Full wwPDB EM Validation Report

Dec 8, 2025 – 01:40 PM JST

PDB ID	:	9KN6 / pdb_00009kn6
EMDB ID	:	EMD-62454
Title	:	Structure of the HCV IRES-dependent pre-48S translation initiation complex with eIF1A, eIF5B, and eIF3
Authors	:	Iwasaki, W.; Kashiwagi, K.; Sakamoto, A.; Nishimoto, M.; Takahashi, M.; Machida, K.; Imataka, H.; Matsumoto, A.; Shichino, Y.; Iwasaki, S.; Imami, K.; Ito, T.
Deposited on	:	2024-11-18
Resolution	:	3.30 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:

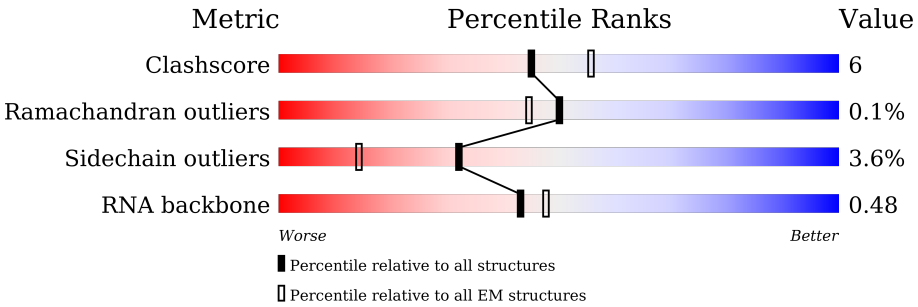
EMDB validation analysis	:	0.0.1.dev129
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

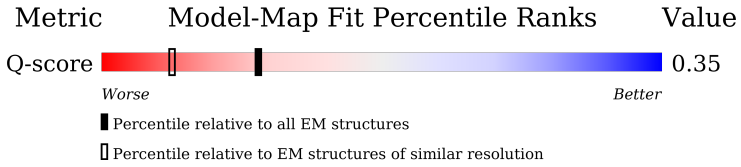
1 Overall quality at a glance

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

The reported resolution of this entry is 3.30 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	15087 (2.80 - 3.80)

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	1A	144	58% 10% 32%
2	5B	621	72% 26% •

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Mol	Chain	Length	Quality of chain
3	SA	295	60% 13% 27%
4	SB	264	67% 13% 20%
5	SC	293	66% 9% 25%
6	SD	243	77% 15% 7%
7	SE	263	87% 11%
8	SF	204	81% 13% 6%
9	SG	249	77% 18% 5%
10	SH	194	78% 18%
11	SI	208	87% 10%
12	SJ	194	77% 15% 7%
13	SK	165	45% 12% 42%
14	SL	158	78% 16% 5%
15	Sf	132	5% 63% 27% 8%
16	SN	151	85% 14%
17	SO	151	76% 13% 11%
18	SP	145	66% 16% 18%
19	SQ	146	84% 12%
20	SR	135	71% 25%
21	SS	152	80% 13% 6%
22	ST	145	85% 13%
23	SU	119	58% 26% 15%
24	SV	83	84% 14%
25	SW	130	87% 12%
26	SX	143	85% 11%
27	SY	133	74% 19% 7%

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Mol	Chain	Length	Quality of chain
28	SZ	125	45% 13% 40%
29	Sa	115	78% 8% 13%
30	Sb	84	81% 18%
31	Sc	69	71% 19% 10%
32	Sd	56	82% 16%
33	Se	59	78% 10% 12%
34	sh	156	30% 10% 59%
35	Sg	317	76% 21%
36	zy	75	41% 45% 13%
37	Ln	25	96%
38	zz	332	7% 40% 43% 8% 8%
39	S2	1869	61% 29% 6%
40	3m	374	97% 79% 18%
41	3f	357	69% 56% 19% 25%
42	3a	1382	37% 35% 8% 57%
43	3e	445	97% 79% 17%
44	3c	913	56% 50% 10% 41%
45	3h	352	79% 68% 22% 10%
46	3d	548	10% 9% 90%
47	3k	218	99% 89% 10%
48	3l	564	92% 69% 22% 8%

2 Entry composition (i)

There are 51 unique types of molecules in this entry. The entry contains 115376 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 Eukaryotic translation initiation factor 1A, X-chromosomal.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	1A	98	783	494	139	146	4	0	0

- Molecule 2 is a protein called Eukaryotic translation initiation factor 5B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	5B	621	4917	3135	847	913	22	0	0

- Molecule 3 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	SA	216	1705	1083	299	315	8	0	0

- Molecule 4 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	SB	212	1722	1093	308	307	14	0	0

- Molecule 5 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	SC	219	1700	1100	292	298	10	0	0

- Molecule 6 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	SD	226	1756	1119	316	314	7	0	0

- Molecule 7 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	SE	260	Total	C	N	O	S	0	0
			2065	1319	384	354	8		

- Molecule 8 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	SF	192	Total	C	N	O	S	0	0
			1518	948	287	276	7		

- Molecule 9 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	SG	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 10 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	SH	187	Total	C	N	O	S	0	0
			1506	961	277	267	1		

- Molecule 11 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	SI	205	Total	C	N	O	S	0	0
			1682	1056	331	290	5		

- Molecule 12 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	SJ	180	Total	C	N	O	S	0	0
			1499	955	300	242	2		

- Molecule 13 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	SK	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 14 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	SL	150	Total	C	N	O	S	0	0
			1220	776	228	210	6		

- Molecule 15 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Sf	121	Total	C	N	O	S	0	0
			935	586	165	175	9		

- Molecule 16 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	SN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 17 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	SO	135	Total	C	N	O	S	0	0
			1007	617	198	186	6		

- Molecule 18 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	SP	119	Total	C	N	O	S	0	0
			984	625	187	165	7		

- Molecule 19 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	SQ	140	Total	C	N	O	S	0	0
			1116	710	211	192	3		

- Molecule 20 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	SR	132	Total	C	N	O	S	0	0
			1068	670	199	195	4		

- Molecule 21 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	SS	143	Total	C	N	O	S	0	0
			1184	743	240	200	1		

- Molecule 22 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	ST	142	Total	C	N	O	S	0	0
			1103	691	212	197	3		

- Molecule 23 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	SU	101	Total	C	N	O	S	0	0
			803	504	153	142	4		

- Molecule 24 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SV	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 25 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	SW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 26 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	SX	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 27 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	SY	124	Total	C	N	O	S	0	0
			1014	641	198	170	5		

- Molecule 28 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	SZ	75	Total	C	N	O	S	0	0
			601	385	111	104	1		

- Molecule 29 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Sa	100	Total	C	N	O	S	0	0
			803	501	166	131	5		

- Molecule 30 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Sb	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 31 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Sc	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 32 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Sd	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 33 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Se	52	Total	C	N	O	S	0	0
			417	259	92	65	1		

- Molecule 34 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	sh	64	Total	C	N	O	S	0	0
			522	329	99	87	7		

- Molecule 35 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Sg	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 36 is a RNA chain called Initiator Met-tRNA-i.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	zy	75	Total	C	N	O	P	0	0
			1607	717	298	517	75		

- Molecule 37 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ln	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 38 is a RNA chain called HCV-IRES RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	zz	306	Total	C	N	O	P	0	0
			6528	2909	1164	2149	306		

- Molecule 39 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	S2	1759	Total	C	N	O	P	4	0
			37626	16795	6759	12310	1762		

- Molecule 40 is a protein called Eukaryotic translation initiation factor 3 subunit M.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	3m	363	Total	C	N	O	S	0	0
			2639	1666	450	511	12		

- Molecule 41 is a protein called Eukaryotic translation initiation factor 3 subunit F.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	3f	269	Total	C	N	O	S	0	0
			2063	1303	354	394	12		

- Molecule 42 is a protein called Eukaryotic translation initiation factor 3 subunit A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	3a	592	Total	C	N	O	S	0	0
			4470	2835	796	818	21		

- Molecule 43 is a protein called Eukaryotic translation initiation factor 3 subunit E.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	3e	430	Total	C	N	O	S	0	0
			3224	2053	561	594	16		

- Molecule 44 is a protein called Eukaryotic translation initiation factor 3 subunit C.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	3c	543	Total	C	N	O	S	0	0
			3907	2452	716	716	23		

- Molecule 45 is a protein called Eukaryotic translation initiation factor 3 subunit H.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	3h	318	Total	C	N	O	S	0	0
			2520	1599	431	475	15		

- Molecule 46 is a protein called Eukaryotic translation initiation factor 3 subunit D.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	3d	55	Total	C	N	O	S	0	0
			343	220	64	58	1		

- Molecule 47 is a protein called Eukaryotic translation initiation factor 3 subunit K.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	3k	215	Total	C	N	O	S	0	0
			1475	932	251	282	10		

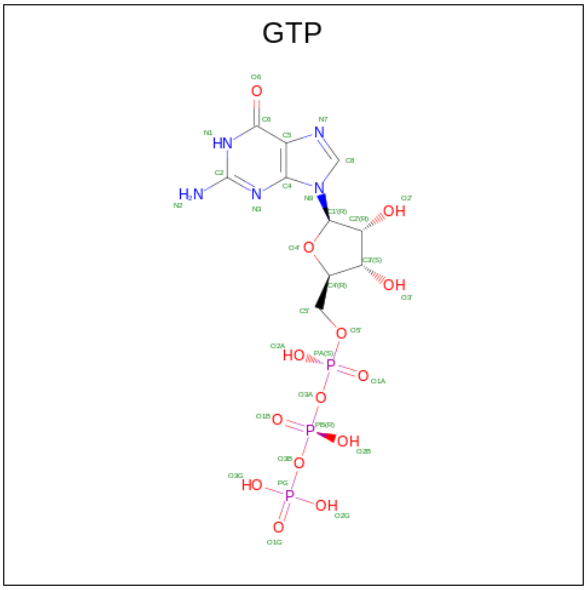
- Molecule 48 is a protein called Eukaryotic translation initiation factor 3 subunit L.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	3l	520	Total	C	N	O	S	0	0
			4335	2808	715	793	19		

- Molecule 49 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
49	5B	1	Total Mg 1 1	0
49	S2	7	Total Mg 7 7	0

- Molecule 50 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	AltConf
50	5B	1	Total C N O P 32 10 5 14 3	0

- Molecule 51 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

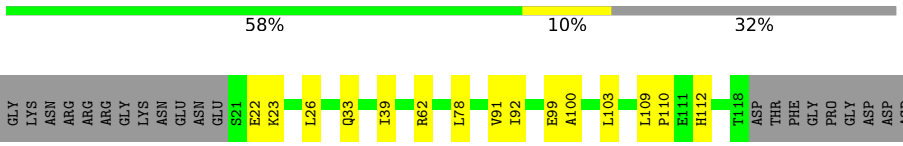
Mol	Chain	Residues	Atoms	AltConf
51	Sa	1	Total Zn 1 1	0
51	sh	1	Total Zn 1 1	0

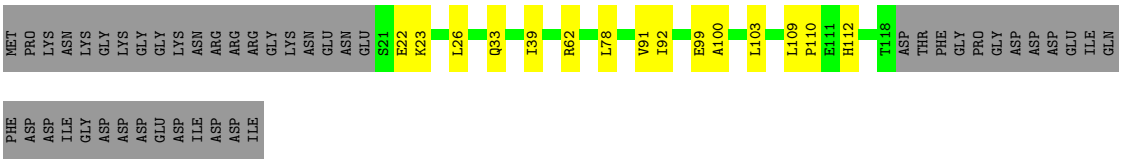
3 Residue-property plots (i)

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: Eukaryotic translation initiation factor 1A, X-chromosomal

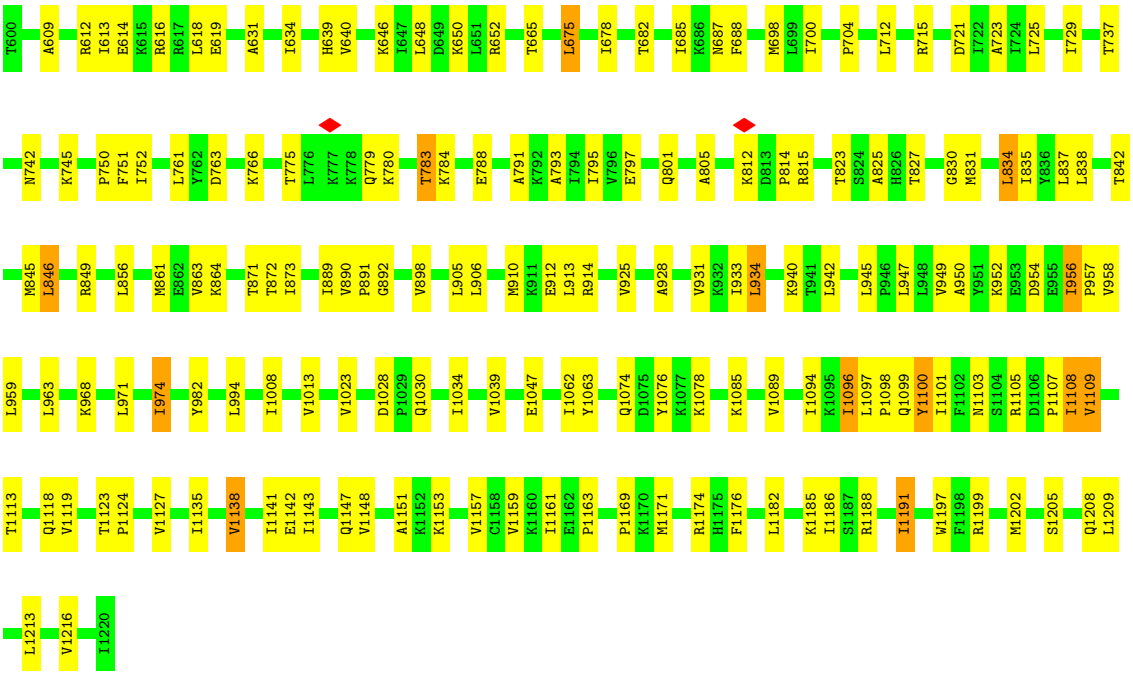
Chain 1A:





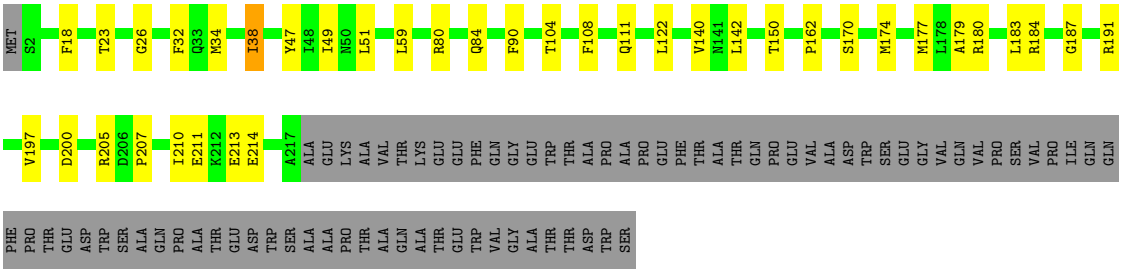
• Molecule 2: Eukaryotic translation initiation factor 5B

Chain 5B:



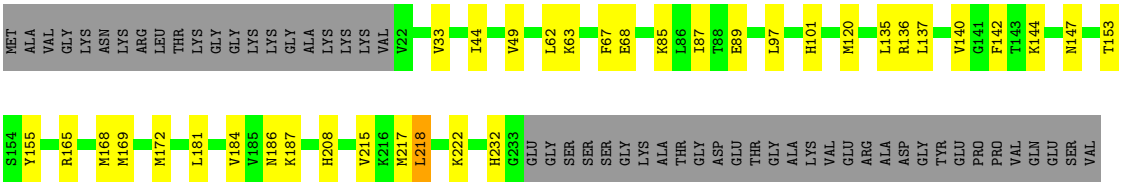
• Molecule 3: Small ribosomal subunit protein uS2

Chain SA:



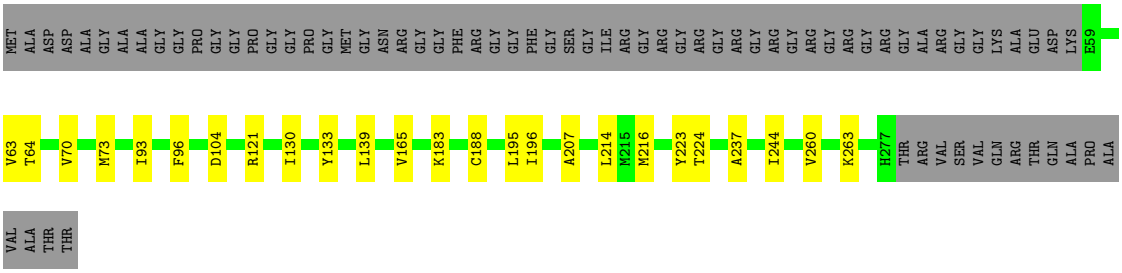
• Molecule 4: 40S ribosomal protein S3a

Chain SB:



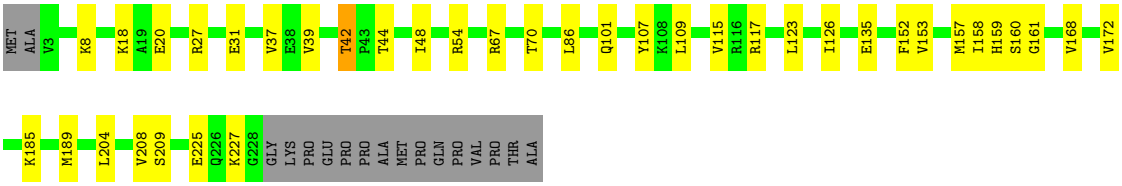
• Molecule 5: 40S ribosomal protein S2

Chain SC:



• Molecule 6: 40S ribosomal protein S3

Chain SD:

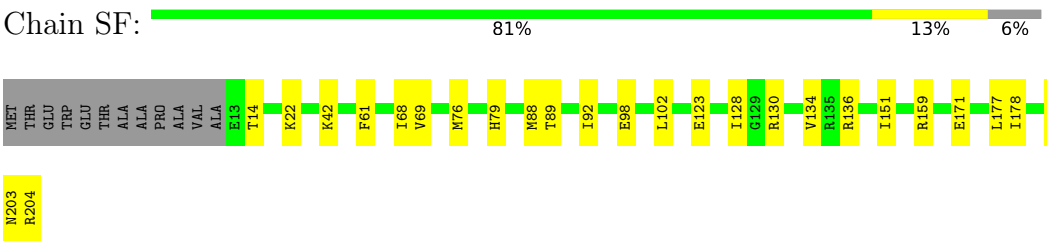


• Molecule 7: 40S ribosomal protein S4, X isoform

Chain SE:

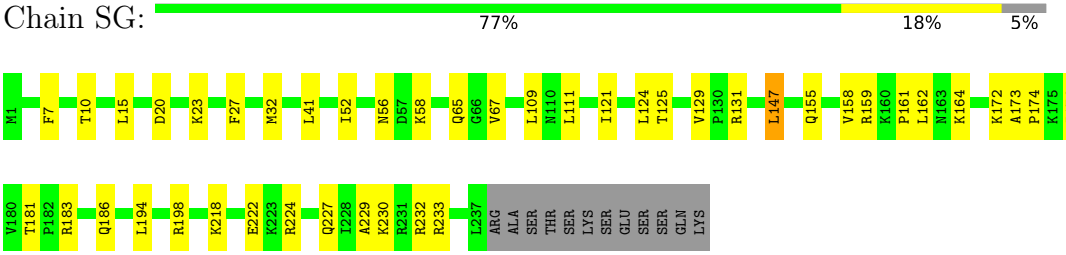
• Molecule 8: 40S ribosomal protein S5

Chain SF:



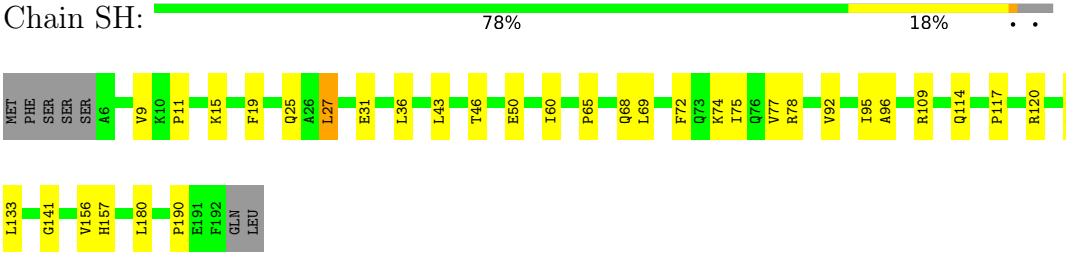
• Molecule 9: 40S ribosomal protein S6

Chain SG:



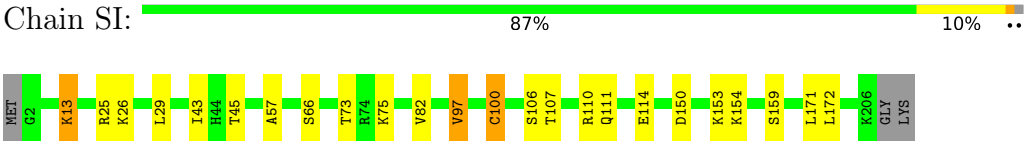
• Molecule 10: 40S ribosomal protein S7

Chain SH:



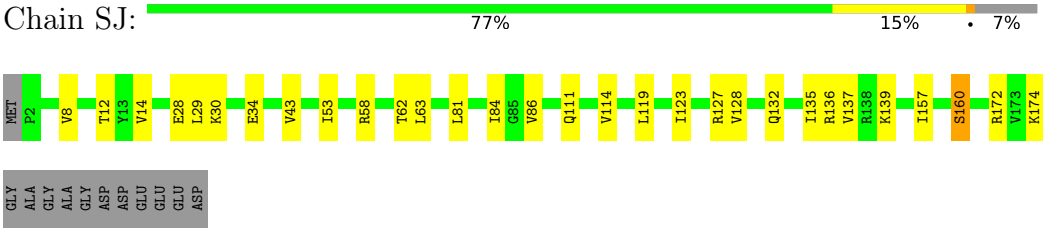
• Molecule 11: 40S ribosomal protein S8

Chain SI:



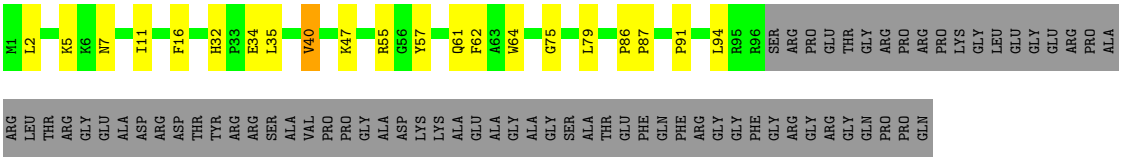
• Molecule 12: 40S ribosomal protein S9

Chain SJ:



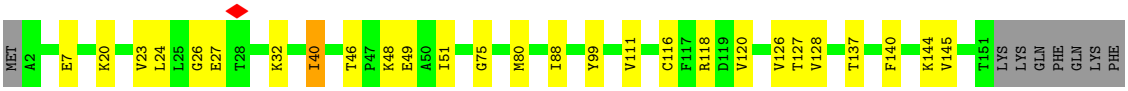
• Molecule 13: 40S ribosomal protein S10

Chain SK:



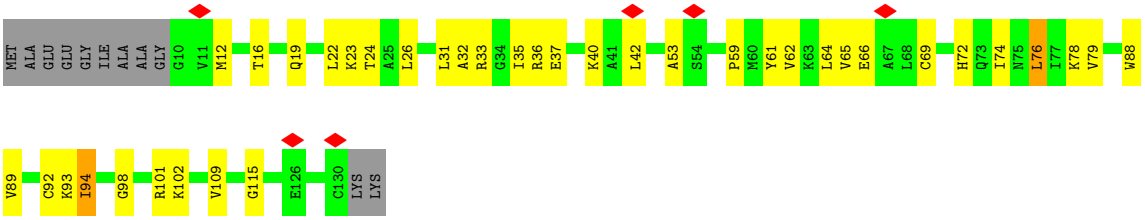
• Molecule 14: 40S ribosomal protein S11

Chain SL:



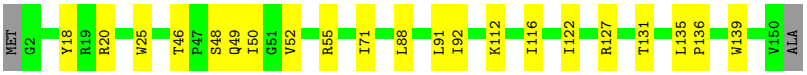
• Molecule 15: 40S ribosomal protein S12

Chain Sf:



• Molecule 16: 40S ribosomal protein S13

Chain SN:

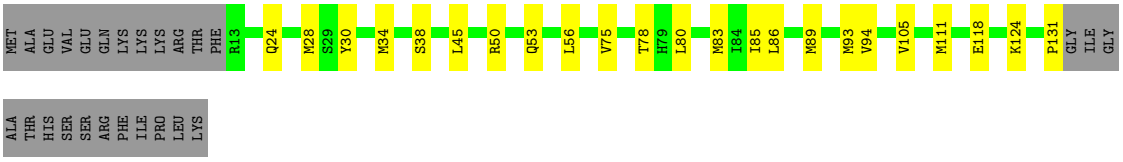


• Molecule 17: 40S ribosomal protein S14

Chain SO:

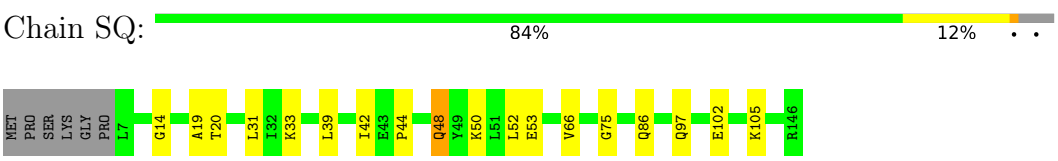
• Molecule 18: 40S ribosomal protein S15

Chain SP:



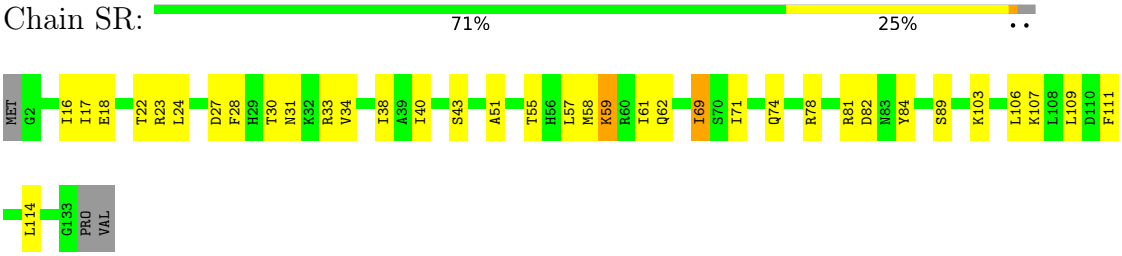
• Molecule 19: 40S ribosomal protein S16

Chain SQ:



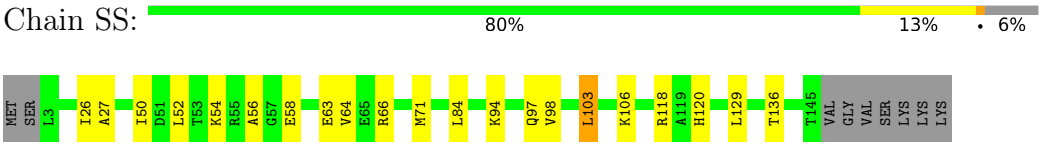
• Molecule 20: 40S ribosomal protein S17

Chain SR:



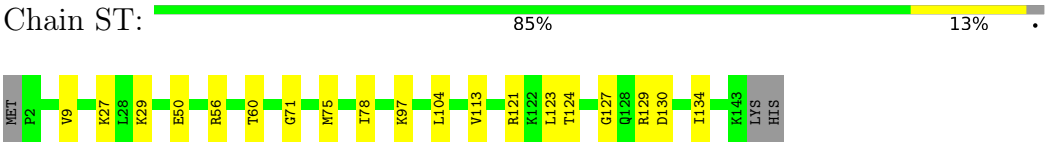
• Molecule 21: 40S ribosomal protein S18

Chain SS:



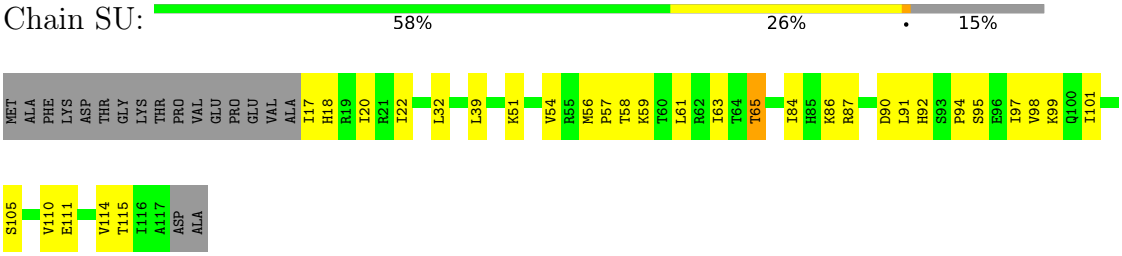
• Molecule 22: 40S ribosomal protein S19

Chain ST:



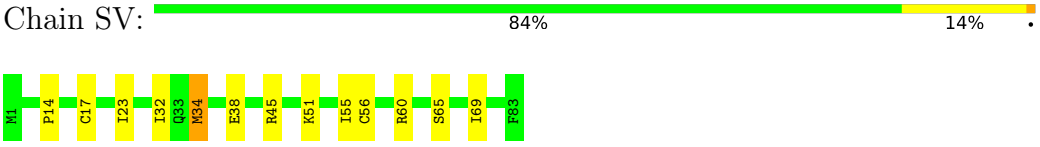
• Molecule 23: 40S ribosomal protein S20

Chain SU:



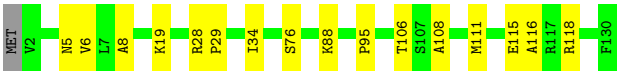
• Molecule 24: 40S ribosomal protein S21

Chain SV:



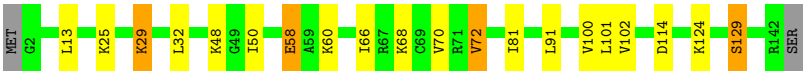
• Molecule 25: 40S ribosomal protein S15a

Chain SW:



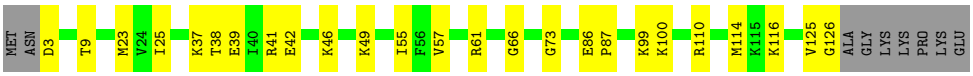
• Molecule 26: 40S ribosomal protein S23

Chain SX:



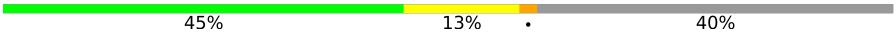
• Molecule 27: 40S ribosomal protein S24

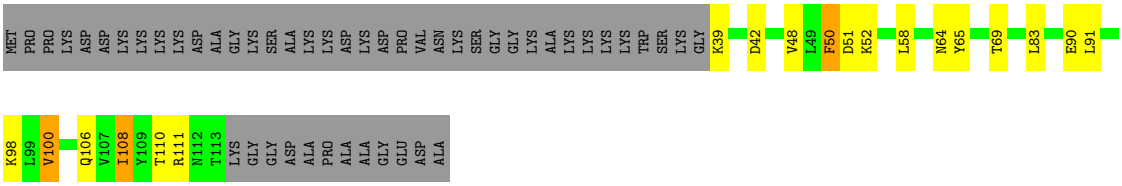
Chain SY:



• Molecule 28: 40S ribosomal protein S25

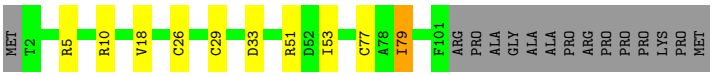
Chain SZ:





• Molecule 29: 40S ribosomal protein S26

Chain Sa:



• Molecule 30: 40S ribosomal protein S27

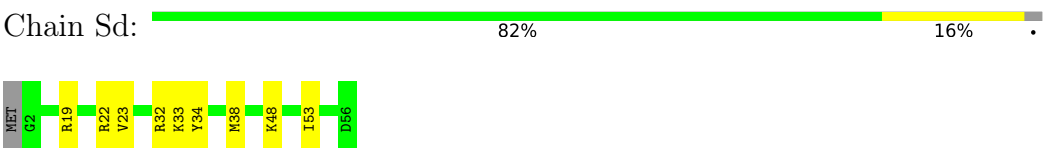
Chain Sb:

• Molecule 31: 40S ribosomal protein S28

Chain Sc:

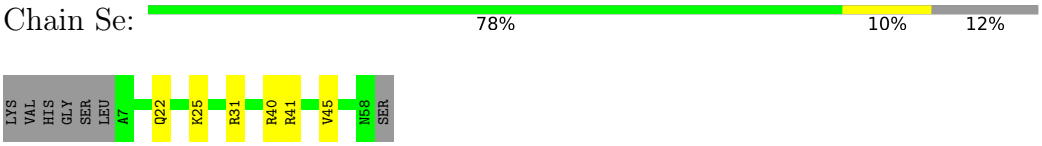
• Molecule 32: 40S ribosomal protein S29

Chain Sd:



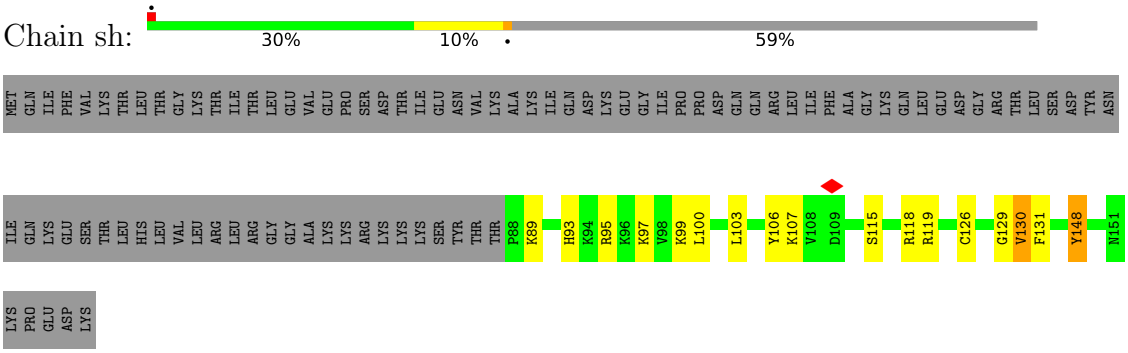
• Molecule 33: 40S ribosomal protein S30

Chain Se:



