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Full wwPDB EM Validation Report ⓘ

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PDB ID	:	9U4M / pdb_00009u4m
EMDB ID	:	EMD-63850
Title	:	Focused refinement of 19S in the substrate-engaged human 26S proteasome bound to midnolin with RPT6 at top of spiral staircase
Authors	:	Zhu, C.; Qin, L.; Liang, L.
Deposited on	:	2025-03-19
Resolution	:	4.14 Å(reported)

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

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

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

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

EMDB validation analysis	:	0.0.1.dev132
Mogul	:	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)	:	2.48.1

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 4.14 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	Percentile Ranks	Value
Clashscore		26
Ramachandran outliers		0.7%
Sidechain outliers		0.1%

Worse — *Better*

▮ Percentile relative to all structures
▯ Percentile relative to all EM structures

Metric	Model-Map Fit Percentile Ranks	Value
Q-score		0.227

Worse — *Better*

▮ Percentile relative to all EM structures
▯ Percentile relative to EM structures of similar resolution

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	-
Q-score	-	25397	5577 (3.64 - 4.64)

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	Y	389	50% 47% •
2	a	376	• 47% 44% • 8%
3	v	8	50% 38% 12%
4	B	440	12% 28% 44% 27%

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Mol	Chain	Length	Quality of chain
5	c	309	47% 40% 12%
6	Z	324	45% 41% 13%
7	e	70	29% 17% 54%
8	U	953	44% 41% 15%
9	W	456	52% 44%
10	A	433	7% 32% 43% 25%
11	C	398	41% 50% 9%
12	D	418	38% 49% 12%
13	E	403	44% 45% 11%
14	F	439	41% 39% 19%
15	X	422	49% 40% 10%
16	V	533	5% 42% 40% 18%
17	d	349	46% 31% 23%
18	b	377	11% 24% 15% 61%

2 Entry composition (i)

There are 22 unique types of molecules in this entry. The entry contains 46918 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 26S proteasome non-ATPase regulatory subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	Y	380	Total	C	N	O	S	0	0
			3121	1992	532	580	17		

- Molecule 2 is a protein called 26S proteasome non-ATPase regulatory subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	a	346	Total	C	N	O	S	0	0
			2764	1760	471	518	15		

- Molecule 3 is a protein called substrate peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	v	8	Total	C	N	O	0	0
			40	24	8	8		

- Molecule 4 is a protein called 26S proteasome regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	B	320	Total	C	N	O	S	0	0
			2497	1572	426	488	11		

- Molecule 5 is a protein called 26S proteasome non-ATPase regulatory subunit 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	c	271	Total	C	N	O	S	0	0
			2134	1353	363	401	17		

- Molecule 6 is a protein called 26S proteasome non-ATPase regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	Z	282	Total	C	N	O	S	0	0
			2251	1440	387	419	5		

- Molecule 7 is a protein called 26S proteasome complex subunit SEM1.

Mol	Chain	Residues	Atoms				AltConf	Trace
7	e	32	Total 271	C 162	N 46	O 63	0	0

- Molecule 8 is a protein called 26S proteasome non-ATPase regulatory subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	U	811	Total 6300	C 4000	N 1072	O 1184	S 44	0	0

- Molecule 9 is a protein called 26S proteasome non-ATPase regulatory subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	W	438	Total 3570	C 2261	N 609	O 677	S 23	0	0

- Molecule 10 is a protein called 26S proteasome regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	A	325	Total 2558	C 1619	N 453	O 471	S 15	0	0

- Molecule 11 is a protein called 26S proteasome regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	C	364	Total 2878	C 1814	N 514	O 533	S 17	0	0

- Molecule 12 is a protein called 26S proteasome regulatory subunit 6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	D	366	Total 2912	C 1843	N 505	O 553	S 11	0	0

- Molecule 13 is a protein called Proteasome 26S subunit, ATPase 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	E	360	Total 2859	C 1799	N 509	O 535	S 16	0	0

- Molecule 14 is a protein called 26S proteasome regulatory subunit 6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	F	357	Total	C	N	O	S	0	0
			2790	1761	483	529	17		

- Molecule 15 is a protein called 26S proteasome non-ATPase regulatory subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	X	378	Total	C	N	O	S	0	0
			2988	1906	504	566	12		

