
1:A:1048:ASP:HA	1:A:1051:ARG:HD2	1.92	0.52
1:B:1567:LEU:HD22	1:B:1581:PRO:HB3	1.92	0.52
1:C:1029:ASN:HB2	1:C:1032:LEU:HD13	1.92	0.52
1:C:1588:HIS:HE1	1:C:1590:GLN:HE21	1.57	0.52
1:D:1845:GLN:NE2	1:D:1848:GLU:OE2	2.41	0.52
1:A:833:LYS:HE3	1:A:834:VAL:H	1.75	0.52
2:H:9:SER:HB2	2:H:72:ARG:HB2	1.91	0.52
1:D:606:ARG:NH2	1:D:1635:GLU:OE1	2.35	0.52
2:J:58:LYS:HG3	2:J:81:VAL:HG22	1.91	0.52
1:A:4164:VAL:HG22	1:A:4198:GLU:OE2	2.10	0.51
1:B:601:LEU:HB2	1:B:610:VAL:HG11	1.92	0.51
1:B:2728:HIS:O	1:B:2732:SER:OG	2.24	0.51
1:C:343:ARG:HH21	1:C:345:GLU:H	1.58	0.51
1:C:890:HIS:O	1:C:894:VAL:HG23	2.10	0.51
1:D:1199:ASP:OD1	1:D:1199:ASP:N	2.40	0.51
2:J:9:SER:HB2	2:J:72:ARG:HB2	1.91	0.51
1:A:844:ARG:HE	1:A:845:THR:H	1.57	0.51
1:A:2254:LEU:O	1:A:3809:ARG:HD3	2.10	0.51
1:B:343:ARG:HH21	1:B:345:GLU:H	1.58	0.51
1:B:833:LYS:HE3	1:B:834:VAL:H	1.75	0.51
1:B:1754:LEU:HG	1:B:1756:THR:HG23	1.93	0.51
1:B:4112:THR:O	1:B:4116:THR:HG23	2.10	0.51
1:D:643:LEU:HD13	1:D:1658:THR:HG23	1.92	0.51
1:D:911:ASN:OD1	1:D:911:ASN:N	2.41	0.51
1:D:4164:VAL:HG22	1:D:4198:GLU:OE2	2.10	0.51
1:A:643:LEU:HD13	1:A:1658:THR:HG23	1.92	0.51
1:B:1048:ASP:HA	1:B:1051:ARG:HD2	1.92	0.51
1:B:4763:GLY:O	1:B:4767:VAL:HG22	2.11	0.51
1:B:4784:ALA:HA	1:B:4788:PHE:HD2	1.75	0.51
1:C:4112:THR:O	1:C:4116:THR:HG23	2.10	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:721:ASP:N	1:D:721:ASP:OD1	2.43	0.51
1:C:1257:GLN:HA	1:C:1384:LEU:HD22	1.92	0.51
1:C:2271:CYS:SG	1:C:2294:GLY:N	2.84	0.51
1:C:2404:GLU:HG3	1:C:2405:MET:HG3	1.91	0.51
1:C:4763:GLY:O	1:C:4767:VAL:HG22	2.11	0.51
1:D:343:ARG:HH21	1:D:345:GLU:H	1.58	0.51
1:D:1932:VAL:HG21	1:D:3616:VAL:HA	1.92	0.51
1:D:2271:CYS:SG	1:D:2294:GLY:N	2.84	0.51
1:D:3940:TRP:HA	1:D:3943:VAL:HG22	1.93	0.51
1:B:238:HIS:HB2	1:B:241:MET:HB2	1.92	0.51
1:B:2254:LEU:O	1:B:3809:ARG:HD3	2.10	0.51
1:D:1029:ASN:HB2	1:D:1032:LEU:HD13	1.92	0.51
1:B:699:SER:OG	1:B:700:THR:N	2.44	0.51
1:B:1932:VAL:HG21	1:B:3616:VAL:HA	1.92	0.51
1:C:1932:VAL:HG21	1:C:3616:VAL:HA	1.92	0.51
1:C:3961:SER:OG	1:C:3962:SER:N	2.43	0.51
1:B:1708:ILE:HD12	1:B:1828:THR:HG21	1.93	0.51
1:C:921:PHE:O	1:C:929:ARG:NH1	2.37	0.51
1:C:2206:SER:OG	1:C:2207:ARG:N	2.44	0.51
1:D:601:LEU:HB2	1:D:610:VAL:HG11	1.92	0.51
1:D:4784:ALA:HA	1:D:4788:PHE:HD2	1.75	0.51
1:A:601:LEU:HB2	1:A:610:VAL:HG11	1.92	0.51
1:A:721:ASP:N	1:A:721:ASP:OD1	2.43	0.51
1:A:1095:ALA:HB1	1:A:1200:GLY:HA3	1.92	0.51
1:A:4763:GLY:O	1:A:4767:VAL:HG22	2.11	0.51
1:D:633:CYS:SG	1:D:1673:VAL:HG13	2.51	0.51
1:D:844:ARG:HE	1:D:845:THR:H	1.57	0.51
1:D:1095:ALA:HB1	1:D:1200:GLY:HA3	1.92	0.51
1:D:4193:GLU:CD	1:D:4607:ARG:HH22	2.14	0.51
1:A:4762:ASN:O	1:A:4764:LYS:N	2.44	0.51
1:B:1095:ALA:HB1	1:B:1200:GLY:HA3	1.92	0.51
1:B:1257:GLN:HA	1:B:1384:LEU:HD22	1.93	0.51
1:C:1321:UNK:HA	1:C:1436:UNK:HA	1.93	0.51
1:C:1567:LEU:HD22	1:C:1581:PRO:HB3	1.92	0.51
1:C:4046:ASP:OD1	1:C:4046:ASP:N	2.42	0.51
1:D:629:GLN:HE21	1:D:1670:ASN:HD22	1.57	0.51
1:D:833:LYS:HE3	1:D:834:VAL:H	1.75	0.51
1:D:890:HIS:O	1:D:894:VAL:HG23	2.10	0.51
1:D:1257:GLN:HA	1:D:1384:LEU:HD22	1.93	0.51
1:D:4762:ASN:O	1:D:4764:LYS:N	2.44	0.51
1:A:633:CYS:SG	1:A:1673:VAL:HG13	2.51	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2271:CYS:SG	1:A:2294:GLY:N	2.84	0.51
1:B:844:ARG:HE	1:B:845:THR:H	1.57	0.51
1:B:2455:MET:HG3	1:B:2457:ALA:H	1.76	0.51
1:B:3961:SER:OG	1:B:3962:SER:N	2.43	0.51
1:B:3986:GLU:O	1:B:4935:GLN:NE2	2.44	0.51
1:B:4164:VAL:HG22	1:B:4198:GLU:OE2	2.11	0.51
1:B:4665:ILE:O	1:B:4668:LEU:HD23	2.11	0.51
1:C:1708:ILE:HD12	1:C:1828:THR:HG21	1.93	0.51
1:D:4763:GLY:O	1:D:4767:VAL:HG22	2.11	0.51
2:J:50:ARG:N	2:J:55:GLU:OE2	2.41	0.51
1:A:699:SER:OG	1:A:700:THR:N	2.44	0.50
1:A:3986:GLU:O	1:A:4935:GLN:NE2	2.44	0.50
1:A:4193:GLU:CD	1:A:4607:ARG:HH22	2.14	0.50
1:B:2080:VAL:HG13	1:B:3669:LEU:HD22	1.93	0.50
1:C:1095:ALA:HB1	1:C:1200:GLY:HA3	1.92	0.50
1:C:2231:PRO:HD3	1:C:2381:ILE:HD11	1.93	0.50
1:C:3940:TRP:HA	1:C:3943:VAL:HG22	1.93	0.50
1:D:1567:LEU:HD22	1:D:1581:PRO:HB3	1.92	0.50
1:D:2206:SER:OG	1:D:2207:ARG:N	2.44	0.50
1:A:1932:VAL:HG21	1:A:3616:VAL:HA	1.92	0.50
1:A:2836:LEU:HA	1:A:2839:MET:HE3	1.92	0.50
1:B:407:ARG:HH21	1:B:3864:ASN:HB3	1.77	0.50
1:B:890:HIS:O	1:B:894:VAL:HG23	2.10	0.50
1:B:2231:PRO:HD3	1:B:2381:ILE:HD11	1.93	0.50
1:B:2271:CYS:SG	1:B:2294:GLY:N	2.84	0.50
1:C:643:LEU:HD13	1:C:1658:THR:HG23	1.92	0.50
1:C:4665:ILE:O	1:C:4668:LEU:HD23	2.11	0.50
2:I:9:SER:HB2	2:I:72:ARG:HB2	1.91	0.50
1:D:4665:ILE:O	1:D:4668:LEU:HD23	2.11	0.50
1:A:4665:ILE:O	1:A:4668:LEU:HD23	2.11	0.50
1:B:1029:ASN:HB2	1:B:1032:LEU:HD13	1.92	0.50
1:B:1321:UNK:HA	1:B:1436:UNK:HA	1.93	0.50
1:C:1754:LEU:HG	1:C:1756:THR:HG23	1.92	0.50
1:C:2080:VAL:HG13	1:C:3669:LEU:HD22	1.93	0.50
1:C:2776:GLU:O	1:C:2780:THR:HG23	2.12	0.50
1:C:4784:ALA:HA	1:C:4788:PHE:HD2	1.75	0.50
1:D:1048:ASP:HA	1:D:1051:ARG:HD2	1.92	0.50
1:A:189:GLU:O	1:B:2325:ARG:NH2	2.44	0.50
1:A:436:LEU:HD21	1:A:517:VAL:HG12	1.94	0.50
1:A:890:HIS:O	1:A:894:VAL:HG23	2.10	0.50
1:A:1029:ASN:HB2	1:A:1032:LEU:HD13	1.92	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2278:MET:N	1:A:2278:MET:SD	2.85	0.50
1:A:3961:SER:OG	1:A:3962:SER:N	2.43	0.50
1:A:4112:THR:O	1:A:4116:THR:HG23	2.10	0.50
1:B:2776:GLU:O	1:B:2780:THR:HG23	2.12	0.50
1:D:407:ARG:HH21	1:D:3864:ASN:HB3	1.77	0.50
1:D:3986:GLU:O	1:D:4935:GLN:NE2	2.44	0.50
1:D:4112:THR:O	1:D:4116:THR:HG23	2.10	0.50
1:D:4276:LYS:HZ1	1:D:4562:GLU:HG3	1.76	0.50
1:A:4607:ARG:NE	1:A:4643:TYR:OH	2.45	0.50
1:B:692:HIS:HB3	1:B:795:SER:HB3	1.94	0.50
1:B:4607:ARG:NE	1:B:4643:TYR:OH	2.45	0.50
1:C:2278:MET:N	1:C:2278:MET:SD	2.85	0.50
1:D:1321:UNK:HA	1:D:1436:UNK:HA	1.93	0.50
1:A:407:ARG:HH21	1:A:3864:ASN:HB3	1.77	0.50
1:B:3940:TRP:HA	1:B:3943:VAL:HG22	1.93	0.50
1:C:1048:ASP:HA	1:C:1051:ARG:HD2	1.92	0.50
1:D:436:LEU:HD21	1:D:517:VAL:HG12	1.94	0.50
1:D:1708:ILE:HD12	1:D:1828:THR:HG21	1.93	0.50
1:D:1754:LEU:HG	1:D:1756:THR:HG23	1.92	0.50
1:A:343:ARG:HH21	1:A:345:GLU:H	1.58	0.50
1:A:1257:GLN:HA	1:A:1384:LEU:HD22	1.92	0.50
1:A:2776:GLU:O	1:A:2780:THR:HG23	2.12	0.50
1:B:756:SER:OG	1:B:769:ARG:HB2	2.12	0.50
1:B:1001:GLU:HG2	1:B:1035:TYR:CD2	2.47	0.50
1:D:262:TYR:HB2	1:D:389:ARG:HG3	1.94	0.50
1:A:2455:MET:HG3	1:A:2457:ALA:H	1.77	0.50
1:B:2206:SER:OG	1:B:2207:ARG:N	2.44	0.50
1:C:633:CYS:SG	1:C:1673:VAL:HG13	2.51	0.50
1:C:2455:MET:HG3	1:C:2457:ALA:H	1.77	0.50
1:D:1677:LEU:HA	1:D:1680:HIS:HB2	1.94	0.50
1:D:2776:GLU:O	1:D:2780:THR:HG23	2.12	0.50
1:A:80:GLU:OE1	1:A:80:GLU:HA	2.12	0.50
1:A:756:SER:OG	1:A:769:ARG:HB2	2.12	0.50
1:A:1199:ASP:OD1	1:A:1199:ASP:N	2.40	0.50
1:C:114:LEU:HB2	1:C:117:HIS:CD2	2.47	0.50
1:D:2836:LEU:HA	1:D:2839:MET:HE3	1.93	0.50
1:A:686:VAL:HG13	1:A:687:THR:HG22	1.93	0.49
1:B:721:ASP:OD1	1:B:721:ASP:N	2.43	0.49
1:B:4070:GLU:OE1	1:B:4070:GLU:N	2.43	0.49
1:C:4193:GLU:CD	1:C:4607:ARG:HH22	2.14	0.49
1:A:1001:GLU:HG2	1:A:1035:TYR:CD2	2.47	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1677:LEU:HA	1:A:1680:HIS:HB2	1.94	0.49
1:A:2080:VAL:HG13	1:A:3669:LEU:HD22	1.93	0.49
1:A:2206:SER:OG	1:A:2207:ARG:N	2.44	0.49
1:A:4029:ASP:OD1	1:A:4029:ASP:N	2.45	0.49
1:B:2278:MET:N	1:B:2278:MET:SD	2.85	0.49
1:C:3986:GLU:O	1:C:4935:GLN:NE2	2.44	0.49
1:D:80:GLU:OE1	1:D:80:GLU:HA	2.12	0.49
1:D:2080:VAL:HG13	1:D:3669:LEU:HD22	1.93	0.49
1:D:2278:MET:SD	1:D:2278:MET:N	2.85	0.49
1:A:763:ALA:HB3	1:A:764:PRO:HD3	1.94	0.49
1:B:763:ALA:HB3	1:B:764:PRO:HD3	1.95	0.49
1:C:692:HIS:HB3	1:C:795:SER:HB3	1.94	0.49
1:C:1986:PRO:HB2	1:C:1988:PRO:HD2	1.95	0.49
1:C:4029:ASP:OD2	1:C:4054:HIS:NE2	2.43	0.49
1:D:227:TYR:HA	1:D:355:LYS:HA	1.95	0.49
1:D:4029:ASP:OD2	1:D:4054:HIS:NE2	2.43	0.49
1:A:4029:ASP:OD2	1:A:4054:HIS:NE2	2.43	0.49
2:G:50:ARG:N	2:G:55:GLU:OE2	2.41	0.49
1:B:4193:GLU:CD	1:B:4607:ARG:HH22	2.14	0.49
1:C:878:LEU:HD11	1:C:951:GLY:HA2	1.95	0.49
1:C:1001:GLU:HG2	1:C:1035:TYR:CD2	2.47	0.49
1:C:1677:LEU:HA	1:C:1680:HIS:HB2	1.94	0.49
1:C:4029:ASP:OD1	1:C:4029:ASP:N	2.45	0.49
1:D:756:SER:OG	1:D:769:ARG:HB2	2.12	0.49
1:A:262:TYR:HB2	1:A:389:ARG:HG3	1.94	0.49
1:A:1321:UNK:HA	1:A:1436:UNK:HA	1.93	0.49
1:A:2231:PRO:HD3	1:A:2381:ILE:HD11	1.93	0.49
1:A:4508:ALA:O	1:A:4512:ASN:ND2	2.45	0.49
1:B:633:CYS:SG	1:B:1673:VAL:HG13	2.51	0.49
1:B:4046:ASP:N	1:B:4046:ASP:OD1	2.42	0.49
1:C:672:LYS:HB3	1:C:819:TYR:HA	1.94	0.49
1:C:699:SER:OG	1:C:700:THR:N	2.44	0.49
1:C:721:ASP:OD1	1:C:721:ASP:N	2.43	0.49
1:D:674:TYR:HD2	1:D:758:CYS:HG	1.61	0.49
1:D:4607:ARG:NE	1:D:4643:TYR:OH	2.45	0.49
1:A:428:ARG:HG3	1:A:446:ASP:OD2	2.13	0.49
1:A:1362:ASP:OD1	1:A:1362:ASP:N	2.45	0.49
1:A:1708:ILE:HD12	1:A:1828:THR:HG21	1.93	0.49
1:A:1754:LEU:HG	1:A:1756:THR:HG23	1.92	0.49
1:B:1362:ASP:N	1:B:1362:ASP:OD1	2.45	0.49
1:B:1986:PRO:HB2	1:B:1988:PRO:HD2	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3898:ASP:OD1	1:B:3898:ASP:N	2.44	0.49
1:C:435:ALA:HA	1:C:438:LYS:HE3	1.95	0.49
1:C:686:VAL:HG13	1:C:687:THR:HG22	1.93	0.49
1:D:672:LYS:HB3	1:D:819:TYR:HA	1.94	0.49
1:D:699:SER:OG	1:D:700:THR:N	2.44	0.49
1:D:1362:ASP:OD1	1:D:1362:ASP:N	2.45	0.49
1:B:80:GLU:OE1	1:B:80:GLU:HA	2.12	0.49
1:B:686:VAL:HG13	1:B:687:THR:HG22	1.93	0.49
1:C:407:ARG:HH21	1:C:3864:ASN:HB3	1.77	0.49
1:D:692:HIS:HB3	1:D:795:SER:HB3	1.94	0.49
1:D:878:LEU:HD11	1:D:951:GLY:HA2	1.95	0.49
1:D:1001:GLU:HG2	1:D:1035:TYR:CD2	2.47	0.49
1:D:2455:MET:HG3	1:D:2457:ALA:H	1.77	0.49
1:A:1008:ALA:O	1:A:1012:ILE:HG23	2.13	0.49
1:A:2101:LEU:O	1:A:2104:THR:HG22	2.13	0.49
1:A:2340:ASN:OD1	1:A:2340:ASN:N	2.46	0.49
1:B:114:LEU:HB2	1:B:117:HIS:CD2	2.47	0.49
1:C:436:LEU:HD21	1:C:517:VAL:HG12	1.94	0.49
1:C:756:SER:OG	1:C:769:ARG:HB2	2.12	0.49
1:C:763:ALA:HB3	1:C:764:PRO:HD3	1.95	0.49
1:C:1359:ILE:HG13	1:C:1360:ASP:H	1.78	0.49
1:C:1362:ASP:N	1:C:1362:ASP:OD1	2.45	0.49
1:C:1985:CYS:SG	1:C:1992:ARG:HD2	2.53	0.49
1:C:4607:ARG:NE	1:C:4643:TYR:OH	2.45	0.49
1:D:686:VAL:HG13	1:D:687:THR:HG22	1.93	0.49
1:D:2231:PRO:HD3	1:D:2381:ILE:HD11	1.93	0.49
1:A:227:TYR:HA	1:A:355:LYS:HA	1.94	0.49
1:A:692:HIS:HB3	1:A:795:SER:HB3	1.94	0.49
1:A:878:LEU:HD11	1:A:951:GLY:HA2	1.95	0.49
1:A:1359:ILE:HG13	1:A:1360:ASP:H	1.78	0.49
1:A:1715:TYR:CZ	1:A:1762:MET:HB3	2.48	0.49
1:C:428:ARG:HG3	1:C:446:ASP:OD2	2.13	0.49
1:C:3898:ASP:OD1	1:C:3898:ASP:N	2.44	0.49
1:D:1986:PRO:HB2	1:D:1988:PRO:HD2	1.95	0.49
1:A:114:LEU:HB2	1:A:117:HIS:CD2	2.47	0.49
1:B:672:LYS:HB3	1:B:819:TYR:HA	1.94	0.49
1:B:1677:LEU:HA	1:B:1680:HIS:HB2	1.94	0.49
1:B:4762:ASN:O	1:B:4764:LYS:N	2.44	0.49
1:C:262:TYR:HB2	1:C:389:ARG:HG3	1.94	0.49
1:A:3940:TRP:HA	1:A:3943:VAL:HG22	1.93	0.48
1:A:4928:ASP:O	1:A:4932:HIS:NE2	2.46	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4709:LEU:HA	1:C:4712:VAL:HG22	1.95	0.48
1:D:370:LEU:HB2	1:D:393:MET:HB2	1.95	0.48
1:D:2484:LEU:O	1:D:2488:GLU:HG2	2.13	0.48
1:A:300:VAL:O	1:A:420:ARG:NH1	2.40	0.48
1:A:921:PHE:O	1:A:929:ARG:NH1	2.37	0.48
1:B:428:ARG:HG3	1:B:446:ASP:OD2	2.13	0.48
1:B:435:ALA:HA	1:B:438:LYS:HE3	1.95	0.48
1:B:436:LEU:HD21	1:B:517:VAL:HG12	1.94	0.48
1:B:878:LEU:HD11	1:B:951:GLY:HA2	1.95	0.48
1:C:80:GLU:OE1	1:C:80:GLU:HA	2.12	0.48
1:C:1715:TYR:CZ	1:C:1762:MET:HB3	2.48	0.48
1:C:2484:LEU:O	1:C:2488:GLU:HG2	2.13	0.48
1:D:114:LEU:HB2	1:D:117:HIS:CD2	2.47	0.48
1:D:1008:ALA:O	1:D:1012:ILE:HG23	2.13	0.48
1:D:1985:CYS:SG	1:D:1992:ARG:HD2	2.53	0.48
1:A:672:LYS:HB3	1:A:819:TYR:HA	1.94	0.48
1:B:4029:ASP:OD1	1:B:4029:ASP:N	2.45	0.48
1:C:370:LEU:HB2	1:C:393:MET:HB2	1.95	0.48
1:C:1008:ALA:O	1:C:1012:ILE:HG23	2.13	0.48
1:A:1985:CYS:SG	1:A:1992:ARG:HD2	2.53	0.48
1:A:1986:PRO:HB2	1:A:1988:PRO:HD2	1.94	0.48
1:B:370:LEU:HB2	1:B:393:MET:HB2	1.95	0.48
1:B:1008:ALA:O	1:B:1012:ILE:HG23	2.13	0.48
1:B:2836:LEU:HA	1:B:2839:MET:HE3	1.95	0.48
1:C:227:TYR:HA	1:C:355:LYS:HA	1.94	0.48
1:D:1359:ILE:HG13	1:D:1360:ASP:H	1.78	0.48
1:A:490:GLN:O	1:A:490:GLN:NE2	2.45	0.48
1:A:658:ASN:HD22	1:A:833:LYS:H	1.61	0.48