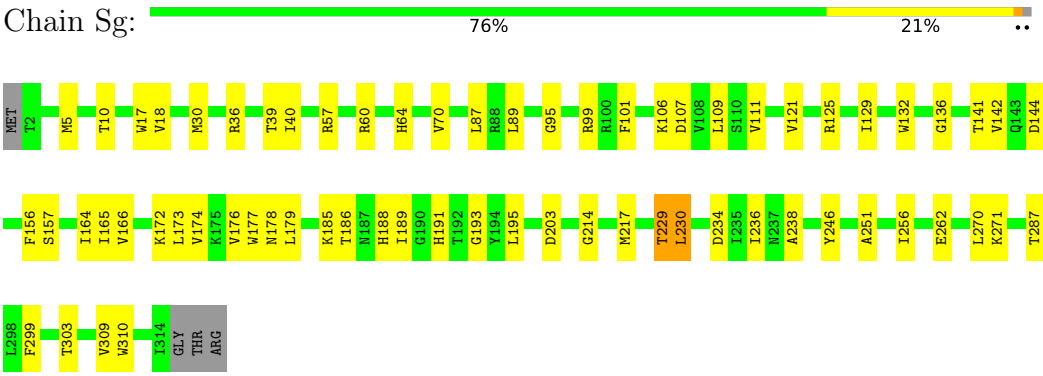
• Molecule 34: Ubiquitin-40S ribosomal protein S27a

Chain sh:



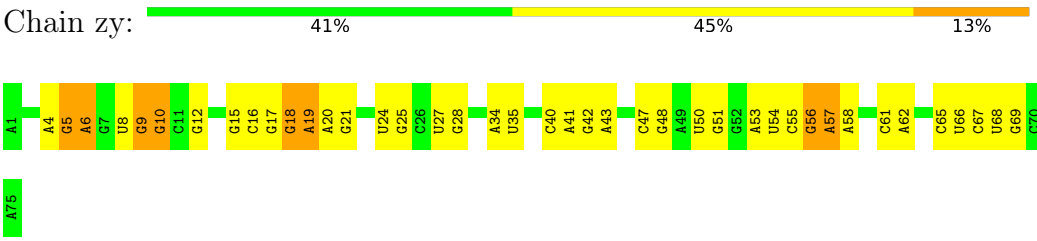
• Molecule 35: Receptor of activated protein C kinase 1

Chain Sg:



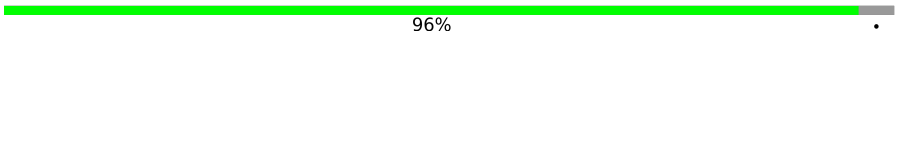
• Molecule 36: Initiator Met-tRNA-i

Chain zy:



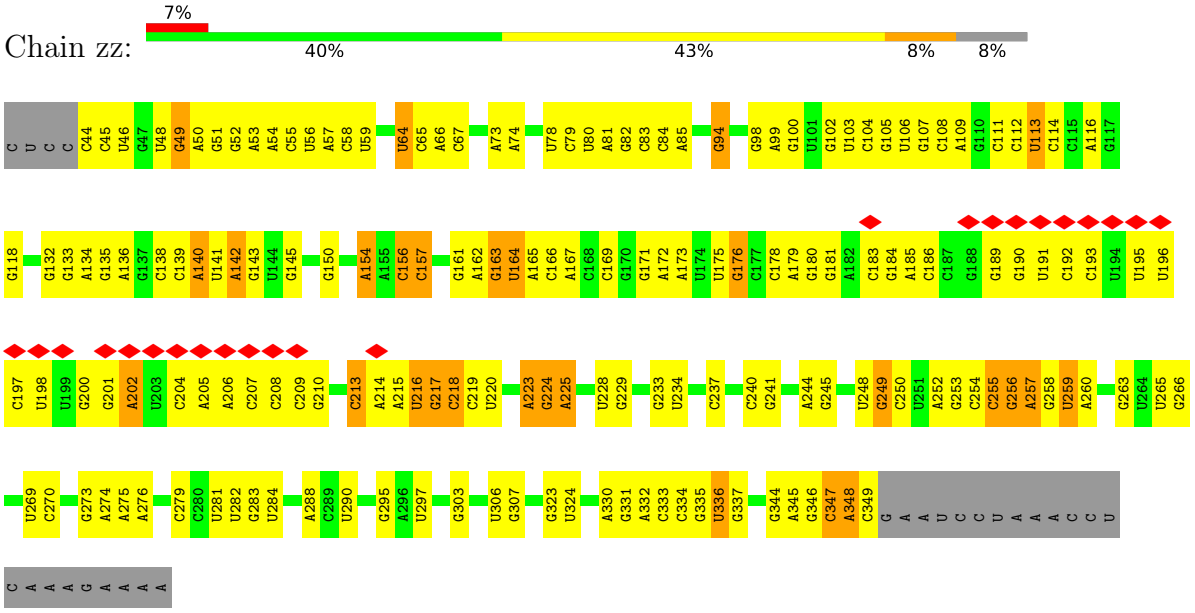
• Molecule 37: 60S ribosomal protein L41

Chain Ln:



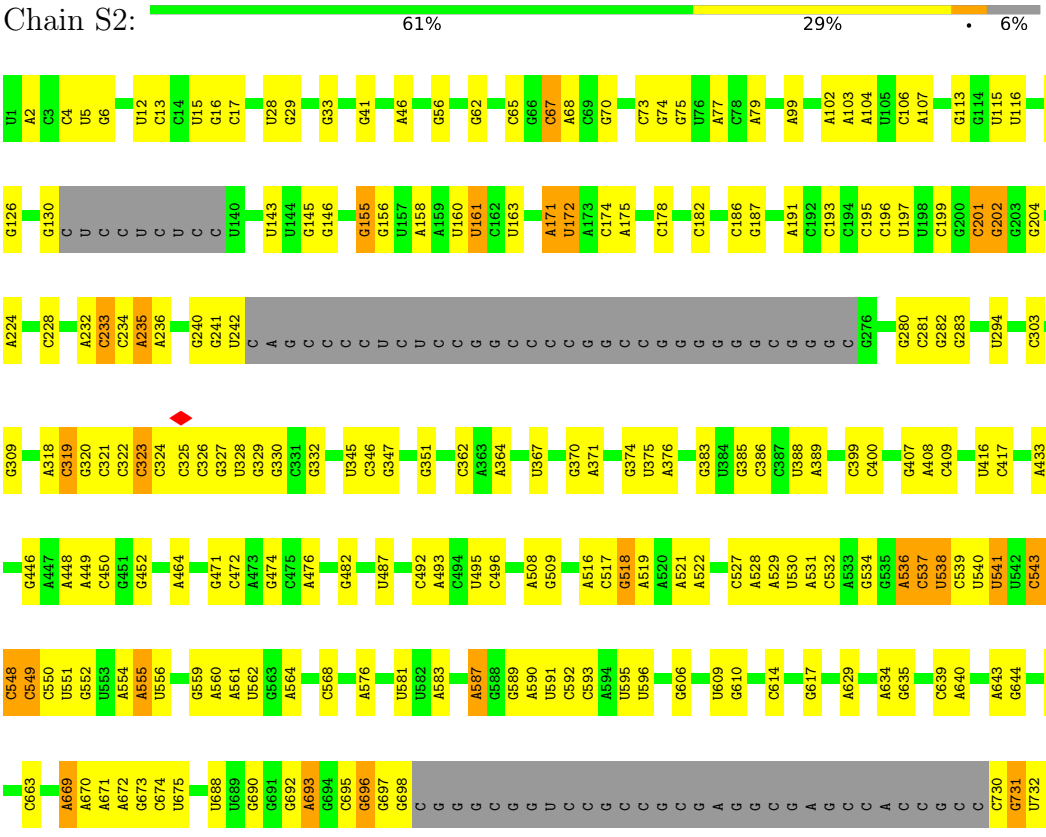
• Molecule 38: HCV-IRES RNA

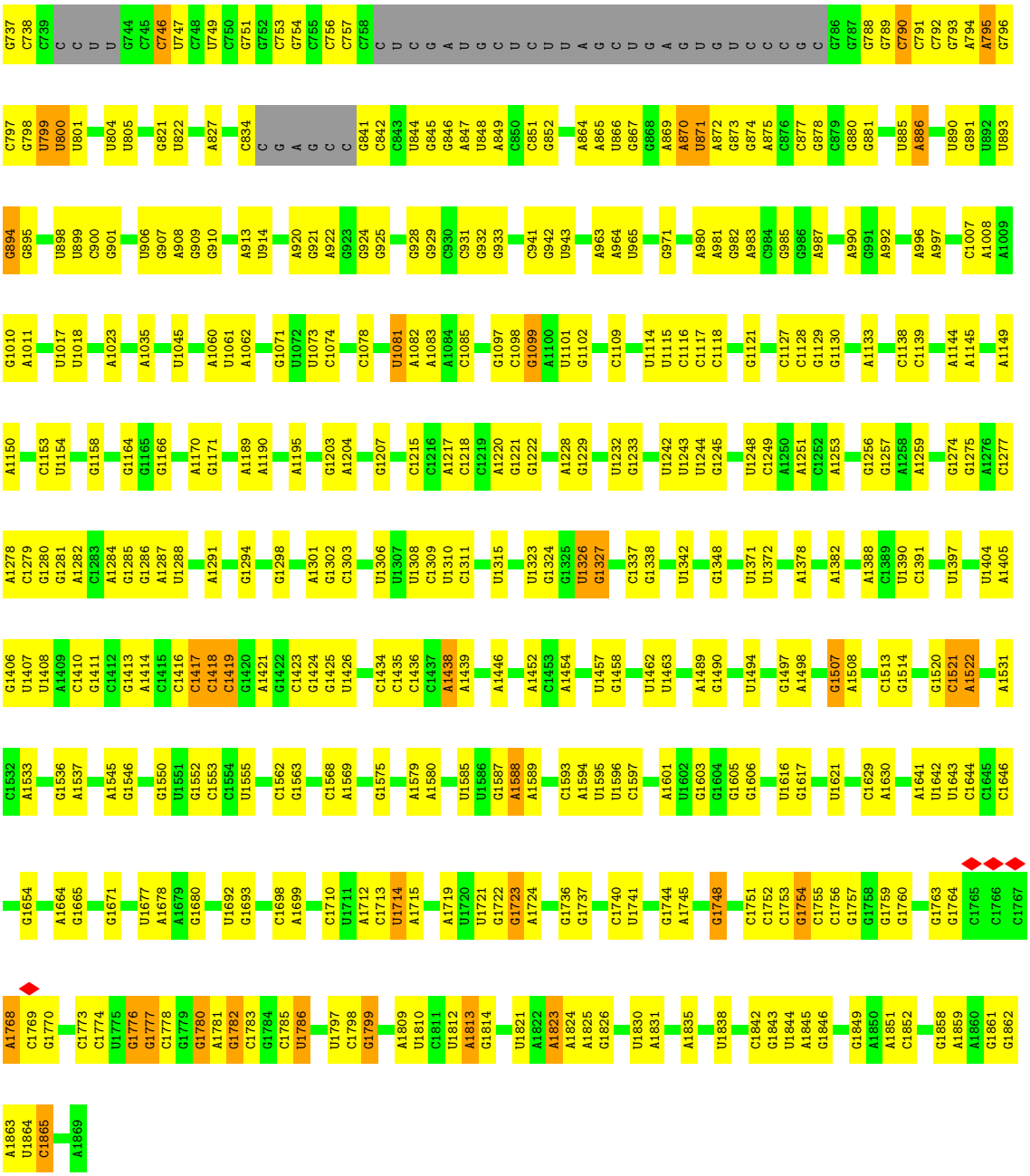
Chain zz:



• Molecule 39: 18S ribosomal RNA

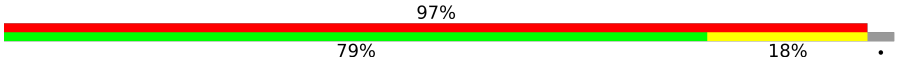
Chain S2:

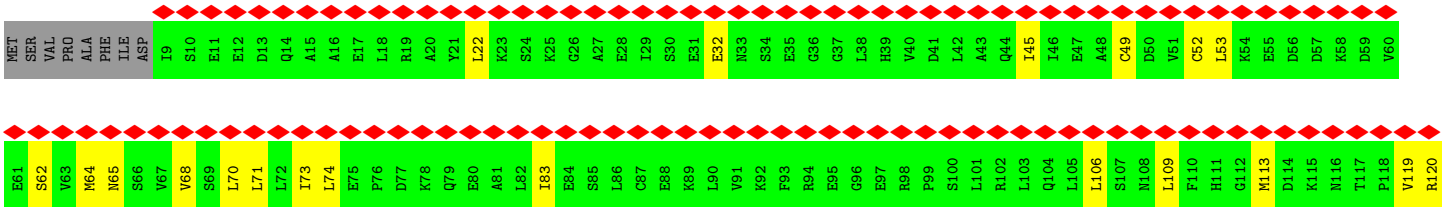




• Molecule 40: Eukaryotic translation initiation factor 3 subunit M

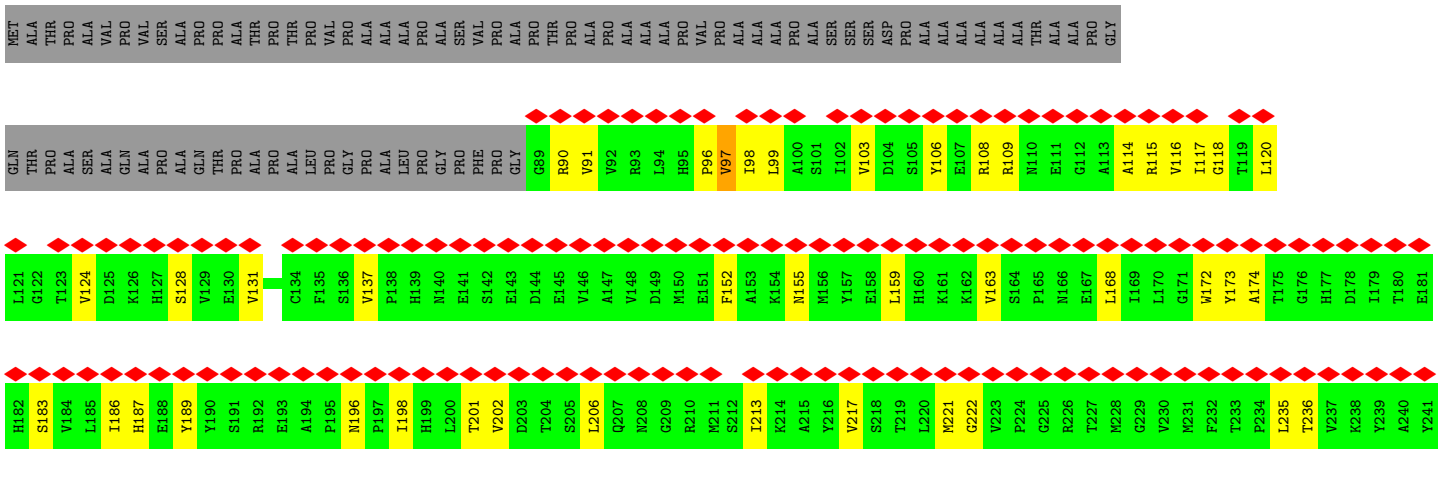
Chain 3m:





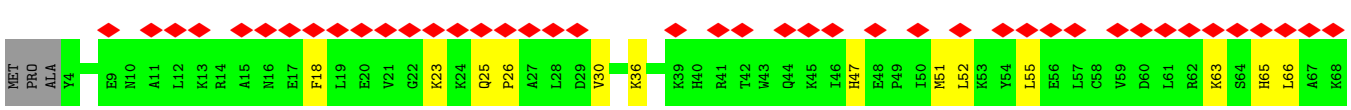
• Molecule 41: Eukaryotic translation initiation factor 3 subunit F

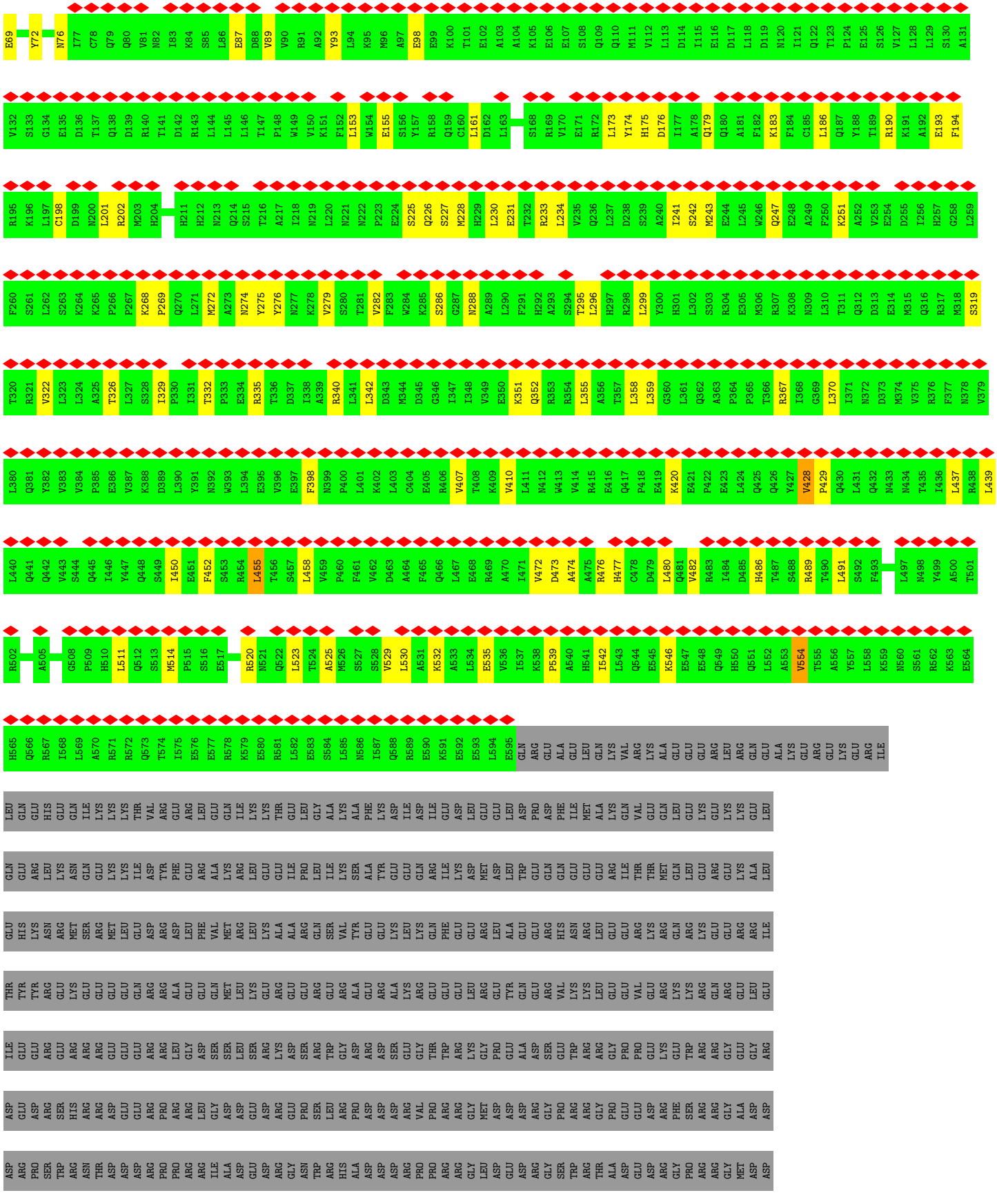
Chain 3f:

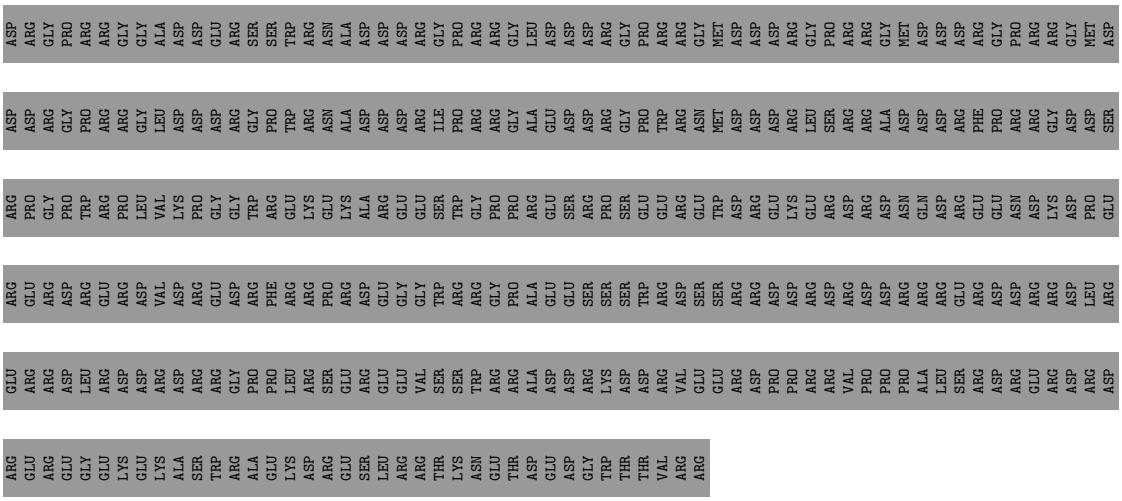


• Molecule 42: Eukaryotic translation initiation factor 3 subunit A

Chain 3a:

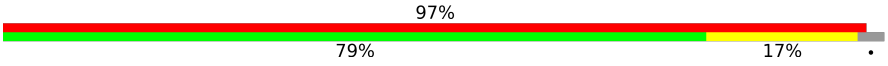


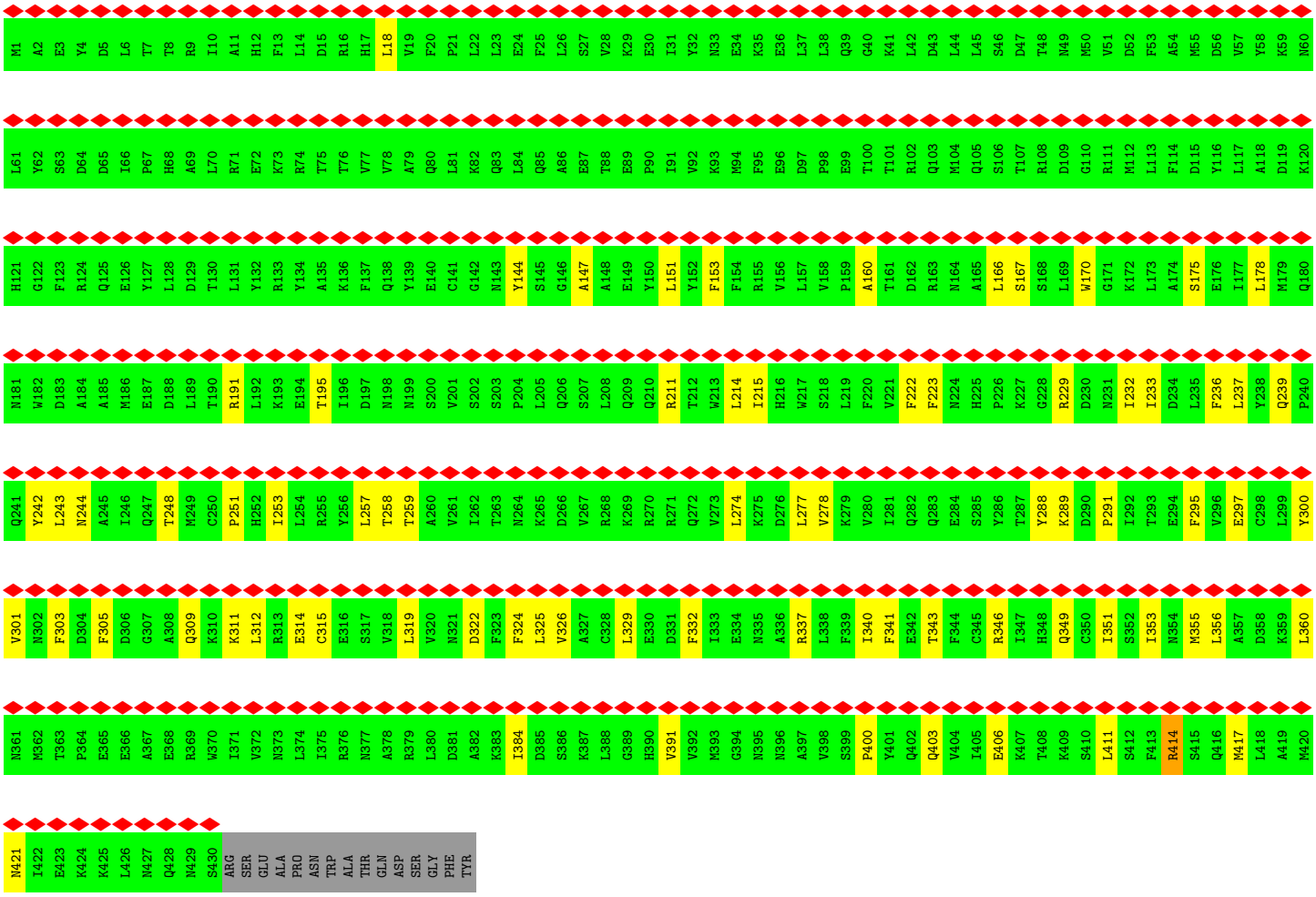

E69 Y72 N76 I77 C78 Q79 Q80 V81 N82 I83 K84 S85 L86 E87 D88 V89 V90 R91 A92 Y93 L94 K95 M96 A97 E98 E99 K100 T101 E102 A103 A104 K105 E106 E107 S108 Q109 Q110 M111 V112 L113 D114 I115 E116 D117 L118 D119 N120 I121 Q122 T123 P124 E125 S126 V127 L128 L129 S130 A131
V132 S133 G134 E135 D136 T137 Q138 D139 R140 T141 D142 R143 L144 L145 L146 T147 P148 W149 V150 K151 F152 L153 W154 E155 S156 Y157 R158 Q159 C160 L161 D162 L163 S168 R169 V170 E171 R172 L173 Y174 H175 D176 I177 A178 Q179 Q180 A181 F182 K183 F184 C185 L186 Q187 Y188 T189 R190 K191 A192 E193 F194
R195 K196 L197 C198 D199 N200 L201 R202 M203 H204 H211 H212 N213 Q214 S215 T216 A217 I218 N219 L220 N221 N222 P223 E224 S225 Q226 S227 M228 H229 L230 E231 T232 R233 L234 V235 Q236 L237 D238 S239 A240 I241 S242 M243 E244 L245 W246 Q247 E248 A249 F250 K251 A252 Y253 E254 D255 I256 H257 G258 L259
P260 S261 L262 S263 K264 K265 P266 P267 K268 P269 Q270 L271 M272 A273 N274 Y275 Y276 N277 K278 V279 S280 T281 V282 F283 W284 K285 S286 G287 N288 A289 L290 F291 H292 A293 S294 T295 L296 H297 R298 L299 Y300 H301 L302 S303 R304 E305 M306 R307 K308 N309 L310 T311 Q312 D313 E314 M315 Q316 R317 M318 S319
T320 R321 V322 L323 L324 A325 T326 L327 S328 I329 P330 I331 T332 P333 E334 R335 T336 D337 I338 A339 R340 L341 L342 D343 M344 D345 G346 I347 I348 V349 E350 K351 Q352 R353 R354 L355 A356 T357 L358 L359 G360 L361 Q362 A363 P364 P365 T366 R367 I368 G369 L370 I371 N372 D373 M374 V375 R376 F377 N378 V379
L380 Q381 Y382 V383 V384 P385 E386 V387 K388 D389 L390 Y391 N392 W393 L394 E395 V396 E397 F398 N399 P400 L401 K402 L403 C404 E405 R406 V407 T408 K409 V410 L411 N412 W413 V414 R415 E416 Q417 P418 E419 K420 E421 P422 E423 L424 Q425 Q426 Y427 V428 P429 Q430 L431 Q432 N433 N434 T435 I436 L437 R438 L439
L440 Q441 Q442 V443 S444 Q445 I446 Y447 Q448 S449 I450 E451 F452 S453 R454 L455 T456 S457 L458 V459 P460 F461 V462 D463 A464 F465 Q466 L467 E468 R469 A470 I471 V472 D473 A474 A475 R476 H477 C478 D479 L480 Q481 V482 R483 I484 D485 H486 T487 S488 R489 T490 L491 S492 F493 L497 N498 Y499 A500 T501
R502 A505 G508 P509 H510 L511 Q512 S513 M514 P515 S516 E517 R520 N521 Q522 L523 T524 A525 M526 S527 S528 V529 L530 A531 K532 A533 L534 E535 V536 I537 K538 P539 A540 H541 I542 L543 Q544 E545 K546 E547 E548 Q549 H550 Q551 L552 A553 V554 T555 A556 Y557 L558 K559 N560 S561 R562 K563 E564
H565 Q566 R567 I568 L569 A570 R571 R572 Q573 T574 I575 E576 E577 R578 K579 E580 R581 L582 E583 S584 L585 N586 I587 Q588 R589 E590 K591 E592 E593 L594 E595 GLN ARG GLU ALA GLU LEU GLN LYS VAL ARG LYS ALA GLU GLU GLU ARG LEU ARG GLN GLU ALA LYS GLU ARG GLU LYS GLU ARG ILE
LEU GLN GLU HIS GLU GLN ILE LYS LYS LYS THR VAL ARG GLU ARG LEU GLU GLU GLN ILE LYS LYS THR GLU GLU LEU GLY ALA ALA LYS ASP ILE ASP ILE GLU GLU ASP LEU GLU GLU LEU ASP PRO ASP PHE ILE MET ALA LYS GLN VAL GLU GLN LEU GLU LEU LYS GLU GLY LYS LYS GLU LEU
GLN GLU ARG LEU LYS ASN GLN GLU LYS LYS ILE ASP TYR PHE GLU ARG ALA LYS ARG LEU GLU GLU ILE PRO LEU ILE LYS SER ALA TYR GLU GLU GLU LYS LEU LYS GLN ARG ILE LYS ASP MET ASP LEU TRP GLU GLN GLN GLU GLU ARG ILE THR THR MET GLN LEU GLU ARG GLU LYS LEU
GLU HIS LYS ASN ARG MET SER ARG MET LEU GLU GLN ARG ASP LEU PHE VAL MET ARG LEU LYS ALA ALA ARG GLN SER VAL TYR GLU GLU LYS LEU LYS GLN PHE GLU GLU ARG LEU ALA GLU GLU ARG HIS ASN ARG LEU GLU GLU ARG LYS ARG GLN ARG LYS GLU GLU ARG ILE
THR TYR TYR ARG GLU LYS GLU GLU GLU GLN ARG ARG ALA GLU GLU GLN MET LEU LYS GLU ARG GLU ARG ALA ALA GLU ARG ALA LYS ARG GLU GLU GLU LEU GLY ARG GLN GLU ARG VAL LYS LYS LEU GLU GLU VAL GLU ARG LYS ARG GLN ARG GLU LEU GLU
ILE GLU GLU ARG GLU ARG ARG ARG GLU GLU GLU ARG ARG LEU GLY ASP SER SER LEU SER ARG LYS ASP SER ARG TRP GLY ASP ARG ASP SER GLU GLY THR TRP ARG LYS GLY PRO GLU ALA ASP SER GLU TRP ARG ARG GLY PRO PRO GLU LYS GLU TRP ARG ARG GLY GLU GLY ARG
ASP GLU ASP ARG SER HIS ARG ARG ASP GLU GLU GLU ARG PRO ARG ARG LEU GLY ASP ASP GLU ARG GLU PRO SER LEU ARG PRO ASP ASP ASP ARG ASP VAL PRO PRO ARG ARG GLY MET ASP ASP ARG GLY PRO ARG ARG GLY PHE SER ARG ARG GLY GLU ALA ASP ASP
ASP ARG PRO SER TRP ARG ASN THR ASP ASP ARG PRO PRO ARG ARG ILE ALA ASP GLU ASP ARG GLY TRP ARG HIS ALA ASP ASP ASP ARG PRO PRO ARG ARG GLY LEU ASP GLU ASP ARG GLY SER TRP ARG THR ALA ASP GLU GLU ASP ARG GLY ASP ARG GLY GLU ASP ASP



• Molecule 43: Eukaryotic translation initiation factor 3 subunit E

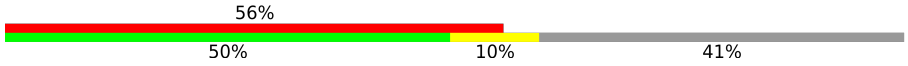
Chain 3e:

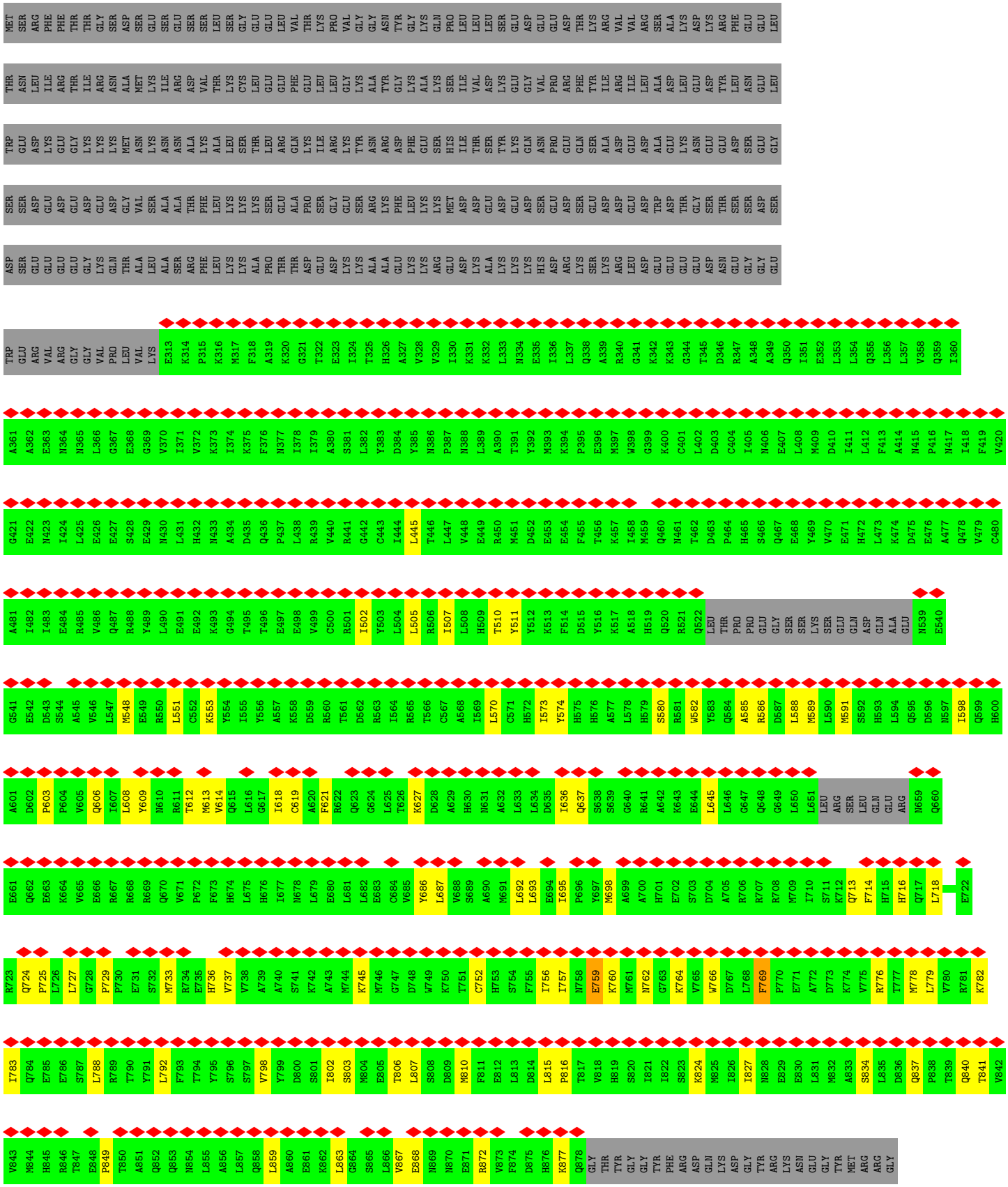




• Molecule 44: Eukaryotic translation initiation factor 3 subunit C

Chain 3c:


56%
50%
10%
41%


MET SER ARG PHE PHE THR THR GLY SER ASP SER GLU SER GLU SER SER LEU SER GLY GLU GLU LEU VAL THR LYS PRO VAL GLY GLY ASN TYR GLY LYS GLN PRO LEU LEU LEU SER GLU ASP GLU GLU ASP THR LYS ARG VAL VAL ARG SER ALA LYS ASP LYS PHE GLU GLU
THR ASN LEU ILE ARG THR ILE ARG ASN ALA MET LYS ILE ARG ASP VAL THR LYS CYS LEU GLU GLU PHE GLU LEU LEU GLY LYS ALA TYR GLY LYS ALA ILE SER ILE VAL ASP LYS GLU GLY VAL PRO ARG PHE TYR ILE ARG ILE LEU LEU ALA ASP LEU GLU ASP TYR LEU ASN GLU GLU LEU
TRP GLU ASP LYS GLU GLY LYS LYS LYS MET ASN LYS ASN ASN ALA LYS ALA LEU SER THR LEU ARG GLN LYS ILE ARG LYS TYR ASN ARG ASP PHE GLU LEU SER HIS ILE THR SER TYR LYS GLN ASN PRO GLU GLN SER ALA ASP GLU ASP ALA GLU LYS ASN GLU GLU ASP SER GLU GLY
SER SER ASP GLU ASP GLU ASP GLY VAL SER ALA ALA ALA PHE LEU LYS LYS LYS ALA PRO SER GLY GLU ASP LYS LYS LYS ARG GLU ASP LYS ALA ALA LYS LYS LYS HIS ASP ARG LYS SER LYS ARG LEU ASP GLU ASP TRP ASP THR GLY SER THR SER SER ASP SER
ASP SER GLU GLU GLU GLU GLY LYS GLN THR ALA ALA LEU ALA SER ARG PHE LEU LYS LYS LYS ALA PRO THR THR ASP GLU ASP LYS LYS LYS LYS ARG GLU ASP LYS ALA ALA ALA GLU LYS LYS LYS LYS ARG GLU ASP ASN GLU GLU GLU GLU GLU ASP GLU ASP ASP GLU GLU
TRP GLU ARG VAL ARG GLY GLY VAL PRO LEU VAL LYS E313 K314 P315 K316 M317 F318 A319 K320 G321 T322 E323 I324 T325 H326 A327 V328 V329 I330 K331 K332 L333 N334 E335 I336 L337 Q338 A339 R340 G341 K342 K343 G344 T345 D346 R347 A348 A349 Q350 I351 E352 L353 L354 Q355 L356 I357 V358 Q359 I360
A361 A362 E363 N364 N365 L366 G367 E368 G369 V370 I371 V372 K373 I374 K375 F376 N377 I378 I379 A380 S381 L382 Y383 D384 Y385 N386 P387 N388 L389 A390 T391 Y392 M393 K394 P395 E396 M397 W398 G399 K400 C401 L402 D403 C404 I405 N406 E407 L408 M409 D410 I411 L412 F413 A414 N415 P416 N417 I418 F419 V420
G421 E422 N423 I424 L425 E426 E427 S428 E429 N430 L431 H432 N433 A434 D435 Q436 P437 L438 R439 V440 R441 G442 C443 I444 L445 T446 L447 V448 E449 R450 M451 D452 E453 E454 F455 T456 K457 I458 M459 Q460 N461 T462 D463 P464 H465 S466 Q467 E468 Y469 V470 E471 H472 L473 K474 D475 E476 A477 Q478 V479 C480
A481 I482 I483 E484 R485 V486 Q487 R488 Y489 L490 E491 E492 K493 G494 T495 T496 E497 E498 V499 C500 R501 I502 Y503 L504 L505 R506 I507 L508 H509 T510 Y511 Y512 K513 F514 D515 Y516 K517 A518 H519 Q520 R521 Q522 LEU THR PRO PRO GLU GLY SER SER LYS SER GLU GLN ASP GLN ALA GLU N539 E540
G541 E542 D543 S544 A545 V546 L547 M548 E549 R550 L551 C552 K553 Y554 I555 Y556 A557 K558 D559 R560 T561 D562 R563 I564 R565 T566 C567 A568 I569 L570 C571 H572 I573 Y574 H575 H576 A577 L578 H579 S580 R581 W582 Y583 Q584 A585 R586 D587 L588 M589 L590 M591 S592 H593 L594 Q595 D596 N597 I598 Q599 H600
A601 D602 P603 P604 V605 Q606 I607 L608 Y609 N610 R611 T612 M613 V614 Q615 L616 G617 I618 C619 A620 F621 R622 Q623 G624 L625 T626 K627 D628 A629 H630 N631 A632 L633 L634 D635 I636 Q637 S638 S639 G640 R641 A642 K643 E644 L645 L646 G647 Q648 G649 L650 L651 LEU ARG SER LEU GLN GLU ARG N659 Q660
E661 Q662 E663 K664 V665 E666 R667 R668 R669 Q670 V671 P672 F673 H674 L675 H676 I677 N678 L679 E680 L681 L682 E683 C684 V685 Y686 L687 V688 S689 A690 M691 L692 L693 E694 I695 P696 Y697 M698 A699 A700 H701 E702 S703 D704 A705 R706 R707 R708 M709 I710 S711 K712 Q713 F714 H715 H716 Q717 L718 E722
R723 Q724 P725 L726 L727 G728 P729 P730 E731 S732 M733 R734 E735 H736 V737 V738 A739 A740 S741 K742 A743 M744 K745 M746 G747 D748 W749 K750 T751 C752 H753 S754 F755 I756 I757 N758 E759 K760 M761 N762 G763 K764 V765 W766 D767 L768 F769 P770 E771 A772 D773 K774 V775 R776 T777 M778 L779 V780 R781 K782
I783 Q784 E785 E786 S787 L788 R789 T790 Y791 L792 F793 T794 Y795 S796 S797 V798 Y799 D800 S801 I802 S803 M804 E805 T806 L807 S808 D809 M810 F811 E812 L813 D814 L815 P816 T817 V818 H819 S820 I821 I822 S823 K824 M825 I826 I827 N828 E829 E830 L831 M832 A833 S834 L835 D836 Q837 P838 T839 Q840 T841 V842
V843 M844 H845 R846 T847 E848 P849 T850 A851 Q852 Q853 N854 L855 A856 L857 Q858 L859 A860 E861 K862 L863 G864 S865 L866 V867 E868 N869 N870 E871 R872 V873 F874 D875 H876 K877 Q878 GLY THR TYR GLY GLY TYR PHE ARG ASP GLN LYS ASP GLY TYR ARG LYS ASN GLU GLY TYR MET ARG GLY

GLY TYR ARG GLN GLN SER GLN THR ALA TYR

• Molecule 45: Eukaryotic translation initiation factor 3 subunit H

Chain 3h:

MET ALA SER ARG LYS GLU GLY THR GLY SER THR ALA THR SER SER SER SER THR ALA GLY ALA ALA GLY LYS GLY LYS GLY LYS GLY GLY SER GLY ASP SER A35 V36 K37 Q38 V39 Q40 I41 D42 G43 L44 V45 V46 L47 K48 I49 I50 K51 H52 Y53 Q54 E55 E56 G57 Q58 G59 T60

E61 V62 V63 Q64 G65 V66 L67 L68 G69 L70 V71 V72 E73 D74 R75 L76 E77 I78 T79 N80 C81 F82 P83 F84 P85 Q86 H87 T88 E89 D90 D91 A92 D93 F94 D95 E96 V97 Q98 Y99 Q100 M101 E102 M103 M104 R105 S106 L107 R108 H109 V110 N111 I112 D113 H114 L115 H116 V117 G118 W119 Y120

Q121 S122 T123 Y124 Y125 G126 S127 F128 V129 T130 R131 A132 L133 L134 D135 S136 Q137 F138 S139 Y140 Q141 H142 A143 I144 E145 E146 S147 V148 V149 D153 P154 I155 K156 T157 A158 Q159 G160 S161 L162 S163 L164 K165 A166 Y167 R168 L169 T170 P171 K172 L173 M174 E175 V176 C177 K178 E179 K180 D181 F182

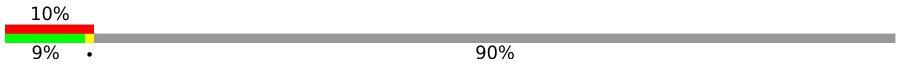
S183 P184 E185 A186 L187 K188 K189 A190 N191 I192 T193 F194 E195 Y196 M197 F198 E199 E200 V201 P202 I203 V204 I205 K206 N207 S208 H209 L210 I211 N212 V213 L214 M215 W216 E217 L218 E219 K220 K221 S222 A223 V224 A225 D226 K227 H228 E229 L230 L231 S232 L233 A234 S235 S236 N237 H238 L239 G240 K241 N242

L243 Q244 L245 L246 M247 D248 R249 V250 D251 E252 M253 S254 Q255 D256 I257 V258 K259 Y260 N261 T262 Y263 M264 R265 N266 T267 S268 K269 Q270 Q271 Q272 Q273 K274 H275 Q276 Y277 Q278 Q279 R280 R281 Q282 Q283 E284 N285 M286 Q287 R288 Q289 S290 R291 G292 E293 P294 P295 L296 P297 E298 E299 D300 L301 S302

K303 L304 F305 K306 P307 P308 Q309 P310 P311 A312 R313 M314 D315 S316 L317 L318 I319 A320 G321 Q322 I323 N324 T325 Y326 C327 Q328 N329 I330 K331 E332 F333 T334 A335 Q336 N337 L338 G339 K340 L341 F342 M343 A344 Q345 A346 L347 Q348 E349 Y350 N351 N352

• Molecule 46: Eukaryotic translation initiation factor 3 subunit D

Chain 3d:



MET A2 K3 F4 M5 T6 P7 V8 I9 Q10 D11 N12 P13 S14 G15 W16 G17 P18 C19 A20 V21 P22 E23 Q24 F25 R26 D27 M28 P29 Y30 Q31 P32 F33 S34 K35 G36 D37 R38 L39 G40 K41 V42 A43 D44 W45 T46 G47 A48 T49 Y50 Q51 D52 K53 R54 Y55 T56 ASN LYS TYR SER

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

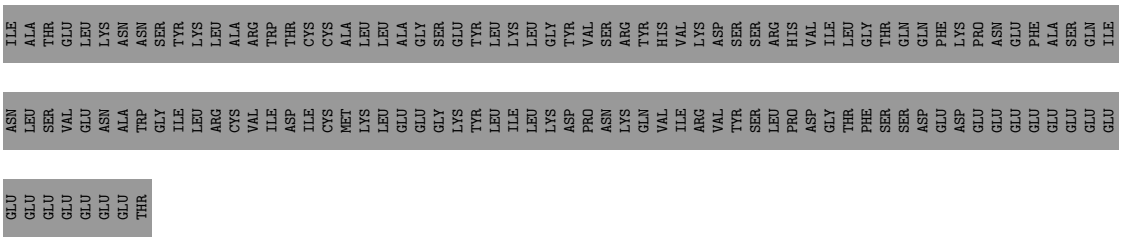
ILE LEU PRO LYS SER ALA LYS GLN LYS GLU ARG GLU ILE ARG LEU GLN LYS LYS PHE GLN LYS GLN PHE GLY VAL ARG GLN LYS TRP ASP GLN LYS SER GLN LYS PRO ARG ASP SER SER VAL GLU VAL ARG SER ASP TRP GLU VAL LYS GLU GLU MET ASP PHE PRO GLN LEU MET

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

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

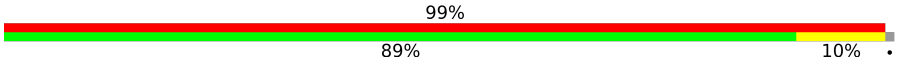
ASP GLU GLY ASN SER PHE ASN SER PRO ARG ASN LEU ALA MET GLU ALA THR TYR ILE ASN HIS ASN PHE SER GLN GLN CYS LEU ARG MET GLY LYS GLU ARG TYR ASN PHE PRO ASN PRO ASN PRO PHE VAL GLU ASP ASP MET ASP LYS ASN GLN ARG GLN LYS LEU GLU ILE ALA SER VAL ALA TYR ARG TYR

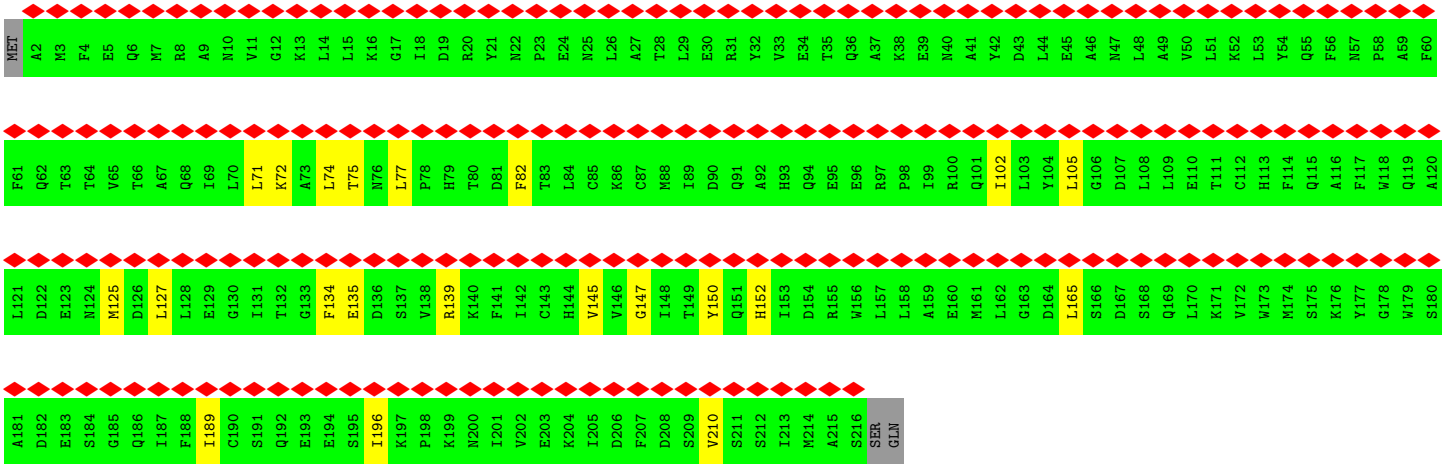
ARG ARG TRP LYS LEU GLY ASP ASP ILE ASP LEU ILE VAL ARG CYS GLU HIS ASP GLY VAL MET THR GLY ALA ASN GLY GLU VAL SER PHE ILE ASN ILE LYS THR LEU ASN GLU TRP ASP SER ARG HIS CYS ASN GLY VAL ASP TRP ARG GLN LYS LEU ASP SER GLN ARG GLY ALA VAL



• Molecule 47: Eukaryotic translation initiation factor 3 subunit K

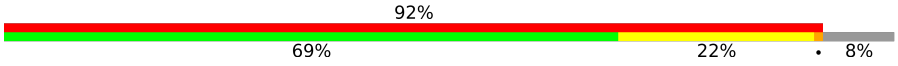
Chain 3k:

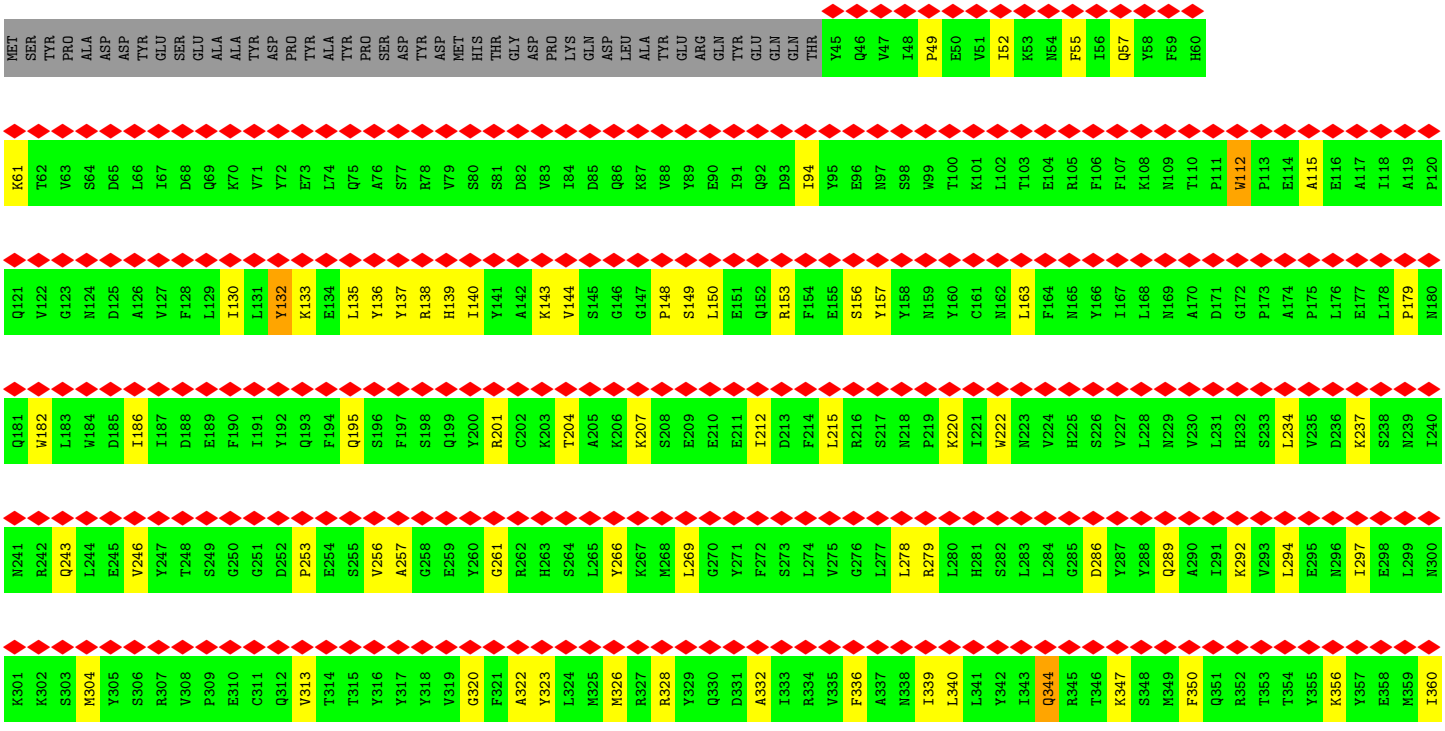




• Molecule 48: Eukaryotic translation initiation factor 3 subunit L

Chain 3l:






N361 K362 Q363 N364 E365 Q366 M367 H368 A369 L370 L371 A372 I373 A374 L375 T376 M377 Y378 P379 M380 R381 I382 D383 E384 S385 I386 H387 L388 Q389 L390 R391 E392 K393 Y394 G395 D396 K397 M398 L399 R400 M401 Q402 K403 G404 D405 P406 Q407 V408 Y409 E410 E411 L412 F413 S414 Y415 S416 C417 P418 K419 F420
L421 S422 P423 V424 V425 P426 N427 Y428 D429 N430 V431 H432 P433 N434 Y435 H436 K437 E438 P439 F440 L441 Q442 Q443 L444 K445 V446 F447 S448 D449 E450 V451 Q452 Q453 Q454 A455 Q456 L457 S458 T459 I460 R461 S462 F463 L464 K465 L466 Y467 T468 T469 M470 P471 V472 A473 K474 L475 A476 G477 F478 L479 D480
L481 T482 E483 Q484 E485 F486 R487 I488 Q489 L490 L491 V492 F493 K494 H495 K496 M497 K498 N499 L500 V501 W502 T503 S504 G505 I506 S507 A508 L509 D510 G511 E512 F513 Q514 S515 A516 S517 E518 V519 D520 F521 Y522 I523 D524 K525 D526 M527 I528 H529 I530 A531 D532 T533 K534 V535 A536 R537 R538 Y539 G540
D541 F542 F543 I544 R545 Q546 I547 H548 K549 F550 E551 E552 L553 N554 R555 T556 L557 K558 K559 M560 G561 Q562 R563 P564

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	19430	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	56.2	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.103	Depositor
Minimum map value	-0.016	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.011	Depositor
Map size (Å)	636.0, 636.0, 636.0	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.272, 1.272, 1.272	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: GTP, MG, 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	1A	0.15	0/793	0.41	0/1061
2	5B	0.20	0/4999	0.54	0/6740
3	SA	0.19	0/1742	0.38	0/2367
4	SB	0.19	0/1749	0.36	0/2340
5	SC	0.20	0/1737	0.43	0/2347
6	SD	0.18	0/1784	0.40	0/2402
7	SE	0.20	0/2107	0.38	0/2836
8	SF	0.20	0/1540	0.42	0/2071
9	SG	0.17	0/1946	0.37	0/2590
10	SH	0.19	0/1529	0.42	0/2048
11	SI	0.18	0/1711	0.35	0/2282
12	SJ	0.18	0/1524	0.36	0/2035
13	SK	0.18	0/834	0.45	0/1125
14	SL	0.20	0/1241	0.37	0/1662
15	Sf	0.20	0/945	0.57	0/1269
16	SN	0.20	0/1226	0.39	0/1649
17	SO	0.19	0/1020	0.40	0/1368
18	SP	0.20	0/1003	0.49	0/1340
19	SQ	0.23	0/1133	0.49	0/1517
20	SR	0.22	0/1082	0.54	0/1452
21	SS	0.18	0/1202	0.42	0/1610
22	ST	0.20	0/1122	0.42	0/1504
23	SU	0.18	0/813	0.45	0/1092
24	SV	0.17	0/643	0.36	0/860
25	SW	0.21	0/1051	0.38	0/1406
26	SX	0.20	0/1116	0.43	0/1490
27	SY	0.19	0/1031	0.46	0/1370
28	SZ	0.24	0/607	0.58	0/815
29	Sa	0.22	0/817	0.39	0/1095
30	Sb	0.20	0/665	0.39	0/891
31	Sc	0.23	0/490	0.49	0/656
32	Sd	0.20	0/470	0.41	0/623

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
33	Se	0.15	0/422	0.41	0/555
34	sh	0.18	0/533	0.44	0/706
35	Sg	0.16	0/2493	0.42	0/3394
36	zy	0.15	0/1798	0.32	0/2802
37	Ln	0.19	0/231	0.42	0/294
38	zz	0.16	0/7294	0.35	0/11371
39	S2	0.19	0/42073	0.31	0/65576
40	3m	0.14	0/2676	0.40	0/3635
41	3f	0.15	0/2099	0.40	0/2856
42	3a	0.16	0/4556	0.39	0/6205
43	3e	0.15	0/3288	0.39	0/4475
44	3c	0.15	0/3973	0.41	0/5406
45	3h	0.15	0/2571	0.39	0/3484
46	3d	0.14	0/354	0.36	0/488
47	3k	0.12	0/1502	0.36	0/2052
48	3l	0.15	0/4446	0.40	0/6013
All	All	0.18	0/121981	0.38	0/175225

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (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	1A	783	0	793	8	0
2	5B	4917	0	5099	102	0
3	SA	1705	0	1706	21	0
4	SB	1722	0	1794	22	0
5	SC	1700	0	1784	11	0
6	SD	1756	0	1851	22	0
7	SE	2065	0	2169	14	0
8	SF	1518	0	1569	17	0
9	SG	1923	0	2089	25	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
10	SH	1506	0	1603	18	0
11	SI	1682	0	1769	14	0
12	SJ	1499	0	1618	14	0
13	SK	810	0	836	19	0
14	SL	1220	0	1289	16	0
15	Sf	935	0	964	29	0
16	SN	1202	0	1289	16	0
17	SO	1007	0	1032	10	0
18	SP	984	0	1033	15	0
19	SQ	1116	0	1185	9	0
20	SR	1068	0	1121	21	0
21	SS	1184	0	1244	11	0
22	ST	1103	0	1133	12	0
23	SU	803	0	873	16	0
24	SV	636	0	637	7	0
25	SW	1034	0	1080	12	0
26	SX	1098	0	1167	10	0
27	SY	1014	0	1082	15	0
28	SZ	601	0	662	12	0
29	Sa	803	0	850	7	0
30	Sb	651	0	672	7	0
31	Sc	488	0	514	10	0
32	Sd	459	0	452	5	0
33	Se	417	0	463	3	0
34	sh	522	0	530	9	0
35	Sg	2436	0	2393	43	0
36	zy	1607	0	815	25	0
37	Ln	230	0	276	0	0
38	zz	6528	0	3303	74	0
39	S2	37626	0	19015	268	0
40	3m	2639	0	2442	44	0
41	3f	2063	0	2054	53	0
42	3a	4470	0	4177	71	0
43	3e	3224	0	2925	45	0
44	3c	3907	0	3472	67	0
45	3h	2520	0	2445	53	0
46	3d	343	0	253	3	0
47	3k	1475	0	1239	14	0
48	3l	4335	0	4272	81	0
49	5B	1	0	0	0	0
49	S2	7	0	0	0	0
50	5B	32	0	11	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
51	Sa	1	0	0	0	0
51	sh	1	0	0	0	0
All	All	115376	0	93044	1275	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 6.