- Molecule 16 is a protein called 26S proteasome non-ATPase regulatory subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	V	439	Total	C	N	O	S	0	0
			3504	2222	623	646	13		

- Molecule 17 is a protein called 26S proteasome non-ATPase regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	d	269	Total	C	N	O	S	0	0
			2180	1409	358	404	9		

- Molecule 18 is a protein called 26S proteasome non-ATPase regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	b	148	Total	C	N	O	S	0	0
			1125	702	203	215	5		

- Molecule 19 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).
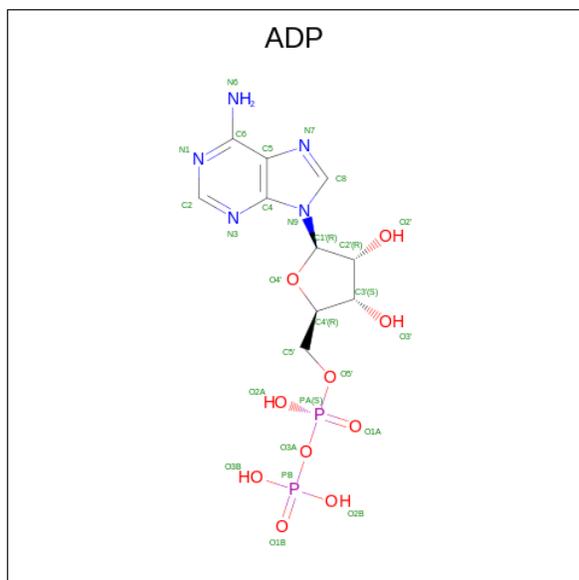
ADP

Mol	Chain	Residues	Atoms					AltConf
19	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
19	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
19	F	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 20 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
20	c	1	Total	Zn	0
			1	1	

- Molecule 21 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).

ATP
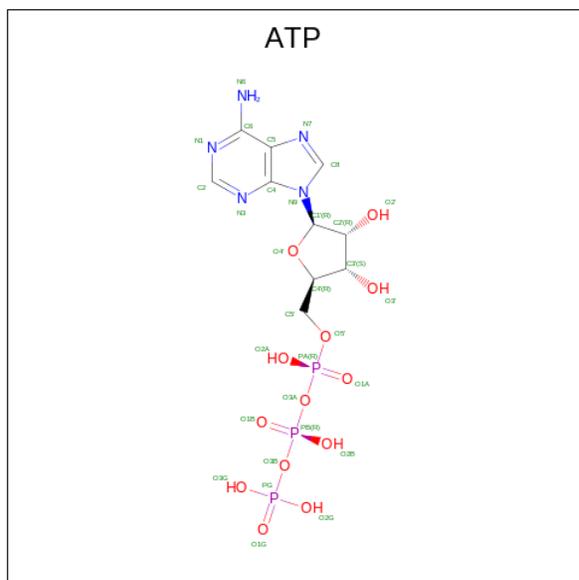
Mol	Chain	Residues	Atoms					AltConf
21	C	1	Total	C	N	O	P	0
			31	10	5	13	3	
21	D	1	Total	C	N	O	P	0
			31	10	5	13	3	
21	E	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 22 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

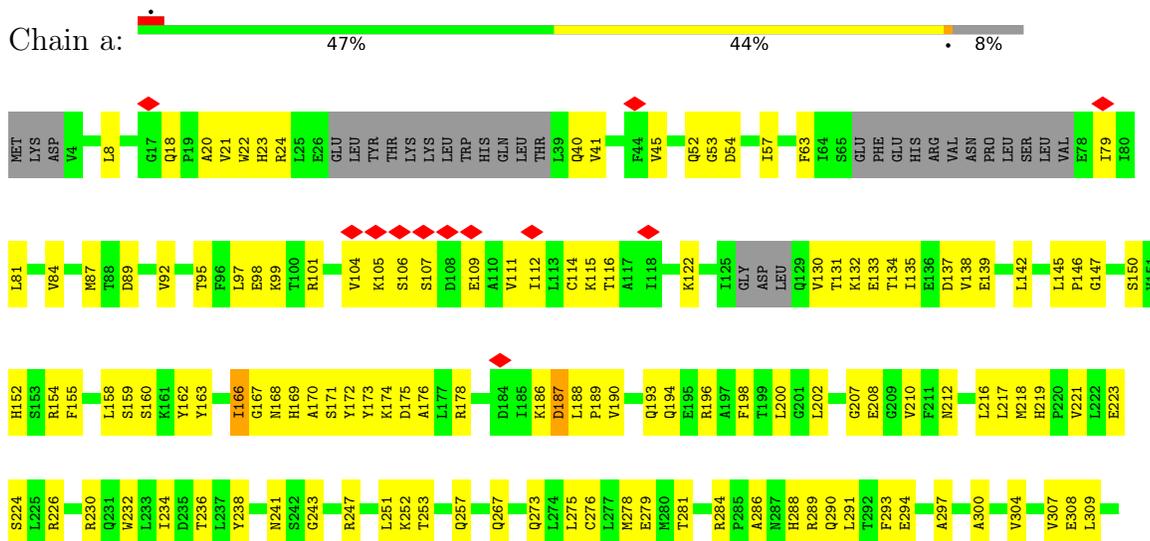| Mol	Chain	Residues	Atoms		AltConf
22	C	1	Total	Mg	0
			1	1	