1:C:2331:GLY:HA3	1:C:2391:TYR:HE1	1.79	0.48
1:C:4570:THR:HA	1:C:4573:ILE:HG12	1.96	0.48
1:C:4757:SER:O	1:C:4761:HIS:HB2	2.14	0.48
1:C:4928:ASP:O	1:C:4932:HIS:NE2	2.46	0.48
1:C:4947:CYS:SG	1:C:4948:TRP:N	2.87	0.48
1:D:763:ALA:HB3	1:D:764:PRO:HD3	1.95	0.48
1:A:2484:LEU:O	1:A:2488:GLU:HG2	2.13	0.48
1:A:4709:LEU:HA	1:A:4712:VAL:HG22	1.95	0.48
1:B:1359:ILE:HG13	1:B:1360:ASP:H	1.78	0.48
1:B:1769:PHE:O	2:H:83:TYR:OH	2.28	0.48
1:B:1985:CYS:SG	1:B:1992:ARG:HD2	2.53	0.48
1:B:2101:LEU:O	1:B:2104:THR:HG22	2.13	0.48
1:C:4808:MET:HB2	1:D:4518:TYR:H	1.79	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:262:TYR:HB2	1:B:389:ARG:HG3	1.94	0.48
1:B:2331:GLY:HA3	1:B:2391:TYR:HE1	1.79	0.48
1:D:2101:LEU:O	1:D:2104:THR:HG22	2.13	0.48
1:B:4709:LEU:HA	1:B:4712:VAL:HG22	1.95	0.48
1:C:2728:HIS:O	1:C:2732:SER:OG	2.24	0.48
1:D:70:GLU:OE1	1:D:122:ARG:NE	2.44	0.48
1:A:718:VAL:HG23	1:A:724:SER:HB3	1.96	0.48
1:B:4757:SER:O	1:B:4761:HIS:HB2	2.14	0.48
1:C:2722:LYS:HD2	1:C:2722:LYS:HA	1.63	0.48
1:D:428:ARG:HG3	1:D:446:ASP:OD2	2.13	0.48
1:D:435:ALA:HA	1:D:438:LYS:HE3	1.95	0.48
1:A:1144:ARG:NH1	1:A:1191:ALA:O	2.47	0.48
1:A:2296:ARG:NH1	1:A:2299:ASP:OD2	2.47	0.48
1:A:4947:CYS:SG	1:A:4948:TRP:N	2.87	0.48
1:B:552:SER:HA	1:B:555:LEU:HD13	1.96	0.48
1:B:712:GLU:HB3	1:B:713:TRP:CD2	2.49	0.48
1:B:718:VAL:HG23	1:B:724:SER:HB3	1.96	0.48
1:B:1715:TYR:CZ	1:B:1762:MET:HB3	2.48	0.48
1:B:3923:ILE:HD13	1:B:3934:LEU:HD12	1.96	0.48
1:B:4029:ASP:OD2	1:B:4054:HIS:NE2	2.43	0.48
1:B:4928:ASP:O	1:B:4932:HIS:NE2	2.46	0.48
1:B:4947:CYS:SG	1:B:4948:TRP:N	2.87	0.48
1:C:552:SER:HA	1:C:555:LEU:HD13	1.96	0.48
1:C:658:ASN:HD22	1:C:833:LYS:H	1.61	0.48
1:D:4709:LEU:HA	1:D:4712:VAL:HG22	1.95	0.48
1:D:4757:SER:O	1:D:4761:HIS:HB2	2.14	0.48
1:D:4928:ASP:O	1:D:4932:HIS:NE2	2.46	0.48
1:A:435:ALA:HA	1:A:438:LYS:HE3	1.95	0.47
1:A:674:TYR:HD2	1:A:758:CYS:HG	1.62	0.47
1:B:227:TYR:HA	1:B:355:LYS:HA	1.94	0.47
1:B:620:CYS:SG	1:B:621:HIS:N	2.87	0.47
1:B:658:ASN:HD22	1:B:833:LYS:H	1.61	0.47
1:B:1709:ASP:HA	1:B:1713:SER:HB3	1.96	0.47
1:C:712:GLU:HB3	1:C:713:TRP:CD2	2.49	0.47
1:A:641:ASP:OD1	1:A:642:LEU:N	2.47	0.47
1:B:441:LYS:HG2	1:B:442:LEU:HD23	1.95	0.47
1:B:875:PRO:O	1:B:882:ARG:NH2	2.46	0.47
1:B:2484:LEU:O	1:B:2488:GLU:HG2	2.13	0.47
1:B:2892:PHE:O	1:B:2896:GLN:HG2	2.14	0.47
1:C:620:CYS:SG	1:C:621:HIS:N	2.87	0.47
1:C:1090:ALA:HB3	1:C:1202:ILE:HD11	1.96	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1700:ARG:NH1	1:C:1817:PHE:O	2.47	0.47
1:C:2892:PHE:O	1:C:2896:GLN:HG2	2.14	0.47
1:D:1715:TYR:CZ	1:D:1762:MET:HB3	2.48	0.47
1:D:2296:ARG:NH1	1:D:2299:ASP:OD2	2.47	0.47
1:A:1343:PHE:HB2	1:A:1376:TYR:HD2	1.80	0.47
2:G:32:GLN:NE2	2:G:97:THR:OG1	2.34	0.47
1:B:4570:THR:HA	1:B:4573:ILE:HG12	1.96	0.47
1:C:3923:ILE:HD13	1:C:3934:LEU:HD12	1.96	0.47
1:A:620:CYS:SG	1:A:621:HIS:N	2.87	0.47
1:A:2331:GLY:HA3	1:A:2391:TYR:HE1	1.79	0.47
1:A:2903:SER:OG	1:A:2904:ARG:N	2.48	0.47
1:A:4570:THR:HA	1:A:4573:ILE:HG12	1.96	0.47
1:B:641:ASP:OD1	1:B:642:LEU:N	2.47	0.47
1:B:1343:PHE:HB2	1:B:1376:TYR:HD2	1.80	0.47
1:B:1700:ARG:NH1	1:B:1817:PHE:O	2.47	0.47
2:H:50:ARG:N	2:H:55:GLU:OE2	2.41	0.47
1:C:718:VAL:HG23	1:C:724:SER:HB3	1.96	0.47
2:I:50:ARG:N	2:I:55:GLU:OE2	2.41	0.47
1:D:603:LYS:HG2	1:D:1573:LYS:HZ1	1.80	0.47
1:D:718:VAL:HG23	1:D:724:SER:HB3	1.96	0.47
1:A:712:GLU:HB3	1:A:713:TRP:CD2	2.49	0.47
1:A:844:ARG:HE	1:A:845:THR:HG22	1.80	0.47
1:A:3923:ILE:HD13	1:A:3934:LEU:HD12	1.96	0.47
1:A:4757:SER:O	1:A:4761:HIS:HB2	2.14	0.47
1:B:4608:LYS:HG3	1:B:4614:LEU:HB2	1.97	0.47
1:C:1144:ARG:NH1	1:C:1191:ALA:O	2.47	0.47
1:C:1343:PHE:HB2	1:C:1376:TYR:HD2	1.80	0.47
1:D:267:VAL:HA	1:D:270:HIS:ND1	2.29	0.47
1:D:844:ARG:HE	1:D:845:THR:HG22	1.80	0.47
1:D:2331:GLY:HA3	1:D:2391:TYR:HE1	1.79	0.47
1:D:2340:ASN:OD1	1:D:2340:ASN:N	2.46	0.47
1:D:4947:CYS:SG	1:D:4948:TRP:N	2.87	0.47
1:A:370:LEU:HB2	1:A:393:MET:HB2	1.95	0.47
1:A:4905:GLU:OE2	1:D:4182:LYS:HD3	2.15	0.47
1:B:1144:ARG:NH1	1:B:1191:ALA:O	2.47	0.47
1:C:267:VAL:HA	1:C:270:HIS:ND1	2.30	0.47
1:C:441:LYS:HG2	1:C:442:LEU:HD23	1.96	0.47
1:C:911:ASN:OD1	1:C:911:ASN:N	2.41	0.47
1:C:1709:ASP:HA	1:C:1713:SER:HB3	1.96	0.47
1:D:441:LYS:HG2	1:D:442:LEU:HD23	1.96	0.47
1:D:712:GLU:HB3	1:D:713:TRP:CD2	2.49	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:915:HIS:CE1	1:A:917:CYS:HB2	2.50	0.47
1:A:1700:ARG:NH1	1:A:1817:PHE:O	2.47	0.47
1:A:1981:ASP:OD1	1:A:1982:LYS:N	2.48	0.47
1:A:2728:HIS:O	1:A:2732:SER:OG	2.24	0.47
1:A:2765:LYS:O	1:A:2769:ILE:HG23	2.15	0.47
1:B:228:LEU:HD23	1:B:289:ILE:HB	1.96	0.47
1:B:2092:ASP:OD1	1:B:2093:GLY:N	2.48	0.47
1:B:2271:CYS:SG	1:B:2293:GLU:HB2	2.55	0.47
1:B:2296:ARG:NH1	1:B:2299:ASP:OD2	2.47	0.47
1:B:2903:SER:OG	1:B:2904:ARG:N	2.48	0.47
1:B:3640:ILE:HG22	1:B:3729:ARG:HH11	1.80	0.47
1:C:70:GLU:OE1	1:C:122:ARG:NE	2.44	0.47
1:C:671:LYS:HA	1:C:761:LEU:HD12	1.97	0.47
1:C:844:ARG:HE	1:C:845:THR:HG22	1.80	0.47
1:C:875:PRO:O	1:C:882:ARG:NH2	2.46	0.47
1:C:1704:TYR:O	1:C:1708:ILE:HG12	2.15	0.47
1:C:1981:ASP:OD1	1:C:1982:LYS:N	2.48	0.47
1:C:2296:ARG:NH1	1:C:2299:ASP:OD2	2.47	0.47
1:C:4608:LYS:HG3	1:C:4614:LEU:HB2	1.97	0.47
1:C:4762:ASN:O	1:C:4764:LYS:N	2.44	0.47
1:D:1144:ARG:NH1	1:D:1191:ALA:O	2.47	0.47
1:D:1700:ARG:NH1	1:D:1817:PHE:O	2.47	0.47
1:D:1981:ASP:OD1	1:D:1982:LYS:N	2.48	0.47
1:D:2092:ASP:OD1	1:D:2093:GLY:N	2.48	0.47
1:D:2728:HIS:O	1:D:2732:SER:OG	2.24	0.47
1:A:441:LYS:HG2	1:A:442:LEU:HD23	1.95	0.47
1:A:2081:ARG:HG3	1:A:3686:LEU:HD22	1.97	0.47
1:A:3640:ILE:HG22	1:A:3729:ARG:HH11	1.80	0.47
1:A:4070:GLU:OE1	1:A:4070:GLU:N	2.43	0.47
1:B:439:LYS:HD2	1:B:440:VAL:O	2.15	0.47
1:C:2716:LEU:HD22	1:C:2778:LEU:HD21	1.97	0.47
1:D:228:LEU:HD23	1:D:289:ILE:HB	1.96	0.47
1:D:2892:PHE:O	1:D:2896:GLN:HG2	2.14	0.47
1:D:2903:SER:OG	1:D:2904:ARG:N	2.48	0.47
2:J:32:GLN:NE2	2:J:97:THR:OG1	2.34	0.47
1:A:267:VAL:HA	1:A:270:HIS:ND1	2.30	0.47
1:A:2716:LEU:HD22	1:A:2778:LEU:HD21	1.97	0.47
1:B:1981:ASP:OD1	1:B:1982:LYS:N	2.48	0.47
1:C:2101:LEU:O	1:C:2104:THR:HG22	2.13	0.47
1:C:2765:LYS:O	1:C:2769:ILE:HG23	2.15	0.47
1:C:4830:ILE:HB	1:C:4842:ARG:HH21	1.80	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:552:SER:HA	1:D:555:LEU:HD13	1.96	0.47
1:D:658:ASN:HD22	1:D:833:LYS:H	1.61	0.47
1:D:1793:ILE:HG12	1:D:1843:ILE:HD11	1.97	0.47
1:D:4070:GLU:OE1	1:D:4070:GLU:N	2.43	0.47
1:A:228:LEU:HD23	1:A:289:ILE:HB	1.96	0.47
1:A:552:SER:HA	1:A:555:LEU:HD13	1.96	0.47
1:A:646:THR:HG21	1:A:1685:GLN:HE22	1.80	0.47
1:A:1090:ALA:HB3	1:A:1202:ILE:HD11	1.96	0.47
1:A:1704:TYR:O	1:A:1708:ILE:HG12	2.15	0.47
1:B:1902:LYS:HG3	1:B:2079:LEU:HD11	1.97	0.47
1:B:2716:LEU:HD22	1:B:2778:LEU:HD21	1.97	0.47
1:B:2765:LYS:O	1:B:2769:ILE:HG23	2.15	0.47
1:B:4830:ILE:HB	1:B:4842:ARG:HH21	1.80	0.47
1:C:1902:LYS:HG3	1:C:2079:LEU:HD11	1.97	0.47
1:C:4070:GLU:OE1	1:C:4070:GLU:N	2.43	0.47
1:D:620:CYS:SG	1:D:621:HIS:N	2.87	0.47
1:D:646:THR:HG21	1:D:1685:GLN:HE22	1.80	0.47
1:D:671:LYS:HA	1:D:761:LEU:HD12	1.96	0.47
1:D:2081:ARG:HG3	1:D:3686:LEU:HD22	1.97	0.47
1:D:2765:LYS:O	1:D:2769:ILE:HG23	2.15	0.47
1:A:439:LYS:HD2	1:A:440:VAL:O	2.15	0.46
1:A:923:LYS:HB2	1:A:923:LYS:HE3	1.71	0.46
1:A:2271:CYS:SG	1:A:2293:GLU:HB2	2.55	0.46
1:B:915:HIS:CE1	1:B:917:CYS:HB2	2.50	0.46
1:B:1090:ALA:HB3	1:B:1202:ILE:HD11	1.96	0.46
1:B:1793:ILE:HG12	1:B:1843:ILE:HD11	1.97	0.46
1:B:3822:GLU:OE2	1:B:3823:GLY:N	2.49	0.46
1:C:603:LYS:HG2	1:C:1573:LYS:HZ1	1.80	0.46
1:C:874:LEU:HD11	1:C:941:LYS:HD3	1.97	0.46
1:C:915:HIS:CE1	1:C:917:CYS:HB2	2.50	0.46
1:C:2903:SER:OG	1:C:2904:ARG:N	2.48	0.46
1:C:3640:ILE:HG22	1:C:3729:ARG:HH11	1.80	0.46
1:D:754:VAL:HG23	1:D:771:ASN:HA	1.97	0.46
1:D:997:ASP:O	1:D:1001:GLU:HG3	2.16	0.46
1:D:4570:THR:HA	1:D:4573:ILE:HG12	1.96	0.46
1:A:671:LYS:HA	1:A:761:LEU:HD12	1.96	0.46
1:A:997:ASP:O	1:A:1001:GLU:HG3	2.16	0.46
1:A:2892:PHE:O	1:A:2896:GLN:HG2	2.14	0.46
1:A:3786:VAL:HG11	1:A:3865:THR:HG23	1.98	0.46
1:A:4830:ILE:HB	1:A:4842:ARG:HH21	1.80	0.46
1:B:267:VAL:HA	1:B:270:HIS:ND1	2.30	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1793:ILE:HG12	1:C:1843:ILE:HD11	1.97	0.46
1:D:1343:PHE:HB2	1:D:1376:TYR:HD2	1.80	0.46
1:D:2716:LEU:HD22	1:D:2778:LEU:HD21	1.97	0.46
1:D:2848:HIS:HE1	1:D:2869:LEU:HD13	1.80	0.46
1:D:4830:ILE:HG22	1:D:4831:GLU:H	1.80	0.46
1:A:603:LYS:HG2	1:A:1573:LYS:HZ1	1.80	0.46
1:A:874:LEU:HD11	1:A:941:LYS:HD3	1.97	0.46
1:B:1102:TYR:HB2	1:B:1165:MET:HG3	1.97	0.46
1:B:3786:VAL:HG11	1:B:3865:THR:HG23	1.98	0.46
1:C:300:VAL:O	1:C:420:ARG:NH1	2.40	0.46
1:C:641:ASP:OD1	1:C:642:LEU:N	2.47	0.46
1:C:2271:CYS:SG	1:C:2293:GLU:HB2	2.55	0.46
1:D:641:ASP:OD1	1:D:642:LEU:N	2.48	0.46
1:D:1709:ASP:HA	1:D:1713:SER:HB3	1.96	0.46
1:D:4508:ALA:O	1:D:4512:ASN:ND2	2.45	0.46
1:A:1709:ASP:HA	1:A:1713:SER:HB3	1.96	0.46
1:A:1793:ILE:HG12	1:A:1843:ILE:HD11	1.97	0.46
1:B:844:ARG:HE	1:B:845:THR:HG22	1.80	0.46
1:B:921:PHE:O	1:B:929:ARG:NH1	2.37	0.46
1:C:309:MET:HB2	1:C:312:LYS:HZ3	1.81	0.46
1:C:1677:LEU:O	1:C:1681:VAL:HG22	2.16	0.46
1:D:1102:TYR:HB2	1:D:1165:MET:HG3	1.97	0.46
1:D:1305:SER:OG	1:D:1588:HIS:O	2.34	0.46
1:A:892:LEU:HA	1:A:895:MET:HB2	1.98	0.46
1:A:4608:LYS:HG3	1:A:4614:LEU:HB2	1.97	0.46
1:B:671:LYS:HA	1:B:761:LEU:HD12	1.96	0.46
1:B:2081:ARG:HG3	1:B:3686:LEU:HD22	1.97	0.46
1:C:892:LEU:HA	1:C:895:MET:HB2	1.98	0.46
1:C:4276:LYS:HZ1	1:C:4562:GLU:HG3	1.80	0.46
1:D:915:HIS:CE1	1:D:917:CYS:HB2	2.50	0.46
1:D:1090:ALA:HB3	1:D:1202:ILE:HD11	1.96	0.46
1:D:3923:ILE:HD13	1:D:3934:LEU:HD12	1.96	0.46
1:B:603:LYS:HG2	1:B:1573:LYS:HZ1	1.80	0.46
1:B:2848:HIS:HE1	1:B:2869:LEU:HD13	1.80	0.46
1:C:228:LEU:HD23	1:C:289:ILE:HB	1.96	0.46
1:C:417:ARG:NH1	1:C:420:ARG:HH22	2.14	0.46
1:C:2340:ASN:OD1	1:C:2340:ASN:N	2.46	0.46
1:D:442:LEU:HD23	1:D:442:LEU:H	1.81	0.46
1:D:1902:LYS:HG3	1:D:2079:LEU:HD11	1.97	0.46
1:D:2271:CYS:SG	1:D:2293:GLU:HB2	2.55	0.46
1:A:1305:SER:OG	1:A:1588:HIS:O	2.34	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2092:ASP:OD1	1:A:2093:GLY:N	2.48	0.46
1:A:4830:ILE:HG22	1:A:4831:GLU:H	1.80	0.46
1:B:799:LYS:HG2	1:B:1621:GLN:NE2	2.31	0.46
1:B:800:VAL:HB	1:B:1620:VAL:HG23	1.98	0.46
1:B:892:LEU:HA	1:B:895:MET:HB2	1.98	0.46
1:B:1677:LEU:O	1:B:1681:VAL:HG22	2.16	0.46
1:B:3621:GLN:O	1:B:3624:GLU:HG3	2.16	0.46
1:C:2092:ASP:OD1	1:C:2093:GLY:N	2.48	0.46
1:D:1704:TYR:O	1:D:1708:ILE:HG12	2.15	0.46
1:D:2201:TYR:O	1:D:2205:ILE:HG22	2.16	0.46
1:D:4608:LYS:HG3	1:D:4614:LEU:HB2	1.97	0.46
1:A:442:LEU:HD23	1:A:442:LEU:H	1.81	0.46
1:A:1902:LYS:HG3	1:A:2079:LEU:HD11	1.97	0.46
1:B:247:VAL:O	1:B:272:ARG:NH1	2.44	0.46
1:C:3822:GLU:OE2	1:C:3823:GLY:N	2.49	0.46
1:D:629:GLN:NE2	1:D:1670:ASN:HD22	2.13	0.46
1:D:3640:ILE:HG22	1:D:3729:ARG:HH11	1.80	0.46
1:D:3822:GLU:OE2	1:D:3823:GLY:N	2.49	0.46
1:A:1747:HIS:O	1:A:1747:HIS:ND1	2.47	0.46
1:A:2201:TYR:O	1:A:2205:ILE:HG22	2.16	0.46
1:B:801:ARG:HA	1:B:1618:TRP:O	2.16	0.46
1:B:2107:ILE:HG13	1:B:2108:ASN:H	1.81	0.46
2:H:72:ARG:HG2	2:H:103:GLU:HB2	1.98	0.46
1:C:2081:ARG:HG3	1:C:3686:LEU:HD22	1.97	0.46
1:C:2771:ARG:HH22	1:C:2775:LYS:HD3	1.81	0.46
1:C:2848:HIS:HE1	1:C:2869:LEU:HD13	1.80	0.46
1:C:4830:ILE:HG22	1:C:4831:GLU:H	1.80	0.46
1:D:380:LYS:HD3	1:D:380:LYS:HA	1.71	0.46
1:D:417:ARG:NH1	1:D:420:ARG:HH22	2.14	0.46
1:A:629:GLN:NE2	1:A:1670:ASN:HD22	2.13	0.46
1:A:754:VAL:HG23	1:A:771:ASN:HA	1.97	0.46
1:A:800:VAL:HB	1:A:1620:VAL:HG23	1.98	0.46
1:A:2848:HIS:HE1	1:A:2869:LEU:HD13	1.80	0.46
1:A:3822:GLU:OE2	1:A:3823:GLY:N	2.48	0.46
1:B:442:LEU:HD23	1:B:442:LEU:H	1.81	0.46
1:B:646:THR:HG21	1:B:1685:GLN:HE22	1.80	0.46
1:C:629:GLN:NE2	1:C:1670:ASN:HD22	2.13	0.46
1:C:799:LYS:HG2	1:C:1621:GLN:NE2	2.31	0.46
1:C:801:ARG:HA	1:C:1618:TRP:O	2.16	0.46
1:C:997:ASP:O	1:C:1001:GLU:HG3	2.16	0.46
1:C:1747:HIS:O	1:C:1747:HIS:ND1	2.47	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:373:THR:O	1:D:375:GLN:NE2	2.43	0.46
1:D:439:LYS:HD2	1:D:440:VAL:O	2.15	0.46
1:A:799:LYS:HG2	1:A:1621:GLN:NE2	2.31	0.45