All (1275) 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)
38:zz:259:U:H3	38:zz:274:A:N6	1.73	0.87
38:zz:256:G:N1	38:zz:276:A:N6	2.26	0.83
38:zz:259:U:H3	38:zz:274:A:H62	1.26	0.83
39:S2:885:U:H3	39:S2:901:G:H1	0.85	0.83
39:S2:1710:C:H42	39:S2:1823:A:H61	1.26	0.82
39:S2:197:U:H3	39:S2:202:G:H1	0.83	0.81
47:3k:125:MET:HE3	47:3k:125:MET:H	1.44	0.81
39:S2:1751:C:H42	39:S2:1782:G:H21	1.28	0.81
8:SF:130:ARG:HH22	38:zz:84:C:H42	1.30	0.77
35:Sg:87:LEU:HD21	35:Sg:111:VAL:HG11	1.67	0.77
2:5B:1094:ILE:HB	2:5B:1182:LEU:HB2	1.68	0.76
36:zy:10:G:H21	36:zy:24:U:H3	1.34	0.75
43:3e:251:PRO:HB2	43:3e:288:TYR:HB2	1.68	0.74
39:S2:1723:G:H2'	39:S2:1724:A:H8	1.52	0.73
39:S2:1764:G:O6	39:S2:1768:A:N7	2.21	0.73
38:zz:259:U:O4	38:zz:274:A:N7	2.22	0.73
24:SV:32:ILE:HD13	24:SV:60:ARG:HD2	1.72	0.72
41:3f:335:LEU:HB3	48:3l:547:ILE:HG21	1.72	0.72
40:3m:268:LEU:HD13	40:3m:273:ASN:HD21	1.55	0.71
44:3c:724:GLN:HE21	44:3c:727:LEU:HB2	1.56	0.71
43:3e:297:GLU:O	43:3e:301:VAL:HB	1.90	0.71
2:5B:721:ASP:HB2	2:5B:849:ARG:HH12	1.57	0.70
41:3f:206:LEU:HD21	42:3a:554:VAL:HG13	1.73	0.70
25:SW:106:THR:HG23	25:SW:108:ALA:H	1.55	0.70
40:3m:106:LEU:HD21	40:3m:127:LEU:HA	1.73	0.70
12:SJ:111:GLN:HE21	12:SJ:123:ILE:HG12	1.57	0.70
38:zz:176:G:H5'	42:3a:36:LYS:HD3	1.74	0.69
42:3a:472:VAL:HG23	44:3c:798:VAL:HG11	1.73	0.69
2:5B:1097:LEU:HD22	2:5B:1113:THR:HG23	1.74	0.69
2:5B:752:ILE:HD12	2:5B:838:LEU:HD23	1.74	0.69
14:SL:49:GLU:HB2	14:SL:118:ARG:HH12	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:S2:536:A:H3'	39:S2:537:C:H5"	1.73	0.68
42:3a:335:ARG:HB2	42:3a:340:ARG:HH21	1.56	0.68
38:zz:256:G:C6	38:zz:276:A:N6	2.61	0.68
36:zy:12:G:H1	36:zy:21:G:H22	1.42	0.68
21:SS:63:GLU:HB3	21:SS:66:ARG:HH21	1.58	0.68
39:S2:1723:G:H2'	39:S2:1724:A:C8	2.29	0.68
2:5B:665:THR:HG23	2:5B:704:PRO:HA	1.77	0.67
44:3c:762:ASN:HA	44:3c:766:TRP:HB2	1.75	0.67
10:SH:95:ILE:HD11	10:SH:133:LEU:HD13	1.77	0.67
40:3m:354:LEU:HD11	41:3f:283:LEU:HD22	1.77	0.67
2:5B:952:LYS:HG3	2:5B:954:ASP:H	1.60	0.66
45:3h:170:THR:HG22	45:3h:172:LYS:H	1.60	0.66
3:SA:122:LEU:HD13	3:SA:142:LEU:HD21	1.77	0.66
18:SP:118:GLU:HB2	21:SS:120:HIS:H	1.59	0.66
36:zy:19:A:H5'	36:zy:58:A:H61	1.60	0.66
17:SO:45:THR:HG22	17:SO:52:THR:HA	1.78	0.66
45:3h:312:ALA:HB3	45:3h:315:ASP:HB2	1.78	0.66
2:5B:956:ILE:HG13	2:5B:957:PRO:HD3	1.78	0.66
39:S2:197:U:O2	39:S2:202:G:N2	2.26	0.66
39:S2:240:G:H2'	39:S2:241:G:C8	2.31	0.66
42:3a:286:SER:HA	44:3c:729:PRO:HD3	1.78	0.66
35:Sg:256:ILE:HB	35:Sg:270:LEU:HB2	1.76	0.66
24:SV:14:PRO:HG2	24:SV:23:ILE:HD11	1.76	0.65
35:Sg:178:ASN:HB3	35:Sg:185:LYS:HD2	1.77	0.65
5:SC:104:ASP:HB3	5:SC:130:ILE:HD12	1.78	0.65
35:Sg:109:LEU:HD11	35:Sg:125:ARG:HG3	1.79	0.65
2:5B:863:VAL:HG12	2:5B:873:ILE:HG22	1.78	0.65
4:SB:33:VAL:HG23	4:SB:44:ILE:HB	1.79	0.65
39:S2:527:C:H2'	39:S2:528:A:H8	1.61	0.65
2:5B:752:ILE:HD13	2:5B:837:LEU:HG	1.78	0.65
14:SL:75:GLY:HA3	14:SL:88:ILE:HD12	1.78	0.65
2:5B:1118:GLN:HB2	2:5B:1153:LYS:HE3	1.79	0.65
25:SW:76:SER:HB3	39:S2:1158:G:H5"	1.77	0.65
39:S2:880:G:H1	39:S2:906:U:H3	1.45	0.65
2:5B:842:THR:HA	2:5B:846:LEU:HB2	1.78	0.64
45:3h:231:LEU:HA	45:3h:340:LYS:HZ1	1.62	0.64
23:SU:17:ILE:HD13	23:SU:94:PRO:HD3	1.80	0.64
48:3l:115:ALA:HB2	48:3l:133:LYS:HD3	1.79	0.64
2:5B:889:ILE:HD11	2:5B:956:ILE:HG22	1.80	0.64
43:3e:167:SER:HB3	46:3d:17:GLY:H	1.63	0.64
32:Sd:22:ARG:HG2	32:Sd:38:MET:HG2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:zz:141:U:H2'	38:zz:142:A:H4'	1.80	0.64
38:zz:347:C:H5"	38:zz:348:A:H5'	1.78	0.64
2:5B:892:GLY:HA2	2:5B:942:LEU:H	1.63	0.63
9:SG:131:ARG:HH12	9:SG:161:PRO:HD2	1.61	0.63
27:SY:116:LYS:HB3	39:S2:161:U:H5'	1.79	0.63
42:3a:55:LEU:HD11	42:3a:89:VAL:HG13	1.79	0.63
4:SB:49:VAL:HB	4:SB:62:LEU:HD21	1.79	0.63
19:SQ:102:GLU:HB2	19:SQ:105:LYS:HE3	1.79	0.63
16:SN:46:THR:HG22	16:SN:49:GLN:HG3	1.80	0.63
38:zz:65:C:H2'	38:zz:66:A:H8	1.64	0.63
40:3m:156:LEU:HD21	40:3m:160:LYS:HG3	1.81	0.63
44:3c:756:ILE:HG23	44:3c:757:ILE:HG12	1.80	0.63
39:S2:1101:U:H2'	39:S2:1102:G:H8	1.63	0.63
35:Sg:156:PHE:HE1	35:Sg:179:LEU:HD21	1.62	0.62
40:3m:270:HIS:HA	40:3m:273:ASN:HB2	1.81	0.62
42:3a:241:ILE:HD11	42:3a:282:VAL:HB	1.81	0.62
47:3k:135:GLU:HB3	47:3k:139:ARG:HH21	1.65	0.62
39:S2:874:G:H2'	39:S2:875:A:H8	1.65	0.62
15:Sf:64:LEU:HD11	34:sh:103:LEU:HB3	1.81	0.62
8:SF:123:GLU:HB2	31:Sc:59:LEU:HD12	1.81	0.62
48:3l:376:THR:HB	48:3l:461:ARG:HH22	1.64	0.62
2:5B:698:MET:HE2	2:5B:700:ILE:HD11	1.82	0.61
47:3k:77:LEU:HD11	47:3k:82:PHE:H	1.65	0.61
2:5B:1105:ARG:HH11	36:zy:71:U:H5	1.47	0.61
39:S2:587:A:H5'	39:S2:592:C:H41	1.64	0.61
9:SG:159:ARG:HG2	9:SG:173:ALA:HB2	1.83	0.61
44:3c:573:ILE:HD12	44:3c:585:ALA:HA	1.83	0.61
44:3c:687:LEU:HD21	44:3c:733:MET:HE2	1.83	0.61
30:Sb:17:ARG:HD2	39:S2:1127:C:H4'	1.83	0.61
30:Sb:36:LYS:HB3	30:Sb:43:ILE:HD12	1.83	0.61
48:3l:289:GLN:HA	48:3l:292:LYS:HB3	1.82	0.61
8:SF:128:ILE:HD11	31:Sc:68:LEU:HB3	1.83	0.60
43:3e:258:THR:HG22	43:3e:277:LEU:HD21	1.83	0.60
1:1A:33:GLN:HB3	1:1A:78:LEU:HD11	1.81	0.60
18:SP:86:LEU:H	18:SP:89:MET:HE3	1.66	0.60
35:Sg:172:LYS:HD3	35:Sg:193:GLY:H	1.66	0.60
42:3a:546:LYS:HE2	45:3h:216:TRP:HZ3	1.65	0.60
41:3f:337:VAL:HG11	45:3h:239:LEU:HD21	1.84	0.60
48:3l:458:SER:HA	48:3l:461:ARG:HE	1.66	0.60
13:SK:55:ARG:HG3	39:S2:1277:C:H4'	1.83	0.60
15:Sf:36:ARG:HH21	15:Sf:40:LYS:HZ1	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:S2:886:A:H61	39:S2:900:C:H42	1.49	0.60
43:3e:236:PHE:HD2	43:3e:257:LEU:HD13	1.67	0.60
15:Sf:69:CYS:HB2	15:Sf:74:ILE:HG22	1.83	0.60
29:Sa:26:CYS:HB3	29:Sa:77:CYS:SG	2.40	0.60
39:S2:528:A:H2'	39:S2:529:A:H8	1.67	0.60
9:SG:56:ASN:HD21	39:S2:155:G:H21	1.48	0.60
22:ST:124:THR:HG23	22:ST:127:GLY:H	1.67	0.60
2:5B:1171:MET:HB3	2:5B:1174:ARG:HB2	1.84	0.59
48:3l:432:HIS:HB3	48:3l:435:TYR:HB2	1.84	0.59
39:S2:1277:C:H2'	39:S2:1278:A:H8	1.66	0.59
41:3f:97:VAL:HG22	45:3h:47:LEU:HB3	1.84	0.59
48:3l:470:MET:HE1	48:3l:475:LEU:HB2	1.83	0.59
19:SQ:97:GLN:HB2	19:SQ:105:LYS:HD3	1.84	0.59
35:Sg:142:VAL:HG12	35:Sg:146:SER:HB3	1.85	0.59
40:3m:193:THR:HG23	40:3m:195:ASP:H	1.66	0.59
43:3e:303:PHE:HE2	44:3c:824:LYS:HG2	1.67	0.59
20:SR:28:PHE:HA	20:SR:55:THR:HG21	1.84	0.59
35:Sg:129:ILE:HB	35:Sg:142:VAL:HB	1.83	0.59
17:SO:34:PHE:HB3	17:SO:41:PHE:HB2	1.83	0.59
18:SP:34:MET:HE1	18:SP:45:LEU:HB2	1.84	0.59
2:5B:968:LYS:HA	2:5B:971:LEU:HG	1.85	0.59
39:S2:197:U:O4	39:S2:202:G:O6	2.21	0.59
48:3l:356:LYS:O	48:3l:360:ILE:HG13	2.02	0.59
44:3c:803:SER:HA	44:3c:841:THR:HG22	1.84	0.58
2:5B:725:LEU:HD21	2:5B:737:THR:HG23	1.86	0.58
2:5B:1141:ILE:HG23	2:5B:1159:VAL:HG12	1.85	0.58
6:SD:39:VAL:HG22	6:SD:48:ILE:HG13	1.85	0.58
39:S2:530:U:H3	39:S2:555:A:H2	1.51	0.58
48:3l:49:PRO:HD2	48:3l:52:ILE:HD12	1.85	0.58
9:SG:56:ASN:HD22	39:S2:156:G:H1'	1.68	0.58
39:S2:546:G:H4'	39:S2:547:G:H5'	1.85	0.58
39:S2:1769:C:H2'	39:S2:1770:G:C8	2.38	0.58
41:3f:108:ARG:HD3	45:3h:112:ILE:HG12	1.85	0.58
39:S2:1562:C:H2'	39:S2:1563:G:H8	1.69	0.58
2:5B:750:PRO:HG2	2:5B:846:LEU:HD11	1.86	0.58
39:S2:1513:C:H2'	39:S2:1514:G:H8	1.69	0.58
42:3a:186:LEU:HD11	42:3a:242:SER:HB2	1.85	0.58
43:3e:229:ARG:HA	43:3e:232:ILE:HD12	1.86	0.58
39:S2:527:C:H2'	39:S2:528:A:C8	2.39	0.58
44:3c:627:LYS:HA	44:3c:693:LEU:HD11	1.86	0.58
8:SF:102:LEU:HD11	28:SZ:100:VAL:HG21	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:zz:256:G:N2	38:zz:276:A:N1	2.52	0.58
39:S2:885:U:O4	39:S2:901:G:O6	2.22	0.58
43:3e:311:LYS:HE3	43:3e:315:CYS:HB2	1.86	0.58
44:3c:687:LEU:HA	44:3c:714:PHE:HZ	1.68	0.58
48:3l:289:GLN:CD	48:3l:289:GLN:H	2.12	0.58
31:Sc:12:ALA:HB1	31:Sc:32:VAL:HB	1.85	0.57
19:SQ:42:ILE:HG22	19:SQ:44:PRO:HD2	1.85	0.57
34:sh:118:ARG:HB2	34:sh:131:PHE:HB3	1.86	0.57
39:S2:609:U:H2'	39:S2:610:G:H8	1.69	0.57
43:3e:144:TYR:HB3	43:3e:175:SER:HB2	1.84	0.57
2:5B:845:MET:HG3	2:5B:846:LEU:HD22	1.85	0.57
20:SR:71:ILE:HD12	20:SR:74:GLN:HB3	1.84	0.57
40:3m:224:LEU:HD11	40:3m:245:VAL:HG11	1.85	0.57
6:SD:161:GLY:HA3	39:S2:1388:A:H61	1.68	0.57
18:SP:131:PRO:HD3	39:S2:1522:A:H62	1.69	0.57
39:S2:1010:G:H2'	39:S2:1011:A:H8	1.70	0.57
47:3k:150:TYR:HE1	48:3l:487:ARG:HH22	1.51	0.57
6:SD:70:THR:HB	6:SD:86:LEU:HG	1.85	0.57
20:SR:27:ASP:HB3	20:SR:30:THR:HG22	1.87	0.57
41:3f:252:ILE:HG22	45:3h:215:MET:HG2	1.86	0.57
14:SL:48:LYS:HA	14:SL:51:ILE:HG22	1.85	0.57
38:zz:184:G:H2'	38:zz:214:A:H61	1.68	0.57
2:5B:1142:GLU:HG2	2:5B:1147:GLN:HG2	1.87	0.57
39:S2:851:C:H5"	39:S2:852:G:H5'	1.87	0.57
43:3e:244:ASN:O	43:3e:248:THR:HG23	2.05	0.57
25:SW:6:VAL:HG23	25:SW:29:PRO:HG2	1.87	0.57
48:3l:313:VAL:HG22	48:3l:339:ILE:HD11	1.86	0.57
36:zy:57:A:H3'	36:zy:58:A:H8	1.69	0.57
42:3a:272:MET:HA	42:3a:275:TYR:HB2	1.85	0.57
44:3c:603:PRO:HA	44:3c:606:GLN:HB2	1.87	0.57
12:SJ:53:ILE:HD13	12:SJ:81:LEU:HD21	1.86	0.56
38:zz:216:U:H5'	42:3a:72:TYR:OH	2.05	0.56
39:S2:1536:G:H2'	39:S2:1537:A:H8	1.70	0.56
18:SP:75:VAL:HG12	18:SP:93:MET:HB3	1.87	0.56
43:3e:222:PHE:HB3	43:3e:232:ILE:HD11	1.87	0.56
9:SG:15:LEU:HD22	39:S2:155:G:H4'	1.87	0.56
13:SK:64:TRP:CE2	32:Sd:23:VAL:HG22	2.41	0.56
23:SU:32:LEU:HD21	23:SU:87:ARG:HG2	1.86	0.56
38:zz:55:C:H4'	38:zz:57:A:H62	1.70	0.56
38:zz:223:A:HO2'	38:zz:224:G:H8	1.51	0.56
39:S2:792:C:H2'	39:S2:793:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SG:52:ILE:HG23	9:SG:109:LEU:HD21	1.86	0.56
15:Sf:22:LEU:HD22	15:Sf:89:VAL:HG23	1.87	0.56
28:SZ:50:PHE:CZ	28:SZ:58:LEU:HD12	2.40	0.56
39:S2:1228:A:H2'	39:S2:1229:G:H8	1.70	0.56
35:Sg:214:GLY:HA2	35:Sg:236:ILE:HG12	1.87	0.56
38:zz:180:G:H2'	38:zz:181:G:C8	2.40	0.56
42:3a:476:ARG:HD3	44:3c:798:VAL:HG22	1.88	0.56
4:SB:137:LEU:HG	4:SB:215:VAL:HG22	1.87	0.56
13:SK:55:ARG:HB3	13:SK:57:TYR:HE2	1.71	0.56
39:S2:981:A:H2'	39:S2:982:G:C8	2.40	0.56
40:3m:65:ASN:HA	40:3m:68:VAL:HB	1.88	0.56
48:3l:243:GLN:HB3	48:3l:253:PRO:HB3	1.86	0.56
2:5B:1143:ILE:HG13	2:5B:1148:VAL:HG11	1.88	0.56
39:S2:1228:A:H2'	39:S2:1229:G:C8	2.41	0.56
40:3m:218:PHE:HA	40:3m:276:LYS:HE3	1.86	0.56
42:3a:26:PRO:O	42:3a:30:VAL:HG23	2.05	0.56
43:3e:309:GLN:HE21	43:3e:340:ILE:HG21	1.71	0.56
44:3c:445:LEU:HA	44:3c:502:ILE:HD11	1.88	0.56
39:S2:1244:U:H2'	39:S2:1245:G:H8	1.70	0.56
48:3l:457:LEU:HD13	48:3l:496:LYS:HE3	1.88	0.56
10:SH:60:ILE:HB	10:SH:92:VAL:HG22	1.88	0.56
12:SJ:135:ILE:HD11	12:SJ:157:ILE:HG23	1.88	0.56
16:SN:88:LEU:O	16:SN:92:ILE:HG13	2.06	0.56
2:5B:1143:ILE:HG12	2:5B:1157:VAL:HG12	1.88	0.55
27:SY:9:THR:HA	27:SY:23:MET:HE3	1.87	0.55
15:Sf:66:GLU:HA	15:Sf:69:CYS:SG	2.47	0.55
38:zz:260:A:H62	38:zz:273:G:H21	1.55	0.55
39:S2:880:G:N2	39:S2:906:U:O2	2.33	0.55
39:S2:1769:C:H2'	39:S2:1770:G:H8	1.71	0.55
40:3m:83:ILE:HG21	40:3m:119:VAL:HG13	1.88	0.55
10:SH:74:LYS:HG3	10:SH:75:ILE:HG23	1.89	0.55
48:3l:540:GLY:HA2	48:3l:543:PHE:CZ	2.42	0.55
7:SE:5:PRO:HD2	39:S2:446:G:H21	1.71	0.55
42:3a:523:LEU:HB3	45:3h:231:LEU:HG	1.89	0.55
42:3a:428:VAL:HG23	42:3a:429:PRO:HD3	1.89	0.55
15:Sf:24:THR:HB	15:Sf:115:GLY:HA3	1.88	0.55
18:SP:83:MET:HE2	18:SP:83:MET:HA	1.88	0.55
39:S2:322:C:H2'	39:S2:323:C:C6	2.42	0.55
47:3k:147:GLY:HA2	47:3k:189:ILE:HG21	1.89	0.55
5:SC:70:VAL:HG11	5:SC:93:ILE:HG23	1.89	0.55
39:S2:730:C:H2'	39:S2:731:G:H4'	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:3c:636:ILE:HG23	44:3c:645:LEU:HD23	1.89	0.55
48:3l:204:THR:HA	48:3l:207:LYS:HD2	1.88	0.55
18:SP:105:VAL:HG21	18:SP:111:MET:HE1	1.89	0.54
48:3l:347:LYS:HA	48:3l:350:PHE:HB2	1.89	0.54
2:5B:912:GLU:HG2	2:5B:914:ARG:H	1.72	0.54
7:SE:44:LEU:HD21	7:SE:70:ILE:HG21	1.88	0.54
39:S2:1764:G:C6	39:S2:1768:A:N7	2.74	0.54
45:3h:40:GLN:HB3	45:3h:206:LYS:HG2	1.89	0.54
13:SK:55:ARG:HB3	13:SK:57:TYR:CE2	2.43	0.54
35:Sg:174:VAL:HB	35:Sg:188:HIS:HB2	1.89	0.54
40:3m:120:ARG:HH21	40:3m:154:TRP:NE1	2.05	0.54
41:3f:247:ILE:HG12	45:3h:161:SER:HA	1.90	0.54
47:3k:102:ILE:HA	47:3k:105:LEU:HD12	1.90	0.54
40:3m:49:CYS:HA	40:3m:52:CYS:HB2	1.90	0.54
2:5B:634:ILE:HD12	2:5B:698:MET:HE3	1.89	0.54
2:5B:1127:VAL:HG22	2:5B:1182:LEU:HD22	1.89	0.54
2:5B:1138:VAL:HA	2:5B:1161:ILE:HA	1.89	0.54
18:SP:56:LEU:HD12	18:SP:80:LEU:HD12	1.90	0.54
44:3c:877:LYS:HG2	45:3h:264:MET:HE1	1.88	0.54
12:SJ:128:VAL:O	12:SJ:132:GLN:HG2	2.07	0.54
36:zy:27:U:H2'	36:zy:28:G:H8	1.71	0.54
38:zz:259:U:C4	38:zz:274:A:N7	2.76	0.54
39:S2:106:C:H2'	39:S2:107:A:H8	1.72	0.54
39:S2:877:C:H2'	39:S2:878:G:C8	2.42	0.54
41:3f:96:PRO:HA	41:3f:99:LEU:HB2	1.89	0.54
43:3e:346:ARG:HH12	44:3c:827:ILE:HD11	1.73	0.54
35:Sg:238:ALA:H	35:Sg:251:ALA:HB3	1.72	0.54
39:S2:528:A:H2'	39:S2:529:A:C8	2.43	0.54
43:3e:341:PHE:HE2	43:3e:360:LEU:HD22	1.73	0.54
45:3h:45:VAL:HG21	45:3h:78:ILE:HG22	1.90	0.54
2:5B:704:PRO:HG3	2:5B:712:LEU:HD12	1.89	0.54
4:SB:144:LYS:HB2	4:SB:208:HIS:HB3	1.90	0.54
39:S2:223:C:H2'	39:S2:224:A:C8	2.43	0.54
39:S2:1754:G:H1'	39:S2:1780:G:H1'	1.90	0.54
40:3m:273:ASN:O	40:3m:277:MET:HG2	2.08	0.54
9:SG:181:THR:HG22	9:SG:183:ARG:H	1.73	0.53
35:Sg:256:ILE:HD13	35:Sg:289:LEU:HD21	1.90	0.53
39:S2:756:C:H2'	39:S2:757:C:H6	1.73	0.53
48:3l:457:LEU:HD12	48:3l:493:PHE:HA	1.90	0.53
31:Sc:35:MET:HE2	31:Sc:35:MET:HA	1.89	0.53
39:S2:1756:C:H2'	39:S2:1757:G:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5B:650:LYS:HG2	2:5B:831:MET:HE3	1.90	0.53
5:SC:195:LEU:HD23	5:SC:224:THR:HG22	1.89	0.53
12:SJ:30:LYS:O	12:SJ:34:GLU:HG3	2.09	0.53
38:zz:145:G:H1	38:zz:248:U:H3	1.55	0.53
39:S2:1550:G:H3'	39:S2:1579:A:H61	1.73	0.53
4:SB:168:MET:O	4:SB:172:MET:HG3	2.08	0.53
39:S2:235:A:H2'	39:S2:236:A:C8	2.43	0.53
39:S2:1232:U:H2'	39:S2:1233:G:H8	1.72	0.53
2:5B:678:ILE:HD11	2:5B:698:MET:HG3	1.91	0.53
28:SZ:98:LYS:HB3	28:SZ:110:THR:HG23	1.89	0.53
3:SA:108:PHE:HB3	3:SA:140:VAL:HG21	1.91	0.53
26:SX:66:ILE:HG22	26:SX:68:LYS:HE3	1.90	0.53
38:zz:180:G:H2'	38:zz:181:G:H8	1.73	0.53
39:S2:1098:C:H2'	39:S2:1099:G:C8	2.44	0.53
39:S2:1281:G:H2'	39:S2:1282:A:C8	2.44	0.53
43:3e:312:LEU:HD23	43:3e:337:ARG:HE	1.73	0.53
45:3h:40:GLN:HA	45:3h:204:VAL:O	2.08	0.53
39:S2:1776:G:H2'	39:S2:1777:G:H4'	1.90	0.53
41:3f:283:LEU:HD23	42:3a:530:LEU:HD13	1.90	0.53
45:3h:45:VAL:O	45:3h:49:ILE:HG12	2.07	0.53
2:5B:834:LEU:O	2:5B:838:LEU:HG	2.07	0.53
21:SS:129:LEU:HD13	39:S2:1521:C:H5'	1.90	0.53
39:S2:864:A:H2'	39:S2:865:A:H8	1.74	0.53
41:3f:301:ASP:HB2	41:3f:304:VAL:HB	1.91	0.53
42:3a:98:GLU:HA	42:3a:153:LEU:HD21	1.91	0.53
45:3h:215:MET:HE2	45:3h:215:MET:HA	1.91	0.53
17:SO:95:ILE:HD11	17:SO:126:ILE:HD12	1.90	0.53
38:zz:65:C:H2'	38:zz:66:A:C8	2.42	0.53
39:S2:1536:G:H2'	39:S2:1537:A:C8	2.44	0.53
41:3f:354:LEU:HD12	44:3c:877:LYS:HZ2	1.73	0.53
48:3l:367:MET:O	48:3l:371:LEU:HD12	2.08	0.53
39:S2:848:U:H2'	39:S2:849:A:H8	1.73	0.53
39:S2:870:A:H4'	39:S2:871:U:H3'	1.90	0.52
13:SK:91:PRO:HG2	13:SK:94:LEU:HD12	1.92	0.52
14:SL:23:VAL:HG23	14:SL:26:GLY:H	1.74	0.52
1:1A:100:ALA:HA	1:1A:103:LEU:HD23	1.90	0.52
42:3a:161:LEU:HG	42:3a:174:TYR:HE2	1.75	0.52
4:SB:135:LEU:HD11	4:SB:217:MET:HE2	1.91	0.52
13:SK:11:ILE:HD11	13:SK:40:VAL:HG21	1.90	0.52
39:S2:963:A:H2'	39:S2:964:A:C8	2.44	0.52
40:3m:120:ARG:HH22	40:3m:150:TRP:CG	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:3f:106:TYR:HA	41:3f:116:VAL:HG21	1.91	0.52
12:SJ:136:ARG:HD3	12:SJ:160:SER:HA	1.92	0.52
39:S2:547:G:H2'	39:S2:549:C:H5	1.75	0.52
39:S2:1588:A:H2'	39:S2:1589:A:C8	2.44	0.52
47:3k:196:ILE:HG13	48:3l:522:TYR:HB3	1.91	0.52
48:3l:234:LEU:HD21	48:3l:269:LEU:HG	1.91	0.52
38:zz:104:C:H2'	38:zz:105:G:C8	2.44	0.52
39:S2:433:A:H2'	39:S2:434:G:C8	2.44	0.52
39:S2:791:C:H2'	39:S2:792:C:C6	2.44	0.52
40:3m:22:LEU:HD11	40:3m:45:ILE:HA	1.91	0.52
16:SN:49:GLN:HA	16:SN:52:VAL:HG12	1.91	0.52
35:Sg:191:HIS:CD2	35:Sg:195:LEU:HD11	2.44	0.52
48:3l:350:PHE:CD1	48:3l:360:ILE:HD13	2.45	0.52
29:Sa:79:ILE:HD11	39:S2:1864:U:H5'	1.91	0.52
38:zz:178:C:H2'	38:zz:179:A:H8	1.75	0.52
13:SK:2:LEU:HB2	39:S2:1315:U:H4'	1.91	0.52
35:Sg:39:THR:HG22	35:Sg:60:ARG:HB3	1.91	0.52
39:S2:1101:U:H2'	39:S2:1102:G:C8	2.45	0.52
7:SE:79:ASP:HB3	7:SE:82:TYR:HB2	1.91	0.52
22:ST:130:ASP:O	22:ST:134:ILE:HD12	2.09	0.52
36:zy:10:G:N2	36:zy:24:U:H3	2.04	0.52
39:S2:1010:G:H2'	39:S2:1011:A:C8	2.44	0.52
42:3a:398:PHE:HB2	42:3a:511:LEU:HD21	1.92	0.51
2:5B:872:THR:HG22	2:5B:934:LEU:HA	1.91	0.51
39:S2:907:G:H2'	39:S2:908:A:C8	2.45	0.51
41:3f:309:MET:HE2	41:3f:309:MET:HA	1.93	0.51
11:SI:106:SER:HB3	11:SI:171:LEU:HG	1.93	0.51
39:S2:794:A:H2'	39:S2:795:A:C8	2.46	0.51
45:3h:100:GLN:O	45:3h:104:MET:HG2	2.10	0.51
48:3l:535:VAL:HB	48:3l:538:ARG:HG2	1.92	0.51
9:SG:218:LYS:O	9:SG:222:GLU:HG2	2.11	0.51
10:SH:9:VAL:HG12	10:SH:11:PRO:HD3	1.91	0.51
39:S2:746:C:H4'	39:S2:747:U:H5'	1.92	0.51
42:3a:234:LEU:HD21	42:3a:274:ASN:HB3	1.92	0.51
48:3l:451:VAL:HA	48:3l:454:GLN:NE2	2.26	0.51
9:SG:27:PHE:HE2	9:SG:41:LEU:HD21	1.74	0.51
15:Sf:93:LYS:HG2	15:Sf:102:LYS:HB2	1.93	0.51
38:zz:98:G:H2'	38:zz:99:A:C8	2.46	0.51
38:zz:336:U:HO2'	38:zz:337:G:H8	1.58	0.51
39:S2:543:C:H3'	39:S2:544:G:H8	1.75	0.51
39:S2:669:A:H8	39:S2:1164:G:O2'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:zy:12:G:H22	36:zy:21:G:N2	2.09	0.51
43:3e:384:ILE:HD12	43:3e:391:VAL:HG22	1.92	0.51
2:5B:1197:TRP:H	2:5B:1199:ARG:HH21	1.59	0.51
10:SH:117:PRO:HD2	10:SH:120:ARG:HG3	1.93	0.51
12:SJ:174:LYS:HG3	39:S2:560:A:H5'	1.92	0.51
40:3m:53:LEU:HD13	40:3m:64:MET:HE1	1.93	0.51
41:3f:351:ASN:HD21	45:3h:257:ILE:HD11	1.75	0.51
2:5B:1109:VAL:HG11	36:zy:74:C:H1'	1.91	0.51
42:3a:296:LEU:HD23	42:3a:322:VAL:HA	1.92	0.51
44:3c:806:THR:O	44:3c:810:MET:HG3	2.09	0.51
16:SN:25:TRP:CD2	30:Sb:82:LYS:HD3	2.46	0.51
38:zz:73:A:H2'	38:zz:74:A:H8	1.76	0.51
38:zz:178:C:H2'	38:zz:179:A:C8	2.46	0.51
39:S2:907:G:H2'	39:S2:908:A:H8	1.74	0.51
44:3c:598:ILE:HG21	44:3c:609:TYR:HD2	1.76	0.51
27:SY:41:ARG:HA	27:SY:55:ILE:HD11	1.92	0.51
38:zz:213:C:H2'	38:zz:214:A:C8	2.46	0.51
39:S2:1035:A:N6	39:S2:1081:U:H3	2.09	0.51
2:5B:1205:SER:HB2	2:5B:1208:GLN:HE21	1.75	0.50
3:SA:187:GLY:HA2	24:SV:45:ARG:HH11	1.76	0.50
36:zy:9:G:H3'	36:zy:10:G:C8	2.46	0.50
39:S2:1189:A:H2'	39:S2:1190:A:H8	1.76	0.50
39:S2:1545:A:H2'	39:S2:1546:G:C8	2.46	0.50
42:3a:247:GLN:O	42:3a:251:LYS:HG2	2.11	0.50
44:3c:574:TYR:HD2	44:3c:612:THR:HA	1.77	0.50
18:SP:24:GLN:O	18:SP:28:MET:HG2	2.10	0.50
35:Sg:299:PHE:HD1	35:Sg:309:VAL:HG12	1.76	0.50
48:3l:535:VAL:HG12	48:3l:538:ARG:H	1.76	0.50
48:3l:543:PHE:O	48:3l:547:ILE:HG13	2.11	0.50
2:5B:639:HIS:CD2	2:5B:640:VAL:HG12	2.47	0.50
2:5B:675:LEU:HA	2:5B:678:ILE:HB	1.94	0.50
39:S2:102:A:H4'	39:S2:104:A:C8	2.47	0.50
39:S2:1813:A:H3'	39:S2:1814:G:H8	1.76	0.50
48:3l:150:LEU:HD23	48:3l:153:ARG:HD2	1.93	0.50
4:SB:87:ILE:HG22	4:SB:101:HIS:HB2	1.93	0.50
12:SJ:114:VAL:HG22	12:SJ:119:LEU:HD12	1.94	0.50
2:5B:1124:PRO:HG2	2:5B:1185:LYS:HB3	1.94	0.50
3:SA:184:ARG:HH21	3:SA:191:ARG:HA	1.75	0.50
9:SG:229:ALA:HA	9:SG:232:ARG:HG2	1.93	0.50
39:S2:145:G:H2'	39:S2:146:G:C8	2.46	0.50
44:3c:613:MET:HE1	44:3c:636:ILE:HG13	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:5B:1096:ILE:HG13	2:5B:1176:PHE:HZ	1.77	0.50
12:SJ:136:ARG:HE	12:SJ:139:LYS:HA	1.75	0.50
21:SS:84:LEU:HD12	21:SS:97:GLN:HB2	1.92	0.50
24:SV:38:GLU:OE1	24:SV:51:LYS:HD2	2.12	0.50
32:Sd:33:LYS:HE2	32:Sd:34:TYR:CZ	2.46	0.50
35:Sg:176:VAL:HB	35:Sg:186:THR:HB	1.93	0.50
41:3f:120:LEU:HD23	41:3f:131:VAL:HG11	1.93	0.50
36:zy:4:A:H2'	36:zy:5:G:C8	2.47	0.50
40:3m:62:SER:HB2	41:3f:222:GLY:H	1.76	0.50
43:3e:144:TYR:CZ	43:3e:178:LEU:HD13	2.47	0.50
43:3e:322:ASP:HB3	43:3e:325:LEU:HB2	1.94	0.50
6:SD:20:GLU:HB2	13:SK:64:TRP:CZ3	2.46	0.50
6:SD:31:GLU:HA	6:SD:107:TYR:HE2	1.77	0.50
13:SK:57:TYR:HB3	13:SK:75:GLY:HA2	1.93	0.50
27:SY:25:ILE:HD11	27:SY:73:GLY:HA3	1.93	0.50
29:Sa:51:ARG:HG2	31:Sc:62:GLU:HB3	1.94	0.50
39:S2:793:G:H2'	39:S2:794:A:O4'	2.12	0.50
39:S2:1279:C:H2'	39:S2:1280:G:H8	1.77	0.50
5:SC:139:LEU:HD11	5:SC:237:ALA:HB1	1.92	0.49
19:SQ:39:LEU:HD23	19:SQ:52:LEU:HD23	1.92	0.49
44:3c:588:LEU:HA	44:3c:591:MET:HB2	1.94	0.49
45:3h:119:TRP:HH2	45:3h:133:LEU:HG	1.76	0.49
48:3l:322:ALA:O	48:3l:326:MET:HG2	2.12	0.49
2:5B:791:ALA:O	2:5B:795:ILE:HG13	2.12	0.49
4:SB:67:PHE:O	4:SB:85:LYS:HA	2.11	0.49
11:SI:150:ASP:HA	11:SI:153:LYS:HD2	1.92	0.49
15:Sf:40:LYS:HD3	34:sh:129:GLY:HA3	1.93	0.49
40:3m:143:GLU:HB3	40:3m:146:GLN:HG3	1.93	0.49
42:3a:226:GLN:O	42:3a:230:LEU:HG	2.12	0.49
42:3a:326:THR:HA	42:3a:329:ILE:HD11	1.93	0.49
42:3a:329:ILE:HB	42:3a:367:ARG:HH11	1.76	0.49
28:SZ:50:PHE:HD1	28:SZ:51:ASP:H	1.60	0.49
40:3m:71:LEU:HD13	40:3m:74:LEU:HD12	1.94	0.49
42:3a:351:LYS:HG2	44:3c:725:PRO:HA	1.94	0.49
2:5B:1013:VAL:HG23	2:5B:1039:VAL:HG11	1.95	0.49
6:SD:42:THR:HG22	6:SD:44:THR:H	1.77	0.49
10:SH:36:LEU:HD21	10:SH:78:ARG:HD2	1.93	0.49
27:SY:110:ARG:HH21	27:SY:126:GLY:HA3	1.76	0.49
39:S2:5:U:H2'	39:S2:6:G:H8	1.77	0.49
42:3a:480:LEU:HB3	42:3a:482:VAL:HG12	1.94	0.49