1:B:2238:PRO:O	1:B:2241:VAL:HG12	2.17	0.45
1:C:754:VAL:HG23	1:C:771:ASN:HA	1.97	0.45
1:C:2201:TYR:O	1:C:2205:ILE:HG22	2.16	0.45
1:C:2238:PRO:O	1:C:2241:VAL:HG12	2.17	0.45
1:C:4508:ALA:O	1:C:4512:ASN:ND2	2.45	0.45
2:I:72:ARG:HG2	2:I:103:GLU:HB2	1.98	0.45
1:D:799:LYS:HG2	1:D:1621:GLN:NE2	2.31	0.45
1:D:946:LEU:HD13	1:D:995:MET:SD	2.56	0.45
1:D:2771:ARG:HH22	1:D:2775:LYS:HD3	1.81	0.45
1:A:875:PRO:O	1:A:882:ARG:NH2	2.46	0.45
1:A:1102:TYR:HB2	1:A:1165:MET:HG3	1.97	0.45
1:A:1677:LEU:O	1:A:1681:VAL:HG22	2.16	0.45
1:A:2771:ARG:HH22	1:A:2775:LYS:HD3	1.81	0.45
1:B:417:ARG:NH1	1:B:420:ARG:HH22	2.14	0.45
1:B:629:GLN:NE2	1:B:1670:ASN:HD22	2.13	0.45
1:B:4793:ASN:O	1:B:4795:SER:N	2.49	0.45
1:C:439:LYS:HD2	1:C:440:VAL:O	2.15	0.45
1:C:646:THR:HG21	1:C:1685:GLN:HE22	1.80	0.45
1:D:1677:LEU:O	1:D:1681:VAL:HG22	2.16	0.45
1:A:946:LEU:HD13	1:A:995:MET:SD	2.56	0.45
2:G:72:ARG:HG2	2:G:103:GLU:HB2	1.98	0.45
1:B:874:LEU:HD11	1:B:941:LYS:HD3	1.97	0.45
1:B:997:ASP:O	1:B:1001:GLU:HG3	2.16	0.45
1:B:2201:TYR:O	1:B:2205:ILE:HG22	2.16	0.45
1:D:490:GLN:O	1:D:490:GLN:NE2	2.44	0.45
1:D:2057:LEU:O	1:D:2060:LEU:HD23	2.17	0.45
1:D:3621:GLN:O	1:D:3624:GLU:HG3	2.16	0.45
2:J:72:ARG:HG2	2:J:103:GLU:HB2	1.98	0.45
1:B:1747:HIS:O	1:B:1747:HIS:ND1	2.47	0.45
1:C:1591:PHE:CZ	1:C:1593:SER:HB2	2.52	0.45
1:C:3621:GLN:O	1:C:3624:GLU:HG3	2.16	0.45
1:D:874:LEU:HD11	1:D:941:LYS:HD3	1.97	0.45
1:A:4044:LYS:HE2	1:A:4044:LYS:HB3	1.82	0.45
1:A:4873:ARG:O	1:A:4877:GLU:HG2	2.17	0.45
1:B:207:PHE:CE1	1:C:2324:ILE:HB	2.52	0.45
1:B:373:THR:O	1:B:375:GLN:NE2	2.43	0.45
1:B:490:GLN:O	1:B:490:GLN:NE2	2.44	0.45
1:B:4830:ILE:HG22	1:B:4831:GLU:H	1.80	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:973:THR:OG1	1:D:976:TYR:O	2.18	0.45
1:D:2238:PRO:O	1:D:2241:VAL:HG12	2.16	0.45
1:D:4830:ILE:HB	1:D:4842:ARG:HH21	1.80	0.45
1:A:2057:LEU:O	1:A:2060:LEU:HD23	2.17	0.45
1:A:4793:ASN:O	1:A:4795:SER:N	2.49	0.45
1:B:1704:TYR:O	1:B:1708:ILE:HG12	2.15	0.45
1:C:442:LEU:HD23	1:C:442:LEU:H	1.81	0.45
1:C:800:VAL:HB	1:C:1620:VAL:HG23	1.98	0.45
1:C:2107:ILE:HG13	1:C:2108:ASN:H	1.81	0.45
1:C:3786:VAL:HG11	1:C:3865:THR:HG23	1.98	0.45
1:D:1591:PHE:CZ	1:D:1593:SER:HB2	2.52	0.45
1:A:2107:ILE:HG22	1:A:2157:HIS:CD2	2.52	0.45
1:A:2107:ILE:HG13	1:A:2108:ASN:H	1.81	0.45
1:A:3621:GLN:O	1:A:3624:GLU:HG3	2.16	0.45
1:B:754:VAL:HG23	1:B:771:ASN:HA	1.97	0.45
1:B:1367:LYS:NZ	1:B:1369:GLU:OE2	2.35	0.45
1:B:2107:ILE:HG22	1:B:2157:HIS:CD2	2.52	0.45
1:C:1102:TYR:HB2	1:C:1165:MET:HG3	1.97	0.45
1:D:3786:VAL:HG11	1:D:3865:THR:HG23	1.98	0.45
1:A:625:VAL:HG23	1:A:628:ASN:HB2	1.99	0.45
1:A:4187:LEU:HG	1:A:4187:LEU:H	1.68	0.45
2:G:38:ASP:OD1	2:G:39:SER:N	2.50	0.45
1:B:946:LEU:HD13	1:B:995:MET:SD	2.56	0.45
1:B:1305:SER:OG	1:B:1588:HIS:O	2.34	0.45
1:C:2057:LEU:O	1:C:2060:LEU:HD23	2.17	0.45
1:C:2498:ALA:O	1:C:2501:LEU:HD23	2.16	0.45
1:D:892:LEU:HA	1:D:895:MET:HB2	1.98	0.45
1:D:2848:HIS:CE1	1:D:2869:LEU:HD13	2.52	0.45
1:D:4873:ARG:O	1:D:4877:GLU:HG2	2.17	0.45
1:A:417:ARG:NH1	1:A:420:ARG:HH22	2.14	0.45
1:C:2107:ILE:HG22	1:C:2157:HIS:CD2	2.52	0.45
1:D:290:ARG:H	1:D:293:GLN:NE2	2.15	0.45
1:D:2107:ILE:HG13	1:D:2108:ASN:H	1.81	0.45
1:D:4583:PHE:O	1:D:4586:ILE:HG22	2.17	0.45
1:A:70:GLU:OE1	1:A:122:ARG:NE	2.45	0.45
1:A:801:ARG:HA	1:A:1618:TRP:O	2.16	0.45
1:A:2238:PRO:O	1:A:2241:VAL:HG12	2.17	0.45
1:B:2771:ARG:HH22	1:B:2775:LYS:HD3	1.81	0.45
1:B:4508:ALA:O	1:B:4512:ASN:ND2	2.45	0.45
1:C:2848:HIS:CE1	1:C:2869:LEU:HD13	2.52	0.45
1:C:4026:THR:O	1:C:4031:PHE:HB3	2.17	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:419:ILE:HD13	1:D:492:GLU:HG3	1.99	0.45
2:J:38:ASP:OD1	2:J:39:SER:N	2.50	0.45
1:A:419:ILE:HD13	1:A:492:GLU:HG3	1.99	0.44
1:A:2720:ILE:HD11	1:A:2778:LEU:HD22	1.99	0.44
1:A:4583:PHE:O	1:A:4586:ILE:HG22	2.17	0.44
1:B:14:LEU:HB3	1:B:113:LEU:HD12	2.00	0.44
1:B:1591:PHE:CZ	1:B:1593:SER:HB2	2.52	0.44
1:B:1970:GLU:HA	1:B:1973:ASN:HB2	1.99	0.44
1:C:1968:PRO:HA	1:C:1971:GLN:HB3	1.99	0.44
1:C:1970:GLU:HA	1:C:1973:ASN:HB2	1.99	0.44
1:C:2058:GLN:HG3	1:C:2090:GLN:NE2	2.32	0.44
1:D:625:VAL:HG23	1:D:628:ASN:HB2	1.99	0.44
1:D:2058:GLN:HG3	1:D:2090:GLN:NE2	2.32	0.44
1:B:300:VAL:O	1:B:420:ARG:NH1	2.40	0.44
1:B:923:LYS:HB2	1:B:923:LYS:HE3	1.71	0.44
1:C:1305:SER:OG	1:C:1588:HIS:O	2.34	0.44
1:C:2763:SER:H	1:C:2766:GLU:HB2	1.82	0.44
1:D:923:LYS:HB2	1:D:923:LYS:HE3	1.71	0.44
1:D:2498:ALA:O	1:D:2501:LEU:HD23	2.16	0.44
1:D:3919:LEU:O	1:D:3923:ILE:HG12	2.18	0.44
1:D:4026:THR:O	1:D:4031:PHE:HB3	2.18	0.44
1:A:833:LYS:HE3	1:A:834:VAL:N	2.33	0.44
1:B:414:ARG:O	1:B:418:VAL:HG12	2.18	0.44
1:B:2058:GLN:HG3	1:B:2090:GLN:NE2	2.32	0.44
1:B:4873:ARG:O	1:B:4877:GLU:HG2	2.17	0.44
1:C:14:LEU:HB3	1:C:113:LEU:HD12	2.00	0.44
1:C:946:LEU:HD13	1:C:995:MET:SD	2.56	0.44
1:C:4793:ASN:O	1:C:4795:SER:N	2.49	0.44
1:D:801:ARG:HA	1:D:1618:TRP:O	2.16	0.44
1:D:1798:GLU:O	1:D:1802:GLU:HG2	2.18	0.44
1:D:2107:ILE:HG22	1:D:2157:HIS:CD2	2.52	0.44
1:B:189:GLU:O	1:C:2325:ARG:NH2	2.49	0.44
1:B:2836:LEU:HD22	1:B:2839:MET:HE1	1.99	0.44
1:B:3919:LEU:O	1:B:3923:ILE:HG12	2.18	0.44
1:C:36:CYS:SG	1:C:65:CYS:HB3	2.58	0.44
1:C:1320:UNK:HA	1:C:1325:UNK:HA	2.00	0.44
1:C:3919:LEU:O	1:C:3923:ILE:HG12	2.18	0.44
1:C:4039:LYS:O	1:C:4041:VAL:HG23	2.17	0.44
1:D:317:MET:HB2	1:D:321:LYS:HE3	2.00	0.44
1:D:800:VAL:HB	1:D:1620:VAL:HG23	1.98	0.44
1:D:4799:ASP:N	1:D:4799:ASP:OD1	2.51	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2058:GLN:HG3	1:A:2090:GLN:NE2	2.32	0.44
1:A:2763:SER:H	1:A:2766:GLU:HB2	1.83	0.44
1:A:4039:LYS:O	1:A:4041:VAL:HG23	2.18	0.44
1:B:1251:LEU:HD23	1:B:1600:MET:HE2	1.99	0.44
1:B:1972:ILE:HA	1:B:1975:LEU:HG	1.99	0.44
1:B:2498:ALA:O	1:B:2501:LEU:HD23	2.16	0.44
1:C:317:MET:HB2	1:C:321:LYS:HE3	2.00	0.44
1:C:2720:ILE:HD11	1:C:2778:LEU:HD22	1.99	0.44
1:C:2858:GLU:O	1:C:2862:LYS:HG2	2.17	0.44
1:C:4583:PHE:O	1:C:4586:ILE:HG22	2.17	0.44
1:D:36:CYS:SG	1:D:65:CYS:HB3	2.58	0.44
1:D:1970:GLU:HA	1:D:1973:ASN:HB2	1.99	0.44
1:A:2498:ALA:O	1:A:2501:LEU:HD23	2.16	0.44
1:B:833:LYS:HE3	1:B:834:VAL:N	2.33	0.44
1:B:4039:LYS:O	1:B:4041:VAL:HG23	2.18	0.44
1:C:414:ARG:O	1:C:418:VAL:HG12	2.18	0.44
1:C:2342:LEU:N	1:C:2430:ASP:OD2	2.47	0.44
1:C:4873:ARG:O	1:C:4877:GLU:HG2	2.17	0.44
1:D:2471:LEU:HD23	1:D:2471:LEU:HA	1.80	0.44
1:D:2858:GLU:O	1:D:2862:LYS:HG2	2.17	0.44
1:A:14:LEU:HB3	1:A:113:LEU:HD12	2.00	0.44
1:A:36:CYS:SG	1:A:65:CYS:HB3	2.58	0.44
1:A:935:MET:O	1:A:938:GLU:HG3	2.18	0.44
1:A:1591:PHE:CZ	1:A:1593:SER:HB2	2.52	0.44
1:A:1972:ILE:HA	1:A:1975:LEU:HG	2.00	0.44
1:A:3919:LEU:O	1:A:3923:ILE:HG12	2.18	0.44
1:B:419:ILE:HD13	1:B:492:GLU:HG3	1.99	0.44
1:B:625:VAL:HG23	1:B:628:ASN:HB2	1.99	0.44
1:C:799:LYS:HG2	1:C:1621:GLN:HE22	1.83	0.44
1:C:1347:MET:HG2	1:C:1371:ASN:HD22	1.83	0.44
1:C:2282:LYS:HA	1:C:2282:LYS:HD2	1.90	0.44
1:C:4799:ASP:N	1:C:4799:ASP:OD1	2.51	0.44
1:D:4009:VAL:HA	1:D:4012:ILE:HG12	2.00	0.44
1:A:2867:HIS:HB2	1:A:2870:LEU:HG	2.00	0.44
1:B:36:CYS:SG	1:B:65:CYS:HB3	2.58	0.44
1:B:674:TYR:N	1:B:820:ALA:O	2.51	0.44
1:B:1811:VAL:HB	1:B:1818:LEU:HD13	2.00	0.44
1:B:2057:LEU:O	1:B:2060:LEU:HD23	2.17	0.44
1:B:4496:ASN:HD22	1:B:4499:ASN:HD22	1.66	0.44
1:C:329:PHE:HB3	1:C:363:ILE:HD11	2.00	0.44
1:C:674:TYR:N	1:C:820:ALA:O	2.51	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:882:ARG:HG2	1:C:940:LEU:HD12	2.00	0.44
1:C:935:MET:O	1:C:938:GLU:HG3	2.18	0.44
1:D:14:LEU:HB3	1:D:113:LEU:HD12	2.00	0.44
1:D:329:PHE:HB3	1:D:363:ILE:HD11	2.00	0.44
1:D:1347:MET:HG2	1:D:1371:ASN:HD22	1.83	0.44
1:D:2894:PHE:HA	1:D:2897:ILE:HG12	2.00	0.44
1:A:26:ALA:HB2	1:A:194:LEU:HD21	2.00	0.44
1:A:799:LYS:HG2	1:A:1621:GLN:HE22	1.83	0.44
1:A:2258:GLU:HG3	1:A:2261:LEU:HB2	2.00	0.44
1:B:1347:MET:HG2	1:B:1371:ASN:HD22	1.83	0.44
1:B:1968:PRO:HA	1:B:1971:GLN:HB3	1.99	0.44
1:B:2720:ILE:HD11	1:B:2778:LEU:HD22	1.99	0.44
1:C:625:VAL:HG23	1:C:628:ASN:HB2	1.99	0.44
1:C:1798:GLU:O	1:C:1802:GLU:HG2	2.18	0.44
1:C:2867:HIS:HB2	1:C:2870:LEU:HG	2.00	0.44
1:D:833:LYS:HE3	1:D:834:VAL:N	2.33	0.44
1:D:2342:LEU:N	1:D:2430:ASP:OD2	2.47	0.44
1:A:1798:GLU:O	1:A:1802:GLU:HG2	2.18	0.43
1:A:1970:GLU:HA	1:A:1973:ASN:HB2	1.99	0.43
1:B:70:GLU:OE1	1:B:122:ARG:NE	2.45	0.43
1:B:2258:GLU:HG3	1:B:2261:LEU:HB2	2.00	0.43
1:B:2763:SER:H	1:B:2766:GLU:HB2	1.83	0.43
1:D:414:ARG:O	1:D:418:VAL:HG12	2.18	0.43
1:D:1320:UNK:HA	1:D:1325:UNK:HA	2.00	0.43
1:D:4039:LYS:O	1:D:4041:VAL:HG23	2.17	0.43
1:A:1165:MET:HB3	1:A:1236:TYR:CE2	2.53	0.43
1:A:1347:MET:HG2	1:A:1371:ASN:HD22	1.83	0.43
1:A:4496:ASN:HD22	1:A:4499:ASN:HD22	1.66	0.43
1:B:329:PHE:HB3	1:B:363:ILE:HD11	2.00	0.43
1:B:1040:ASP:HA	1:B:1043:LYS:HG3	2.01	0.43
1:B:1798:GLU:O	1:B:1802:GLU:HG2	2.18	0.43
1:C:490:GLN:O	1:C:490:GLN:NE2	2.45	0.43
2:I:38:ASP:OD1	2:I:39:SER:N	2.50	0.43
1:D:300:VAL:O	1:D:420:ARG:NH1	2.40	0.43
1:D:1811:VAL:HB	1:D:1818:LEU:HD13	2.00	0.43
1:A:317:MET:HB2	1:A:321:LYS:HE3	2.00	0.43
1:A:595:LYS:HE2	1:A:595:LYS:HB3	1.89	0.43
1:B:559:ILE:HD13	1:B:593:HIS:HB3	1.99	0.43
1:C:1165:MET:HB3	1:C:1236:TYR:CE2	2.53	0.43
1:C:1972:ILE:HA	1:C:1975:LEU:HG	2.00	0.43
1:D:674:TYR:N	1:D:820:ALA:O	2.51	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:935:MET:O	1:D:938:GLU:HG3	2.18	0.43
1:D:1747:HIS:O	1:D:1747:HIS:ND1	2.47	0.43
1:D:2720:ILE:HD11	1:D:2778:LEU:HD22	1.99	0.43
1:A:559:ILE:HD13	1:A:593:HIS:HB3	1.99	0.43
1:A:674:TYR:N	1:A:820:ALA:O	2.51	0.43
1:A:1786:ASP:O	1:A:1789:LYS:HG2	2.18	0.43
1:A:2722:LYS:HD2	1:A:2722:LYS:HA	1.63	0.43
1:B:850:LEU:H	1:B:850:LEU:HG	1.57	0.43
1:B:1031:ARG:NH1	1:B:1039:ASP:OD2	2.52	0.43
1:B:4026:THR:O	1:B:4031:PHE:HB3	2.18	0.43
1:C:419:ILE:HD13	1:C:492:GLU:HG3	1.99	0.43
1:C:837:SER:H	1:C:841:LYS:HZ1	1.65	0.43
1:C:1786:ASP:O	1:C:1789:LYS:HG2	2.18	0.43
1:D:640:ARG:HD3	2:J:35:LYS:HD3	2.00	0.43
1:D:799:LYS:HG2	1:D:1621:GLN:HE22	1.83	0.43
1:D:1972:ILE:HA	1:D:1975:LEU:HG	2.00	0.43
1:D:2278:MET:O	1:D:2282:LYS:HG2	2.19	0.43
1:D:2867:HIS:HB2	1:D:2870:LEU:HG	2.00	0.43
1:A:1968:PRO:HA	1:A:1971:GLN:HB3	1.99	0.43
1:A:2848:HIS:CE1	1:A:2869:LEU:HD13	2.52	0.43
1:A:2894:PHE:HA	1:A:2897:ILE:HG12	2.00	0.43
1:A:4009:VAL:HA	1:A:4012:ILE:HG12	2.00	0.43
1:B:317:MET:HB2	1:B:321:LYS:HE3	2.00	0.43
1:B:911:ASN:OD1	1:B:911:ASN:N	2.41	0.43
1:B:2848:HIS:CE1	1:B:2869:LEU:HD13	2.52	0.43
1:B:4009:VAL:HA	1:B:4012:ILE:HG12	2.00	0.43
1:C:807:ARG:O	1:C:1615:ARG:NE	2.48	0.43
1:C:1776:CYS:SG	1:C:1778:GLN:HB2	2.59	0.43
1:C:1811:VAL:HB	1:C:1818:LEU:HD13	2.00	0.43
1:D:559:ILE:HD13	1:D:593:HIS:HB3	1.99	0.43
1:D:882:ARG:HG2	1:D:940:LEU:HD12	2.00	0.43
1:D:1165:MET:HB3	1:D:1236:TYR:CE2	2.53	0.43
1:D:1776:CYS:SG	1:D:1778:GLN:HB2	2.59	0.43
1:D:2763:SER:H	1:D:2766:GLU:HB2	1.83	0.43
1:D:4205:ILE:HG23	1:D:4491:ASN:HB3	2.01	0.43
1:D:4807:ASP:HB3	1:D:4810:THR:HB	2.00	0.43
1:A:414:ARG:O	1:A:418:VAL:HG12	2.18	0.43
1:A:2278:MET:O	1:A:2282:LYS:HG2	2.19	0.43
1:B:1320:UNK:HA	1:B:1325:UNK:HA	1.99	0.43
1:B:4670:GLY:O	1:B:4671:MET:HG2	2.19	0.43
1:B:4799:ASP:OD1	1:B:4799:ASP:N	2.51	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:38:ASP:OD1	2:H:39:SER:N	2.50	0.43
1:C:838:ARG:H	1:C:841:LYS:NZ	2.17	0.43
1:C:894:VAL:HG13	1:C:918:LEU:HB3	2.01	0.43
1:D:190:ARG:HD3	1:D:205:ALA:O	2.19	0.43
1:D:1091:GLU:HB3	1:D:1094:TYR:CD2	2.52	0.43
1:D:1118:SER:HA	1:D:1134:ALA:HA	2.01	0.43
1:D:1786:ASP:O	1:D:1789:LYS:HG2	2.18	0.43
1:D:1945:GLU:O	1:D:1948:GLN:HG3	2.19	0.43
1:D:4000:ASP:O	1:D:4004:GLU:HG3	2.19	0.43
1:D:4496:ASN:HD22	1:D:4499:ASN:HD22	1.66	0.43
1:A:290:ARG:H	1:A:293:GLN:NE2	2.15	0.43
1:A:329:PHE:HB3	1:A:363:ILE:HD11	2.00	0.43
1:A:838:ARG:H	1:A:841:LYS:HZ3	1.65	0.43
1:A:1091:GLU:HB3	1:A:1094:TYR:CD2	2.52	0.43
1:A:2858:GLU:O	1:A:2862:LYS:HG2	2.17	0.43
1:A:4287:TRP:O	1:A:4291:VAL:HG13	2.19	0.43
1:A:4799:ASP:N	1:A:4799:ASP:OD1	2.51	0.43
1:B:140:THR:OG1	1:C:2337:GLU:HG3	2.19	0.43
1:B:799:LYS:HG2	1:B:1621:GLN:HE22	1.83	0.43
1:B:2858:GLU:O	1:B:2862:LYS:HG2	2.17	0.43
1:C:4009:VAL:HA	1:C:4012:ILE:HG12	2.00	0.43
1:C:4205:ILE:HG23	1:C:4491:ASN:HB3	2.01	0.43
1:D:1968:PRO:HA	1:D:1971:GLN:HB3	1.99	0.43
1:A:1945:GLU:O	1:A:1948:GLN:HG3	2.19	0.43
1:A:4026:THR:O	1:A:4031:PHE:HB3	2.17	0.43
1:A:4670:GLY:O	1:A:4671:MET:HG2	2.19	0.43
1:B:882:ARG:HG2	1:B:940:LEU:HD12	2.00	0.43
1:B:935:MET:O	1:B:938:GLU:HG3	2.18	0.43
1:B:4583:PHE:O	1:B:4586:ILE:HG22	2.18	0.43
1:C:161:THR:HG23	1:C:184:VAL:HB	2.01	0.43
1:C:559:ILE:HD13	1:C:593:HIS:HB3	1.99	0.43
1:C:829:LYS:O	1:C:830:GLU:HG3	2.19	0.43
1:C:988:LEU:HD11	1:C:1055:ARG:HG2	2.00	0.43
1:C:1271:THR:OG1	1:C:1272:ARG:N	2.52	0.43
1:C:2258:GLU:HG3	1:C:2261:LEU:HB2	2.00	0.43
1:C:2894:PHE:HA	1:C:2897:ILE:HG12	2.00	0.43
1:D:26:ALA:HB2	1:D:194:LEU:HD21	2.00	0.43
1:D:829:LYS:O	1:D:830:GLU:HG3	2.19	0.43
1:D:838:ARG:H	1:D:841:LYS:NZ	2.17	0.43
1:D:4029:ASP:OD1	1:D:4029:ASP:N	2.45	0.43
1:A:882:ARG:HG2	1:A:940:LEU:HD12	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:899:GLU:HG2	1:A:971:GLN:HE22	1.84	0.43
1:A:988:LEU:HD11	1:A:1055:ARG:HG2	2.00	0.43
1:A:1811:VAL:HB	1:A:1818:LEU:HD13	2.00	0.43
1:A:2342:LEU:N	1:A:2430:ASP:OD2	2.47	0.43
1:A:4807:ASP:HB3	1:A:4810:THR:HB	2.00	0.43
1:B:698:ALA:HA	1:B:724:SER:HA	2.00	0.43
1:B:1786:ASP:O	1:B:1789:LYS:HG2	2.18	0.43
1:B:2278:MET:O	1:B:2282:LYS:HG2	2.19	0.43
1:B:4205:ILE:HG23	1:B:4491:ASN:HB3	2.01	0.43
1:C:373:THR:O	1:C:375:GLN:NE2	2.43	0.43
1:C:698:ALA:HA	1:C:724:SER:HA	2.00	0.43
1:C:1040:ASP:HA	1:C:1043:LYS:HG3	2.01	0.43
1:C:3758:LEU:O	1:C:3762:ILE:HG12	2.19	0.43
1:D:899:GLU:HG2	1:D:971:GLN:HE22	1.84	0.43
1:D:2837:HIS:ND1	1:D:2838:ALA:N	2.67	0.43
1:D:4287:TRP:O	1:D:4291:VAL:HG13	2.19	0.43
1:D:4793:ASN:O	1:D:4795:SER:N	2.49	0.43
1:A:829:LYS:O	1:A:830:GLU:HG3	2.19	0.43
1:A:911:ASN:OD1	1:A:911:ASN:N	2.41	0.43
1:A:1031:ARG:HA	1:A:1031:ARG:HD3	1.84	0.43
1:A:1217:PHE:O	1:A:1240:ALA:N	2.52	0.43
1:B:1165:MET:HB3	1:B:1236:TYR:CE2	2.53	0.43
1:B:1945:GLU:O	1:B:1948:GLN:HG3	2.19	0.43
1:B:2867:HIS:HB2	1:B:2870:LEU:HG	2.00	0.43
1:B:4287:TRP:O	1:B:4291:VAL:HG13	2.19	0.43
1:C:26:ALA:HB2	1:C:194:LEU:HD21	2.00	0.43
1:C:697:TRP:HB2	1:C:766:ILE:HD13	2.01	0.43
1:C:845:THR:OG1	1:C:846:TYR:N	2.51	0.43
1:C:1031:ARG:NH1	1:C:1039:ASP:OD2	2.52	0.43
1:C:1945:GLU:O	1:C:1948:GLN:HG3	2.19	0.43
1:C:4806:ASP:HA	1:D:4520:VAL:HG12	2.01	0.43
2:I:53:LYS:HD3	2:I:53:LYS:HA	1.92	0.43
1:D:3758:LEU:O	1:D:3762:ILE:HG12	2.19	0.43
1:A:661:LEU:HD13	1:A:673:TRP:CD1	2.54	0.42
1:A:843:GLU:HB3	1:A:1606:LYS:HD3	2.01	0.42
1:A:1031:ARG:NH1	1:A:1039:ASP:OD2	2.52	0.42
1:A:1608:ASP:OD1	1:A:1608:ASP:N	2.52	0.42
1:A:4516:LEU:HD23	1:D:4809:LEU:HD13	2.01	0.42
1:B:26:ALA:HB2	1:B:194:LEU:HD21	2.00	0.42
1:B:894:VAL:HG13	1:B:918:LEU:HB3	2.01	0.42
1:B:1776:CYS:SG	1:B:1778:GLN:HB2	2.59	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:658:ASN:HB2	1:C:832:LEU:HD12	2.01	0.42
1:C:1987:CYS:N	1:C:1988:PRO:HD2	2.34	0.42
1:D:798:ILE:HD12	1:D:798:ILE:HA	1.91	0.42
1:D:807:ARG:O	1:D:1615:ARG:NE	2.48	0.42
1:D:1743:GLU:CD	1:D:1744:ASN:HD22	2.22	0.42
2:J:27:TYR:N	2:J:40:SER:OG	2.51	0.42
1:A:1251:LEU:HD23	1:A:1600:MET:HE2	2.01	0.42
1:A:4205:ILE:HG23	1:A:4491:ASN:HB3	2.01	0.42
1:B:190:ARG:HD3	1:B:205:ALA:O	2.19	0.42
1:B:674:TYR:CE2	1:B:756:SER:HB2	2.54	0.42
1:B:843:GLU:HB3	1:B:1606:LYS:HD3	2.01	0.42
1:B:988:LEU:HD11	1:B:1055:ARG:HG2	2.00	0.42
1:B:1743:GLU:CD	1:B:1744:ASN:HD22	2.22	0.42
1:B:1987:CYS:N	1:B:1988:PRO:HD2	2.34	0.42
1:C:850:LEU:H	1:C:850:LEU:HG	1.57	0.42
1:D:247:VAL:O	1:D:272:ARG:NH1	2.44	0.42
1:D:661:LEU:HD13	1:D:673:TRP:CD1	2.54	0.42
1:D:674:TYR:CE2	1:D:756:SER:HB2	2.54	0.42
1:D:1031:ARG:NH1	1:D:1039:ASP:OD2	2.52	0.42
1:D:2258:GLU:HG3	1:D:2261:LEU:HB2	2.00	0.42
1:A:161:THR:HG23	1:A:184:VAL:HB	2.01	0.42
1:A:1320:UNK:HA	1:A:1325:UNK:HA	2.00	0.42
1:A:1776:CYS:SG	1:A:1778:GLN:HB2	2.59	0.42
1:B:838:ARG:H	1:B:841:LYS:NZ	2.17	0.42
1:B:845:THR:OG1	1:B:846:TYR:N	2.51	0.42
1:B:1827:TYR:CZ	1:B:1831:ILE:HD11	2.54	0.42
1:B:3758:LEU:O	1:B:3762:ILE:HG12	2.19	0.42
1:C:1118:SER:HA	1:C:1134:ALA:HA	2.01	0.42
1:C:1641:ASP:HB2	1:C:1644:GLU:HG3	2.00	0.42
1:C:2278:MET:O	1:C:2282:LYS:HG2	2.19	0.42
1:C:4670:GLY:O	1:C:4671:MET:HG2	2.19	0.42
1:C:4923:TYR:CZ	1:C:4927:LYS:HD2	2.55	0.42
1:D:245:LEU:HD11	1:D:260:VAL:HG12	2.01	0.42
1:D:658:ASN:HB2	1:D:832:LEU:HD12	2.01	0.42
1:D:875:PRO:O	1:D:882:ARG:NH2	2.46	0.42
1:D:894:VAL:HG13	1:D:918:LEU:HB3	2.01	0.42
1:D:988:LEU:HD11	1:D:1055:ARG:HG2	2.00	0.42
1:D:1271:THR:OG1	1:D:1272:ARG:N	2.52	0.42
1:D:1641:ASP:HB2	1:D:1644:GLU:HG3	2.01	0.42
1:D:3905:PHE:O	1:D:3909:ILE:HG12	2.20	0.42
1:D:4189:VAL:HG21	1:D:4948:TRP:CZ2	2.55	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1743:GLU:CD	1:A:1744:ASN:HD22	2.22	0.42
1:A:1827:TYR:CZ	1:A:1831:ILE:HD11	2.54	0.42
1:A:3719:GLU:HA	1:A:3722:LYS:HG2	2.01	0.42
1:B:661:LEU:HD13	1:B:673:TRP:CD1	2.54	0.42
1:B:802:PHE:HB2	1:B:1618:TRP:HB2	2.01	0.42
1:B:2282:LYS:HA	1:B:2282:LYS:HD2	1.90	0.42
1:B:2894:PHE:HA	1:B:2897:ILE:HG12	2.00	0.42
1:C:1743:GLU:CD	1:C:1744:ASN:HD22	2.22	0.42
1:C:4509:PHE:HD1	1:C:4509:PHE:HA	1.78	0.42
1:D:3719:GLU:HA	1:D:3722:LYS:HG2	2.01	0.42
1:D:4857:LEU:HD23	1:D:4857:LEU:HA	1.91	0.42
1:A:190:ARG:HD3	1:A:205:ALA:O	2.19	0.42
1:A:838:ARG:H	1:A:841:LYS:NZ	2.17	0.42
1:A:1088:PHE:HB2	1:A:1205:CYS:SG	2.60	0.42
1:A:1271:THR:OG1	1:A:1272:ARG:N	2.52	0.42
1:A:4000:ASP:O	1:A:4004:GLU:HG3	2.19	0.42
1:B:697:TRP:HB2	1:B:766:ILE:HD13	2.01	0.42
1:B:829:LYS:O	1:B:830:GLU:HG3	2.19	0.42
1:B:1706:LEU:O	1:B:1710:ILE:HG13	2.20	0.42
1:B:1789:LYS:HB2	1:B:1835:PHE:CE1	2.55	0.42
1:B:2722:LYS:HD2	1:B:2722:LYS:HA	1.63	0.42
1:B:4000:ASP:O	1:B:4004:GLU:HG3	2.19	0.42
1:C:2305:VAL:O	1:C:2312:VAL:HG22	2.20	0.42
1:C:4182:LYS:HA	1:C:4182:LYS:HD2	1.89	0.42
1:D:697:TRP:HB2	1:D:766:ILE:HD13	2.01	0.42
1:D:1827:TYR:CZ	1:D:1831:ILE:HD11	2.54	0.42
1:A:698:ALA:HA	1:A:724:SER:HA	2.00	0.42
1:A:1118:SER:HA	1:A:1134:ALA:HA	2.01	0.42
1:A:1233:GLN:HG3	1:B:3493:UNK:CB	2.49	0.42
1:A:1595:VAL:O	1:A:1595:VAL:HG23	2.20	0.42
1:A:2487:LEU:O	1:A:2492:LEU:HG	2.20	0.42
1:B:557:TRP:CE3	1:B:558:LEU:HD23	2.55	0.42
1:B:1608:ASP:OD1	1:B:1608:ASP:N	2.52	0.42
1:B:4913:ASN:HB3	1:B:4916:ASN:HB2	2.02	0.42
1:C:1251:LEU:HD23	1:C:1600:MET:HE2	2.00	0.42
1:C:1706:LEU:O	1:C:1710:ILE:HG13	2.20	0.42
1:C:1789:LYS:HB2	1:C:1835:PHE:CE1	2.55	0.42
1:C:2471:LEU:HD23	1:C:2471:LEU:HA	1.80	0.42
1:C:4000:ASP:O	1:C:4004:GLU:HG3	2.19	0.42
1:C:4496:ASN:HD22	1:C:4499:ASN:HD22	1.66	0.42
1:D:843:GLU:HB3	1:D:1606:LYS:HD3	2.01	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1744:ASN:ND2	1:D:1746:LYS:HE2	2.31	0.42
1:D:1789:LYS:HB2	1:D:1835:PHE:CE1	2.55	0.42
1:D:1959:ARG:HH21	1:D:1962:ARG:HH12	1.68	0.42
1:D:4923:TYR:CZ	1:D:4927:LYS:HD2	2.55	0.42
2:J:53:LYS:HD3	2:J:53:LYS:HA	1.92	0.42
1:A:674:TYR:CE2	1:A:756:SER:HB2	2.54	0.42
1:A:1643:LEU:HD22	1:A:1694:TYR:O	2.20	0.42
1:A:4923:TYR:CZ	1:A:4927:LYS:HD2	2.54	0.42
1:B:1044:LYS:HD2	1:B:1044:LYS:HA	1.78	0.42
1:B:2837:HIS:ND1	1:B:2838:ALA:N	2.67	0.42
1:B:3905:PHE:O	1:B:3909:ILE:HG12	2.20	0.42
1:B:4189:VAL:HG21	1:B:4948:TRP:CZ2	2.55	0.42
2:H:27:TYR:N	2:H:40:SER:OG	2.51	0.42
1:C:557:TRP:CE3	1:C:558:LEU:HD23	2.55	0.42
1:C:2837:HIS:ND1	1:C:2838:ALA:N	2.67	0.42
1:C:4287:TRP:O	1:C:4291:VAL:HG13	2.19	0.42
1:D:698:ALA:HA	1:D:724:SER:HA	2.00	0.42
1:D:1643:LEU:HD22	1:D:1694:TYR:O	2.20	0.42
1:A:697:TRP:HB2	1:A:766:ILE:HD13	2.01	0.42
1:A:1835:PHE:O	1:A:1840:LEU:HD12	2.20	0.42
1:A:3905:PHE:O	1:A:3909:ILE:HG12	2.20	0.42
1:B:245:LEU:HD11	1:B:260:VAL:HG12	2.01	0.42
1:B:987:LYS:HE2	1:B:987:LYS:HB3	1.92	0.42
1:B:1303:ARG:NH2	1:B:1590:GLN:OE1	2.53	0.42
1:B:1595:VAL:HG23	1:B:1595:VAL:O	2.20	0.42
1:B:1835:PHE:O	1:B:1840:LEU:HD12	2.20	0.42
1:B:4660:TYR:HB3	1:B:4664:ARG:HH21	1.85	0.42
1:B:4807:ASP:HB3	1:B:4810:THR:HB	2.00	0.42
1:C:247:VAL:O	1:C:272:ARG:NH1	2.44	0.42
1:C:661:LEU:HD13	1:C:673:TRP:CD1	2.54	0.42
1:C:693:LEU:HD13	1:C:798:ILE:HG12	2.02	0.42
1:C:899:GLU:HG2	1:C:971:GLN:HE22	1.84	0.42
1:C:1088:PHE:HB2	1:C:1205:CYS:SG	2.60	0.42
1:C:1668:LEU:HD23	1:C:2131:VAL:HG22	2.02	0.42
1:C:4807:ASP:HB3	1:C:4810:THR:HB	2.00	0.42
2:I:28:THR:O	2:I:28:THR:OG1	2.36	0.42
1:D:34:LYS:O	1:D:52:THR:OG1	2.37	0.42
1:D:1367:LYS:NZ	1:D:1369:GLU:OE2	2.35	0.42
1:D:1608:ASP:OD1	1:D:1608:ASP:N	2.52	0.42
1:D:1682:ASP:HB3	1:D:1684:PRO:HD2	2.01	0.42
1:D:2305:VAL:O	1:D:2312:VAL:HG22	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4569:PRO:HB3	1:D:4572:ARG:HH21	1.85	0.42
1:D:4670:GLY:O	1:D:4671:MET:HG2	2.19	0.42
1:A:547:ASN:OD1	1:A:547:ASN:N	2.53	0.42
1:A:1641:ASP:HB2	1:A:1644:GLU:HG3	2.00	0.42
1:A:1668:LEU:HD23	1:A:2131:VAL:HG22	2.02	0.42
1:A:1789:LYS:HB2	1:A:1835:PHE:CE1	2.55	0.42
2:G:27:TYR:N	2:G:40:SER:OG	2.51	0.42
1:B:161:THR:HG23	1:B:184:VAL:HB	2.01	0.42
1:B:1217:PHE:O	1:B:1240:ALA:N	2.52	0.42
1:B:1271:THR:OG1	1:B:1272:ARG:N	2.52	0.42
1:B:2755:LEU:HD12	1:B:2767:LYS:CD	2.50	0.42
1:B:3636:GLU:HG2	1:B:3696:LYS:HE3	2.01	0.42
1:B:4923:TYR:CZ	1:B:4927:LYS:HD2	2.54	0.42
1:C:833:LYS:HE3	1:C:834:VAL:N	2.33	0.42
1:C:840:TYR:CE2	1:C:850:LEU:HA	2.55	0.42
1:C:1608:ASP:OD1	1:C:1608:ASP:N	2.52	0.42
1:C:4913:ASN:HB3	1:C:4916:ASN:HB2	2.02	0.42
1:D:161:THR:HG23	1:D:184:VAL:HB	2.01	0.42
1:D:674:TYR:HB2	1:D:819:TYR:HB3	2.02	0.42
1:D:1088:PHE:HB2	1:D:1205:CYS:SG	2.60	0.42
1:D:1273:ILE:HG13	1:D:1274:ASP:N	2.32	0.42
1:D:3636:GLU:HG2	1:D:3696:LYS:HE3	2.01	0.42
1:D:4913:ASN:HB3	1:D:4916:ASN:HB2	2.02	0.42
1:A:28:ILE:HG21	1:A:201:TRP:HH2	1.85	0.42
1:A:658:ASN:HB2	1:A:832:LEU:HD12	2.01	0.42
1:A:4632:LEU:H	1:A:4632:LEU:HD23	1.85	0.42
1:B:2487:LEU:O	1:B:2492:LEU:HG	2.20	0.42
1:B:4079:TYR:HA	1:B:4082:PHE:HB3	2.02	0.42
1:C:245:LEU:HD11	1:C:260:VAL:HG12	2.01	0.42
1:C:674:TYR:CE2	1:C:756:SER:HB2	2.54	0.42
1:C:745:ASN:O	1:C:747:HIS:ND1	2.49	0.42
1:C:802:PHE:HB2	1:C:1618:TRP:HB2	2.01	0.42
1:C:1044:LYS:HD2	1:C:1044:LYS:HA	1.78	0.42
1:C:3905:PHE:O	1:C:3909:ILE:HG12	2.20	0.42
1:C:4189:VAL:HG21	1:C:4948:TRP:CZ2	2.55	0.42
1:D:557:TRP:CZ2	1:D:561:ARG:HG3	2.55	0.42
1:D:837:SER:H	1:D:841:LYS:HZ1	1.67	0.42
1:D:840:TYR:CE2	1:D:850:LEU:HA	2.55	0.42
1:D:1040:ASP:HA	1:D:1043:LYS:HG3	2.01	0.42
1:D:1217:PHE:O	1:D:1240:ALA:N	2.52	0.42
1:D:1303:ARG:NH2	1:D:1590:GLN:OE1	2.53	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1595:VAL:O	1:D:1595:VAL:HG23	2.20	0.42
1:D:1987:CYS:N	1:D:1988:PRO:HD2	2.34	0.42
1:D:4047:PHE:O	1:D:4051:MET:HG2	2.20	0.42
1:A:557:TRP:CZ2	1:A:561:ARG:HG3	2.55	0.41
1:A:894:VAL:HG13	1:A:918:LEU:HB3	2.01	0.41
1:A:1303:ARG:NH2	1:A:1590:GLN:OE1	2.53	0.41
1:A:1977:ASN:OD1	1:A:1977:ASN:N	2.53	0.41
1:A:4569:PRO:HB3	1:A:4572:ARG:HH21	1.85	0.41
1:B:290:ARG:H	1:B:293:GLN:NE2	2.15	0.41
1:B:899:GLU:HG2	1:B:971:GLN:HE22	1.84	0.41
1:B:1643:LEU:HD22	1:B:1694:TYR:O	2.20	0.41
1:B:1744:ASN:ND2	1:B:1746:LYS:HE2	2.30	0.41
1:B:3802:LEU:HB2	1:B:3883:SER:OG	2.20	0.41
1:C:190:ARG:HD3	1:C:205:ALA:O	2.19	0.41
1:C:375:GLN:NE2	1:C:390:LYS:O	2.53	0.41
1:C:557:TRP:CZ2	1:C:561:ARG:HG3	2.55	0.41
1:C:2487:LEU:O	1:C:2492:LEU:HG	2.20	0.41
1:C:3636:GLU:HG2	1:C:3696:LYS:HE3	2.01	0.41
1:C:3825:GLY:O	1:C:3828:VAL:HG12	2.20	0.41
1:D:669:GLN:HB3	1:D:673:TRP:HZ2	1.85	0.41
1:D:845:THR:OG1	1:D:846:TYR:N	2.51	0.41
1:D:1251:LEU:HD23	1:D:1600:MET:HE2	2.02	0.41
1:D:2486:LEU:HD13	1:D:2486:LEU:HA	1.87	0.41
1:D:4079:TYR:HA	1:D:4082:PHE:HB3	2.02	0.41
1:A:125:TYR:CE1	1:A:417:ARG:HD3	2.55	0.41
1:A:2837:HIS:ND1	1:A:2838:ALA:N	2.67	0.41
1:A:4913:ASN:HB3	1:A:4916:ASN:HB2	2.02	0.41
1:B:557:TRP:CZ2	1:B:561:ARG:HG3	2.55	0.41
1:B:3825:GLY:O	1:B:3828:VAL:HG12	2.20	0.41
1:C:843:GLU:HB3	1:C:1606:LYS:HD3	2.01	0.41
1:C:1744:ASN:ND2	1:C:1746:LYS:HE2	2.30	0.41
1:C:1977:ASN:OD1	1:C:1977:ASN:N	2.53	0.41
1:C:4175:VAL:HG22	1:C:4187:LEU:HD13	2.02	0.41
1:D:125:TYR:CE1	1:D:417:ARG:HD3	2.56	0.41
1:D:1706:LEU:O	1:D:1710:ILE:HG13	2.20	0.41
1:D:2487:LEU:O	1:D:2492:LEU:HG	2.20	0.41
1:D:2755:LEU:HD12	1:D:2767:LYS:CD	2.50	0.41