13:SK:32:HIS:HE1	13:SK:34:GLU:HB3	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:S2:106:C:H2'	39:S2:107:A:C8	2.48	0.49
41:3f:256:CYS:HB3	45:3h:216:TRP:CE2	2.47	0.49
43:3e:349:GLN:HB2	44:3c:834:SER:HB2	1.94	0.49
3:SA:205:ARG:HH22	3:SA:210:ILE:HG13	1.78	0.49
15:Sf:16:THR:O	15:Sf:19:GLN:HG3	2.13	0.49
17:SO:30:VAL:HG23	17:SO:94:HIS:HB2	1.93	0.49
26:SX:72:VAL:HG13	26:SX:81:ILE:HG13	1.94	0.49
39:S2:70:G:H21	39:S2:79:A:H62	1.60	0.49
39:S2:196:C:H2'	39:S2:197:U:C6	2.47	0.49
39:S2:1759:G:H2'	39:S2:1760:G:C8	2.48	0.49
41:3f:343:LEU:HD12	48:3l:554:ASN:ND2	2.27	0.49
7:SE:61:VAL:HG12	7:SE:80:ILE:HD12	1.94	0.49
38:zz:248:U:H2'	38:zz:249:G:H8	1.78	0.49
48:3l:475:LEU:HD21	48:3l:479:LEU:HD12	1.94	0.49
2:5B:646:LYS:HG3	2:5B:825:ALA:HB1	1.95	0.49
5:SC:214:LEU:HD13	5:SC:244:ILE:HD11	1.94	0.49
7:SE:140:VAL:HG22	7:SE:146:THR:HG22	1.93	0.49
8:SF:89:THR:HA	8:SF:92:ILE:HD12	1.94	0.49
39:S2:1714:U:H2'	39:S2:1715:A:H8	1.77	0.49
40:3m:113:MET:HE1	40:3m:123:VAL:HG11	1.95	0.49
43:3e:351:ILE:HD11	43:3e:356:LEU:HD21	1.93	0.49
45:3h:67:LEU:HD13	45:3h:78:ILE:HG13	1.94	0.49
45:3h:336:GLN:O	45:3h:340:LYS:HG2	2.13	0.49
1:1A:62:ARG:HD3	1:1A:92:ILE:HG22	1.94	0.49
5:SC:207:ALA:HB2	39:S2:4:C:H4'	1.94	0.49
7:SE:247:THR:O	7:SE:251:GLU:HB3	2.13	0.49
19:SQ:19:ALA:HB2	19:SQ:75:GLY:HA3	1.94	0.49
27:SY:86:GLU:OE2	27:SY:87:PRO:HD2	2.12	0.49
40:3m:161:LYS:O	40:3m:165:LEU:HG	2.13	0.49
45:3h:67:LEU:HD22	45:3h:78:ILE:HG21	1.95	0.49
2:5B:793:ALA:O	2:5B:797:GLU:HG2	2.13	0.49
7:SE:146:THR:HG21	39:S2:122:G:H21	1.78	0.49
39:S2:1763:G:H2'	39:S2:1764:G:H8	1.76	0.49
2:5B:775:THR:O	2:5B:779:GLN:HG2	2.13	0.48
2:5B:925:VAL:HG21	2:5B:931:VAL:HG21	1.95	0.48
4:SB:68:GLU:HG3	4:SB:85:LYS:HG2	1.95	0.48
4:SB:165:ARG:O	4:SB:169:MET:HG3	2.13	0.48
33:Se:25:LYS:HA	33:Se:25:LYS:HD3	1.65	0.48
34:sh:119:ARG:HH12	34:sh:148:TYR:HD2	1.61	0.48
36:zy:4:A:H2'	36:zy:5:G:H8	1.77	0.48
38:zz:179:A:H2'	38:zz:180:G:H8	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SI:66:SER:HA	11:SI:73:THR:HG22	1.96	0.48
21:SS:54:LYS:HB2	21:SS:58:GLU:OE2	2.12	0.48
22:ST:71:GLY:O	22:ST:75:MET:HG2	2.13	0.48
26:SX:60:LYS:HG2	26:SX:114:ASP:O	2.13	0.48
36:zy:42:G:H2'	36:zy:43:A:C8	2.48	0.48
39:S2:321:C:H2'	39:S2:322:C:C6	2.48	0.48
42:3a:190:ARG:HB3	42:3a:193:GLU:HB2	1.94	0.48
44:3c:548:MET:HE2	44:3c:548:MET:HA	1.94	0.48
48:3l:475:LEU:HD22	48:3l:486:PHE:CD1	2.49	0.48
38:zz:179:A:H2'	38:zz:180:G:C8	2.48	0.48
39:S2:746:C:H1'	39:S2:747:U:H5	1.79	0.48
39:S2:1277:C:H2'	39:S2:1278:A:C8	2.48	0.48
44:3c:507:ILE:HG12	44:3c:511:TYR:HB3	1.95	0.48
45:3h:260:TYR:HE1	45:3h:311:PRO:HG2	1.77	0.48
45:3h:306:LYS:HD2	45:3h:307:PRO:HD2	1.94	0.48
10:SH:27:LEU:O	10:SH:31:GLU:HB2	2.13	0.48
16:SN:46:THR:HG23	16:SN:48:SER:H	1.77	0.48
27:SY:66:GLY:HA3	39:S2:581:U:H4'	1.95	0.48
35:Sg:57:ARG:HE	35:Sg:95:GLY:HA3	1.78	0.48
39:S2:1281:G:H2'	39:S2:1282:A:H8	1.78	0.48
39:S2:1773:C:H2'	39:S2:1774:C:O4'	2.14	0.48
44:3c:507:ILE:HA	44:3c:510:THR:HG22	1.96	0.48
48:3l:472:VAL:HG13	48:3l:486:PHE:HE2	1.78	0.48
2:5B:652:ARG:HA	2:5B:910:MET:SD	2.53	0.48
2:5B:1108:ILE:HD11	2:5B:1169:PRO:HB2	1.95	0.48
3:SA:18:PHE:CZ	3:SA:177:MET:HE1	2.49	0.48
6:SD:18:LYS:HZ2	6:SD:39:VAL:HB	1.78	0.48
38:zz:257:A:H1'	38:zz:259:U:H5	1.79	0.48
42:3a:279:VAL:HA	42:3a:282:VAL:HG12	1.96	0.48
44:3c:695:ILE:HD12	44:3c:745:LYS:HZ1	1.78	0.48
18:SP:124:LYS:HB3	18:SP:124:LYS:HE2	1.67	0.48
26:SX:101:LEU:HB3	26:SX:124:LYS:HB2	1.94	0.48
40:3m:120:ARG:HH21	40:3m:154:TRP:HE1	1.61	0.48
23:SU:20:ILE:HB	23:SU:91:LEU:HB2	1.96	0.48
39:S2:844:U:H2'	39:S2:845:G:H8	1.79	0.48
39:S2:1763:G:H2'	39:S2:1764:G:C8	2.49	0.48
43:3e:351:ILE:HG23	43:3e:391:VAL:HB	1.96	0.48
43:3e:291:PRO:HB2	43:3e:311:LYS:HZ3	1.78	0.48
45:3h:47:LEU:HA	45:3h:50:ILE:HB	1.96	0.48
2:5B:974:ILE:HG12	2:5B:1008:ILE:HD13	1.95	0.48
12:SJ:132:GLN:HB3	39:S2:562:U:H4'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:SU:20:ILE:HG13	23:SU:98:VAL:HG21	1.96	0.48
39:S2:232:A:H5"	39:S2:890:U:H3	1.78	0.48
44:3c:570:LEU:HD13	44:3c:608:LEU:HB3	1.96	0.48
9:SG:164:LYS:HB2	39:S2:67:C:N4	2.29	0.48
11:SI:110:ARG:O	11:SI:114:GLU:HG2	2.14	0.48
39:S2:1232:U:H2'	39:S2:1233:G:C8	2.48	0.48
40:3m:137:ILE:HG12	40:3m:171:ALA:HB1	1.95	0.48
41:3f:115:ARG:HH22	41:3f:183:SER:HB3	1.79	0.48
42:3a:201:LEU:HB3	42:3a:233:ARG:NH2	2.28	0.48
45:3h:65:GLY:HA3	45:3h:120:TYR:CE1	2.49	0.48
48:3l:140:ILE:HD12	48:3l:144:VAL:HG21	1.96	0.48
48:3l:362:LYS:O	48:3l:366:GLN:HG2	2.14	0.48
15:Sf:12:MET:HE3	15:Sf:16:THR:OG1	2.14	0.47
20:SR:111:PHE:O	20:SR:114:LEU:HD13	2.14	0.47
39:S2:1748:G:H1	39:S2:1786:U:H3	1.62	0.47
40:3m:230:LYS:HA	40:3m:233:GLU:HG3	1.95	0.47
42:3a:535:GLU:HG2	45:3h:224:VAL:HG21	1.96	0.47
7:SE:62:LYS:HA	7:SE:80:ILE:HD11	1.95	0.47
8:SF:88:MET:O	8:SF:92:ILE:HG13	2.14	0.47
16:SN:127:ARG:O	16:SN:131:THR:HG22	2.15	0.47
18:SP:53:GLN:H	18:SP:53:GLN:CD	2.21	0.47
38:zz:256:G:N1	38:zz:276:A:C6	2.82	0.47
2:5B:1188:ARG:HA	2:5B:1191:ILE:HG22	1.96	0.47
6:SD:123:LEU:HD11	6:SD:152:PHE:HB3	1.96	0.47
17:SO:120:ALA:HB2	29:Sa:53:ILE:HD13	1.96	0.47
38:zz:240:C:H2'	38:zz:241:G:C8	2.49	0.47
41:3f:115:ARG:NE	41:3f:117:ILE:HD11	2.30	0.47
41:3f:340:LEU:HD11	45:3h:243:LEU:HD11	1.96	0.47
43:3e:167:SER:HA	43:3e:170:TRP:HD1	1.80	0.47
43:3e:305:PHE:HE1	43:3e:343:THR:HG23	1.79	0.47
10:SH:109:ARG:HH21	39:S2:867:G:H21	1.61	0.47
22:ST:104:LEU:HD22	22:ST:121:ARG:HD2	1.96	0.47
27:SY:39:GLU:HA	27:SY:42:GLU:HG3	1.96	0.47
41:3f:91:VAL:O	41:3f:128:SER:HA	2.14	0.47
47:3k:152:HIS:CE1	48:3l:524:ASP:HB2	2.49	0.47
4:SB:136:ARG:HB2	4:SB:218:LEU:HD11	1.96	0.47
17:SO:117:ARG:O	17:SO:121:ARG:HG2	2.15	0.47
20:SR:103:LYS:HA	20:SR:106:LEU:HD12	1.97	0.47
36:zy:27:U:H2'	36:zy:28:G:C8	2.49	0.47
36:zy:57:A:H3'	36:zy:58:A:C8	2.48	0.47
39:S2:1405:A:H2'	39:S2:1406:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SD:101:GLN:HG3	6:SD:126:ILE:HD11	1.97	0.47
9:SG:7:PHE:HD2	9:SG:10:THR:HG22	1.78	0.47
38:zz:183:C:H2'	38:zz:184:G:C8	2.50	0.47
43:3e:239:GLN:HG3	43:3e:242:TYR:H	1.79	0.47
48:3l:137:TYR:CE2	48:3l:156:SER:HA	2.50	0.47
2:5B:1163:PRO:HG3	2:5B:1169:PRO:HB3	1.95	0.47
4:SB:222:LYS:HD2	4:SB:222:LYS:HA	1.71	0.47
8:SF:42:LYS:HD3	8:SF:42:LYS:HA	1.65	0.47
9:SG:186:GLN:HE22	39:S2:318:A:H61	1.62	0.47
19:SQ:31:LEU:HD21	19:SQ:33:LYS:HD2	1.97	0.47
20:SR:109:LEU:HG	20:SR:111:PHE:HD2	1.80	0.47
22:ST:78:ILE:HD11	39:S2:1587:G:C5	2.50	0.47
23:SU:94:PRO:HD2	23:SU:97:ILE:HD11	1.96	0.47
39:S2:201:C:H3'	39:S2:202:G:H8	1.79	0.47
39:S2:878:G:H22	39:S2:908:A:H2	1.62	0.47
39:S2:1417:C:H5"	39:S2:1418:C:C5	2.49	0.47
39:S2:1736:G:H2'	39:S2:1737:G:H8	1.79	0.47
39:S2:1858:G:H2'	39:S2:1859:A:H8	1.79	0.47
42:3a:319:SER:HA	42:3a:322:VAL:HG12	1.95	0.47
43:3e:414:ARG:HE	43:3e:417:MET:HG3	1.79	0.47
44:3c:687:LEU:HA	44:3c:714:PHE:CZ	2.47	0.47
48:3l:246:VAL:HG21	48:3l:256:VAL:HG21	1.97	0.47
48:3l:323:TYR:HB3	48:3l:332:ALA:HB2	1.96	0.47
4:SB:217:MET:HE3	4:SB:217:MET:HB2	1.69	0.47
36:zy:5:G:H2'	36:zy:6:A:H8	1.80	0.47
38:zz:205:A:H2'	38:zz:206:A:C8	2.50	0.47
39:S2:1007:C:H2'	39:S2:1008:A:C8	2.49	0.47
39:S2:1768:A:H2'	39:S2:1769:C:C6	2.50	0.47
40:3m:120:ARG:HE	40:3m:154:TRP:HE1	1.63	0.47
46:3d:31:GLN:HG2	46:3d:32:PRO:HD2	1.97	0.47
9:SG:224:ARG:HA	9:SG:227:GLN:OE1	2.15	0.47
39:S2:754:G:C6	39:S2:791:C:H1'	2.50	0.47
39:S2:1643:U:H2'	39:S2:1644:C:C6	2.49	0.47
2:5B:906:LEU:HD21	2:5B:931:VAL:HG22	1.97	0.47
21:SS:50:ILE:HD11	21:SS:63:GLU:HB2	1.97	0.47
39:S2:1144:A:H2'	39:S2:1145:A:C8	2.51	0.47
13:SK:86:PRO:HA	13:SK:87:PRO:HD3	1.83	0.46
39:S2:866:U:H2'	39:S2:867:G:C8	2.50	0.46
41:3f:172:TRP:HZ3	41:3f:174:ALA:HB2	1.80	0.46
44:3c:586:ARG:HD2	44:3c:586:ARG:HA	1.68	0.46
48:3l:294:LEU:HD22	48:3l:297:ILE:HD12	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:3l:320:GLY:HA3	48:3l:336:PHE:HE1	1.80	0.46
8:SF:130:ARG:NH2	38:zz:84:C:H42	2.07	0.46
9:SG:230:LYS:HA	9:SG:233:ARG:HE	1.80	0.46
20:SR:51:ALA:O	20:SR:55:THR:HG23	2.15	0.46
39:S2:1326:U:H4'	39:S2:1327:G:OP1	2.15	0.46
39:S2:1797:U:H2'	39:S2:1798:C:C6	2.49	0.46
42:3a:525:ALA:O	42:3a:529:VAL:HG12	2.15	0.46
48:3l:377:MET:HE1	48:3l:454:GLN:NE2	2.30	0.46
3:SA:80:ARG:O	3:SA:84:GLN:HG2	2.15	0.46
15:Sf:37:GLU:CD	15:Sf:37:GLU:H	2.23	0.46
21:SS:26:ILE:HA	21:SS:56:ALA:HB2	1.96	0.46
39:S2:595:U:H2'	39:S2:596:U:C6	2.50	0.46
39:S2:1677:U:H2'	39:S2:1678:A:H8	1.80	0.46
41:3f:103:VAL:HG23	45:3h:211:ILE:HG22	1.95	0.46
2:5B:1127:VAL:HG23	2:5B:1135:ILE:HD11	1.97	0.46
6:SD:8:LYS:HB3	23:SU:61:LEU:HD21	1.97	0.46
10:SH:141:GLY:HA2	16:SN:18:TYR:HE2	1.80	0.46
38:zz:139:C:H2'	38:zz:140:A:C8	2.50	0.46
39:S2:799:U:O2'	39:S2:800:U:H5"	2.16	0.46
39:S2:1845:A:H2'	39:S2:1846:G:C8	2.50	0.46
41:3f:353:LYS:HD2	41:3f:353:LYS:HA	1.65	0.46
48:3l:369:ALA:O	48:3l:373:ILE:HG13	2.15	0.46
2:5B:1199:ARG:HA	2:5B:1202:MET:HE3	1.98	0.46
4:SB:120:MET:HE1	39:S2:987:A:C6	2.50	0.46
6:SD:158:ILE:HG22	6:SD:189:MET:SD	2.55	0.46
9:SG:172:LYS:HE3	39:S2:65:C:H4'	1.98	0.46
15:Sf:33:ARG:HB2	15:Sf:109:VAL:HG22	1.96	0.46
39:S2:1845:A:H2'	39:S2:1846:G:H8	1.81	0.46
42:3a:63:LYS:HB3	42:3a:66:LEU:HD23	1.98	0.46
48:3l:464:LEU:HD11	48:3l:519:VAL:HG13	1.97	0.46
2:5B:823:THR:HG22	2:5B:830:GLY:HA3	1.96	0.46
4:SB:120:MET:HG3	4:SB:142:PHE:CE2	2.50	0.46
39:S2:1755:C:H2'	39:S2:1756:C:H6	1.80	0.46
42:3a:539:PRO:HG2	42:3a:542:ILE:HB	1.96	0.46
45:3h:288:ARG:HB2	45:3h:295:PRO:HA	1.98	0.46
11:SI:97:VAL:HG12	11:SI:100:CYS:HB3	1.97	0.46
26:SX:68:LYS:HB3	26:SX:91:LEU:HD22	1.97	0.46
28:SZ:64:ASN:HA	28:SZ:111:ARG:HD3	1.98	0.46
39:S2:1337:C:H2'	39:S2:1338:G:H8	1.81	0.46
41:3f:249:VAL:O	41:3f:253:MET:HG3	2.15	0.46
42:3a:514:MET:HE2	42:3a:514:MET:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:3e:211:ARG:O	43:3e:215:ILE:HG12	2.16	0.46
43:3e:355:MET:HE1	44:3c:837:GLN:HG2	1.97	0.46
44:3c:573:ILE:HD11	44:3c:588:LEU:HB3	1.98	0.46
44:3c:614:VAL:O	44:3c:618:ILE:HG12	2.16	0.46
2:5B:797:GLU:O	2:5B:801:GLN:HG2	2.15	0.46
3:SA:59:LEU:HD23	3:SA:59:LEU:HA	1.82	0.46
7:SE:31:PRO:HA	7:SE:81:THR:HB	1.98	0.46
13:SK:16:PHE:HE1	13:SK:91:PRO:HD3	1.80	0.46
38:zz:275:A:H2'	38:zz:276:A:H8	1.80	0.46
43:3e:403:GLN:O	43:3e:406:GLU:HG3	2.16	0.46
45:3h:125:TYR:CE2	45:3h:241:LYS:HB3	2.50	0.46
45:3h:260:TYR:CE1	45:3h:311:PRO:HG2	2.50	0.46
3:SA:210:ILE:O	3:SA:214:GLU:HG2	2.16	0.46
15:Sf:23:LYS:HA	15:Sf:23:LYS:HD3	1.78	0.46
35:Sg:106:LYS:HE3	35:Sg:107:ASP:H	1.81	0.46
35:Sg:125:ARG:HG2	35:Sg:150:TRP:CG	2.50	0.46
39:S2:893:U:H2'	39:S2:894:G:C8	2.51	0.46
2:5B:856:LEU:HG	2:5B:949:VAL:HG12	1.98	0.46
2:5B:1103:ASN:HB3	2:5B:1107:PRO:HG2	1.97	0.46
10:SH:114:GLN:NE2	39:S2:875:A:H1'	2.31	0.46
13:SK:57:TYR:HB3	13:SK:75:GLY:CA	2.46	0.46
38:zz:78:U:H2'	38:zz:79:C:C6	2.51	0.46
39:S2:980:A:H2'	39:S2:981:A:C8	2.50	0.46
39:S2:1736:G:H2'	39:S2:1737:G:C8	2.50	0.46
45:3h:141:GLN:HG3	45:3h:174:MET:HE2	1.98	0.46
47:3k:75:THR:HG22	47:3k:134:PHE:HD1	1.80	0.46
7:SE:11:ARG:HA	7:SE:28:ALA:HB2	1.98	0.45
15:Sf:36:ARG:HH21	15:Sf:40:LYS:NZ	2.11	0.45
15:Sf:36:ARG:HH22	39:S2:1310:U:P	2.39	0.45
22:ST:113:VAL:HG12	22:ST:123:LEU:HD12	1.98	0.45
39:S2:201:C:H3'	39:S2:202:G:C8	2.52	0.45
39:S2:551:U:H2'	39:S2:552:G:C8	2.51	0.45
39:S2:898:U:H2'	39:S2:899:U:C6	2.51	0.45
6:SD:67:ARG:HA	6:SD:70:THR:HG22	1.97	0.45
12:SJ:63:LEU:HD23	12:SJ:63:LEU:HA	1.84	0.45
14:SL:40:ILE:HD13	14:SL:40:ILE:HA	1.78	0.45
15:Sf:92:CYS:HA	15:Sf:102:LYS:HB3	1.97	0.45
28:SZ:90:GLU:OE1	28:SZ:91:LEU:HD12	2.16	0.45
38:zz:112:C:H2'	38:zz:113:U:O4'	2.15	0.45
38:zz:183:C:H2'	38:zz:184:G:H8	1.81	0.45
41:3f:217:VAL:HG13	41:3f:235:LEU:HD11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:3f:327:LEU:HD12	45:3h:341:LEU:HD22	1.98	0.45
42:3a:225:SER:HA	42:3a:228:MET:HE3	1.99	0.45
48:3l:447:PHE:O	48:3l:451:VAL:HG13	2.16	0.45
39:S2:1418:C:H4'	39:S2:1419:C:H2'	1.99	0.45
48:3l:133:LYS:HA	48:3l:133:LYS:HD2	1.69	0.45
48:3l:286:ASP:HB3	48:3l:289:GLN:HG2	1.98	0.45
48:3l:471:PRO:HD2	48:3l:474:LYS:HD3	1.99	0.45
5:SC:73:MET:HE3	5:SC:96:PHE:HZ	1.80	0.45
11:SI:154:LYS:HD3	11:SI:154:LYS:HA	1.58	0.45
29:Sa:18:VAL:HG21	29:Sa:33:ASP:OD1	2.16	0.45
39:S2:1759:G:H2'	39:S2:1760:G:H8	1.80	0.45
44:3c:553:LYS:HA	44:3c:553:LYS:HD3	1.76	0.45
8:SF:136:ARG:HB2	8:SF:203:ASN:HD22	1.81	0.45
31:Sc:17:VAL:HG23	31:Sc:30:VAL:HG12	1.99	0.45
38:zz:172:A:H2'	38:zz:173:A:C8	2.52	0.45
39:S2:1457:U:H2'	39:S2:1458:G:H8	1.81	0.45
44:3c:863:LEU:O	44:3c:867:VAL:HG13	2.16	0.45
48:3l:545:ARG:HH12	48:3l:548:HIS:HB3	1.82	0.45
3:SA:32:PHE:CD1	39:S2:1097:G:H4'	2.51	0.45
6:SD:157:MET:HG2	6:SD:159:HIS:CE1	2.51	0.45
8:SF:22:LYS:HB3	8:SF:22:LYS:HE2	1.72	0.45
8:SF:79:HIS:CD2	8:SF:159:ARG:HD2	2.52	0.45
18:SP:85:ILE:HD12	18:SP:111:MET:HG2	1.99	0.45
19:SQ:50:LYS:HA	19:SQ:53:GLU:HG3	1.99	0.45
22:ST:97:LYS:HB2	22:ST:97:LYS:HE3	1.72	0.45
23:SU:59:LYS:HB2	23:SU:84:ILE:HB	1.98	0.45
39:S2:788:G:H2'	39:S2:789:G:C8	2.52	0.45
39:S2:845:G:H2'	39:S2:846:G:C8	2.51	0.45
39:S2:1244:U:H2'	39:S2:1245:G:C8	2.52	0.45
40:3m:189:LEU:HD23	40:3m:228:PRO:HG2	1.99	0.45
40:3m:251:SER:HA	40:3m:254:LYS:HE2	1.98	0.45
42:3a:47:HIS:O	42:3a:51:MET:HG2	2.16	0.45
43:3e:274:LEU:HD21	43:3e:300:TYR:CZ	2.52	0.45
44:3c:637:GLN:HB3	44:3c:686:TYR:CZ	2.52	0.45
2:5B:795:ILE:HA	2:5B:805:ALA:HB3	1.99	0.45
2:5B:905:LEU:HD11	2:5B:934:LEU:HD12	1.99	0.45
7:SE:182:MET:HE3	7:SE:192:ILE:HD11	1.97	0.45
11:SI:75:LYS:HE2	39:S2:303:C:H5"	1.99	0.45
14:SL:111:VAL:HG12	14:SL:140:PHE:HB2	1.98	0.45
15:Sf:53:ALA:HA	15:Sf:79:VAL:HG12	1.98	0.45
16:SN:91:LEU:HB3	16:SN:122:ILE:HG12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:zy:17:G:H5'	36:zy:56:G:N2	2.32	0.45
39:S2:1189:A:H2'	39:S2:1190:A:C8	2.52	0.45
39:S2:1755:C:H2'	39:S2:1756:C:C6	2.52	0.45
43:3e:259:THR:HA	43:3e:332:PHE:HE2	1.81	0.45
1:1A:23:LYS:HD2	1:1A:23:LYS:HA	1.80	0.45
8:SF:68:ILE:HD11	8:SF:151:ILE:HD11	1.99	0.45
12:SJ:58:ARG:O	12:SJ:62:THR:HG23	2.17	0.45
14:SL:120:VAL:HG12	14:SL:145:VAL:HG11	1.99	0.45
19:SQ:48:GLN:HA	19:SQ:48:GLN:HE21	1.81	0.45
38:zz:80:U:H2'	38:zz:81:A:C8	2.52	0.45
38:zz:275:A:H2'	38:zz:276:A:C8	2.51	0.45
39:S2:928:G:H2'	39:S2:929:G:C8	2.51	0.45
44:3c:621:PHE:O	44:3c:778:MET:HE1	2.17	0.45
2:5B:613:ILE:HD11	2:5B:958:VAL:HG11	1.98	0.45
3:SA:38:ILE:HG12	3:SA:47:TYR:HD2	1.81	0.45
4:SB:63:LYS:HG3	4:SB:89:GLU:HA	1.98	0.45
5:SC:133:TYR:CD1	5:SC:216:MET:HA	2.51	0.45
11:SI:107:THR:O	11:SI:111:GLN:HG3	2.17	0.45
15:Sf:19:GLN:HB3	15:Sf:88:TRP:CE3	2.52	0.45
20:SR:31:ASN:ND2	20:SR:55:THR:HG22	2.32	0.45
38:zz:240:C:H2'	38:zz:241:G:H8	1.82	0.45
43:3e:353:ILE:HA	43:3e:356:LEU:HB2	1.99	0.45
47:3k:74:LEU:HD12	47:3k:77:LEU:HD22	1.99	0.45
48:3l:257:ALA:HB1	48:3l:261:GLY:HA3	1.99	0.45
8:SF:171:GLU:OE1	28:SZ:69:THR:HG21	2.17	0.45
18:SP:78:THR:HA	39:S2:1298:G:H4'	1.98	0.45
30:Sb:54:VAL:HG12	30:Sb:63:LEU:HD13	1.98	0.45
35:Sg:172:LYS:CD	35:Sg:193:GLY:H	2.30	0.45
38:zz:108:C:H2'	38:zz:109:A:C8	2.52	0.45
39:S2:538:U:H2'	39:S2:539:C:O4'	2.16	0.45
40:3m:236:LEU:HD12	40:3m:239:ASP:HB3	1.99	0.45
48:3l:139:HIS:HB3	48:3l:143:LYS:HE2	1.99	0.45
2:5B:1074:GLN:O	2:5B:1078:LYS:HG2	2.15	0.44
3:SA:34:MET:HE1	3:SA:162:PRO:HB3	2.00	0.44
13:SK:32:HIS:CE1	13:SK:34:GLU:HB3	2.52	0.44
15:Sf:94:ILE:HG13	15:Sf:98:GLY:HA2	1.99	0.44
35:Sg:106:LYS:HD2	35:Sg:106:LYS:HA	1.85	0.44
39:S2:885:U:H2'	39:S2:886:A:C8	2.52	0.44
39:S2:1629:C:H2'	39:S2:1630:A:H8	1.81	0.44
43:3e:289:LYS:HA	43:3e:289:LYS:HD3	1.77	0.44
44:3c:792:LEU:HD23	44:3c:792:LEU:HA	1.84	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:3l:130:ILE:HG21	48:3l:163:LEU:HB2	1.98	0.44
48:3l:382:ILE:HG13	48:3l:383:ASP:H	1.82	0.44
15:Sf:65:VAL:HG12	15:Sf:76:LEU:HD21	1.99	0.44
38:zz:44:C:H2'	38:zz:45:C:C6	2.51	0.44
38:zz:224:G:H2'	38:zz:225:A:C8	2.53	0.44
39:S2:388:U:H2'	39:S2:389:A:C8	2.52	0.44
39:S2:561:A:H2'	39:S2:562:U:C6	2.52	0.44
39:S2:634:A:H2'	39:S2:635:G:H8	1.82	0.44
39:S2:1217:A:H2'	39:S2:1218:C:C6	2.52	0.44
39:S2:1616:U:H2'	39:S2:1617:G:C8	2.52	0.44
2:5B:723:ALA:O	2:5B:751:PHE:HA	2.17	0.44
12:SJ:28:GLU:HG2	12:SJ:43:VAL:HG11	1.99	0.44
39:S2:756:C:H2'	39:S2:757:C:C6	2.52	0.44
48:3l:135:LEU:HA	48:3l:138:ARG:HD3	1.99	0.44
1:1A:62:ARG:HB2	1:1A:91:VAL:O	2.17	0.44
15:Sf:78:LYS:HD2	15:Sf:78:LYS:HA	1.83	0.44
23:SU:58:THR:HG23	39:S2:1446:A:H5"	2.00	0.44
39:S2:186:C:H2'	39:S2:187:G:H8	1.82	0.44
39:S2:656:G:N2	39:S2:663:C:H5"	2.32	0.44
39:S2:941:C:H2'	39:S2:942:G:C8	2.53	0.44
40:3m:241:LEU:O	40:3m:245:VAL:HG12	2.16	0.44
41:3f:201:THR:O	41:3f:213:ILE:HA	2.18	0.44
43:3e:166:LEU:HD21	43:3e:195:THR:HG21	2.00	0.44
48:3l:457:LEU:O	48:3l:461:ARG:HG2	2.18	0.44
2:5B:933:ILE:HD13	2:5B:933:ILE:HA	1.85	0.44
2:5B:1100:TYR:HD2	2:5B:1101:ILE:HG22	1.82	0.44
2:5B:1103:ASN:CG	2:5B:1109:VAL:HG13	2.42	0.44
2:5B:1119:VAL:H	2:5B:1151:ALA:HB3	1.81	0.44
13:SK:11:ILE:HD13	13:SK:35:LEU:HD12	1.99	0.44
35:Sg:5:MET:HB2	35:Sg:270:LEU:HD21	2.00	0.44
39:S2:696:G:H5"	39:S2:735:C:H41	1.83	0.44
39:S2:982:G:H2'	39:S2:983:A:H8	1.81	0.44
44:3c:687:LEU:HD22	44:3c:737:VAL:HG21	1.99	0.44
45:3h:144:ILE:HG22	45:3h:146:GLU:H	1.83	0.44
2:5B:950:ALA:HB2	2:5B:959:LEU:HD22	1.99	0.44
23:SU:87:ARG:HA	23:SU:87:ARG:HD3	1.73	0.44
24:SV:55:ILE:HG21	24:SV:65:SER:HB2	1.99	0.44
35:Sg:121:VAL:HG11	35:Sg:165:ILE:HD11	1.99	0.44
35:Sg:246:TYR:HE2	35:Sg:262:GLU:HB3	1.82	0.44
41:3f:345:GLN:O	41:3f:348:ILE:HG13	2.16	0.44
42:3a:491:LEU:HD12	42:3a:491:LEU:HA	1.87	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:3e:400:PRO:HB3	44:3c:849:PRO:HB3	1.98	0.44
5:SC:63:VAL:HG23	5:SC:64:THR:HG23	1.98	0.44
15:Sf:93:LYS:HZ3	15:Sf:101:ARG:HE	1.65	0.44
15:Sf:93:LYS:NZ	15:Sf:101:ARG:HE	2.16	0.44
23:SU:63:ILE:HG22	23:SU:65:THR:HG22	2.00	0.44
25:SW:5:ASN:HB3	25:SW:8:ALA:HB3	1.99	0.44
36:zy:68:U:H2'	36:zy:69:G:C8	2.53	0.44
38:zz:200:G:H2'	38:zz:201:G:C8	2.53	0.44
39:S2:538:U:H3	39:S2:545:A:H2	1.65	0.44
39:S2:753:C:N4	39:S2:790:C:H42	2.16	0.44
39:S2:804:U:H2'	39:S2:805:U:H6	1.83	0.44
39:S2:1438:A:H2'	39:S2:1439:A:C8	2.52	0.44
39:S2:1798:C:H2'	39:S2:1799:G:O4'	2.17	0.44
42:3a:352:GLN:HA	42:3a:355:LEU:HG	2.00	0.44
2:5B:631:ALA:HB3	2:5B:928:ALA:HB1	1.99	0.44
4:SB:97:LEU:HD12	4:SB:232:HIS:CD2	2.53	0.44
6:SD:172:VAL:HG22	6:SD:185:LYS:HG2	2.00	0.44
7:SE:240:ARG:HE	7:SE:240:ARG:HB3	1.57	0.44
13:SK:5:LYS:HE3	13:SK:5:LYS:HB2	1.69	0.44
13:SK:7:ASN:O	13:SK:11:ILE:HG12	2.18	0.44
15:Sf:42:LEU:HD12	15:Sf:72:HIS:CD2	2.53	0.44
39:S2:1410:C:H2'	39:S2:1411:G:H8	1.83	0.44
42:3a:63:LYS:HD3	42:3a:63:LYS:HA	1.77	0.44
42:3a:455:LEU:HD23	42:3a:458:LEU:HD23	1.99	0.44
10:SH:43:LEU:HB3	10:SH:72:PHE:HE2	1.82	0.44
10:SH:46:THR:HG23	10:SH:65:PRO:HD3	2.00	0.44
34:sh:89:LYS:HD3	39:S2:1507:G:C2	2.53	0.44
35:Sg:17:TRP:CE2	35:Sg:303:THR:HB	2.53	0.44
42:3a:55:LEU:HD22	42:3a:93:TYR:CZ	2.53	0.44
42:3a:194:PHE:CE2	42:3a:243:MET:HG3	2.53	0.44
44:3c:589:MET:HE1	44:3c:612:THR:HG23	1.99	0.44
9:SG:32:MET:HE3	9:SG:65:GLN:HA	2.00	0.43
20:SR:17:ILE:HD13	20:SR:57:LEU:HB3	2.00	0.43
26:SX:29:LYS:HB2	26:SX:29:LYS:HE2	1.72	0.43
36:zy:5:G:H2'	36:zy:6:A:C8	2.53	0.43
38:zz:79:C:H2'	38:zz:80:U:C6	2.53	0.43
39:S2:441:C:H2'	39:S2:442:C:H6	1.83	0.43
39:S2:1531:A:H4'	39:S2:1605:G:H4'	2.00	0.43
41:3f:109:ARG:HH11	41:3f:114:ALA:HA	1.83	0.43
41:3f:115:ARG:HE	41:3f:117:ILE:HD11	1.82	0.43
45:3h:173:LEU:HD11	45:3h:197:MET:HA	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SB:67:PHE:HD2	17:SO:47:LEU:HB3	1.84	0.43
11:SI:25:ARG:HD3	11:SI:25:ARG:HA	1.83	0.43
27:SY:110:ARG:O	27:SY:114:MET:HG3	2.17	0.43
28:SZ:52:LYS:HD2	28:SZ:52:LYS:HA	1.78	0.43
38:zz:66:A:H2'	38:zz:67:C:C6	2.53	0.43
38:zz:145:G:N2	38:zz:248:U:O2	2.43	0.43
39:S2:116:U:H3	39:S2:347:G:H1	1.66	0.43
40:3m:127:LEU:HD21	40:3m:140:ILE:HD12	1.99	0.43
42:3a:407:VAL:HA	42:3a:410:VAL:HG22	2.00	0.43
42:3a:437:LEU:HD23	42:3a:474:ALA:HB2	2.00	0.43
2:5B:982:TYR:O	2:5B:1034:ILE:HA	2.18	0.43
2:5B:1209:LEU:O	2:5B:1213:LEU:HG	2.18	0.43
3:SA:183:LEU:HD23	3:SA:183:LEU:HA	1.83	0.43
10:SH:130:LEU:HD21	10:SH:156:VAL:HG21	1.99	0.43
14:SL:127:THR:HB	14:SL:144:LYS:HG2	2.00	0.43
15:Sf:59:PRO:HA	15:Sf:62:VAL:HG22	2.00	0.43
16:SN:88:LEU:HD12	16:SN:88:LEU:HA	1.79	0.43
20:SR:109:LEU:HG	20:SR:111:PHE:CD2	2.54	0.43
36:zy:66:U:H2'	36:zy:67:C:C6	2.54	0.43
38:zz:156:C:HO2'	38:zz:157:C:H6	1.62	0.43
38:zz:193:C:H42	38:zz:202:A:H61	1.65	0.43
39:S2:674:C:H2'	39:S2:675:U:C6	2.53	0.43
39:S2:1756:C:H2'	39:S2:1757:G:H8	1.81	0.43
42:3a:532:LYS:HA	42:3a:532:LYS:HD2	1.91	0.43
44:3c:582:TRP:HB3	44:3c:619:CYS:SG	2.58	0.43
2:5B:1085:LYS:HE3	2:5B:1085:LYS:HB3	1.91	0.43
16:SN:55:ARG:HD3	30:Sb:47:PHE:CD2	2.53	0.43
31:Sc:59:LEU:HD23	31:Sc:59:LEU:HA	1.92	0.43
39:S2:15:U:H2'	39:S2:16:G:O4'	2.18	0.43
39:S2:1568:C:H2'	39:S2:1569:A:C8	2.54	0.43
44:3c:756:ILE:HG21	44:3c:783:ILE:HD13	2.00	0.43
47:3k:72:LYS:HD3	47:3k:72:LYS:HA	1.68	0.43
48:3l:148:PRO:HG2	48:3l:153:ARG:NH2	2.33	0.43