1:D:2836:LEU:HD22	1:D:2839:MET:HE1	2.01	0.41
1:A:557:TRP:CE3	1:A:558:LEU:HD23	2.55	0.41
1:A:745:ASN:O	1:A:747:HIS:ND1	2.49	0.41
1:A:1040:ASP:HA	1:A:1043:LYS:HG3	2.01	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1706:LEU:O	1:A:1710:ILE:HG13	2.20	0.41
1:A:1744:ASN:ND2	1:A:1746:LYS:HE2	2.30	0.41
1:A:1931:PHE:CE1	1:A:1995:LEU:HB2	2.55	0.41
1:A:4928:ASP:OD1	1:A:4929:GLU:N	2.46	0.41
2:G:53:LYS:HD3	2:G:53:LYS:HA	1.92	0.41
1:B:541:ILE:HD11	1:B:574:VAL:HG13	2.02	0.41
1:B:547:ASN:OD1	1:B:547:ASN:N	2.53	0.41
1:B:658:ASN:HB2	1:B:832:LEU:HD12	2.01	0.41
1:B:1682:ASP:HB3	1:B:1684:PRO:HD2	2.01	0.41
1:B:4574:LEU:HD12	1:B:4574:LEU:HA	1.90	0.41
1:C:125:TYR:CE1	1:C:417:ARG:HD3	2.56	0.41
1:C:1303:ARG:NH2	1:C:1590:GLN:OE1	2.53	0.41
1:D:28:ILE:HG21	1:D:201:TRP:HH2	1.85	0.41
1:D:557:TRP:CE3	1:D:558:LEU:HD23	2.55	0.41
1:D:1682:ASP:CB	1:D:1685:GLN:HB3	2.48	0.41
1:D:4608:LYS:HG2	1:D:4614:LEU:HD22	2.03	0.41
1:D:4941:LYS:O	1:D:4945:GLU:HG3	2.21	0.41
1:A:669:GLN:HB3	1:A:673:TRP:HZ2	1.86	0.41
1:A:802:PHE:HB2	1:A:1618:TRP:HB2	2.01	0.41
1:A:1682:ASP:HB3	1:A:1684:PRO:HD2	2.01	0.41
1:A:2836:LEU:HD22	1:A:2839:MET:HE1	2.02	0.41
1:A:3758:LEU:O	1:A:3762:ILE:HG12	2.19	0.41
1:A:4189:VAL:HG21	1:A:4948:TRP:CZ2	2.55	0.41
1:B:185:SER:HG	1:B:190:ARG:H	1.68	0.41
1:B:1118:SER:HA	1:B:1134:ALA:HA	2.01	0.41
1:B:3719:GLU:HA	1:B:3722:LYS:HG2	2.02	0.41
1:B:3870:ILE:H	1:B:3870:ILE:HG12	1.67	0.41
1:B:4175:VAL:HG22	1:B:4187:LEU:HD13	2.02	0.41
1:B:4569:PRO:HB3	1:B:4572:ARG:HH21	1.85	0.41
1:C:318:ASP:OD1	1:C:318:ASP:N	2.54	0.41
1:C:3719:GLU:HA	1:C:3722:LYS:HG2	2.02	0.41
1:C:4920:PHE:HE2	1:C:4939:VAL:HG11	1.85	0.41
1:D:2282:LYS:HA	1:D:2282:LYS:HD2	1.90	0.41
1:D:4171:PHE:CE1	1:D:4175:VAL:HG21	2.56	0.41
1:D:4660:TYR:HB3	1:D:4664:ARG:HH21	1.85	0.41
1:A:1091:GLU:HG2	1:A:1093:THR:H	1.85	0.41
1:A:1987:CYS:N	1:A:1988:PRO:HD2	2.34	0.41
1:A:4941:LYS:O	1:A:4945:GLU:HG3	2.21	0.41
1:C:1091:GLU:HG2	1:C:1093:THR:H	1.85	0.41
1:C:1740:PHE:CD1	1:C:1923:ALA:HB1	2.56	0.41
1:C:2755:LEU:HD12	1:C:2767:LYS:CD	2.50	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1809:ASP:N	1:D:1809:ASP:OD1	2.54	0.41
1:D:2722:LYS:HD2	1:D:2722:LYS:HA	1.63	0.41
1:A:16:THR:OG1	1:A:109:GLY:O	2.35	0.41
1:A:693:LEU:HD13	1:A:798:ILE:HG12	2.01	0.41
1:A:840:TYR:CE2	1:A:850:LEU:HA	2.55	0.41
1:A:1086:ARG:HH21	1:A:1251:LEU:HD13	1.86	0.41
1:A:1829:LEU:O	1:A:1834:ILE:HG12	2.21	0.41
1:A:2733:MET:O	1:A:2736:LEU:HG	2.21	0.41
1:A:2755:LEU:HD12	1:A:2767:LYS:CD	2.50	0.41
1:A:4171:PHE:CE1	1:A:4175:VAL:HG21	2.56	0.41
1:B:888:ASN:O	1:B:891:GLU:HG2	2.21	0.41
1:B:1641:ASP:HB2	1:B:1644:GLU:HG3	2.00	0.41
1:B:1931:PHE:CE1	1:B:1995:LEU:HB2	2.55	0.41
1:B:4171:PHE:CE1	1:B:4175:VAL:HG21	2.56	0.41
1:C:1643:LEU:HD22	1:C:1694:TYR:O	2.20	0.41
1:C:1809:ASP:N	1:C:1809:ASP:OD1	2.54	0.41
1:C:1827:TYR:CZ	1:C:1831:ILE:HD11	2.54	0.41
1:C:1829:LEU:O	1:C:1834:ILE:HG12	2.21	0.41
1:C:1835:PHE:O	1:C:1840:LEU:HD12	2.20	0.41
1:C:1959:ARG:HH21	1:C:1962:ARG:HH12	1.68	0.41
1:C:3802:LEU:HB2	1:C:3883:SER:OG	2.20	0.41
1:C:4047:PHE:O	1:C:4051:MET:HG2	2.20	0.41
1:C:4569:PRO:HB3	1:C:4572:ARG:HH21	1.85	0.41
1:C:4632:LEU:HD23	1:C:4632:LEU:H	1.85	0.41
1:D:323:ASP:O	1:D:327:THR:OG1	2.27	0.41
1:D:748:LEU:HD23	1:D:748:LEU:HA	1.91	0.41
1:D:1740:PHE:CD1	1:D:1923:ALA:HB1	2.56	0.41
1:D:1931:PHE:CE1	1:D:1995:LEU:HB2	2.56	0.41
1:D:4044:LYS:HE2	1:D:4044:LYS:HB3	1.82	0.41
1:A:245:LEU:HD11	1:A:260:VAL:HG12	2.01	0.41
1:A:674:TYR:HB2	1:A:819:TYR:HB3	2.02	0.41
1:A:773:GLN:H	1:A:773:GLN:HG2	1.70	0.41
1:A:3636:GLU:HG2	1:A:3696:LYS:HE3	2.02	0.41
1:A:3802:LEU:HB2	1:A:3883:SER:OG	2.21	0.41
1:B:318:ASP:OD1	1:B:318:ASP:N	2.54	0.41
1:B:1088:PHE:HB2	1:B:1205:CYS:SG	2.60	0.41
1:B:2340:ASN:OD1	1:B:2340:ASN:N	2.46	0.41
1:C:669:GLN:HB3	1:C:673:TRP:HZ2	1.85	0.41
1:C:888:ASN:O	1:C:891:GLU:HG2	2.21	0.41
1:C:1609:VAL:HG12	1:C:1611:ARG:H	1.86	0.41
1:C:1931:PHE:CE1	1:C:1995:LEU:HB2	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4928:ASP:OD1	1:C:4929:GLU:N	2.46	0.41
1:D:557:TRP:CE2	1:D:561:ARG:HG3	2.56	0.41
1:D:1829:LEU:O	1:D:1834:ILE:HG12	2.21	0.41
1:D:1835:PHE:O	1:D:1840:LEU:HD12	2.20	0.41
1:D:2188:PHE:HB3	1:D:2191:MET:HB3	2.03	0.41
1:D:2733:MET:O	1:D:2736:LEU:HG	2.21	0.41
1:A:987:LYS:HE2	1:A:987:LYS:HB3	1.92	0.41
1:A:1682:ASP:CB	1:A:1685:GLN:HB3	2.48	0.41
1:A:4079:TYR:HA	1:A:4082:PHE:HB3	2.02	0.41
1:B:125:TYR:CE1	1:B:417:ARG:HD3	2.56	0.41
1:B:557:TRP:CE2	1:B:561:ARG:HG3	2.56	0.41
1:B:1809:ASP:N	1:B:1809:ASP:OD1	2.54	0.41
1:B:2733:MET:O	1:B:2736:LEU:HG	2.21	0.41
1:B:4920:PHE:HE2	1:B:4939:VAL:HG11	1.85	0.41
1:C:290:ARG:H	1:C:293:GLN:NE2	2.15	0.41
1:C:557:TRP:CE2	1:C:561:ARG:HG3	2.56	0.41
1:C:674:TYR:HB2	1:C:819:TYR:HB3	2.02	0.41
1:C:1031:ARG:HA	1:C:1031:ARG:HD3	1.84	0.41
1:C:1682:ASP:HB3	1:C:1684:PRO:HD2	2.01	0.41
1:C:4660:TYR:HB3	1:C:4664:ARG:HH21	1.85	0.41
1:D:541:ILE:HD11	1:D:574:VAL:HG13	2.02	0.41
1:D:802:PHE:HB2	1:D:1618:TRP:HB2	2.01	0.41
1:D:1086:ARG:HH21	1:D:1251:LEU:HD13	1.86	0.41
1:A:527:LYS:NZ	1:A:531:ASN:OD1	2.38	0.41
1:A:845:THR:OG1	1:A:846:TYR:N	2.51	0.41
1:A:1959:ARG:HH21	1:A:1962:ARG:HH12	1.68	0.41
1:A:2305:VAL:O	1:A:2312:VAL:HG22	2.20	0.41
1:A:4608:LYS:HG2	1:A:4614:LEU:HD22	2.03	0.41
1:A:4660:TYR:HB3	1:A:4664:ARG:HH21	1.85	0.41
1:A:4794:LYS:HE3	1:A:4794:LYS:HB3	1.95	0.41
2:G:28:THR:O	2:G:28:THR:OG1	2.36	0.41
1:B:16:THR:OG1	1:B:109:GLY:O	2.35	0.41
1:B:530:LEU:HD23	1:B:530:LEU:HA	1.87	0.41
1:B:840:TYR:CE2	1:B:850:LEU:HA	2.55	0.41
1:B:1086:ARG:HH21	1:B:1251:LEU:HD13	1.86	0.41
1:B:1091:GLU:HG2	1:B:1093:THR:H	1.85	0.41
1:B:1829:LEU:O	1:B:1834:ILE:HG12	2.21	0.41
1:B:2234:ARG:HD2	1:B:2234:ARG:HA	1.94	0.41
1:B:2260:ASP:N	1:B:2260:ASP:OD1	2.54	0.41
1:B:2305:VAL:O	1:B:2312:VAL:HG22	2.20	0.41
1:B:2887:LYS:O	1:B:2891:ILE:HG23	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4047:PHE:O	1:B:4051:MET:HG2	2.20	0.41
1:B:4608:LYS:HG2	1:B:4614:LEU:HD22	2.03	0.41
1:B:4632:LEU:HD23	1:B:4632:LEU:H	1.85	0.41
1:B:4867:ASP:OD1	1:C:4873:ARG:NH1	2.54	0.41
1:C:640:ARG:HH22	2:I:91:VAL:HG13	1.86	0.41
1:C:1086:ARG:HH21	1:C:1251:LEU:HD13	1.86	0.41
1:C:1091:GLU:HB3	1:C:1094:TYR:CD2	2.52	0.41
1:C:1595:VAL:HG23	1:C:1595:VAL:O	2.20	0.41
1:C:4171:PHE:CE1	1:C:4175:VAL:HG21	2.56	0.41
1:C:4636:THR:OG1	1:C:4637:GLN:N	2.54	0.41
1:C:4941:LYS:O	1:C:4945:GLU:HG3	2.21	0.41
1:D:987:LYS:HE2	1:D:987:LYS:HB3	1.92	0.41
1:D:1091:GLU:HG2	1:D:1093:THR:H	1.85	0.41
1:D:1965:ARG:O	1:D:1966:SER:OG	2.37	0.41
1:D:3802:LEU:HB2	1:D:3883:SER:OG	2.21	0.41
1:D:4304:PHE:O	1:D:4308:VAL:HG22	2.21	0.41
1:D:4594:VAL:N	1:D:4595:PRO:HD2	2.36	0.41
1:D:4794:LYS:HE3	1:D:4794:LYS:HB3	1.96	0.41
1:A:850:LEU:H	1:A:850:LEU:HG	1.57	0.41
1:A:1740:PHE:CD1	1:A:1923:ALA:HB1	2.56	0.41
1:A:3825:GLY:O	1:A:3828:VAL:HG12	2.20	0.41
1:B:28:ILE:HG21	1:B:201:TRP:HH2	1.85	0.41
1:B:113:LEU:HD23	1:B:113:LEU:HA	1.93	0.41
1:B:693:LEU:HD13	1:B:798:ILE:HG12	2.02	0.41
1:B:1363:LYS:HE2	1:B:1365:THR:HG22	2.03	0.41
1:B:3612:ARG:O	1:B:3612:ARG:NH1	2.54	0.41
1:C:541:ILE:HD11	1:C:574:VAL:HG13	2.02	0.41
1:C:4079:TYR:HA	1:C:4082:PHE:HB3	2.02	0.41
1:C:4594:VAL:N	1:C:4595:PRO:HD2	2.36	0.41
1:D:1668:LEU:HD23	1:D:2131:VAL:HG22	2.02	0.41
1:D:4920:PHE:HE2	1:D:4939:VAL:HG11	1.85	0.41
1:A:318:ASP:OD1	1:A:318:ASP:N	2.54	0.40
1:A:380:LYS:HA	1:A:380:LYS:HD3	1.71	0.40
1:A:4304:PHE:O	1:A:4308:VAL:HG22	2.21	0.40
1:B:1740:PHE:CD1	1:B:1923:ALA:HB1	2.56	0.40
1:C:2260:ASP:OD1	1:C:2260:ASP:N	2.54	0.40
1:C:2331:GLY:HA3	1:C:2391:TYR:CE1	2.56	0.40
1:C:4924:LEU:HD23	1:C:4924:LEU:HA	1.92	0.40
1:D:644:LEU:HD11	1:D:1651:LEU:HD22	2.03	0.40
1:D:3870:ILE:H	1:D:3870:ILE:HG12	1.67	0.40
1:D:4164:VAL:HA	1:D:4167:SER:OG	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:888:ASN:O	1:A:891:GLU:HG2	2.21	0.40
1:A:1003:ALA:O	1:A:1006:VAL:HG22	2.22	0.40
1:A:1363:LYS:HE2	1:A:1365:THR:HG22	2.03	0.40
1:A:4047:PHE:O	1:A:4051:MET:HG2	2.20	0.40
1:A:4276:LYS:NZ	1:A:4562:GLU:HG3	2.36	0.40
1:A:4862:GLN:HG2	1:D:4859:ALA:HB2	2.03	0.40
1:B:674:TYR:HB2	1:B:819:TYR:HB3	2.02	0.40
1:B:2747:SER:O	1:B:2753:GLN:NE2	2.49	0.40
1:C:4276:LYS:NZ	1:C:4562:GLU:HG3	2.36	0.40
1:D:527:LYS:NZ	1:D:531:ASN:OD1	2.38	0.40
1:D:693:LEU:HD13	1:D:798:ILE:HG12	2.02	0.40
1:D:3825:GLY:O	1:D:3828:VAL:HG12	2.20	0.40
1:D:4830:ILE:HB	1:D:4842:ARG:NH2	2.36	0.40
1:A:313:ASN:HD21	1:A:392:ILE:HA	1.87	0.40
1:A:373:THR:O	1:A:375:GLN:NE2	2.43	0.40
1:A:541:ILE:HD11	1:A:574:VAL:HG13	2.02	0.40
1:A:557:TRP:CE2	1:A:561:ARG:HG3	2.56	0.40
1:A:1131:ASP:HB3	1:A:1133:ARG:HG2	2.04	0.40
1:A:1809:ASP:N	1:A:1809:ASP:OD1	2.54	0.40
1:A:2260:ASP:N	1:A:2260:ASP:OD1	2.54	0.40
1:A:2331:GLY:HA3	1:A:2391:TYR:CE1	2.56	0.40
1:A:2887:LYS:O	1:A:2891:ILE:HG23	2.21	0.40
1:A:4164:VAL:HA	1:A:4167:SER:OG	2.22	0.40
1:A:4276:LYS:HZ1	1:A:4562:GLU:HG3	1.86	0.40
1:A:4594:VAL:N	1:A:4595:PRO:HD2	2.36	0.40
1:A:4857:LEU:HD23	1:A:4857:LEU:HA	1.91	0.40
1:B:669:GLN:HB3	1:B:673:TRP:HZ2	1.85	0.40
1:B:1131:ASP:HB3	1:B:1133:ARG:HG2	2.04	0.40
1:B:2065:MET:SD	1:B:2083:MET:HG3	2.62	0.40
1:B:4276:LYS:HZ1	1:B:4562:GLU:HG3	1.87	0.40
1:C:502:ILE:HG22	1:C:506:HIS:CD2	2.56	0.40
1:C:530:LEU:HD23	1:C:530:LEU:HA	1.87	0.40
1:C:1682:ASP:CB	1:C:1685:GLN:HB3	2.48	0.40
1:C:2733:MET:O	1:C:2736:LEU:HG	2.21	0.40
1:C:3954:GLN:NE2	1:C:3971:MET:SD	2.95	0.40
1:D:313:ASN:HD21	1:D:392:ILE:HA	1.87	0.40
1:D:1609:VAL:HG12	1:D:1611:ARG:H	1.86	0.40
1:D:4632:LEU:HD23	1:D:4632:LEU:H	1.85	0.40
1:A:1609:VAL:HG12	1:A:1611:ARG:H	1.86	0.40
1:A:1731:THR:O	1:A:1735:LYS:HG3	2.21	0.40
1:B:773:GLN:H	1:B:773:GLN:HG2	1.70	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1003:ALA:O	1:B:1006:VAL:HG22	2.22	0.40
1:B:4010:GLU:HG2	1:B:4120:LEU:HD13	2.03	0.40
1:C:547:ASN:OD1	1:C:547:ASN:N	2.53	0.40
1:C:678:MET:HA	1:C:753:ASP:O	2.22	0.40
1:C:1982:LYS:HD2	1:C:1983:SER:H	1.86	0.40
1:C:2085:VAL:HG12	1:C:3686:LEU:HD13	2.03	0.40
1:C:2134:GLY:H	1:C:2137:GLU:HB2	1.87	0.40
1:C:2188:PHE:HB3	1:C:2191:MET:HB3	2.03	0.40
1:C:2859:LEU:HD22	1:C:2859:LEU:HA	1.93	0.40
1:C:3874:VAL:HG11	1:C:3937:SER:OG	2.22	0.40
1:C:4083:VAL:O	1:C:4087:HIS:HB3	2.22	0.40
1:C:4093:ILE:O	1:C:4097:VAL:HG23	2.22	0.40
1:C:4164:VAL:HA	1:C:4167:SER:OG	2.21	0.40
1:D:418:VAL:O	1:D:422:THR:HG23	2.22	0.40
1:D:888:ASN:O	1:D:891:GLU:HG2	2.21	0.40
1:D:2085:VAL:HG12	1:D:3686:LEU:HD13	2.03	0.40
1:D:2260:ASP:OD1	1:D:2260:ASP:N	2.54	0.40
1:D:3762:ILE:HD12	1:D:3840:ARG:HG3	2.03	0.40
1:A:1289:SER:HA	1:A:1353:HIS:HB3	2.04	0.40
1:B:502:ILE:HG22	1:B:506:HIS:CD2	2.56	0.40
1:B:1127:GLU:HG3	1:B:1128:LEU:N	2.37	0.40
1:B:1982:LYS:HD2	1:B:1983:SER:H	1.86	0.40
1:B:4589:TYR:OH	1:B:4715:ASP:OD2	2.38	0.40
1:B:4594:VAL:N	1:B:4595:PRO:HD2	2.36	0.40
1:B:4603:LYS:HD2	1:B:4607:ARG:NH1	2.37	0.40
1:C:1003:ALA:O	1:C:1006:VAL:HG22	2.22	0.40
2:I:26:HIS:HD2	2:I:40:SER:OG	2.05	0.40
1:D:37:LEU:HD13	1:D:203:VAL:HG21	2.04	0.40
1:D:479:LEU:HD23	1:D:482:LEU:HD21	2.04	0.40
1:D:678:MET:HA	1:D:753:ASP:O	2.22	0.40
1:D:745:ASN:O	1:D:747:HIS:ND1	2.49	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	3255/4966 (66%)	3051 (94%)	204 (6%)	0	100	100
1	B	3255/4966 (66%)	3050 (94%)	205 (6%)	0	100	100
1	C	3255/4966 (66%)	3050 (94%)	205 (6%)	0	100	100
1	D	3255/4966 (66%)	3049 (94%)	206 (6%)	0	100	100
2	G	105/176 (60%)	102 (97%)	3 (3%)	0	100	100
2	H	105/176 (60%)	102 (97%)	3 (3%)	0	100	100
2	I	105/176 (60%)	102 (97%)	3 (3%)	0	100	100
2	J	105/176 (60%)	102 (97%)	3 (3%)	0	100	100
All	All	13440/20568 (65%)	12608 (94%)	832 (6%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	2862/3387 (84%)	2726 (95%)	136 (5%)	25	60
1	B	2862/3387 (84%)	2726 (95%)	136 (5%)	25	60
1	C	2862/3387 (84%)	2727 (95%)	135 (5%)	26	60
1	D	2862/3387 (84%)	2726 (95%)	136 (5%)	25	60
2	G	88/140 (63%)	87 (99%)	1 (1%)	73	88
2	H	88/140 (63%)	86 (98%)	2 (2%)	50	77
2	I	88/140 (63%)	87 (99%)	1 (1%)	73	88
2	J	88/140 (63%)	87 (99%)	1 (1%)	73	88
All	All	11800/14108 (84%)	11252 (95%)	548 (5%)	31	61

All (548) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	75	VAL
1	A	80	GLU
1	A	132	CYS
1	A	140	THR
1	A	141	ASP
1	A	170	SER
1	A	177	VAL
1	A	213	SER
1	A	236	LEU
1	A	237	LEU
1	A	246	THR
1	A	269	VAL
1	A	270	HIS
1	A	285	SER
1	A	296	ARG
1	A	299	HIS
1	A	323	ASP
1	A	326	SER
1	A	346	VAL
1	A	358	ASP
1	A	439	LYS
1	A	450	GLU
1	A	468	GLU
1	A	550	GLN
1	A	551	PHE
1	A	556	ASP
1	A	566	GLU
1	A	643	LEU
1	A	652	VAL
1	A	687	THR
1	A	695	VAL
1	A	704	SER
1	A	711	GLU
1	A	713	TRP
1	A	814	LEU
1	A	833	LYS
1	A	850	LEU
1	A	909	ASP
1	A	923	LYS
1	A	938	GLU
1	A	974	SER
1	A	988	LEU
1	A	1028	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1033	VAL
1	A	1039	ASP
1	A	1042	THR
1	A	1044	LYS
1	A	1155	SER
1	A	1174	MET
1	A	1183	LEU
1	A	1188	SER
1	A	1193	LYS
1	A	1196	ASP
1	A	1252	SER
1	A	1273	ILE
1	A	1297	THR
1	A	1364	GLU
1	A	1367	LYS
1	A	1376	TYR
1	A	1382	SER
1	A	1583	CYS
1	A	1589	VAL
1	A	1607	VAL
1	A	1612	ILE
1	A	1613	SER
1	A	1641	ASP
1	A	1678	CYS
1	A	1681	VAL
1	A	1709	ASP
1	A	1731	THR
1	A	1739	LEU
1	A	1814	THR
1	A	1840	LEU
1	A	1850	SER
1	A	2072	SER
1	A	2089	ARG
1	A	2106	THR
1	A	2136	GLU
1	A	2201	TYR
1	A	2219	TYR
1	A	2225	SER
1	A	2236	SER
1	A	2292	VAL
1	A	2302	ARG
1	A	2321	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	2343	LEU
1	A	2351	LYS
1	A	2430	ASP
1	A	2484	LEU
1	A	2486	LEU
1	A	2494	ASP
1	A	2506	LEU
1	A	2714	GLU
1	A	2722	LYS
1	A	2751	LYS
1	A	2762	LEU
1	A	2763	SER
1	A	2771	ARG
1	A	2781	MET
1	A	2837	HIS
1	A	2859	LEU
1	A	2875	THR
1	A	2877	THR
1	A	2884	ASP
1	A	2902	VAL
1	A	2903	SER
1	A	3616	VAL
1	A	3818	MET
1	A	3822	GLU
1	A	3852	ASP
1	A	3861	THR
1	A	3865	THR
1	A	3990	VAL
1	A	4034	TYR
1	A	4039	LYS
1	A	4049	LYS
1	A	4073	GLU
1	A	4083	VAL
1	A	4157	THR
1	A	4181	GLU
1	A	4187	LEU
1	A	4509	PHE
1	A	4556	VAL
1	A	4623	ASP
1	A	4632	LEU
1	A	4636	THR
1	A	4658	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	4668	LEU
1	A	4728	SER
1	A	4760	THR
1	A	4767	VAL
1	A	4782	VAL
1	A	4799	ASP
1	A	4900	VAL
1	A	4945	GLU
1	A	4955	ASP
2	G	101	ASP
1	B	75	VAL
1	B	80	GLU
1	B	132	CYS
1	B	140	THR
1	B	141	ASP
1	B	170	SER
1	B	177	VAL
1	B	213	SER
1	B	236	LEU
1	B	237	LEU
1	B	246	THR
1	B	269	VAL
1	B	270	HIS
1	B	285	SER
1	B	296	ARG
1	B	299	HIS
1	B	323	ASP
1	B	326	SER
1	B	346	VAL
1	B	358	ASP
1	B	439	LYS
1	B	450	GLU
1	B	468	GLU
1	B	550	GLN
1	B	551	PHE
1	B	556	ASP
1	B	566	GLU
1	B	643	LEU
1	B	652	VAL
1	B	687	THR
1	B	695	VAL
1	B	704	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	711	GLU
1	B	713	TRP
1	B	814	LEU
1	B	833	LYS
1	B	850	LEU
1	B	909	ASP
1	B	923	LYS
1	B	938	GLU
1	B	974	SER
1	B	988	LEU
1	B	1028	ARG
1	B	1033	VAL
1	B	1039	ASP
1	B	1042	THR
1	B	1044	LYS
1	B	1155	SER
1	B	1174	MET
1	B	1183	LEU
1	B	1188	SER
1	B	1193	LYS
1	B	1196	ASP
1	B	1252	SER
1	B	1273	ILE
1	B	1297	THR
1	B	1364	GLU
1	B	1367	LYS
1	B	1376	TYR
1	B	1382	SER
1	B	1583	CYS
1	B	1589	VAL
1	B	1607	VAL
1	B	1612	ILE
1	B	1613	SER
1	B	1641	ASP
1	B	1678	CYS
1	B	1681	VAL
1	B	1709	ASP
1	B	1731	THR
1	B	1739	LEU
1	B	1814	THR
1	B	1840	LEU
1	B	1850	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	2072	SER
1	B	2089	ARG
1	B	2106	THR
1	B	2136	GLU
1	B	2201	TYR
1	B	2219	TYR
1	B	2225	SER
1	B	2236	SER
1	B	2292	VAL
1	B	2302	ARG
1	B	2321	ARG
1	B	2343	LEU
1	B	2351	LYS
1	B	2430	ASP
1	B	2484	LEU
1	B	2486	LEU
1	B	2494	ASP
1	B	2506	LEU
1	B	2714	GLU
1	B	2722	LYS
1	B	2751	LYS
1	B	2762	LEU
1	B	2763	SER
1	B	2771	ARG
1	B	2781	MET
1	B	2837	HIS
1	B	2859	LEU
1	B	2875	THR
1	B	2877	THR
1	B	2884	ASP
1	B	2902	VAL
1	B	2903	SER
1	B	3616	VAL
1	B	3818	MET
1	B	3822	GLU
1	B	3852	ASP
1	B	3861	THR
1	B	3865	THR
1	B	3990	VAL
1	B	4034	TYR
1	B	4039	LYS
1	B	4049	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	4073	GLU
1	B	4083	VAL
1	B	4157	THR
1	B	4181	GLU
1	B	4187	LEU
1	B	4509	PHE
1	B	4556	VAL
1	B	4623	ASP
1	B	4632	LEU
1	B	4636	THR
1	B	4658	GLU
1	B	4668	LEU
1	B	4728	SER
1	B	4760	THR
1	B	4767	VAL
1	B	4782	VAL
1	B	4799	ASP
1	B	4900	VAL
1	B	4945	GLU
1	B	4955	ASP
2	H	42	ASP
2	H	101	ASP
1	C	75	VAL
1	C	80	GLU
1	C	132	CYS
1	C	140	THR
1	C	141	ASP
1	C	170	SER
1	C	177	VAL
1	C	213	SER
1	C	236	LEU
1	C	237	LEU
1	C	246	THR
1	C	269	VAL
1	C	270	HIS
1	C	285	SER
1	C	296	ARG
1	C	299	HIS
1	C	323	ASP
1	C	326	SER
1	C	346	VAL
1	C	358	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	439	LYS
1	C	450	GLU
1	C	468	GLU
1	C	550	GLN
1	C	551	PHE
1	C	556	ASP
1	C	566	GLU
1	C	643	LEU
1	C	652	VAL
1	C	687	THR
1	C	695	VAL
1	C	704	SER
1	C	711	GLU
1	C	713	TRP
1	C	814	LEU
1	C	833	LYS
1	C	850	LEU
1	C	909	ASP
1	C	923	LYS
1	C	938	GLU
1	C	974	SER
1	C	988	LEU
1	C	1028	ARG
1	C	1033	VAL
1	C	1039	ASP
1	C	1042	THR
1	C	1044	LYS
1	C	1155	SER
1	C	1174	MET
1	C	1183	LEU
1	C	1188	SER
1	C	1193	LYS
1	C	1196	ASP
1	C	1252	SER
1	C	1273	ILE
1	C	1297	THR
1	C	1364	GLU
1	C	1367	LYS
1	C	1376	TYR
1	C	1382	SER
1	C	1583	CYS
1	C	1589	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	1607	VAL
1	C	1612	ILE
1	C	1613	SER
1	C	1641	ASP
1	C	1678	CYS
1	C	1709	ASP
1	C	1731	THR
1	C	1739	LEU
1	C	1814	THR
1	C	1840	LEU
1	C	1850	SER
1	C	2072	SER
1	C	2089	ARG
1	C	2106	THR
1	C	2136	GLU
1	C	2201	TYR
1	C	2219	TYR
1	C	2225	SER
1	C	2236	SER
1	C	2292	VAL
1	C	2302	ARG
1	C	2321	ARG
1	C	2343	LEU
1	C	2351	LYS
1	C	2430	ASP
1	C	2484	LEU
1	C	2486	LEU
1	C	2494	ASP
1	C	2506	LEU
1	C	2714	GLU
1	C	2722	LYS
1	C	2751	LYS
1	C	2762	LEU
1	C	2763	SER
1	C	2771	ARG
1	C	2781	MET
1	C	2837	HIS
1	C	2859	LEU
1	C	2875	THR
1	C	2877	THR
1	C	2884	ASP
1	C	2902	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	2903	SER
1	C	3616	VAL
1	C	3818	MET
1	C	3822	GLU
1	C	3852	ASP
1	C	3861	THR
1	C	3865	THR
1	C	3990	VAL
1	C	4034	TYR
1	C	4039	LYS
1	C	4049	LYS
1	C	4073	GLU
1	C	4083	VAL
1	C	4157	THR
1	C	4181	GLU
1	C	4187	LEU
1	C	4509	PHE
1	C	4556	VAL
1	C	4623	ASP
1	C	4632	LEU
1	C	4636	THR
1	C	4658	GLU
1	C	4668	LEU
1	C	4728	SER
1	C	4760	THR
1	C	4767	VAL
1	C	4782	VAL
1	C	4799	ASP
1	C	4900	VAL
1	C	4945	GLU
1	C	4955	ASP
2	I	101	ASP
1	D	75	VAL
1	D	80	GLU
1	D	132	CYS
1	D	140	THR
1	D	141	ASP
1	D	170	SER
1	D	177	VAL
1	D	213	SER
1	D	236	LEU
1	D	237	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	246	THR
1	D	269	VAL
1	D	270	HIS
1	D	285	SER
1	D	296	ARG
1	D	299	HIS
1	D	323	ASP
1	D	326	SER
1	D	346	VAL
1	D	358	ASP
1	D	439	LYS
1	D	450	GLU
1	D	468	GLU
1	D	550	GLN
1	D	551	PHE
1	D	556	ASP
1	D	566	GLU
1	D	643	LEU
1	D	652	VAL
1	D	687	THR
1	D	695	VAL
1	D	704	SER
1	D	711	GLU
1	D	713	TRP
1	D	814	LEU
1	D	833	LYS
1	D	850	LEU
1	D	909	ASP
1	D	923	LYS
1	D	938	GLU
1	D	974	SER
1	D	988	LEU
1	D	1028	ARG
1	D	1033	VAL
1	D	1039	ASP
1	D	1042	THR
1	D	1044	LYS
1	D	1155	SER
1	D	1174	MET
1	D	1183	LEU
1	D	1188	SER
1	D	1193	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	1196	ASP
1	D	1252	SER
1	D	1273	ILE
1	D	1297	THR
1	D	1364	GLU
1	D	1367	LYS
1	D	1376	TYR
1	D	1382	SER
1	D	1583	CYS
1	D	1589	VAL
1	D	1607	VAL
1	D	1612	ILE
1	D	1613	SER
1	D	1641	ASP
1	D	1678	CYS
1	D	1681	VAL
1	D	1709	ASP
1	D	1731	THR
1	D	1739	LEU
1	D	1814	THR
1	D	1840	LEU
1	D	1850	SER
1	D	2072	SER
1	D	2089	ARG
1	D	2106	THR
1	D	2136	GLU
1	D	2201	TYR
1	D	2219	TYR
1	D	2225	SER
1	D	2236	SER
1	D	2292	VAL
1	D	2302	ARG
1	D	2321	ARG
1	D	2343	LEU
1	D	2351	LYS
1	D	2430	ASP
1	D	2484	LEU
1	D	2486	LEU
1	D	2494	ASP
1	D	2506	LEU
1	D	2714	GLU
1	D	2722	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	2751	LYS
1	D	2762	LEU
1	D	2763	SER
1	D	2771	ARG
1	D	2781	MET
1	D	2837	HIS
1	D	2859	LEU
1	D	2875	THR
1	D	2877	THR
1	D	2884	ASP
1	D	2902	VAL
1	D	2903	SER
1	D	3616	VAL
1	D	3818	MET
1	D	3822	GLU
1	D	3852	ASP
1	D	3861	THR
1	D	3865	THR
1	D	3990	VAL
1	D	4034	TYR
1	D	4039	LYS
1	D	4049	LYS
1	D	4073	GLU
1	D	4083	VAL
1	D	4157	THR
1	D	4181	GLU
1	D	4187	LEU
1	D	4509	PHE
1	D	4556	VAL
1	D	4623	ASP
1	D	4632	LEU
1	D	4636	THR
1	D	4658	GLU
1	D	4668	LEU
1	D	4728	SER
1	D	4760	THR
1	D	4767	VAL
1	D	4782	VAL
1	D	4799	ASP
1	D	4900	VAL
1	D	4945	GLU
1	D	4955	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	J	101	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (177) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	123	HIS
1	A	202	HIS
1	A	293	GLN
1	A	544	ASN
1	A	550	GLN
1	A	593	HIS
1	A	629	GLN
1	A	658	ASN
1	A	669	GLN
1	A	808	HIS
1	A	888	ASN
1	A	934	GLN
1	A	971	GLN
1	A	1046	ASN
1	A	1178	ASN
1	A	1233	GLN
1	A	1265	HIS
1	A	1371	ASN
1	A	1588	HIS
1	A	1616	GLN
1	A	1655	HIS
1	A	1685	GLN
1	A	1744	ASN
1	A	1944	ASN
1	A	2090	GLN
1	A	2150	ASN
1	A	2151	ASN
1	A	2274	GLN
1	A	2290	ASN
1	A	2317	ASN
1	A	2385	ASN
1	A	2480	GLN
1	A	2726	HIS
1	A	3952	HIS
1	A	3954	GLN
1	A	3974	GLN
1	A	4008	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	4200	GLN
1	A	4491	ASN
1	A	4496	ASN
1	A	4619	GLN
2	G	26	HIS
2	G	32	GLN
2	G	88	HIS
1	B	123	HIS
1	B	202	HIS
1	B	293	GLN
1	B	544	ASN
1	B	550	GLN
1	B	593	HIS
1	B	629	GLN
1	B	658	ASN
1	B	669	GLN
1	B	808	HIS
1	B	888	ASN
1	B	934	GLN
1	B	971	GLN
1	B	1046	ASN
1	B	1178	ASN
1	B	1233	GLN
1	B	1265	HIS
1	B	1371	ASN
1	B	1588	HIS
1	B	1616	GLN
1	B	1655	HIS
1	B	1685	GLN
1	B	1744	ASN
1	B	1944	ASN
1	B	2090	GLN
1	B	2150	ASN
1	B	2151	ASN
1	B	2274	GLN
1	B	2290	ASN
1	B	2317	ASN
1	B	2385	ASN
1	B	2480	GLN
1	B	2726	HIS
1	B	3952	HIS
1	B	3954	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	3974	GLN
1	B	4008	ASN
1	B	4200	GLN
1	B	4491	ASN
1	B	4496	ASN
1	B	4619	GLN
2	H	26	HIS
2	H	32	GLN
2	H	88	HIS
1	C	123	HIS
1	C	202	HIS
1	C	293	GLN
1	C	544	ASN
1	C	550	GLN
1	C	593	HIS
1	C	629	GLN
1	C	658	ASN
1	C	669	GLN
1	C	808	HIS
1	C	888	ASN
1	C	934	GLN
1	C	971	GLN
1	C	1046	ASN
1	C	1178	ASN
1	C	1233	GLN
1	C	1265	HIS
1	C	1371	ASN
1	C	1588	HIS
1	C	1616	GLN
1	C	1655	HIS
1	C	1685	GLN
1	C	1744	ASN
1	C	1944	ASN
1	C	2090	GLN
1	C	2150	ASN
1	C	2151	ASN
1	C	2274	GLN
1	C	2290	ASN
1	C	2317	ASN
1	C	2385	ASN
1	C	2480	GLN
1	C	2726	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	3952	HIS
1	C	3954	GLN
1	C	3974	GLN
1	C	4008	ASN
1	C	4200	GLN
1	C	4491	ASN
1	C	4496	ASN
1	C	4619	GLN
1	C	4786	ASN
2	I	26	HIS
2	I	32	GLN
2	I	88	HIS
1	D	123	HIS
1	D	202	HIS
1	D	293	GLN
1	D	544	ASN
1	D	550	GLN
1	D	593	HIS
1	D	629	GLN
1	D	658	ASN
1	D	669	GLN
1	D	808	HIS
1	D	888	ASN
1	D	934	GLN
1	D	971	GLN
1	D	1046	ASN
1	D	1178	ASN
1	D	1233	GLN
1	D	1265	HIS
1	D	1371	ASN
1	D	1588	HIS
1	D	1616	GLN
1	D	1655	HIS
1	D	1685	GLN
1	D	1744	ASN
1	D	1944	ASN
1	D	2090	GLN
1	D	2150	ASN
1	D	2151	ASN
1	D	2274	GLN
1	D	2290	ASN
1	D	2317	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	D	2385	ASN
1	D	2480	GLN
1	D	2726	HIS
1	D	3952	HIS
1	D	3954	GLN
1	D	3974	GLN
1	D	4008	ASN
1	D	4200	GLN
1	D	4491	ASN
1	D	4496	ASN
1	D	4619	GLN
2	J	26	HIS
2	J	32	GLN
2	J	88	HIS