2:5B:1023:VAL:HG21	26:SX:50:ILE:HG21	1.99	0.43
3:SA:26:GLY:HA3	3:SA:150:THR:HG23	2.00	0.43
6:SD:227:LYS:HB3	6:SD:227:LYS:HE3	1.85	0.43
8:SF:204:ARG:NH1	31:Sc:60:GLU:HB2	2.33	0.43
10:SH:19:PHE:CE1	10:SH:50:GLU:HB2	2.54	0.43
11:SI:26:LYS:HD2	11:SI:29:LEU:HD23	2.00	0.43
16:SN:136:PRO:HG2	16:SN:139:TRP:HB2	2.00	0.43
20:SR:69:ILE:HD12	20:SR:69:ILE:HA	1.74	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SX:129:SER:HB3	39:S2:29:G:H4'	2.01	0.43
27:SY:100:LYS:HD2	27:SY:100:LYS:HA	1.70	0.43
35:Sg:256:ILE:HG23	35:Sg:289:LEU:HD11	1.99	0.43
39:S2:1844:U:H2'	39:S2:1845:A:C8	2.54	0.43
44:3c:580:SER:HA	44:3c:619:CYS:SG	2.58	0.43
45:3h:321:GLY:HA2	45:3h:324:ASN:ND2	2.33	0.43
14:SL:32:LYS:HD2	14:SL:32:LYS:HA	1.87	0.43
20:SR:16:ILE:HG23	20:SR:38:ILE:HD11	1.99	0.43
20:SR:18:GLU:HA	20:SR:71:ILE:HG22	2.00	0.43
38:zz:219:C:H2'	38:zz:220:U:C6	2.53	0.43
39:S2:656:G:H21	39:S2:663:C:H5"	1.83	0.43
41:3f:98:ILE:HD13	41:3f:131:VAL:HG11	2.01	0.43
41:3f:183:SER:HA	41:3f:186:ILE:HG12	2.01	0.43
2:5B:1109:VAL:HA	2:5B:1159:VAL:O	2.19	0.43
9:SG:20:ASP:OD2	9:SG:23:LYS:HG3	2.19	0.43
14:SL:24:LEU:HA	14:SL:27:GLU:HB3	1.99	0.43
39:S2:841:G:H2'	39:S2:842:C:C6	2.54	0.43
42:3a:198:CYS:HB3	42:3a:202:ARG:NH1	2.34	0.43
48:3l:372:ALA:HA	48:3l:398:MET:HE1	2.00	0.43
12:SJ:127:ARG:HD3	33:Se:31:ARG:HD3	2.01	0.43
22:ST:134:ILE:HD12	22:ST:134:ILE:H	1.82	0.43
23:SU:95:SER:O	23:SU:99:LYS:HG2	2.19	0.43
25:SW:28:ARG:HE	25:SW:28:ARG:HB3	1.69	0.43
35:Sg:289:LEU:HD23	35:Sg:289:LEU:HA	1.88	0.43
36:zy:24:U:H2'	36:zy:25:G:H8	1.83	0.43
39:S2:5:U:H2'	39:S2:6:G:C8	2.53	0.43
40:3m:240:LEU:HD13	40:3m:255:PHE:CE2	2.54	0.43
41:3f:186:ILE:HA	41:3f:189:TYR:HB2	2.00	0.43
48:3l:112:TRP:HE1	48:3l:132:TYR:HE1	1.65	0.43
48:3l:278:LEU:HD12	48:3l:279:ARG:N	2.34	0.43
2:5B:648:LEU:HB3	2:5B:652:ARG:NH1	2.33	0.43
7:SE:107:GLY:HA2	7:SE:189:LEU:HG	2.00	0.43
9:SG:58:LYS:HE2	9:SG:58:LYS:HB2	1.91	0.43
32:Sd:48:LYS:HE2	32:Sd:53:ILE:HG22	2.00	0.43
39:S2:441:C:H2'	39:S2:442:C:C6	2.54	0.43
39:S2:906:U:H2'	39:S2:907:G:C8	2.54	0.43
39:S2:964:A:H2'	39:S2:965:U:C6	2.54	0.43
39:S2:1593:C:H2'	39:S2:1594:A:H8	1.84	0.43
42:3a:227:SER:HB3	42:3a:268:LYS:HE2	2.00	0.43
2:5B:940:LYS:HA	2:5B:940:LYS:HD3	1.83	0.43
8:SF:171:GLU:CD	28:SZ:106:GLN:HE22	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:SU:22:ILE:HD13	23:SU:114:VAL:HG23	2.01	0.43
26:SX:58:GLU:H	26:SX:58:GLU:HG2	1.57	0.43
35:Sg:89:LEU:HD23	35:Sg:99:ARG:HG3	2.00	0.43
36:zy:17:G:H21	36:zy:55:C:H2'	1.83	0.43
36:zy:34:A:H2'	36:zy:35:U:H6	1.83	0.43
38:zz:217:G:H3'	38:zz:218:C:C5	2.54	0.43
38:zz:255:C:H2'	38:zz:256:G:C8	2.53	0.43
39:S2:388:U:H2'	39:S2:389:A:H8	1.84	0.43
39:S2:1413:G:H2'	39:S2:1414:A:H8	1.84	0.43
40:3m:70:LEU:HA	40:3m:73:ILE:HG22	2.00	0.43
41:3f:254:LYS:NZ	41:3f:271:GLN:HG2	2.34	0.43
42:3a:198:CYS:HB3	42:3a:202:ARG:HH12	1.84	0.43
42:3a:269:PRO:HA	42:3a:272:MET:SD	2.59	0.43
43:3e:233:ILE:O	43:3e:237:LEU:HB2	2.19	0.43
44:3c:752:CYS:O	44:3c:756:ILE:HG22	2.19	0.43
48:3l:179:PRO:HG2	48:3l:182:TRP:HB2	2.00	0.43
48:3l:454:GLN:HB3	48:3l:496:LYS:HE2	2.00	0.43
1:1A:110:PRO:HB2	1:1A:112:HIS:CE1	2.54	0.42
2:5B:648:LEU:HD21	2:5B:700:ILE:HG21	2.01	0.42
7:SE:33:THR:O	39:S2:120:U:H1'	2.19	0.42
14:SL:99:TYR:CE1	26:SX:13:LEU:HB3	2.54	0.42
17:SO:98:ARG:HG2	17:SO:99:ALA:O	2.19	0.42
18:SP:93:MET:HE3	18:SP:93:MET:HA	2.01	0.42
22:ST:129:ARG:HG3	39:S2:1416:C:OP1	2.19	0.42
38:zz:58:C:H2'	38:zz:59:U:C6	2.54	0.42
39:S2:518:G:H2'	39:S2:519:A:H8	1.84	0.42
39:S2:1128:C:H2'	39:S2:1129:G:C8	2.53	0.42
39:S2:1588:A:H2'	39:S2:1589:A:H8	1.84	0.42
41:3f:137:VAL:HG13	41:3f:152:PHE:HB3	2.00	0.42
42:3a:473:ASP:O	42:3a:477:HIS:HB2	2.19	0.42
45:3h:284:GLU:HG3	45:3h:288:ARG:HG2	2.00	0.42
10:SH:36:LEU:HD11	10:SH:78:ARG:HG2	2.01	0.42
11:SI:13:LYS:HB2	14:SL:137:THR:HG21	2.01	0.42
20:SR:24:LEU:HD23	20:SR:58:MET:SD	2.58	0.42
25:SW:115:GLU:HB2	25:SW:118:ARG:NH2	2.34	0.42
33:Se:40:ARG:HG2	33:Se:41:ARG:HG3	2.02	0.42
38:zz:163:G:O2'	38:zz:164:U:H5"	2.19	0.42
39:S2:201:C:H5"	39:S2:202:G:N7	2.34	0.42
39:S2:546:G:N2	39:S2:548:C:C2	2.87	0.42
39:S2:841:G:H2'	39:S2:842:C:H6	1.83	0.42
39:S2:1692:U:H2'	39:S2:1693:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:3c:598:ILE:HG13	44:3c:609:TYR:CD2	2.54	0.42
4:SB:97:LEU:HD13	4:SB:97:LEU:HA	1.93	0.42
24:SV:34:MET:HB2	24:SV:34:MET:HE3	1.77	0.42
38:zz:141:U:N3	38:zz:142:A:H1'	2.34	0.42
39:S2:1562:C:H2'	39:S2:1563:G:C8	2.51	0.42
42:3a:355:LEU:HA	42:3a:358:LEU:HG	2.01	0.42
43:3e:411:LEU:HG	44:3c:867:VAL:HG21	2.01	0.42
45:3h:39:VAL:HG12	45:3h:76:LEU:HB3	2.00	0.42
45:3h:260:TYR:OH	45:3h:316:SER:HB3	2.19	0.42
48:3l:157:TYR:HB2	48:3l:222:TRP:NE1	2.35	0.42
2:5B:1089:VAL:HG23	2:5B:1186:ILE:HG22	2.01	0.42
6:SD:109:LEU:HD21	6:SD:115:VAL:HG12	2.00	0.42
21:SS:27:ALA:HB2	21:SS:52:LEU:HD22	2.02	0.42
32:Sd:19:ARG:HD2	32:Sd:32:ARG:HD3	2.01	0.42
39:S2:693:A:C2	39:S2:737:G:H2'	2.54	0.42
6:SD:117:ARG:HA	6:SD:117:ARG:HD3	1.73	0.42
16:SN:135:LEU:HD23	16:SN:136:PRO:HD2	2.02	0.42
28:SZ:39:LYS:HD3	38:zz:94:G:H5'	2.01	0.42
39:S2:1310:U:H2'	39:S2:1311:C:C6	2.54	0.42
42:3a:183:LYS:HA	42:3a:183:LYS:HD3	1.86	0.42
42:3a:450:ILE:HD12	42:3a:450:ILE:HA	1.93	0.42
44:3c:692:LEU:HD22	44:3c:782:LYS:HG2	2.01	0.42
48:3l:367:MET:HA	48:3l:370:LEU:HG	2.01	0.42
48:3l:484:GLN:O	48:3l:488:ILE:HG12	2.19	0.42
3:SA:90:PHE:HD1	3:SA:179:ALA:HB2	1.84	0.42
3:SA:213:GLU:HG3	20:SR:84:TYR:CZ	2.54	0.42
5:SC:183:LYS:HD2	25:SW:95:PRO:HA	2.00	0.42
5:SC:196:ILE:HB	5:SC:223:TYR:HB2	2.00	0.42
9:SG:194:LEU:O	9:SG:198:ARG:HG3	2.20	0.42
19:SQ:14:GLY:HA3	19:SQ:86:GLN:HG2	2.01	0.42
24:SV:17:CYS:HB2	24:SV:56:CYS:HB3	2.01	0.42
25:SW:115:GLU:HA	25:SW:118:ARG:HB3	2.02	0.42
35:Sg:156:PHE:HA	35:Sg:165:ILE:HD12	2.02	0.42
39:S2:160:U:O2'	39:S2:161:U:H3'	2.20	0.42
39:S2:1073:U:H2'	39:S2:1074:C:H6	1.85	0.42
40:3m:240:LEU:HD13	40:3m:255:PHE:HE2	1.85	0.42
38:zz:154:A:C8	38:zz:228:U:H1'	2.54	0.42
39:S2:1407:U:H2'	39:S2:1408:U:C6	2.55	0.42
39:S2:1740:C:H2'	39:S2:1741:U:C6	2.55	0.42
42:3a:489:ARG:HE	42:3a:489:ARG:HB3	1.69	0.42
44:3c:815:LEU:HD11	44:3c:840:GLN:HE22	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:3h:154:PRO:HA	45:3h:157:THR:HG22	2.01	0.42
46:3d:38:ARG:HH21	46:3d:40:GLY:HA3	1.85	0.42
48:3l:135:LEU:O	48:3l:138:ARG:HG2	2.20	0.42
48:3l:328:ARG:HH12	48:3l:509:LEU:HA	1.85	0.42
48:3l:494:LYS:HD3	48:3l:498:LYS:HG2	2.01	0.42
2:5B:616:ARG:HA	2:5B:619:GLU:HG3	2.02	0.42
6:SD:18:LYS:NZ	6:SD:39:VAL:HB	2.34	0.42
14:SL:80:MET:HE1	14:SL:120:VAL:O	2.20	0.42
16:SN:112:LYS:HE2	16:SN:112:LYS:HB3	1.85	0.42
22:ST:29:LYS:HE3	22:ST:29:LYS:HB3	1.81	0.42
23:SU:39:LEU:HD22	23:SU:101:ILE:HG13	2.02	0.42
30:Sb:36:LYS:HZ3	30:Sb:80:ARG:HH12	1.67	0.42
35:Sg:17:TRP:HB2	35:Sg:36:ARG:HG3	2.02	0.42
38:zz:58:C:H2'	38:zz:59:U:H6	1.85	0.42
39:S2:171:A:H3'	39:S2:172:U:C6	2.54	0.42
39:S2:639:C:H2'	39:S2:640:A:C8	2.55	0.42
39:S2:1221:G:H2'	39:S2:1222:G:H8	1.83	0.42
39:S2:1390:U:H2'	39:S2:1391:C:H6	1.85	0.42
39:S2:1844:U:H2'	39:S2:1845:A:H8	1.85	0.42
40:3m:277:MET:O	40:3m:281:THR:HG23	2.19	0.42
43:3e:18:LEU:HA	43:3e:178:LEU:HD21	2.01	0.42
43:3e:319:LEU:HD13	43:3e:329:LEU:HA	2.02	0.42
6:SD:204:LEU:HD12	6:SD:204:LEU:HA	1.84	0.42
20:SR:34:VAL:O	20:SR:38:ILE:HG23	2.19	0.42
35:Sg:87:LEU:HB2	35:Sg:101:PHE:HB2	2.00	0.42
35:Sg:157:SER:HB3	35:Sg:164:ILE:HB	2.00	0.42
39:S2:804:U:H2'	39:S2:805:U:C6	2.55	0.42
39:S2:909:G:H2'	39:S2:910:G:C8	2.55	0.42
39:S2:1425:G:H2'	39:S2:1426:U:C6	2.55	0.42
41:3f:163:VAL:HA	45:3h:85:PRO:HG3	2.01	0.42
42:3a:439:LEU:HD11	42:3a:458:LEU:HD21	2.00	0.42
44:3c:757:ILE:HG21	44:3c:776:ARG:HD2	2.02	0.42
44:3c:769:PHE:HD1	44:3c:769:PHE:HA	1.73	0.42
48:3l:388:LEU:HD13	48:3l:388:LEU:HA	1.94	0.42
48:3l:498:LYS:HD2	48:3l:498:LYS:HA	1.77	0.42
2:5B:639:HIS:CG	2:5B:640:VAL:H	2.37	0.42
2:5B:729:ILE:HD13	2:5B:761:LEU:HD21	2.01	0.42
3:SA:49:ILE:HG21	3:SA:162:PRO:O	2.20	0.42
4:SB:153:THR:HB	4:SB:155:TYR:CE1	2.54	0.42
6:SD:27:ARG:HB3	13:SK:61:GLN:NE2	2.35	0.42
8:SF:178:ILE:HD13	8:SF:178:ILE:HA	1.91	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:SZ:100:VAL:HB	28:SZ:108:ILE:HB	2.02	0.42
35:Sg:297:THR:HA	35:Sg:310:TRP:O	2.20	0.42
39:S2:1809:A:H2'	39:S2:1810:U:C6	2.55	0.42
41:3f:253:MET:HA	41:3f:256:CYS:SG	2.60	0.42
42:3a:23:LYS:HE3	42:3a:23:LYS:HB2	1.90	0.42
44:3c:759:GLU:H	44:3c:759:GLU:HG2	1.62	0.42
10:SH:65:PRO:HG2	10:SH:68:GLN:HB2	2.02	0.41
35:Sg:30:MET:HE3	35:Sg:30:MET:HB3	1.93	0.41
38:zz:215:A:H4'	42:3a:76:ASN:HD21	1.85	0.41
38:zz:216:U:H3	42:3a:69:GLU:HG2	1.84	0.41
38:zz:256:G:H1	38:zz:276:A:N6	2.09	0.41
41:3f:90:ARG:NH1	41:3f:196:ASN:HD21	2.18	0.41
48:3l:136:TYR:O	48:3l:139:HIS:HB2	2.20	0.41
2:5B:780:LYS:O	2:5B:784:LYS:HG2	2.20	0.41
9:SG:174:PRO:HB3	39:S2:65:C:C5	2.55	0.41
16:SN:46:THR:O	16:SN:50:ILE:HG12	2.20	0.41
17:SO:72:TYR:CZ	17:SO:76:LEU:HD21	2.55	0.41
21:SS:106:LYS:HD3	21:SS:106:LYS:HA	1.78	0.41
27:SY:61:ARG:HA	27:SY:61:ARG:HD2	1.82	0.41
39:S2:345:U:H2'	39:S2:346:C:C6	2.55	0.41
39:S2:495:U:H2'	39:S2:496:C:O4'	2.20	0.41
39:S2:931:C:H2'	39:S2:932:G:C8	2.55	0.41
41:3f:172:TRP:HE1	41:3f:187:HIS:HA	1.84	0.41
41:3f:202:VAL:HG22	41:3f:213:ILE:HD12	2.01	0.41
44:3c:608:LEU:HD12	44:3c:608:LEU:HA	1.90	0.41
44:3c:760:LYS:O	44:3c:764:LYS:HG3	2.19	0.41
48:3l:525:LYS:HB2	48:3l:525:LYS:HE2	1.80	0.41
1:1A:26:LEU:HD13	1:1A:99:GLU:HG2	2.02	0.41
2:5B:814:PRO:HD2	2:5B:815:ARG:NH1	2.36	0.41
2:5B:1062:ILE:HD12	2:5B:1062:ILE:HA	1.85	0.41
10:SH:157:HIS:HB3	10:SH:190:PRO:HG3	2.03	0.41
35:Sg:173:LEU:HD22	35:Sg:189:ILE:HG12	2.02	0.41
38:zz:44:C:H2'	38:zz:45:C:H6	1.85	0.41
38:zz:193:C:H42	38:zz:202:A:N6	2.19	0.41
39:S2:906:U:H2'	39:S2:907:G:H8	1.85	0.41
42:3a:18:PHE:HB3	42:3a:23:LYS:HG3	2.02	0.41
44:3c:788:LEU:HD11	44:3c:807:LEU:HD11	2.02	0.41
48:3l:157:TYR:HE2	48:3l:220:LYS:HZ1	1.69	0.41
2:5B:712:LEU:HA	2:5B:715:ARG:HG2	2.01	0.41
20:SR:33:ARG:HA	20:SR:33:ARG:HD3	1.88	0.41
27:SY:46:LYS:HE3	27:SY:46:LYS:HB3	1.95	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:S2:996:A:H2'	39:S2:997:A:C8	2.55	0.41
40:3m:109:LEU:O	40:3m:113:MET:HG2	2.21	0.41
41:3f:159:LEU:HD11	45:3h:99:TYR:HD1	1.86	0.41
43:3e:417:MET:O	43:3e:421:ASN:HB2	2.21	0.41
44:3c:573:ILE:HD11	44:3c:588:LEU:HD23	2.01	0.41
48:3l:237:LYS:HG2	48:3l:266:TYR:HE1	1.84	0.41
20:SR:59:LYS:HE3	20:SR:59:LYS:HB3	1.72	0.41
20:SR:78:ARG:HA	20:SR:81:ARG:HG2	2.02	0.41
27:SY:37:LYS:HG2	27:SY:57:VAL:HG23	2.03	0.41
35:Sg:125:ARG:HA	35:Sg:150:TRP:HB3	2.01	0.41
39:S2:12:U:H2'	39:S2:13:C:C6	2.56	0.41
39:S2:551:U:H2'	39:S2:552:G:H8	1.86	0.41
39:S2:1221:G:H2'	39:S2:1222:G:C8	2.55	0.41
40:3m:233:GLU:HG2	40:3m:238:HIS:CG	2.56	0.41
42:3a:186:LEU:HD12	42:3a:186:LEU:HA	1.82	0.41
44:3c:745:LYS:HD3	44:3c:745:LYS:HA	1.73	0.41
8:SF:61:PHE:CE2	31:Sc:51:ARG:HB3	2.55	0.41
28:SZ:50:PHE:CD2	28:SZ:83:LEU:HD21	2.56	0.41
34:sh:99:LYS:HG3	34:sh:100:LEU:HD23	2.02	0.41
34:sh:107:LYS:NZ	34:sh:115:SER:HB2	2.36	0.41
35:Sg:217:MET:HA	35:Sg:229:THR:HA	2.01	0.41
35:Sg:230:LEU:HD13	35:Sg:230:LEU:HA	1.87	0.41
35:Sg:271:LYS:HE3	35:Sg:271:LYS:HB3	1.91	0.41
36:zy:18:G:H1'	36:zy:55:C:H1'	2.01	0.41
39:S2:924:G:H2'	39:S2:925:G:H8	1.85	0.41
39:S2:1203:G:H2'	39:S2:1204:A:C8	2.56	0.41
39:S2:1710:C:H42	39:S2:1823:A:N6	2.07	0.41
44:3c:548:MET:HE1	44:3c:551:LEU:HD13	2.02	0.41
45:3h:129:VAL:HG12	45:3h:318:LEU:HD12	2.01	0.41
47:3k:210:VAL:HG12	48:3l:548:HIS:CE1	2.55	0.41
2:5B:891:PRO:HG3	2:5B:945:LEU:HB2	2.03	0.41
3:SA:51:LEU:HD23	3:SA:51:LEU:HA	1.84	0.41
9:SG:52:ILE:HA	9:SG:111:LEU:HD23	2.03	0.41
10:SH:69:LEU:HD22	10:SH:96:ALA:HB2	2.02	0.41
14:SL:7:GLU:HG2	39:S2:375:U:H1'	2.02	0.41
15:Sf:19:GLN:HB3	15:Sf:88:TRP:HE3	1.85	0.41
15:Sf:26:LEU:HD13	15:Sf:31:LEU:HD21	2.01	0.41
23:SU:51:LYS:HB2	23:SU:90:ASP:HB2	2.01	0.41
23:SU:56:MET:HB2	23:SU:86:LYS:HB3	2.02	0.41
25:SW:88:LYS:H	25:SW:88:LYS:HG2	1.72	0.41
36:zy:12:G:H22	36:zy:21:G:H22	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:S2:374:G:H2'	39:S2:375:U:C6	2.56	0.41
39:S2:736:C:H2'	39:S2:737:G:C8	2.56	0.41
40:3m:62:SER:HB2	41:3f:222:GLY:N	2.34	0.41
41:3f:330:ASN:HD22	45:3h:341:LEU:HD21	1.86	0.41
42:3a:87:GLU:HG3	42:3a:173:LEU:HD22	2.02	0.41
42:3a:276:TYR:HB3	42:3a:299:LEU:HD12	2.03	0.41
42:3a:420:LYS:H	42:3a:420:LYS:HG2	1.71	0.41
43:3e:160:ALA:HB2	43:3e:191:ARG:HH12	1.85	0.41
43:3e:295:PHE:HB2	43:3e:311:LYS:HG2	2.03	0.41
44:3c:698:MET:HE2	44:3c:745:LYS:HE3	2.02	0.41
48:3l:201:ARG:HG2	48:3l:215:LEU:HD23	2.03	0.41
2:5B:913:LEU:HD23	2:5B:913:LEU:HA	1.90	0.41
3:SA:180:ARG:O	3:SA:184:ARG:HG3	2.21	0.41
4:SB:187:LYS:HB2	4:SB:187:LYS:HE3	1.86	0.41
11:SI:172:LEU:HD23	11:SI:172:LEU:HA	1.88	0.41
13:SK:47:LYS:HA	13:SK:47:LYS:HD2	1.89	0.41
15:Sf:35:ILE:HD13	15:Sf:61:TYR:CE1	2.56	0.41
16:SN:71:ILE:HG13	39:S2:1018:U:H5"	2.03	0.41
25:SW:115:GLU:HB2	25:SW:118:ARG:HH21	1.85	0.41
27:SY:38:THR:O	27:SY:42:GLU:HG3	2.20	0.41
27:SY:49:LYS:HE2	27:SY:49:LYS:HB2	1.88	0.41
31:Sc:40:ARG:HA	31:Sc:40:ARG:HD2	1.87	0.41
38:zz:64:U:H2'	38:zz:65:C:C6	2.56	0.41
42:3a:295:THR:HG22	42:3a:359:LEU:HD11	2.03	0.41
48:3l:55:PHE:HE1	48:3l:94:ILE:HG23	1.85	0.41
1:1A:109:LEU:HD12	1:1A:110:PRO:HD2	2.03	0.41
2:5B:1202:MET:HE3	2:5B:1202:MET:HB3	1.72	0.41
2:5B:1213:LEU:HA	2:5B:1216:VAL:HG12	2.03	0.41
16:SN:112:LYS:O	16:SN:116:ILE:HG12	2.21	0.41
29:Sa:5:ARG:HD3	39:S2:1865:C:O4'	2.21	0.41
30:Sb:41:TYR:CD1	38:zz:163:G:H2'	2.56	0.41
35:Sg:156:PHE:CE1	35:Sg:179:LEU:HD21	2.50	0.41
38:zz:78:U:H2'	38:zz:79:C:H6	1.86	0.41
39:S2:233:C:H2'	39:S2:234:C:C6	2.56	0.41
39:S2:367:U:H4'	39:S2:371:A:C8	2.56	0.41
39:S2:508:A:H3'	39:S2:509:G:H8	1.85	0.41
39:S2:521:A:H2'	39:S2:522:A:O4'	2.21	0.41
39:S2:980:A:H2'	39:S2:981:A:H8	1.85	0.41
39:S2:1323:U:H2'	39:S2:1324:G:C8	2.56	0.41
39:S2:1417:C:H2'	39:S2:1418:C:C4	2.56	0.41
41:3f:330:ASN:HD21	42:3a:520:ARG:HH21	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:3e:147:ALA:O	43:3e:151:LEU:HG	2.21	0.41
43:3e:274:LEU:O	43:3e:278:VAL:HG23	2.20	0.41
44:3c:815:LEU:HB3	44:3c:816:PRO:HD3	2.03	0.41
45:3h:123:THR:HG21	45:3h:128:PHE:HB3	2.02	0.41
48:3l:195:GLN:HA	48:3l:421:LEU:HD21	2.01	0.41
48:3l:207:LYS:HE2	48:3l:215:LEU:HD11	2.02	0.41
48:3l:340:LEU:O	48:3l:344:GLN:HG2	2.21	0.41
48:3l:391:ARG:HD3	48:3l:391:ARG:HA	1.88	0.41
2:5B:614:GLU:O	2:5B:618:LEU:HD13	2.21	0.41
2:5B:682:THR:HG23	2:5B:688:PHE:CE1	2.56	0.41
6:SD:31:GLU:HA	6:SD:107:TYR:CE2	2.56	0.41
22:ST:56:ARG:O	22:ST:60:THR:HG22	2.20	0.41
39:S2:241:G:H2'	39:S2:242:U:O4'	2.21	0.41
39:S2:753:C:H42	39:S2:790:C:H42	1.69	0.41
39:S2:1842:C:H2'	39:S2:1843:G:H8	1.86	0.41
40:3m:159:GLU:HA	40:3m:162:HIS:NE2	2.36	0.41
40:3m:354:LEU:HD13	40:3m:357:TRP:HE3	1.86	0.41
41:3f:118:GLY:HA3	41:3f:173:TYR:CZ	2.56	0.41
41:3f:248:GLY:HA2	45:3h:162:LEU:HD11	2.03	0.41
42:3a:486:HIS:ND1	44:3c:802:ILE:HA	2.36	0.41
2:5B:685:ILE:HG22	2:5B:687:ASN:H	1.85	0.40
2:5B:780:LYS:HB2	2:5B:783:THR:HG23	2.03	0.40
2:5B:1030:GLN:HB3	2:5B:1076:TYR:CE2	2.57	0.40
6:SD:209:SER:HB3	20:SR:40:ILE:HB	2.03	0.40
14:SL:111:VAL:HG11	14:SL:128:VAL:HG11	2.02	0.40
21:SS:98:VAL:HG23	21:SS:103:LEU:HG	2.02	0.40
29:Sa:10:ARG:HB2	29:Sa:33:ASP:OD2	2.21	0.40
35:Sg:165:ILE:HG22	35:Sg:177:TRP:HB2	2.02	0.40
39:S2:28:U:H2'	39:S2:29:G:H8	1.86	0.40
39:S2:223:C:H2'	39:S2:224:A:H8	1.85	0.40
39:S2:540:U:H2'	39:S2:541:U:H5	1.86	0.40
41:3f:163:VAL:HG22	45:3h:85:PRO:HG3	2.02	0.40
48:3l:518:GLU:HA	48:3l:533:THR:HB	2.02	0.40
2:5B:742:ASN:O	2:5B:745:LYS:HG3	2.21	0.40
2:5B:1096:ILE:HG13	2:5B:1176:PHE:CZ	2.56	0.40
4:SB:181:LEU:HA	4:SB:184:VAL:HG12	2.04	0.40
9:SG:121:ILE:HB	9:SG:124:LEU:HB3	2.04	0.40
35:Sg:146:SER:HA	35:Sg:177:TRP:HH2	1.86	0.40
38:zz:80:U:H2'	38:zz:81:A:H8	1.86	0.40
39:S2:416:U:H2'	39:S2:417:C:O4'	2.21	0.40
39:S2:1595:U:H2'	39:S2:1596:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:3l:57:GLN:HB3	48:3l:61:LYS:NZ	2.36	0.40
2:5B:766:LYS:HB2	2:5B:827:THR:HG23	2.03	0.40
2:5B:835:ILE:HA	2:5B:838:LEU:HD12	2.03	0.40
2:5B:890:VAL:HG12	2:5B:947:LEU:HD12	2.03	0.40
3:SA:170:SER:O	3:SA:174:MET:HG2	2.21	0.40
3:SA:207:PRO:HA	3:SA:210:ILE:HG22	2.03	0.40
9:SG:176:ILE:HD12	39:S2:77:A:H1'	2.02	0.40
21:SS:52:LEU:HD23	21:SS:52:LEU:HA	1.88	0.40
22:ST:27:LYS:HB2	22:ST:27:LYS:HE3	1.82	0.40
34:sh:126:CYS:HB3	34:sh:130:VAL:HG11	2.02	0.40
39:S2:241:G:O5'	39:S2:241:G:H8	2.05	0.40
39:S2:880:G:H2'	39:S2:881:G:H8	1.87	0.40
39:S2:1759:G:N2	39:S2:1774:C:H1'	2.36	0.40
40:3m:128:ILE:HG21	40:3m:167:LEU:HB3	2.03	0.40
40:3m:151:ILE:HA	40:3m:151:ILE:HD12	1.85	0.40
40:3m:160:LYS:HA	40:3m:160:LYS:HD2	1.86	0.40
41:3f:91:VAL:HG12	41:3f:236:THR:HB	2.02	0.40
41:3f:98:ILE:HG13	41:3f:99:LEU:N	2.35	0.40
47:3k:71:LEU:O	47:3k:75:THR:HG23	2.22	0.40
2:5B:864:LYS:HE2	2:5B:864:LYS:HB3	1.91	0.40
9:SG:147:LEU:H	9:SG:147:LEU:HD12	1.85	0.40
11:SI:45:THR:HG23	39:S2:307:G:O2'	2.22	0.40
17:SO:135:ILE:HD12	17:SO:135:ILE:HA	1.96	0.40
20:SR:58:MET:O	20:SR:62:GLN:HG2	2.21	0.40
23:SU:56:MET:HE3	23:SU:57:PRO:HD2	2.04	0.40
25:SW:19:LYS:HE2	25:SW:19:LYS:HB2	1.96	0.40
25:SW:111:MET:HE3	25:SW:116:ALA:HB2	2.04	0.40
34:sh:95:ARG:HH21	34:sh:97:LYS:HE3	1.87	0.40
39:S2:319:C:H2'	39:S2:320:G:O4'	2.21	0.40
39:S2:1593:C:H2'	39:S2:1594:A:C8	2.55	0.40
40:3m:65:ASN:HB3	41:3f:221:MET:SD	2.62	0.40
40:3m:212:LEU:HB2	40:3m:268:LEU:HD11	2.03	0.40
42:3a:25:GLN:HB2	42:3a:26:PRO:HD3	2.03	0.40
44:3c:573:ILE:HG23	44:3c:585:ALA:HB1	2.04	0.40
44:3c:859:LEU:HD21	45:3h:247:MET:HB2	2.04	0.40
45:3h:235:SER:HB2	45:3h:333:PHE:CE2	2.57	0.40
47:3k:139:ARG:HD3	47:3k:165:LEU:HD11	2.03	0.40
2:5B:609:ALA:HA	2:5B:612:ARG:HH21	1.85	0.40
2:5B:910:MET:O	2:5B:910:MET:HG3	2.22	0.40
11:SI:43:ILE:HG12	11:SI:57:ALA:HA	2.04	0.40
14:SL:20:LYS:HD2	14:SL:20:LYS:HA	1.96	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Sf:32:ALA:HB1	15:Sf:37:GLU:HB2	2.04	0.40
18:SP:30:TYR:O	18:SP:34:MET:HG2	2.22	0.40
35:Sg:101:PHE:CD1	35:Sg:136:GLY:HA2	2.56	0.40
38:zz:49:G:H2'	38:zz:50:A:C8	2.57	0.40
39:S2:375:U:H2'	39:S2:376:A:C8	2.57	0.40
39:S2:864:A:H2'	39:S2:865:A:C8	2.55	0.40
39:S2:1597:C:H4'	39:S2:1603:G:O6	2.21	0.40
39:S2:1641:A:H2'	39:S2:1642:U:O4'	2.21	0.40
42:3a:179:GLN:OE1	42:3a:231:GLU:HG3	2.22	0.40
42:3a:342:LEU:HD11	44:3c:718:LEU:HB3	2.03	0.40
43:3e:170:TRP:CH2	43:3e:214:LEU:HD22	2.56	0.40
44:3c:868:GLU:O	44:3c:872:ARG:HG3	2.21	0.40
45:3h:75:ARG:HG3	45:3h:77:GLU:HG3	2.03	0.40
45:3h:80:ASN:HD22	45:3h:112:ILE:HG21	1.87	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	1A	96/144 (67%)	88 (92%)	8 (8%)	0	100	100
2	5B	619/621 (100%)	580 (94%)	35 (6%)	4 (1%)	22	53
3	SA	214/295 (72%)	209 (98%)	5 (2%)	0	100	100
4	SB	210/264 (80%)	199 (95%)	11 (5%)	0	100	100
5	SC	217/293 (74%)	210 (97%)	7 (3%)	0	100	100
6	SD	224/243 (92%)	218 (97%)	6 (3%)	0	100	100
7	SE	258/263 (98%)	248 (96%)	10 (4%)	0	100	100
8	SF	190/204 (93%)	182 (96%)	8 (4%)	0	100	100
9	SG	235/249 (94%)	232 (99%)	3 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	SH	185/194 (95%)	180 (97%)	5 (3%)	0	100	100
11	SI	203/208 (98%)	194 (96%)	9 (4%)	0	100	100
12	SJ	178/194 (92%)	175 (98%)	3 (2%)	0	100	100
13	SK	94/165 (57%)	86 (92%)	8 (8%)	0	100	100
14	SL	148/158 (94%)	144 (97%)	4 (3%)	0	100	100
15	Sf	119/132 (90%)	109 (92%)	10 (8%)	0	100	100
16	SN	147/151 (97%)	141 (96%)	6 (4%)	0	100	100
17	SO	133/151 (88%)	120 (90%)	13 (10%)	0	100	100
18	SP	117/145 (81%)	112 (96%)	5 (4%)	0	100	100
19	SQ	138/146 (94%)	133 (96%)	5 (4%)	0	100	100
20	SR	130/135 (96%)	123 (95%)	7 (5%)	0	100	100
21	SS	141/152 (93%)	134 (95%)	7 (5%)	0	100	100
22	ST	140/145 (97%)	139 (99%)	1 (1%)	0	100	100
23	SU	99/119 (83%)	94 (95%)	4 (4%)	1 (1%)	13	42
24	SV	81/83 (98%)	81 (100%)	0	0	100	100
25	SW	127/130 (98%)	121 (95%)	6 (5%)	0	100	100
26	SX	139/143 (97%)	132 (95%)	7 (5%)	0	100	100
27	SY	122/133 (92%)	119 (98%)	3 (2%)	0	100	100
28	SZ	73/125 (58%)	69 (94%)	3 (4%)	1 (1%)	9	34
29	Sa	98/115 (85%)	95 (97%)	3 (3%)	0	100	100
30	Sb	81/84 (96%)	77 (95%)	4 (5%)	0	100	100
31	Sc	60/69 (87%)	58 (97%)	2 (3%)	0	100	100
32	Sd	53/56 (95%)	52 (98%)	1 (2%)	0	100	100
33	Se	50/59 (85%)	47 (94%)	3 (6%)	0	100	100
34	sh	62/156 (40%)	56 (90%)	6 (10%)	0	100	100
35	Sg	311/317 (98%)	292 (94%)	19 (6%)	0	100	100
37	Ln	22/25 (88%)	21 (96%)	1 (4%)	0	100	100
40	3m	361/374 (96%)	343 (95%)	18 (5%)	0	100	100
41	3f	267/357 (75%)	263 (98%)	4 (2%)	0	100	100
42	3a	590/1382 (43%)	563 (95%)	27 (5%)	0	100	100
43	3e	428/445 (96%)	413 (96%)	15 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
44	3c	537/913 (59%)	517 (96%)	20 (4%)	0	100	100
45	3h	316/352 (90%)	304 (96%)	12 (4%)	0	100	100
46	3d	53/548 (10%)	49 (92%)	4 (8%)	0	100	100
47	3k	213/218 (98%)	206 (97%)	7 (3%)	0	100	100
48	3l	518/564 (92%)	503 (97%)	15 (3%)	0	100	100
All	All	8797/11419 (77%)	8431 (96%)	360 (4%)	6 (0%)	50	76