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 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

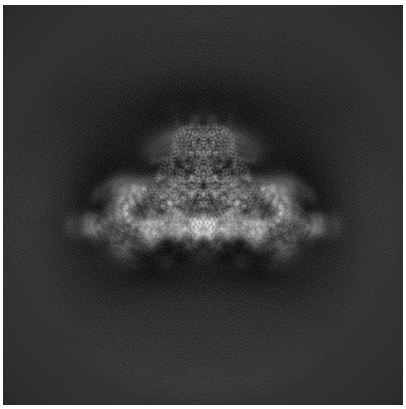
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-33936. These allow visual inspection of the internal detail of the map and identification of artifacts.

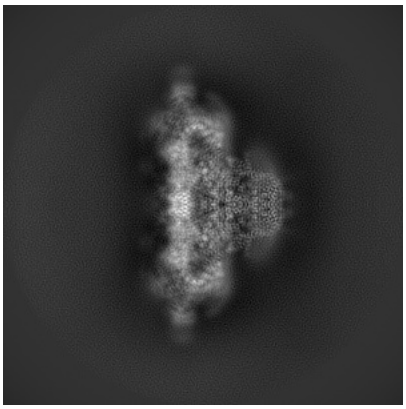
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

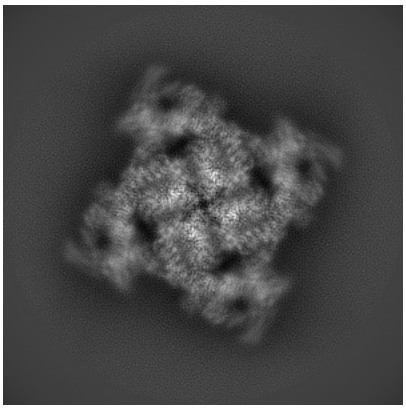
6.1.1 Primary map



X

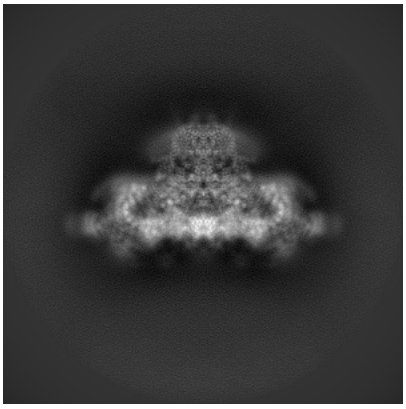


Y

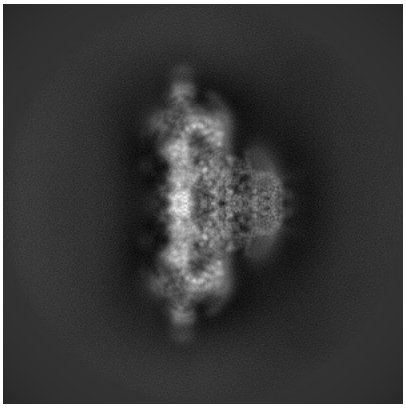


Z

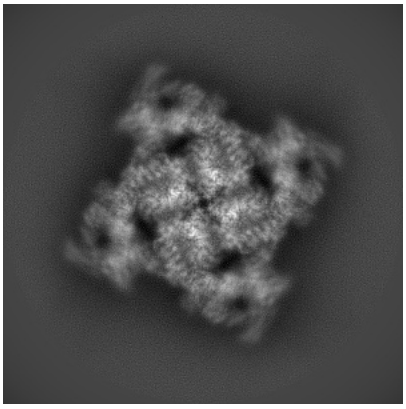
6.1.2 Raw map



X



Y

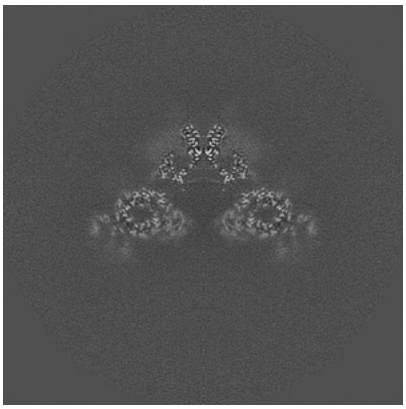


Z

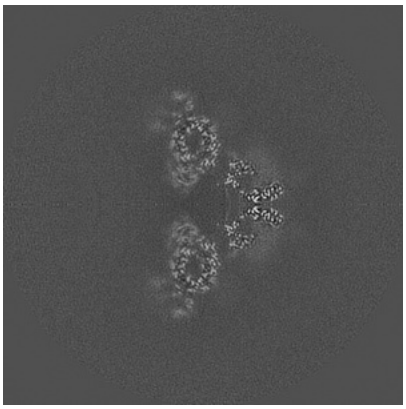
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

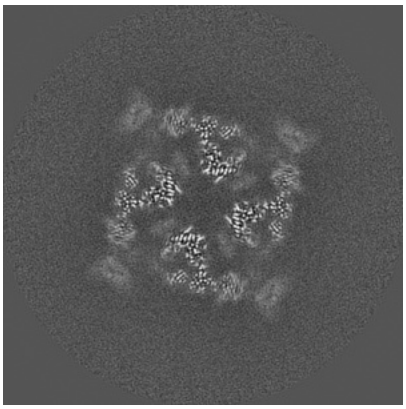
6.2.1 Primary map



X Index: 200

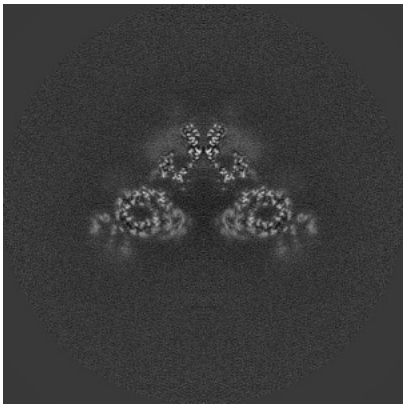


Y Index: 200

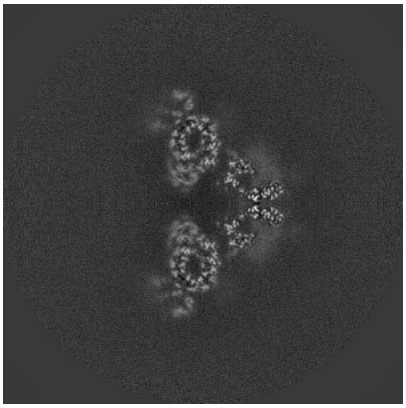


Z Index: 200

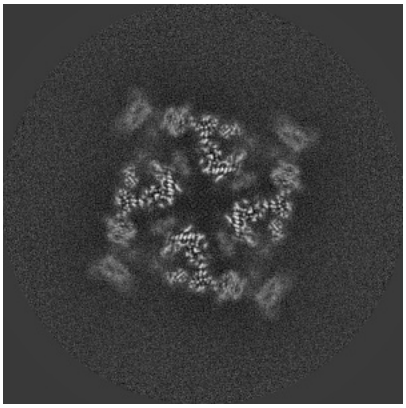
6.2.2 Raw map



X Index: 200



Y Index: 200

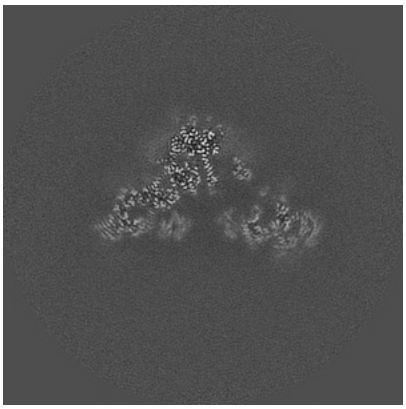


Z Index: 200

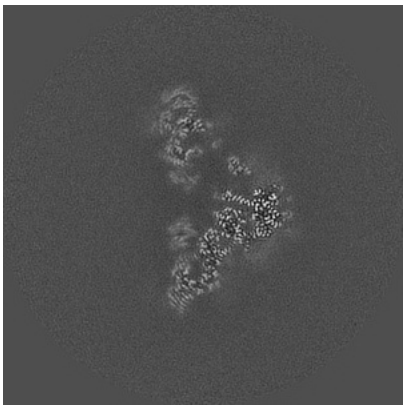
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

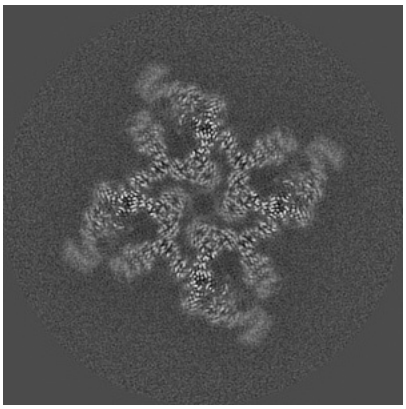
6.3.1 Primary map



X Index: 193

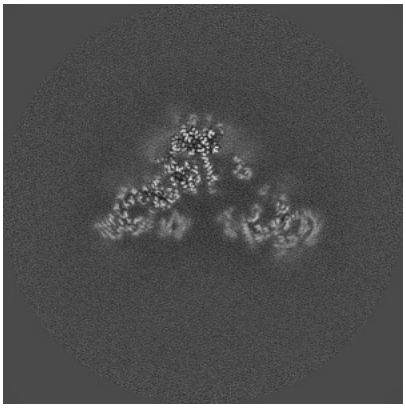


Y Index: 207

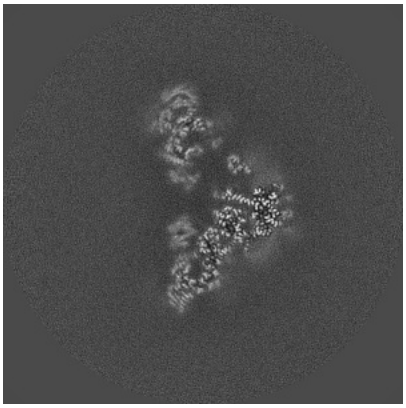


Z Index: 180

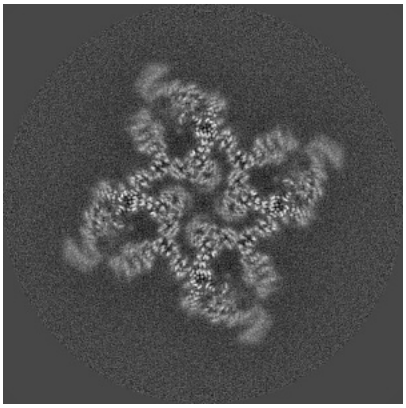
6.3.2 Raw map



X Index: 193



Y Index: 207

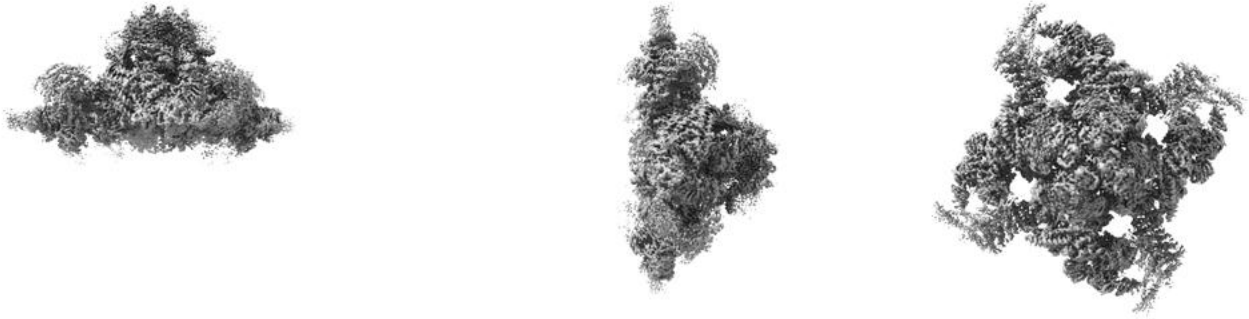


Z Index: 180

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

6.4 Orthogonal surface views (i)

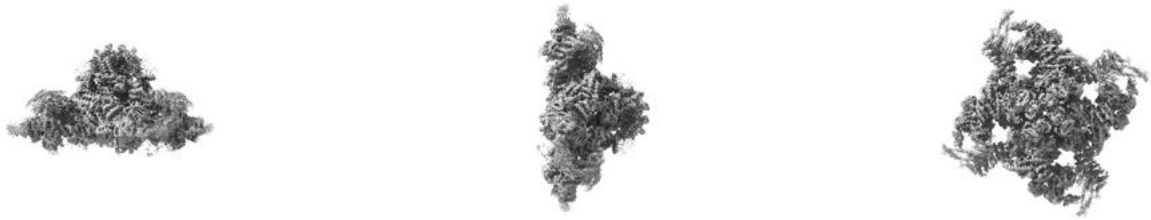
6.4.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.019. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

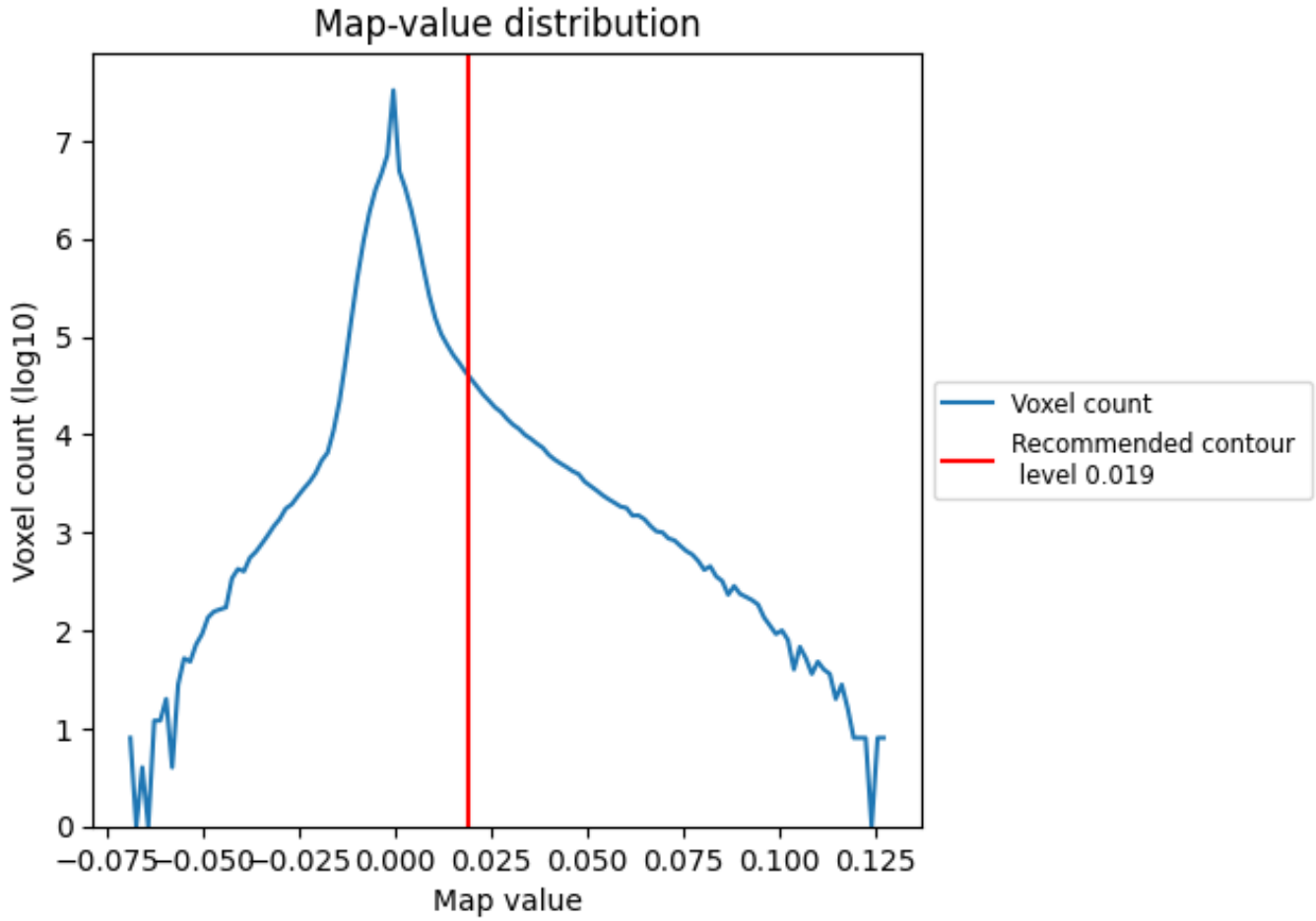
6.5 Mask visualisation (i)

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

7 Map analysis

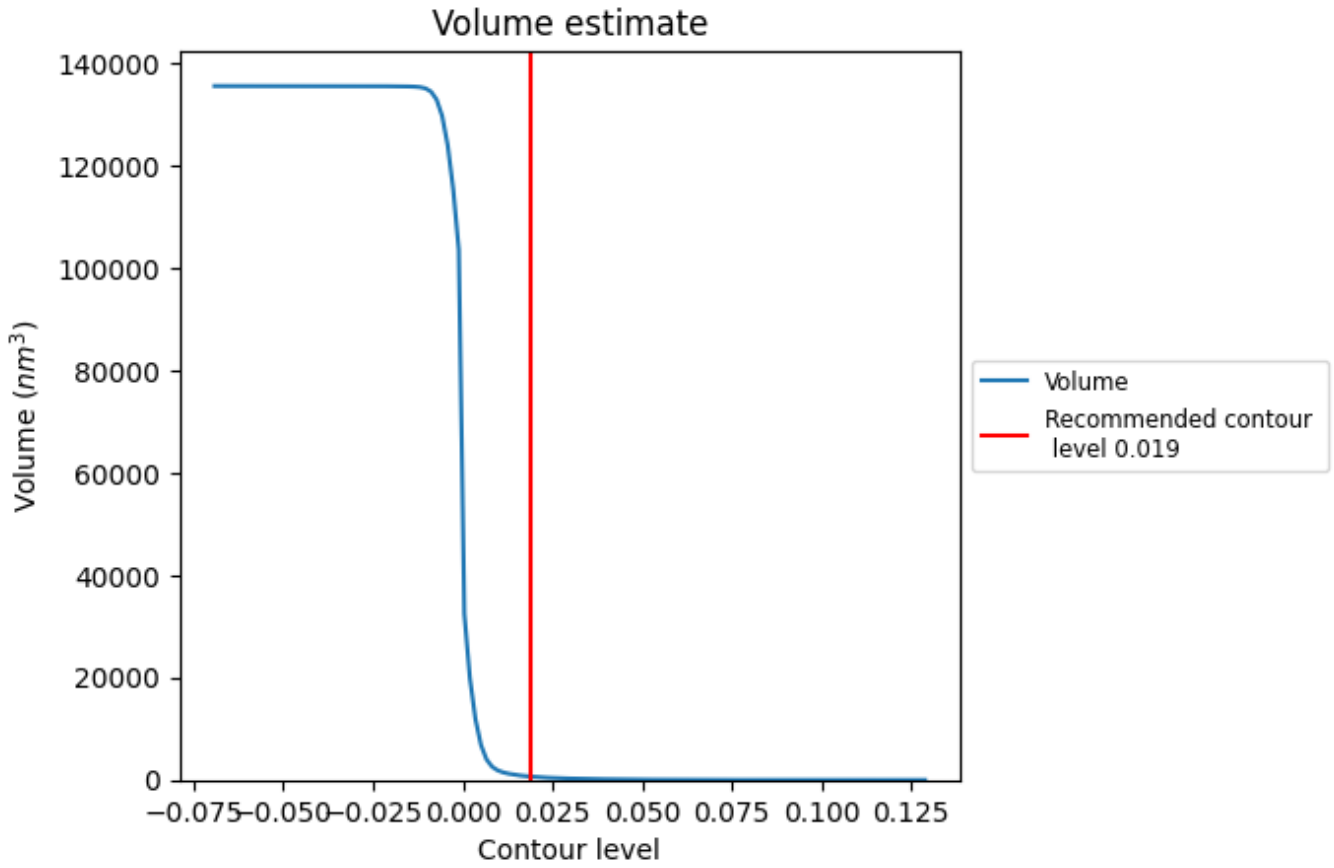
This section contains the results of statistical analysis of the map.

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.

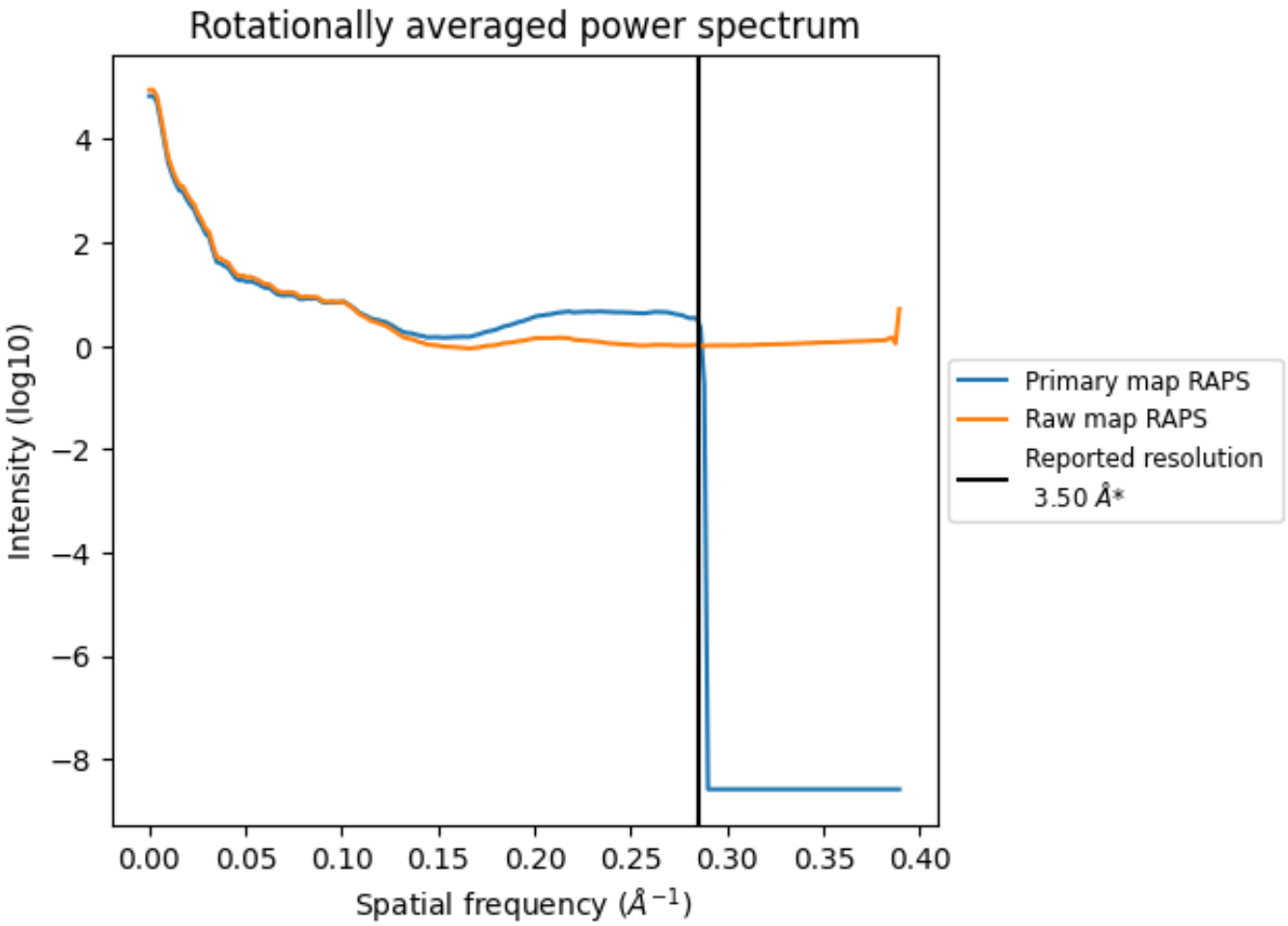
7.2 Volume estimate



The volume at the recommended contour level is 653 nm^3; this corresponds to an approximate mass of 590 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)

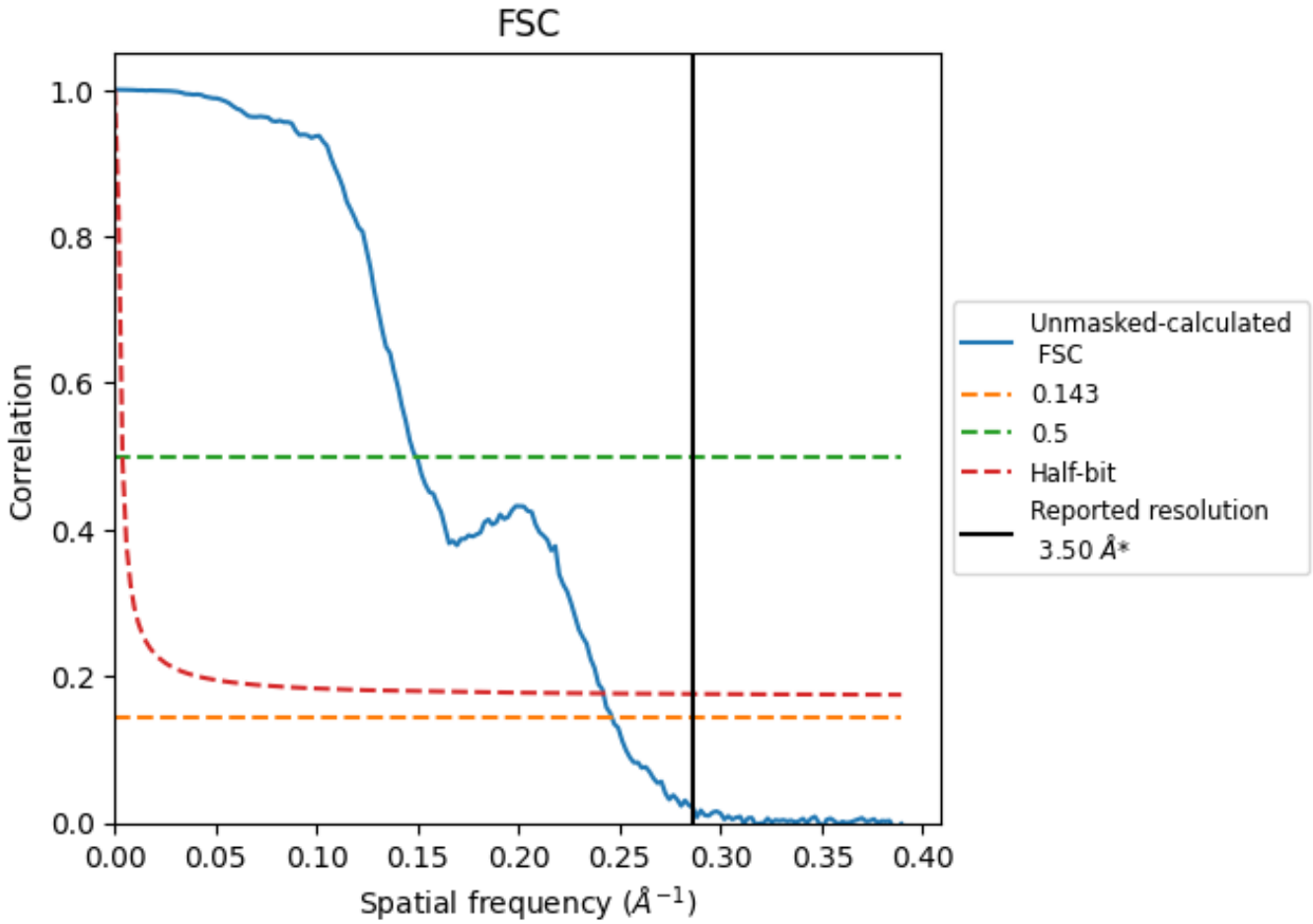


*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

8.2 Resolution estimates (i)

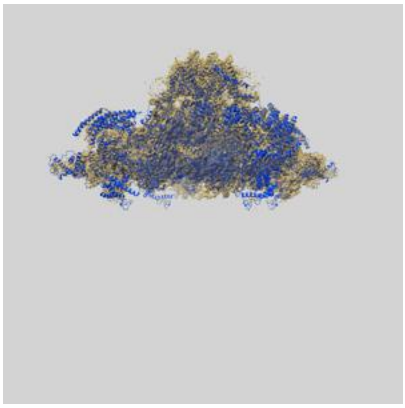
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.06	6.71	4.13

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.06 differs from the reported value 3.5 by more than 10 %

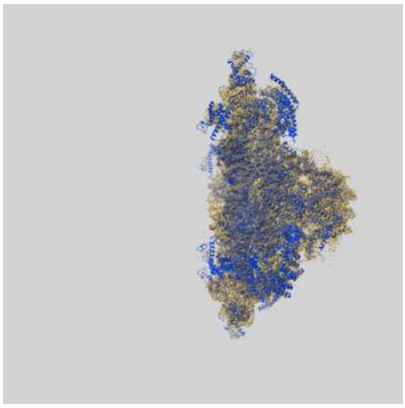
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-33936 and PDB model 7VMM. Per-residue inclusion information can be found in section 3 on page 11.

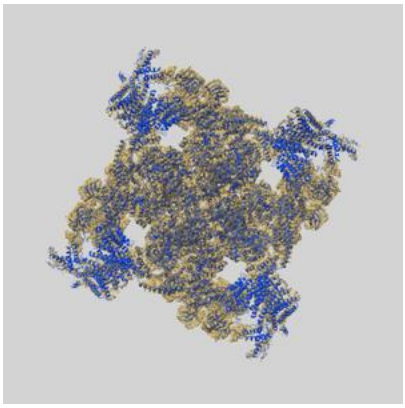
9.1 Map-model overlay



X



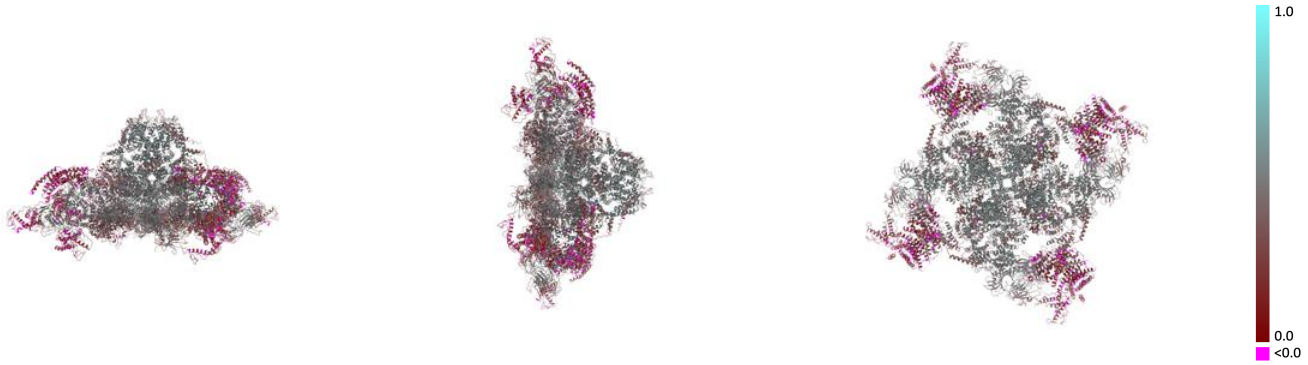
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.019 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.

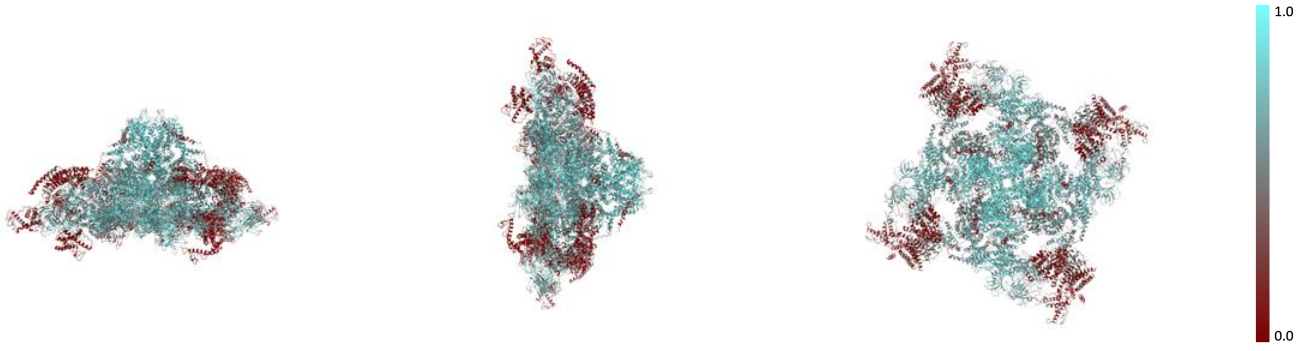
9.2 Q-score mapped to coordinate model



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.

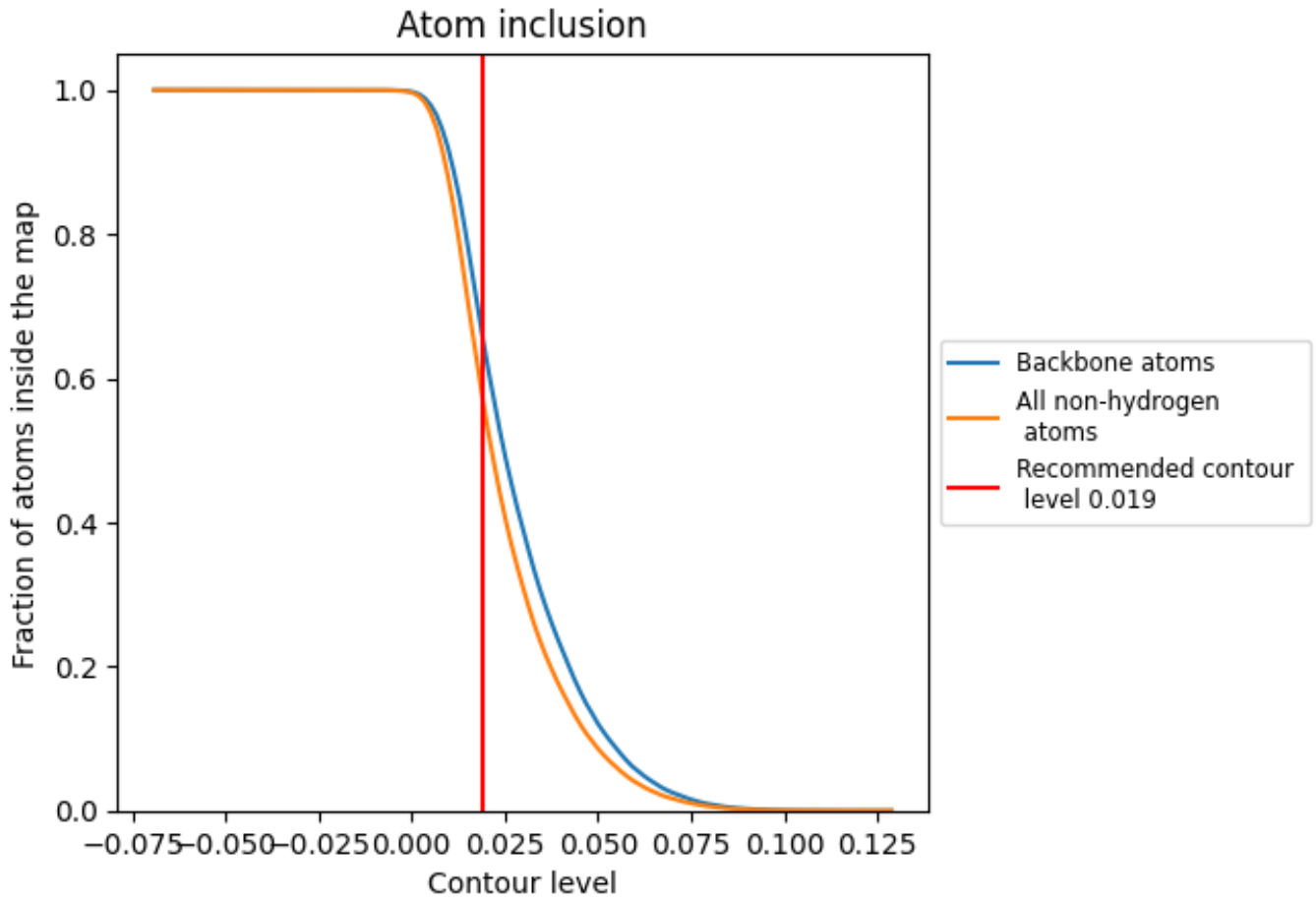
9.3 Atom inclusion mapped to coordinate model



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 (0.019).

9.4 Atom inclusion (i)



At the recommended contour level, 66% of all backbone atoms, 57% 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 (0.019) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5732	0.3810
A	0.5696	0.3790
B	0.5715	0.3820
C	0.5706	0.3780
D	0.5686	0.3760
G	0.6853	0.4520
H	0.6914	0.4520
I	0.6815	0.4520
J	0.6877	0.4520