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	5B	1099	GLN
2	5B	1108	ILE
2	5B	1098	PRO
23	SU	54	VAL
28	SZ	42	ASP
2	5B	1138	VAL

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	1A	82/123 (67%)	80 (98%)	2 (2%)	44	68
2	5B	546/546 (100%)	523 (96%)	23 (4%)	25	53
3	SA	180/243 (74%)	173 (96%)	7 (4%)	27	55
4	SB	193/231 (84%)	189 (98%)	4 (2%)	48	70
5	SC	185/225 (82%)	180 (97%)	5 (3%)	40	65
6	SD	189/202 (94%)	180 (95%)	9 (5%)	21	50
7	SE	223/225 (99%)	215 (96%)	8 (4%)	30	57
8	SF	162/170 (95%)	154 (95%)	8 (5%)	21	49
9	SG	207/218 (95%)	199 (96%)	8 (4%)	27	55
10	SH	167/174 (96%)	160 (96%)	7 (4%)	25	53

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
11	SI	178/180 (99%)	173 (97%)	5 (3%)	38	64
12	SJ	160/168 (95%)	151 (94%)	9 (6%)	17	45
13	SK	87/136 (64%)	84 (97%)	3 (3%)	32	59
14	SL	134/142 (94%)	130 (97%)	4 (3%)	36	62
15	Sf	102/108 (94%)	100 (98%)	2 (2%)	50	71
16	SN	130/131 (99%)	129 (99%)	1 (1%)	79	87
17	SO	104/119 (87%)	100 (96%)	4 (4%)	28	56
18	SP	107/130 (82%)	104 (97%)	3 (3%)	38	64
19	SQ	116/121 (96%)	113 (97%)	3 (3%)	41	66
20	SR	119/122 (98%)	110 (92%)	9 (8%)	11	34
21	SS	124/132 (94%)	118 (95%)	6 (5%)	21	50
22	ST	112/115 (97%)	110 (98%)	2 (2%)	54	74
23	SU	93/107 (87%)	86 (92%)	7 (8%)	11	34
24	SV	67/67 (100%)	65 (97%)	2 (3%)	36	62
25	SW	112/113 (99%)	111 (99%)	1 (1%)	75	85
26	SX	113/115 (98%)	103 (91%)	10 (9%)	8	28
27	SY	108/115 (94%)	105 (97%)	3 (3%)	38	64
28	SZ	67/103 (65%)	62 (92%)	5 (8%)	11	34
29	Sa	87/98 (89%)	85 (98%)	2 (2%)	45	68
30	Sb	75/76 (99%)	69 (92%)	6 (8%)	10	32
31	Sc	55/62 (89%)	53 (96%)	2 (4%)	30	57
32	Sd	48/49 (98%)	48 (100%)	0	100	100
33	Se	42/48 (88%)	40 (95%)	2 (5%)	21	50
34	sh	57/140 (41%)	53 (93%)	4 (7%)	12	37
35	Sg	272/275 (99%)	257 (94%)	15 (6%)	18	45
37	Ln	23/24 (96%)	23 (100%)	0	100	100
40	3m	252/335 (75%)	246 (98%)	6 (2%)	44	68
41	3f	229/289 (79%)	221 (96%)	8 (4%)	31	58
42	3a	433/1259 (34%)	421 (97%)	12 (3%)	38	64
43	3e	302/406 (74%)	294 (97%)	8 (3%)	41	66
44	3c	343/811 (42%)	336 (98%)	7 (2%)	50	71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
45	3h	272/310 (88%)	262 (96%)	10 (4%)	29 56
46	3d	19/494 (4%)	18 (95%)	1 (5%)	19 47
47	3k	121/193 (63%)	119 (98%)	2 (2%)	56 74
48	3l	475/515 (92%)	460 (97%)	15 (3%)	34 61
All	All	7272/9965 (73%)	7012 (96%)	260 (4%)	32 57

All (260) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1A	22	GLU
1	1A	39	ILE
2	5B	675	LEU
2	5B	763	ASP
2	5B	783	THR
2	5B	788	GLU
2	5B	812	LYS
2	5B	834	LEU
2	5B	846	LEU
2	5B	861	MET
2	5B	871	THR
2	5B	898	VAL
2	5B	934	LEU
2	5B	956	ILE
2	5B	963	LEU
2	5B	974	ILE
2	5B	994	LEU
2	5B	1028	ASP
2	5B	1047	GLU
2	5B	1063	TYR
2	5B	1096	ILE
2	5B	1100	TYR
2	5B	1109	VAL
2	5B	1123	THR
2	5B	1191	ILE
3	SA	23	THR
3	SA	38	ILE
3	SA	104	THR
3	SA	111	GLN
3	SA	197	VAL
3	SA	200	ASP
3	SA	211	GLU

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Mol	Chain	Res	Type
4	SB	140	VAL
4	SB	147	ASN
4	SB	186	ASN
4	SB	218	LEU
5	SC	121	ARG
5	SC	165	VAL
5	SC	188	CYS
5	SC	260	VAL
5	SC	263	LYS
6	SD	37	VAL
6	SD	42	THR
6	SD	54	ARG
6	SD	135	GLU
6	SD	153	VAL
6	SD	160	SER
6	SD	168	VAL
6	SD	208	VAL
6	SD	225	GLU
7	SE	12	VAL
7	SE	65	CYS
7	SE	115	THR
7	SE	131	VAL
7	SE	139	LEU
7	SE	177	THR
7	SE	208	VAL
7	SE	214	ASN
8	SF	14	THR
8	SF	69	VAL
8	SF	76	MET
8	SF	98	GLU
8	SF	134	VAL
8	SF	177	LEU
8	SF	182	LYS
8	SF	191	LYS
9	SG	67	VAL
9	SG	125	THR
9	SG	129	VAL
9	SG	147	LEU
9	SG	155	GLN
9	SG	158	VAL
9	SG	162	LEU
9	SG	179	LEU

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Mol	Chain	Res	Type
10	SH	15	LYS
10	SH	25	GLN
10	SH	27	LEU
10	SH	77	VAL
10	SH	131	GLU
10	SH	132	ASP
10	SH	180	LEU
11	SI	13	LYS
11	SI	82	VAL
11	SI	97	VAL
11	SI	100	CYS
11	SI	159	SER
12	SJ	8	VAL
12	SJ	12	THR
12	SJ	14	VAL
12	SJ	29	LEU
12	SJ	84	ILE
12	SJ	86	VAL
12	SJ	137	VAL
12	SJ	160	SER
12	SJ	172	ARG
13	SK	40	VAL
13	SK	62	PHE
13	SK	79	LEU
14	SL	40	ILE
14	SL	46	THR
14	SL	116	CYS
14	SL	126	VAL
15	Sf	76	LEU
15	Sf	94	ILE
16	SN	20	ARG
17	SO	47	LEU
17	SO	87	GLU
17	SO	103	ASN
17	SO	130	GLU
18	SP	38	SER
18	SP	50	ARG
18	SP	94	VAL
19	SQ	20	THR
19	SQ	48	GLN
19	SQ	66	VAL
20	SR	22	THR

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Mol	Chain	Res	Type
20	SR	23	ARG
20	SR	43	SER
20	SR	59	LYS
20	SR	61	ILE
20	SR	69	ILE
20	SR	82	ASP
20	SR	89	SER
20	SR	107	LYS
21	SS	64	VAL
21	SS	71	MET
21	SS	94	LYS
21	SS	103	LEU
21	SS	118	ARG
21	SS	136	THR
22	ST	9	VAL
22	ST	50	GLU
23	SU	18	HIS
23	SU	65	THR
23	SU	92	HIS
23	SU	105	SER
23	SU	110	VAL
23	SU	111	GLU
23	SU	115	THR
24	SV	34	MET
24	SV	69	ILE
25	SW	34	ILE
26	SX	25	LYS
26	SX	29	LYS
26	SX	32	LEU
26	SX	48	LYS
26	SX	58	GLU
26	SX	70	VAL
26	SX	72	VAL
26	SX	100	VAL
26	SX	102	VAL
26	SX	129	SER
27	SY	3	ASP
27	SY	99	LYS
27	SY	125	VAL
28	SZ	48	VAL
28	SZ	50	PHE
28	SZ	65	TYR

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Mol	Chain	Res	Type
28	SZ	100	VAL
28	SZ	108	ILE
29	Sa	29	CYS
29	Sa	79	ILE
30	Sb	3	LEU
30	Sb	53	VAL
30	Sb	56	CYS
30	Sb	57	VAL
30	Sb	62	VAL
30	Sb	64	CYS
31	Sc	43	ILE
31	Sc	61	SER
33	Se	22	GLN
33	Se	45	VAL
34	sh	93	HIS
34	sh	106	TYR
34	sh	130	VAL
34	sh	148	TYR
35	Sg	10	THR
35	Sg	18	VAL
35	Sg	40	ILE
35	Sg	64	HIS
35	Sg	70	VAL
35	Sg	132	TRP
35	Sg	141	THR
35	Sg	144	ASP
35	Sg	150	TRP
35	Sg	166	VAL
35	Sg	203	ASP
35	Sg	229	THR
35	Sg	230	LEU
35	Sg	234	ASP
35	Sg	287	THR
40	3m	32	GLU
40	3m	142	THR
40	3m	192	TYR
40	3m	205	HIS
40	3m	237	ILE
40	3m	274	MET
41	3f	97	VAL
41	3f	124	VAL
41	3f	155	ASN

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Mol	Chain	Res	Type
41	3f	168	LEU
41	3f	198	ILE
41	3f	255	THR
41	3f	262	VAL
41	3f	293	VAL
42	3a	52	LEU
42	3a	65	HIS
42	3a	155	GLU
42	3a	175	HIS
42	3a	176	ASP
42	3a	288	ASN
42	3a	332	THR
42	3a	370	LEU
42	3a	428	VAL
42	3a	452	PHE
42	3a	455	LEU
42	3a	554	VAL
43	3e	153	PHE
43	3e	223	PHE
43	3e	243	LEU
43	3e	253	ILE
43	3e	314	GLU
43	3e	324	PHE
43	3e	326	VAL
43	3e	414	ARG
44	3c	505	LEU
44	3c	713	GLN
44	3c	716	HIS
44	3c	736	HIS
44	3c	759	GLU
44	3c	769	PHE
44	3c	779	LEU
45	3h	64	GLN
45	3h	149	VAL
45	3h	193	THR
45	3h	204	VAL
45	3h	205	ILE
45	3h	208	SER
45	3h	219	GLU
45	3h	238	HIS
45	3h	347	LEU
45	3h	352	ASN

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Mol	Chain	Res	Type
46	3d	21	VAL
47	3k	127	LEU
47	3k	145	VAL
48	3l	112	TRP
48	3l	132	TYR
48	3l	149	SER
48	3l	186	ILE
48	3l	212	ILE
48	3l	304	MET
48	3l	344	GLN
48	3l	363	GLN
48	3l	441	LEU
48	3l	447	PHE
48	3l	497	MET
48	3l	523	ILE
48	3l	527	MET
48	3l	528	ILE
48	3l	548	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
1	1A	87	ASN
2	5B	736	GLN
2	5B	984	GLN
2	5B	1118	GLN
3	SA	164	ASN
5	SC	136	HIS
6	SD	159	HIS
7	SE	67	GLN
7	SE	157	ASN
8	SF	203	ASN
9	SG	56	ASN
9	SG	187	HIS
10	SH	68	GLN
10	SH	97	GLN
12	SJ	140	GLN
13	SK	7	ASN
13	SK	42	ASN
13	SK	61	GLN
14	SL	5	GLN
14	SL	100	ASN

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Mol	Chain	Res	Type
16	SN	101	HIS
17	SO	32	HIS
17	SO	103	ASN
18	SP	79	HIS
20	SR	31	ASN
22	ST	137	GLN
23	SU	92	HIS
25	SW	98	GLN
26	SX	73	GLN
29	Sa	72	HIS
30	Sb	19	HIS
30	Sb	26	GLN
32	Sd	37	ASN
34	sh	139	HIS
35	Sg	4	GLN
35	Sg	51	ASN
35	Sg	147	HIS
35	Sg	181	ASN
35	Sg	191	HIS
35	Sg	222	ASN
35	Sg	272	GLN
40	3m	65	ASN
40	3m	257	GLN
40	3m	270	HIS
40	3m	273	ASN
41	3f	155	ASN
41	3f	330	ASN
41	3f	347	GLN
42	3a	76	ASN
42	3a	288	ASN
42	3a	412	ASN
42	3a	430	GLN
42	3a	518	GLN
42	3a	544	GLN
43	3e	239	GLN
43	3e	309	GLN
44	3c	519	HIS
44	3c	623	GLN
44	3c	637	GLN
44	3c	648	GLN
44	3c	674	HIS
44	3c	724	GLN

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Mol	Chain	Res	Type
44	3c	840	GLN
44	3c	853	GLN
44	3c	858	GLN
45	3h	80	ASN
45	3h	86	GLN
45	3h	191	ASN
45	3h	255	GLN
45	3h	276	GLN
45	3h	345	GLN
47	3k	76	ASN
47	3k	169	GLN
48	3l	86	GLN
48	3l	97	ASN
48	3l	218	ASN
48	3l	514	GLN
48	3l	529	HIS

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
36	zy	74/75 (98%)	26 (35%)	0
38	zz	305/332 (91%)	118 (38%)	0
39	S2	1748/1869 (93%)	325 (18%)	9 (0%)
All	All	2127/2276 (93%)	469 (22%)	9 (0%)

All (469) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
36	zy	5	G
36	zy	6	A
36	zy	8	U
36	zy	9	G
36	zy	10	G
36	zy	15	G
36	zy	16	C
36	zy	18	G
36	zy	19	A
36	zy	20	A
36	zy	40	C
36	zy	41	A
36	zy	47	C

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Mol	Chain	Res	Type
36	zy	48	G
36	zy	50	U
36	zy	51	G
36	zy	53	A
36	zy	54	U
36	zy	56	G
36	zy	57	A
36	zy	61	C
36	zy	62	A
36	zy	65	C
36	zy	71	U
36	zy	73	C
36	zy	74	C
38	zz	46	U
38	zz	48	U
38	zz	49	G
38	zz	51	G
38	zz	52	G
38	zz	53	A
38	zz	54	A
38	zz	56	U
38	zz	64	U
38	zz	82	G
38	zz	83	C
38	zz	85	A
38	zz	94	G
38	zz	100	G
38	zz	102	G
38	zz	103	U
38	zz	106	U
38	zz	107	G
38	zz	111	C
38	zz	113	U
38	zz	114	C
38	zz	116	A
38	zz	118	G
38	zz	132	G
38	zz	133	G
38	zz	134	A
38	zz	135	G
38	zz	136	A
38	zz	138	C

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Mol	Chain	Res	Type
38	zz	140	A
38	zz	142	A
38	zz	143	G
38	zz	150	G
38	zz	154	A
38	zz	156	C
38	zz	157	C
38	zz	161	G
38	zz	162	A
38	zz	163	G
38	zz	164	U
38	zz	165	A
38	zz	166	C
38	zz	167	A
38	zz	169	C
38	zz	171	G
38	zz	175	U
38	zz	176	G
38	zz	185	A
38	zz	186	C
38	zz	189	G
38	zz	190	G
38	zz	191	U
38	zz	192	C
38	zz	195	U
38	zz	196	U
38	zz	197	C
38	zz	198	U
38	zz	202	A
38	zz	204	C
38	zz	207	C
38	zz	208	C
38	zz	209	C
38	zz	210	G
38	zz	213	C
38	zz	216	U
38	zz	217	G
38	zz	218	C
38	zz	223	A
38	zz	224	G
38	zz	225	A
38	zz	229	G

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Mol	Chain	Res	Type
38	zz	233	G
38	zz	234	U
38	zz	237	C
38	zz	244	A
38	zz	245	G
38	zz	249	G
38	zz	250	C
38	zz	252	A
38	zz	253	G
38	zz	254	C
38	zz	255	C
38	zz	256	G
38	zz	257	A
38	zz	258	G
38	zz	259	U
38	zz	263	G
38	zz	265	U
38	zz	266	G
38	zz	269	U
38	zz	270	C
38	zz	279	C
38	zz	281	U
38	zz	282	U
38	zz	283	G
38	zz	284	U
38	zz	288	A
38	zz	290	U
38	zz	295	G
38	zz	297	U
38	zz	303	G
38	zz	306	U
38	zz	307	G
38	zz	323	G
38	zz	324	U
38	zz	330	A
38	zz	331	G
38	zz	332	A
38	zz	333	C
38	zz	334	C
38	zz	335	G
38	zz	336	U
38	zz	344	G

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Mol	Chain	Res	Type
38	zz	345	A
38	zz	346	G
38	zz	347	C
38	zz	348	A
38	zz	349	C
39	S2	2	A
39	S2	17	C
39	S2	33	G
39	S2	41	G
39	S2	46	A
39	S2	56	G
39	S2	62	G
39	S2	67	C
39	S2	68	A
39	S2	73	C
39	S2	74	G
39	S2	75	G
39	S2	99	A
39	S2	103	A
39	S2	113	G
39	S2	115	U
39	S2	126	G
39	S2	130	G
39	S2	143	U
39	S2	155	G
39	S2	158	A
39	S2	161	U
39	S2	163	U
39	S2	172	U
39	S2	175	A
39	S2	178	C
39	S2	182	C
39	S2	191	A
39	S2	193	C
39	S2	195	C
39	S2	199	C
39	S2	201	C
39	S2	202	G
39	S2	204	G
39	S2	212	C
39	S2	228	C
39	S2	233	C

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Mol	Chain	Res	Type
39	S2	235	A
39	S2	280	G
39	S2	281	C
39	S2	282	G
39	S2	283	G
39	S2	294	U
39	S2	306	C
39	S2	309	G
39	S2	319	C
39	S2	324	C
39	S2	325	C
39	S2	326	C
39	S2	327	G
39	S2	328	U
39	S2	329	G
39	S2	330	G
39	S2	332	G
39	S2	351	G
39	S2	362	C
39	S2	364	A
39	S2	370	G
39	S2	383	G
39	S2	385	G
39	S2	386	C
39	S2	399	C
39	S2	400	C
39	S2	407	G
39	S2	408	A
39	S2	409	C
39	S2	448	A
39	S2	449	A
39	S2	450	C
39	S2	452	G
39	S2	464	A
39	S2	471	G
39	S2	472	C
39	S2	474	G
39	S2	476	A
39	S2	482	G
39	S2	487	U
39	S2	492	C
39	S2	493	A

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Mol	Chain	Res	Type
39	S2	516	A
39	S2	517	C
39	S2	518	G
39	S2	532	C
39	S2	534	G
39	S2	536	A
39	S2	537	C
39	S2	538	U
39	S2	541	U
39	S2	543	C
39	S2	544	G
39	S2	545	A
39	S2	546	G
39	S2	547	G
39	S2	548	C
39	S2	549	C
39	S2	550	C
39	S2	554	A
39	S2	555	A
39	S2	556	U
39	S2	559	G
39	S2	564	A
39	S2	568	C
39	S2	576	A
39	S2	583	A
39	S2	587	A
39	S2	589	G
39	S2	590	A
39	S2	591	U
39	S2	593	C
39	S2	606	G
39	S2	614	C
39	S2	617	G
39	S2	629	A
39	S2	643	A
39	S2	644	G
39	S2	655	A
39	S2	660	C
39	S2	669	A
39	S2	670	A
39	S2	671	A
39	S2	672	A

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Mol	Chain	Res	Type
39	S2	673	G
39	S2	688	U
39	S2	690	G
39	S2	692	G
39	S2	693	A
39	S2	695	C
39	S2	696	G
39	S2	697	G
39	S2	698	G
39	S2	731	G
39	S2	732	U
39	S2	733	C
39	S2	735	C
39	S2	736	C
39	S2	738	C
39	S2	746	C
39	S2	749	U
39	S2	751	G
39	S2	790	C
39	S2	795	A
39	S2	796	G
39	S2	797	C
39	S2	798	G
39	S2	799	U
39	S2	800	U
39	S2	801	U
39	S2	821	G
39	S2	822	U
39	S2	827	A
39	S2	834	C
39	S2	847	A
39	S2	869	A
39	S2	870	A
39	S2	871	U
39	S2	872	A
39	S2	873	G
39	S2	886	A
39	S2	891	G
39	S2	894	G
39	S2	895	G
39	S2	913	A
39	S2	914	U

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Mol	Chain	Res	Type
39	S2	920	A
39	S2	921	G
39	S2	922	A
39	S2	933	G
39	S2	943	U
39	S2	971	G
39	S2	985	G
39	S2	990	A
39	S2	992	A
39	S2	1017	U
39	S2	1023	A
39	S2	1045	U
39	S2	1060	A
39	S2	1061	U
39	S2	1062	A
39	S2	1071	G
39	S2	1078	C
39	S2	1081	U
39	S2	1082	A
39	S2	1083	A
39	S2	1085	C
39	S2	1099	G
39	S2	1109	C
39	S2	1114	U
39	S2	1115	U
39	S2	1117	C
39	S2	1118	C
39	S2	1121	G
39	S2	1130	G
39	S2	1133	A
39	S2	1138	C
39	S2	1139	C
39	S2	1149	A
39	S2	1150	A
39	S2	1153	C
39	S2	1154	U
39	S2	1166	G
39	S2	1170	A
39	S2	1171	G
39	S2	1195	A
39	S2	1207	G
39	S2	1215	C

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Mol	Chain	Res	Type
39	S2	1220	A
39	S2	1242	U
39	S2	1243	U
39	S2	1248	U
39	S2	1249	C
39	S2	1251	A
39	S2	1253	A
39	S2	1256	G
39	S2	1257	G
39	S2	1259	A
39	S2	1274	G
39	S2	1275	G
39	S2	1284	A
39	S2	1285	G
39	S2	1286	G
39	S2	1287	A
39	S2	1288	U
39	S2	1291	A
39	S2	1294	G
39	S2	1301	A
39	S2	1302	G
39	S2	1303	C
39	S2	1306	U
39	S2	1308	U
39	S2	1309	C
39	S2	1326	U
39	S2	1327	G
39	S2	1342	U
39	S2	1348	G
39	S2	1371	U
39	S2	1372	U
39	S2	1378	A
39	S2	1382	A
39	S2	1397	U
39	S2	1404	U
39	S2	1417	C
39	S2	1418	C
39	S2	1419	C
39	S2	1421	A
39	S2	1423	C
39	S2	1424	G
39	S2	1434	C

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Mol	Chain	Res	Type
39	S2	1435	C
39	S2	1436	C
39	S2	1438	A
39	S2	1452	A
39	S2	1454	A
39	S2	1462	U
39	S2	1463	U
39	S2	1489	A
39	S2	1490	G
39	S2	1494	U
39	S2	1497	G
39	S2	1498	A
39	S2	1507	G
39	S2	1508	A
39	S2	1520	G
39	S2	1521	C
39	S2	1522	A
39	S2	1533	A
39	S2	1552	G
39	S2	1553	C
39	S2	1555	U
39	S2	1575	G
39	S2	1580	A
39	S2	1585	U
39	S2	1588	A
39	S2	1601	A
39	S2	1606	G
39	S2	1621	U
39	S2	1646	C
39	S2	1654	G
39	S2	1664	A
39	S2	1665	G
39	S2	1671	G
39	S2	1680	G
39	S2	1698	C
39	S2	1699	A
39	S2	1712	A
39	S2	1713	C
39	S2	1714	U
39	S2	1719	A
39	S2	1721	U
39	S2	1722	G

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Mol	Chain	Res	Type
39	S2	1723	G
39	S2	1744	G
39	S2	1745	A
39	S2	1748	G
39	S2	1752	C
39	S2	1753	C
39	S2	1754	G
39	S2	1768	A
39	S2	1776	G
39	S2	1777	G
39	S2	1778	C
39	S2	1780	G
39	S2	1781	A
39	S2	1782	G
39	S2	1783	C
39	S2	1785	C
39	S2	1786	U
39	S2	1799	G
39	S2	1812	U
39	S2	1813	A
39	S2	1821	U
39	S2	1823	A
39	S2	1824	A
39	S2	1825	A
39	S2	1826	G
39	S2	1830	U
39	S2	1831	A
39	S2	1835	A
39	S2	1838	U
39	S2	1849	G
39	S2	1851	A
39	S2	1852	C
39	S2	1861	G
39	S2	1862	G
39	S2	1863	A
39	S2	1865	C

All (9) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
39	S2	171	A
39	S2	174	C

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Mol	Chain	Res	Type
39	S2	323	C
39	S2	517	C
39	S2	531	A
39	S2	871	U
39	S2	1116	C
39	S2	1326	U
39	S2	1434	C

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 11 ligands modelled in this entry, 10 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
50	GTP	5B	1302	49	26,34,34	3.54	13 (50%)	32,54,54	1.50	6 (18%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
50	GTP	5B	1302	49	-	5/18/38/38	0/3/3/3

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	5B	1302	GTP	C3'-C4'	-8.76	1.30	1.53
50	5B	1302	GTP	O4'-C4'	7.59	1.62	1.45
50	5B	1302	GTP	O4'-C1'	-7.10	1.31	1.41
50	5B	1302	GTP	C2-N3	5.42	1.46	1.33
50	5B	1302	GTP	C4-N3	4.97	1.49	1.37
50	5B	1302	GTP	C2-N2	4.72	1.45	1.34
50	5B	1302	GTP	C6-N1	3.56	1.43	1.37
50	5B	1302	GTP	C5-C6	3.05	1.53	1.47
50	5B	1302	GTP	O3'-C3'	2.97	1.50	1.43
50	5B	1302	GTP	O2'-C2'	-2.89	1.36	1.43
50	5B	1302	GTP	C2-N1	2.62	1.44	1.37
50	5B	1302	GTP	C5-C4	-2.49	1.36	1.43
50	5B	1302	GTP	O6-C6	-2.24	1.18	1.23

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
50	5B	1302	GTP	PA-O3A-PB	-3.44	121.02	132.83
50	5B	1302	GTP	C5-C6-N1	3.28	119.75	113.95
50	5B	1302	GTP	PB-O3B-PG	-2.86	123.02	132.83
50	5B	1302	GTP	C8-N7-C5	2.73	108.20	102.99
50	5B	1302	GTP	C2-N1-C6	-2.71	120.11	125.10
50	5B	1302	GTP	C3'-C2'-C1'	2.59	104.87	100.98

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
50	5B	1302	GTP	PA-O3A-PB-O3B
50	5B	1302	GTP	PG-O3B-PB-O2B
50	5B	1302	GTP	O4'-C4'-C5'-O5'
50	5B	1302	GTP	PG-O3B-PB-O1B
50	5B	1302	GTP	PA-O3A-PB-O1B

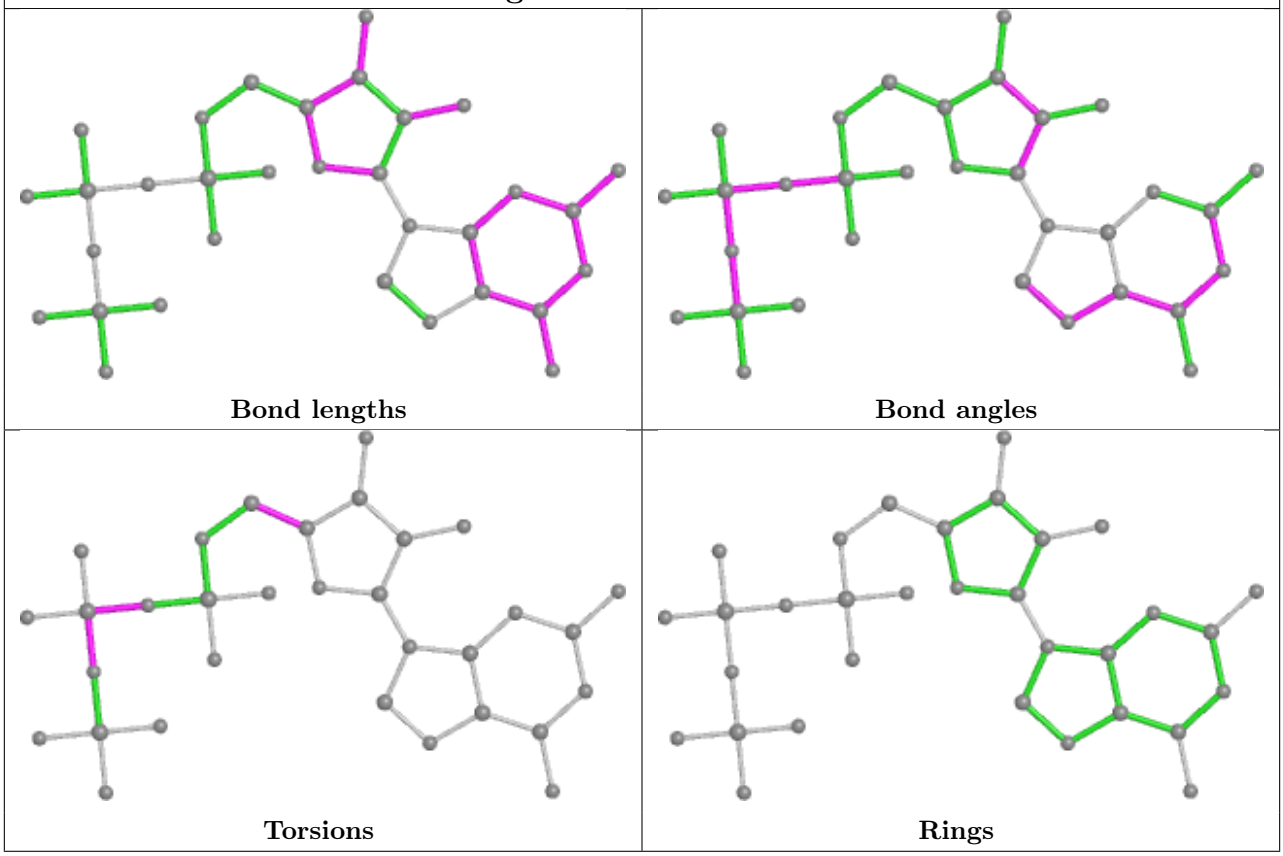
There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is

within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand GTP 5B 1302



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.

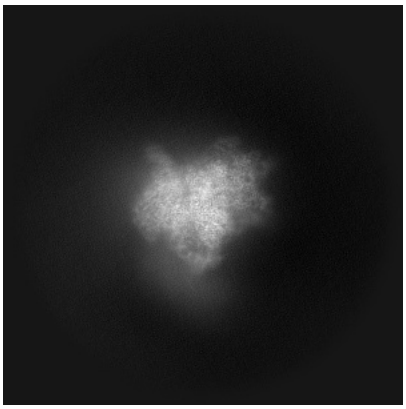
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-62454. These allow visual inspection of the internal detail of the map and identification of artifacts.

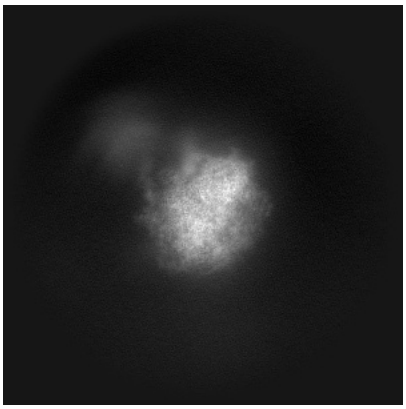
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

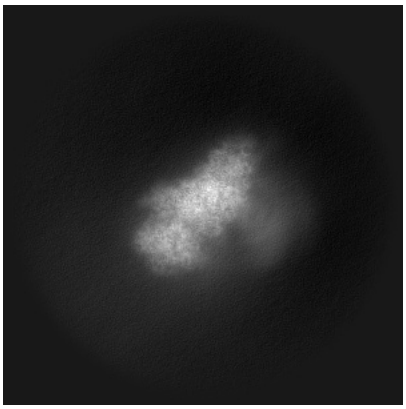
6.1.1 Primary map



X

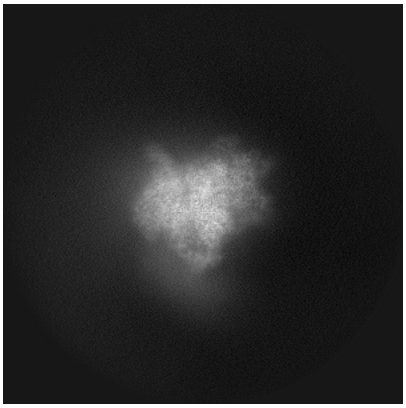


Y

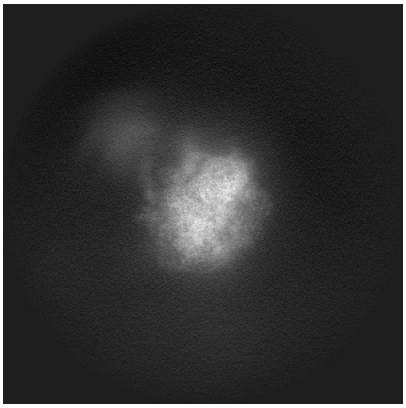


Z

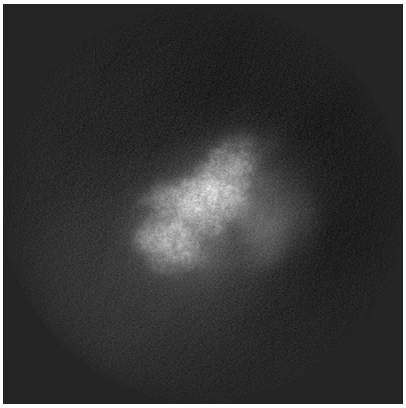
6.1.2 Raw map



X



Y

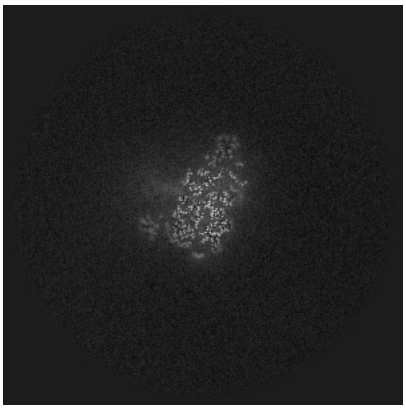


Z

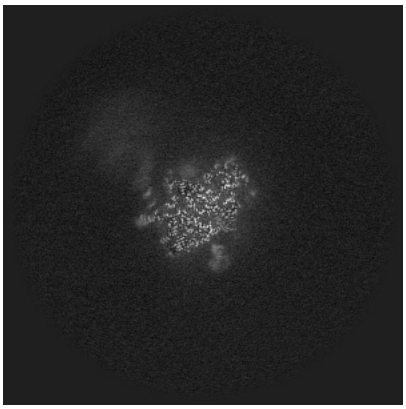
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

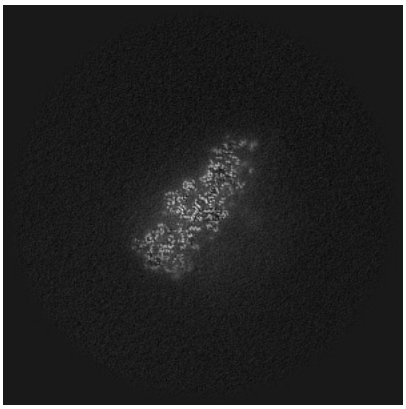
6.2.1 Primary map



X Index: 250

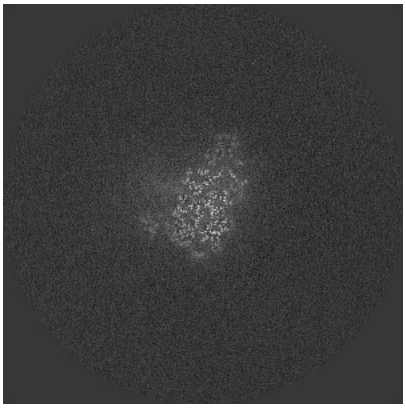


Y Index: 250

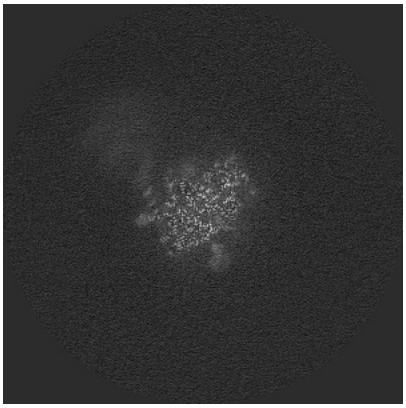


Z Index: 250

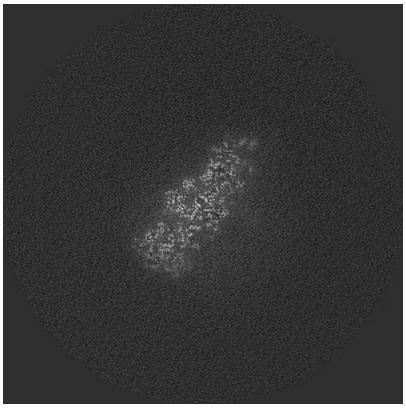
6.2.2 Raw map



X Index: 250



Y Index: 250

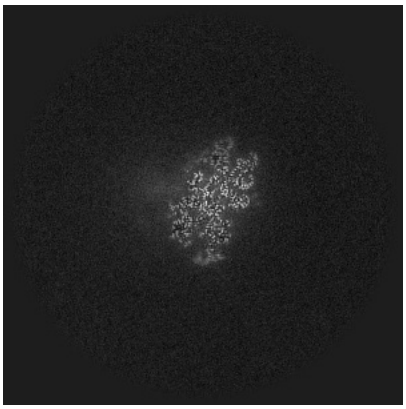


Z Index: 250

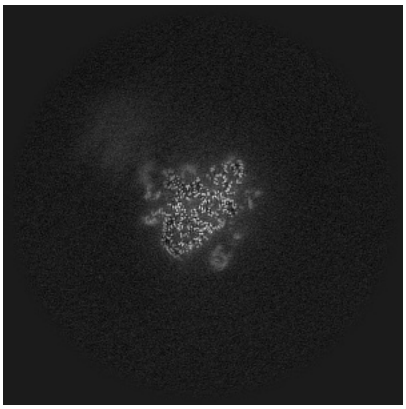
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

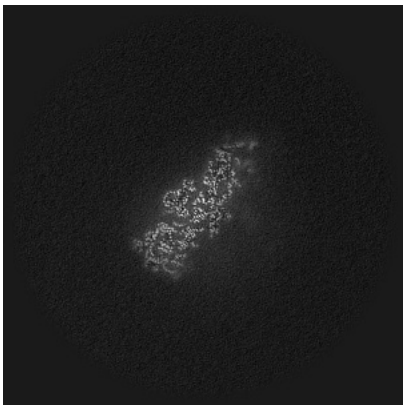
6.3.1 Primary map



X Index: 260

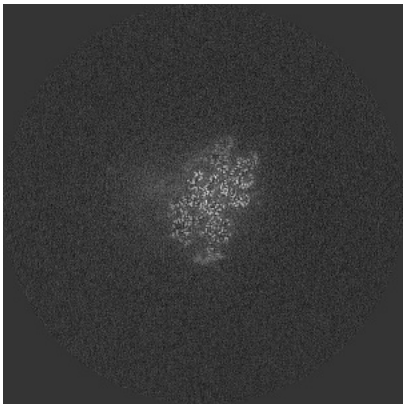


Y Index: 255

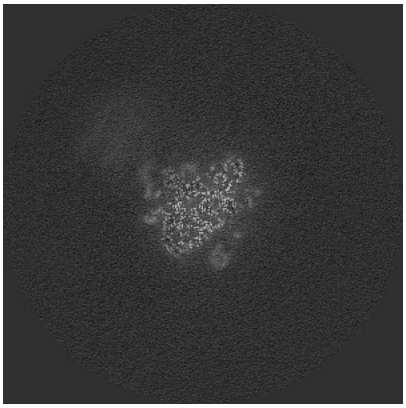


Z Index: 248

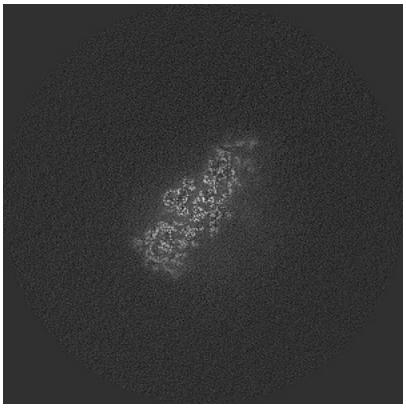
6.3.2 Raw map



X Index: 260



Y Index: 255

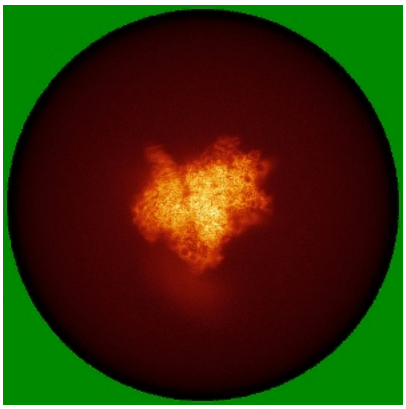


Z Index: 248

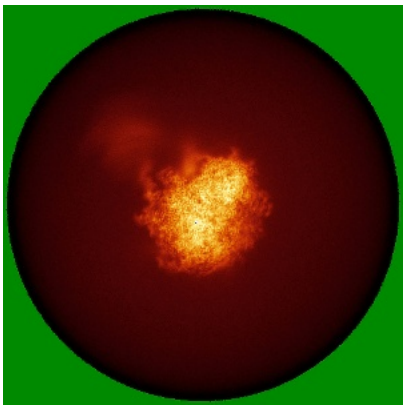
The images above show the largest variance slices of the map in three orthogonal directions.

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

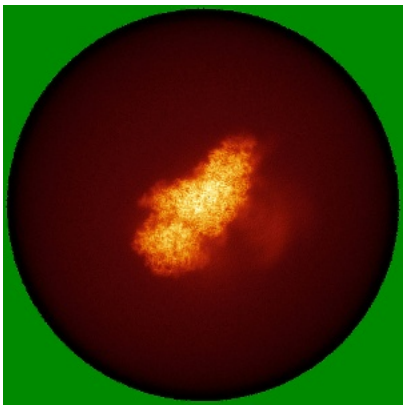
6.4.1 Primary map



X

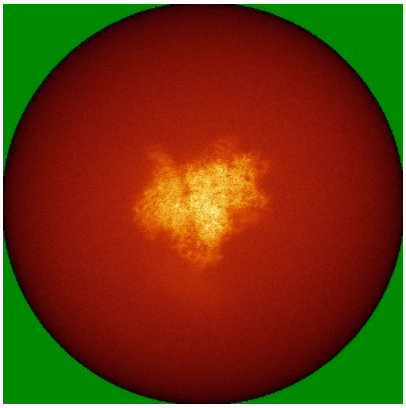


Y

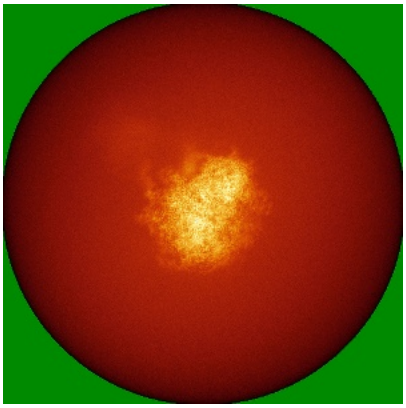


Z

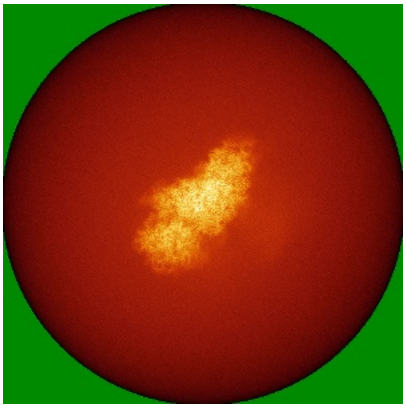
6.4.2 Raw map



X



Y



Z

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

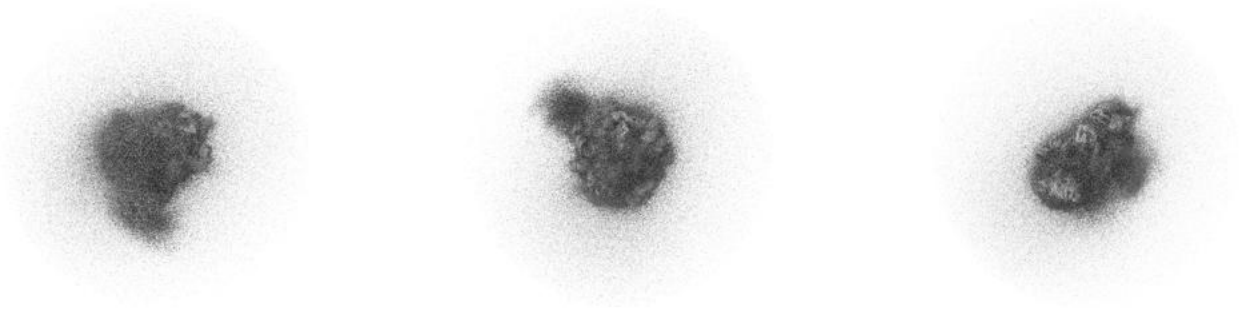
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.011. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

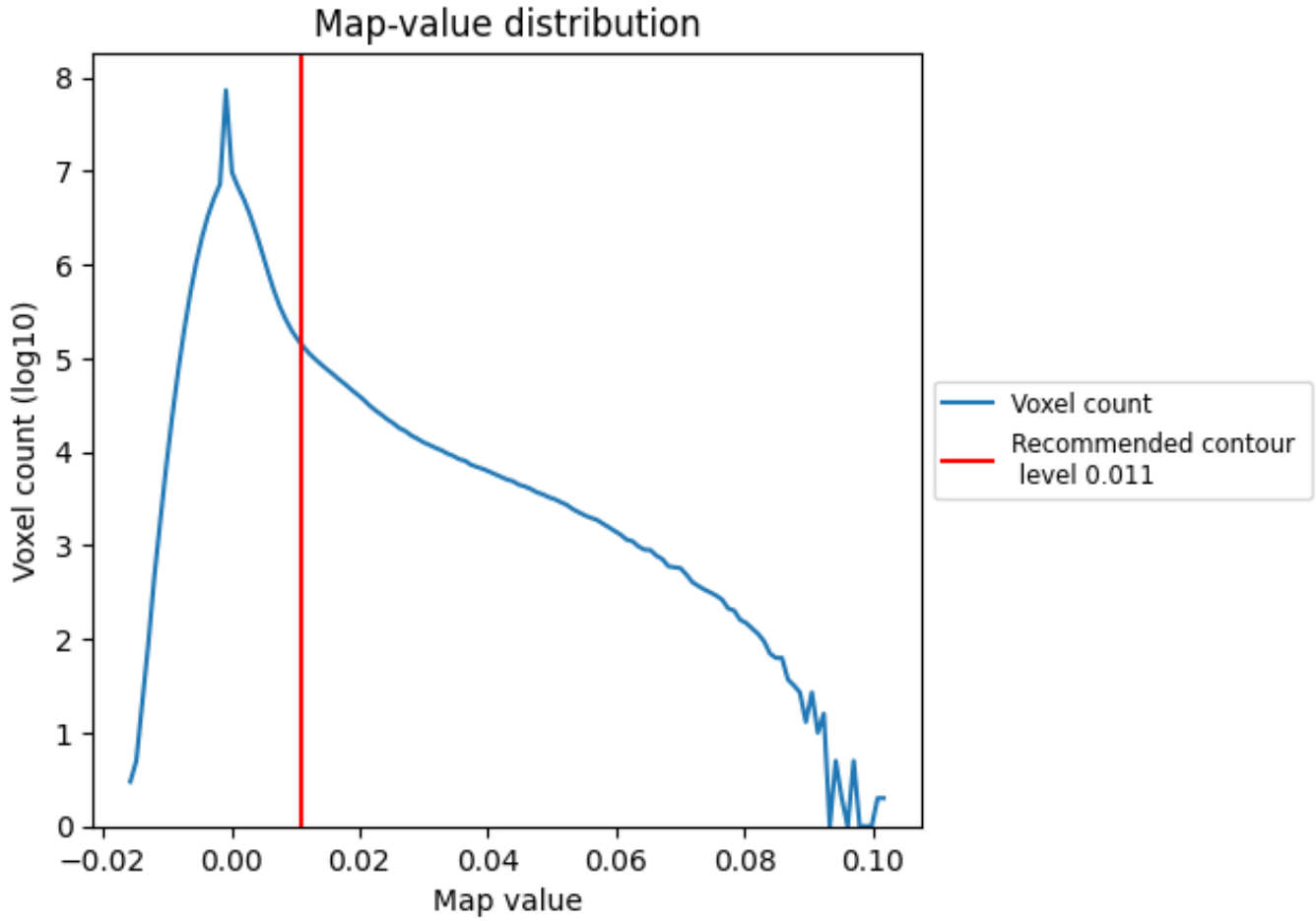
6.6 Mask visualisation (i)

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

7 Map analysis

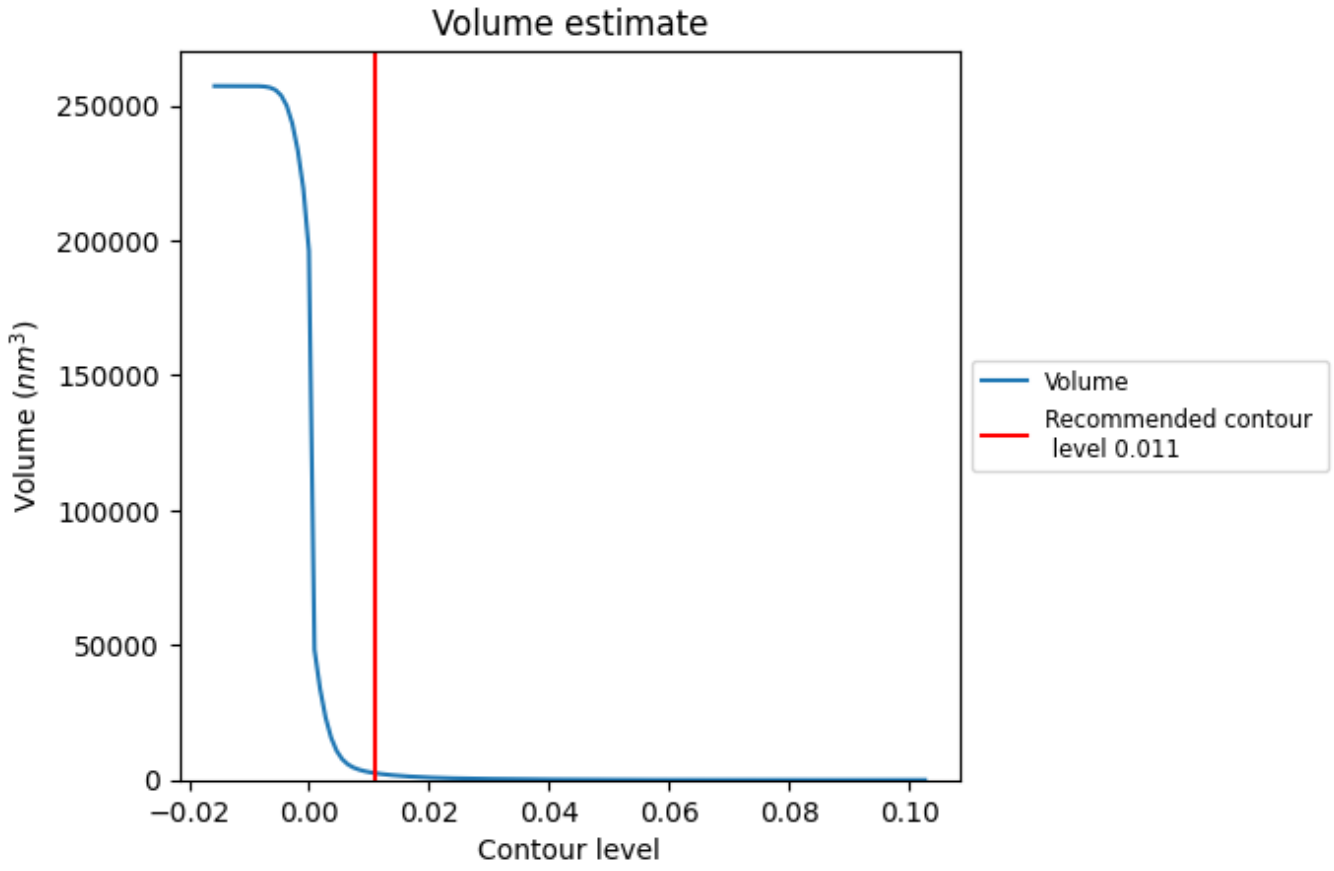
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

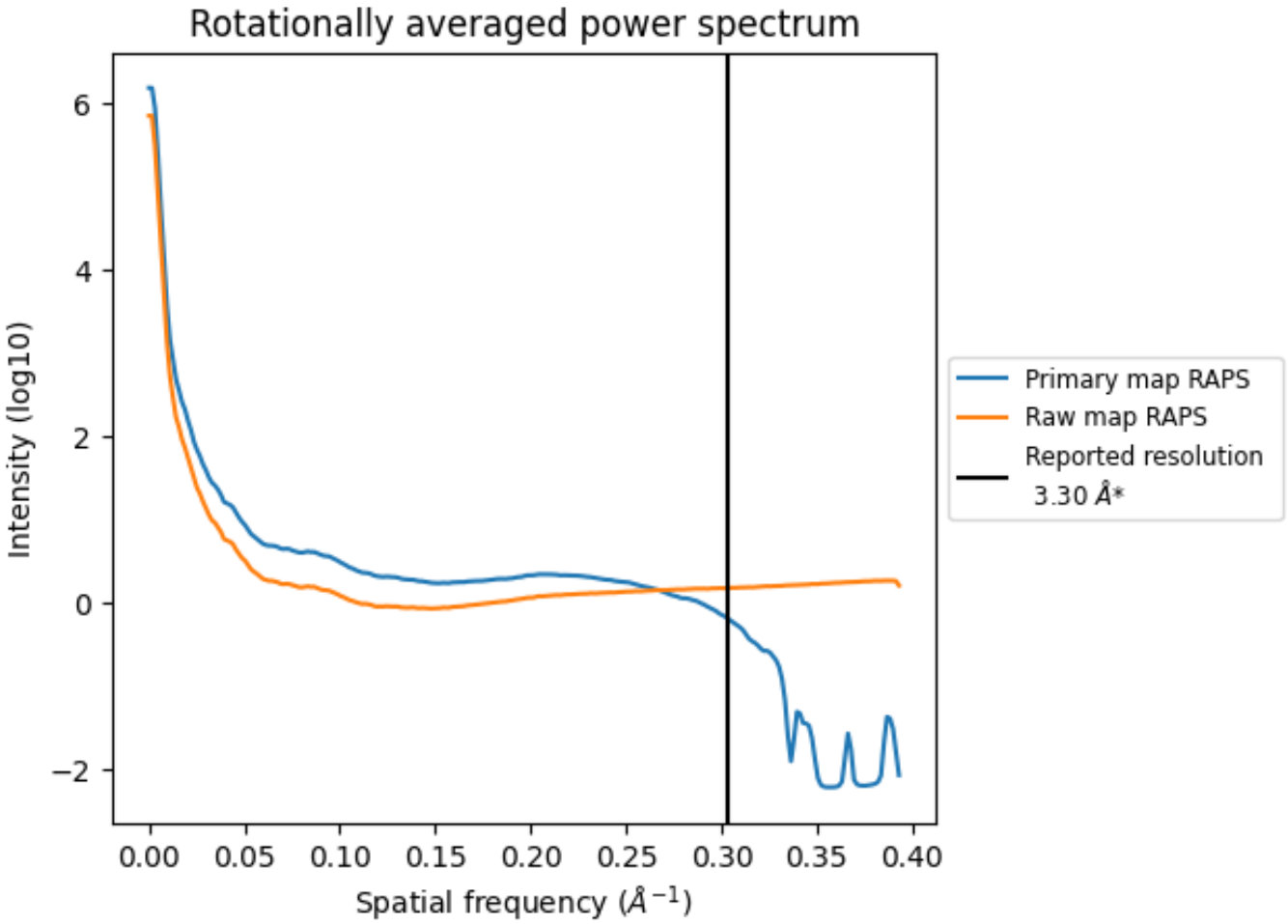
7.2 Volume estimate



The volume at the recommended contour level is 2536 nm^3; this corresponds to an approximate mass of 2291 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)

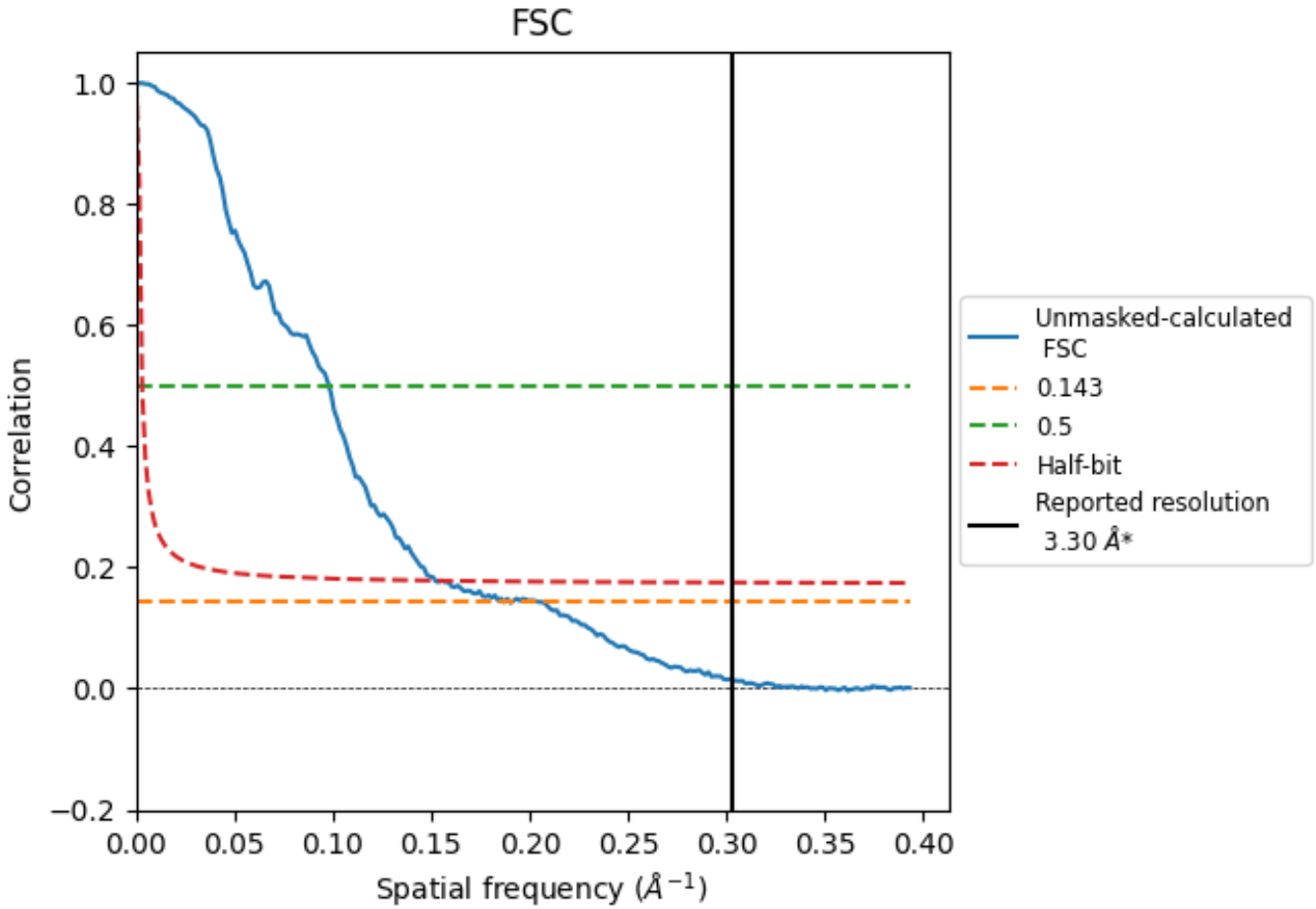


*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

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 0.303 Å^{-1}

8.2 Resolution estimates (i)

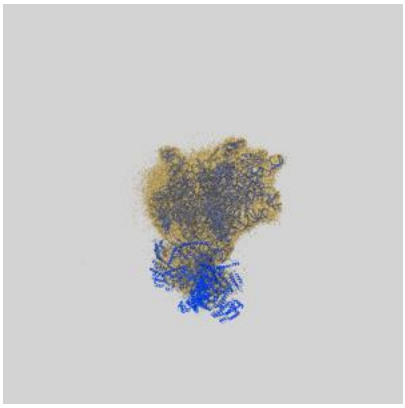
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	5.35	10.21	6.57

*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 5.35 differs from the reported value 3.3 by more than 10 %

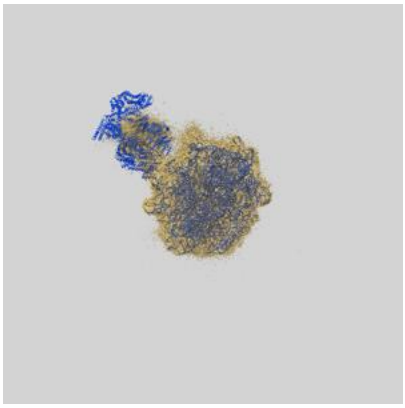
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-62454 and PDB model 9KN6. Per-residue inclusion information can be found in section 3 on page 13.

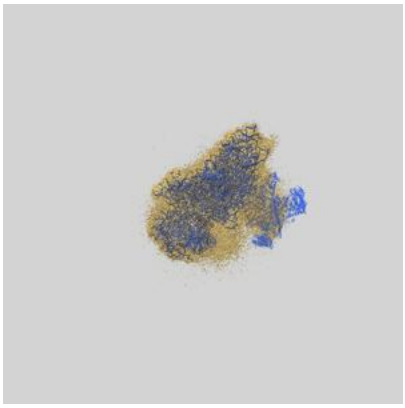
9.1 Map-model overlay



X



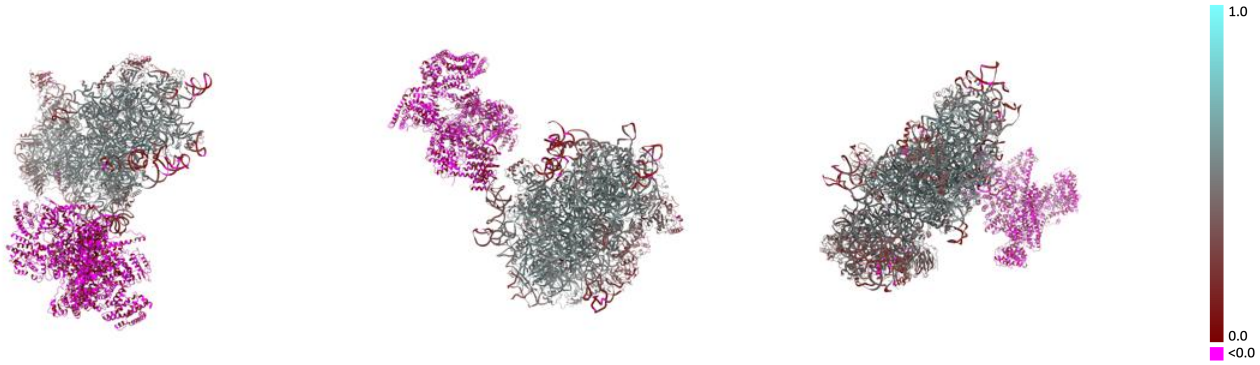
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.011 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

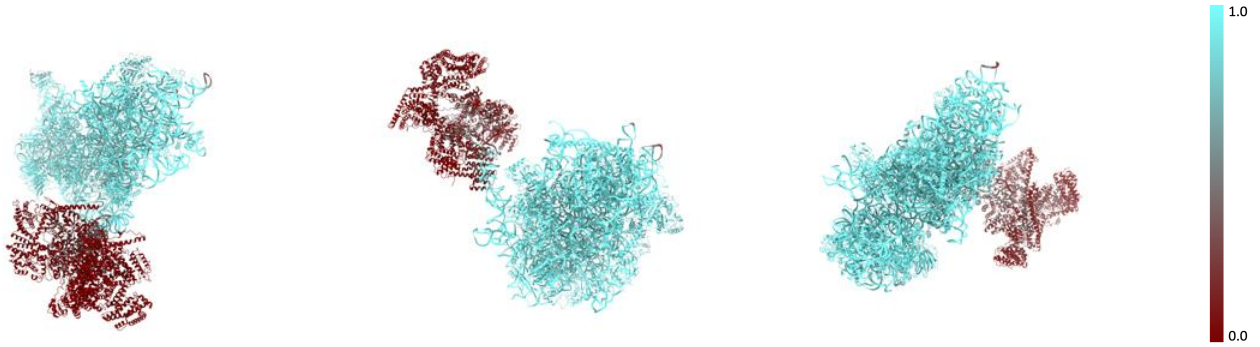
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

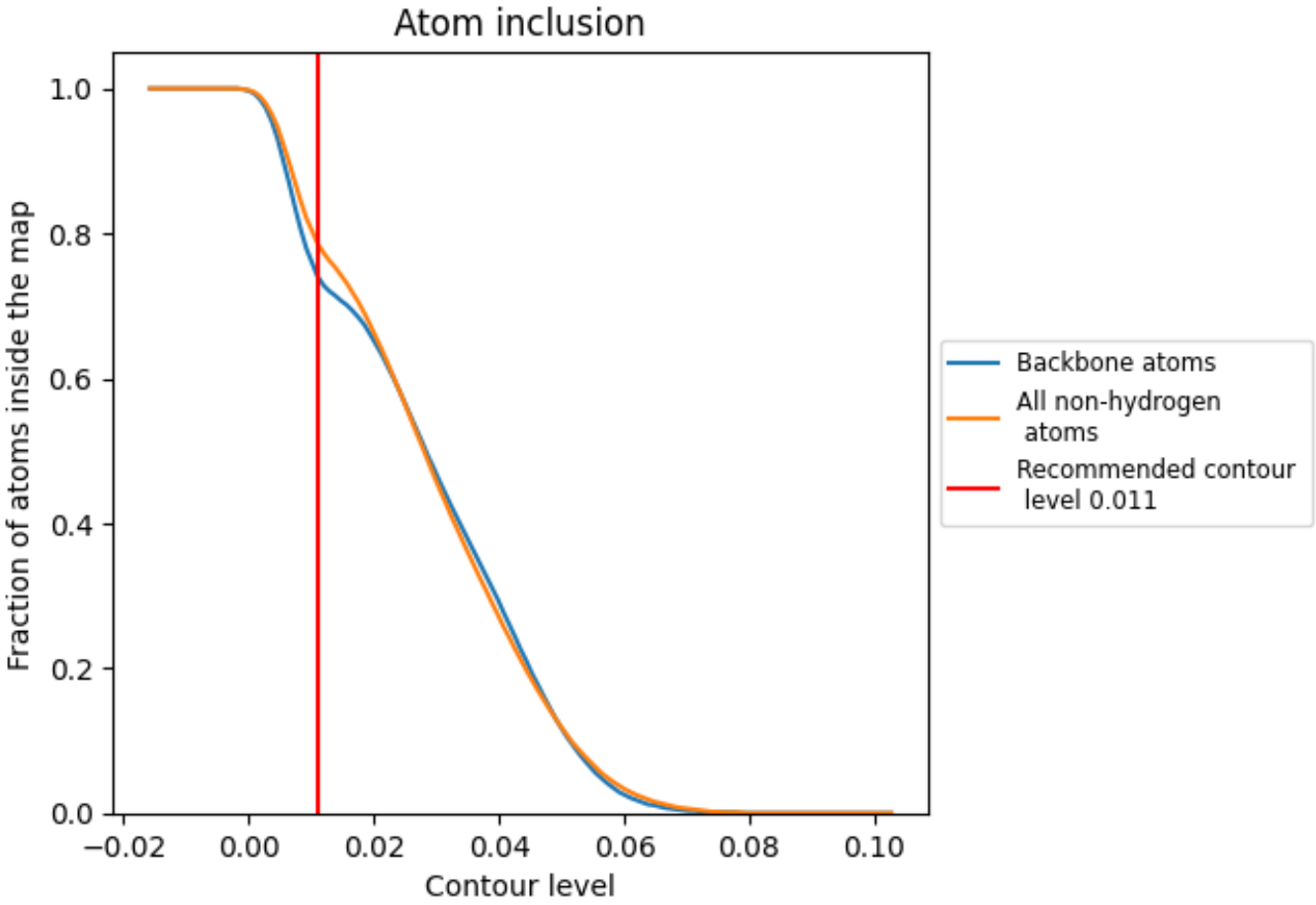
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.011).

9.4 Atom inclusion (i)



At the recommended contour level, 74% of all backbone atoms, 79% 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 (0.011) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7870	0.3500
1A	0.9900	0.4410
3a	0.1570	0.0020
3c	0.0930	-0.0030
3d	0.0270	-0.0250
3e	0.0200	-0.0010
3f	0.1090	0.0040
3h	0.1570	-0.0020
3k	0.0070	0.0190
3l	0.0110	0.0050
3m	0.0220	0.0060
5B	0.9480	0.3550
Ln	1.0000	0.5100
S2	0.9930	0.4690
SA	0.9970	0.5080
SB	0.9890	0.5170
SC	0.9990	0.5310
SD	0.9990	0.4530
SE	0.9980	0.5250
SF	0.9970	0.5110
SG	0.9780	0.4420
SH	0.9830	0.4420
SI	0.9800	0.4850
SJ	0.9980	0.5190
SK	0.9920	0.3710
SL	0.9870	0.5100
SN	1.0000	0.5160
SO	0.9980	0.5260
SP	0.9650	0.3710
SQ	0.9980	0.4680
SR	0.9960	0.4510
SS	0.9860	0.4350
ST	0.9850	0.4160
SU	0.9910	0.4250
SV	0.9980	0.5180

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Chain	Atom inclusion	Q-score
SW	0.9990	0.5430
SX	1.0000	0.5390
SY	0.9970	0.4970
SZ	0.9860	0.4530
Sa	1.0000	0.5310
Sb	0.9980	0.4990
Sc	1.0000	0.5130
Sd	1.0000	0.4750
Se	1.0000	0.4750
Sf	0.8300	0.1640
Sg	0.9800	0.3610
sh	0.9020	0.2190
zy	0.9820	0.2600
zz	0.9210	0.3100