3 Residue-property plots ⓘ

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: 26S proteasome non-ATPase regulatory subunit 6

Chain Y:

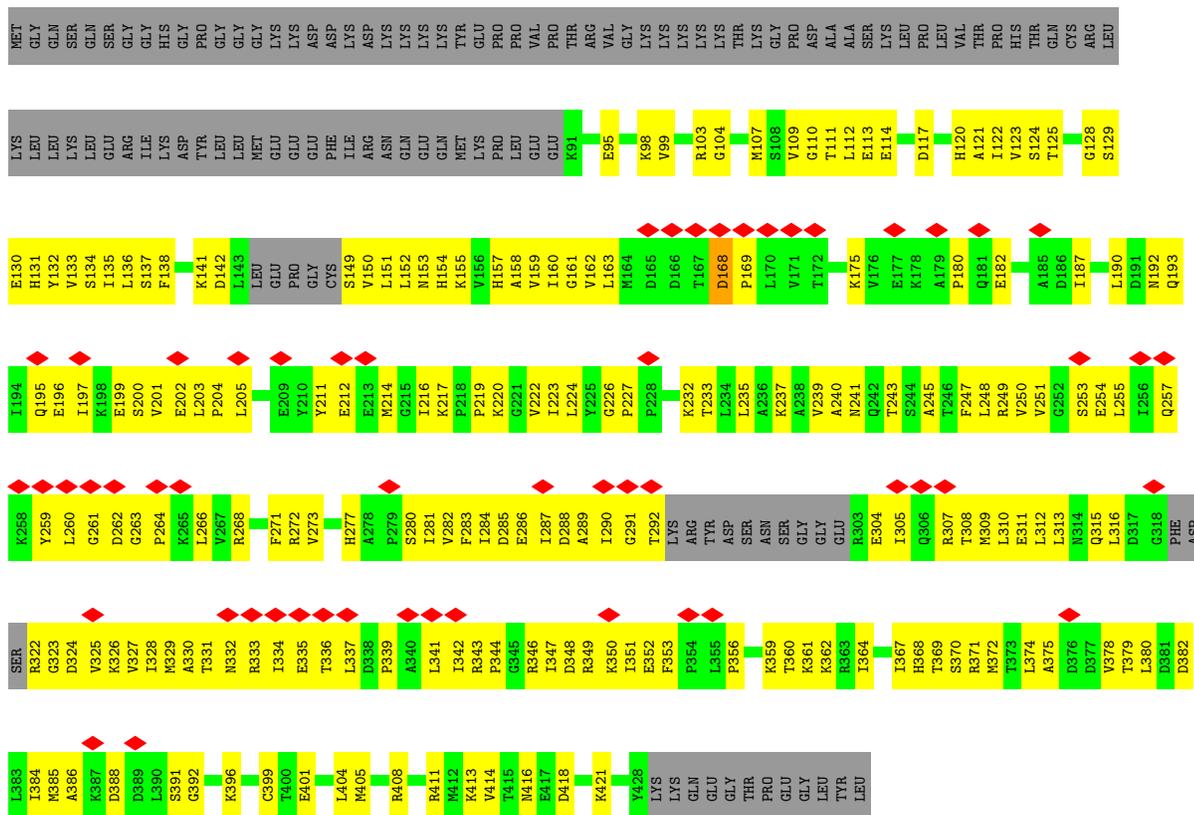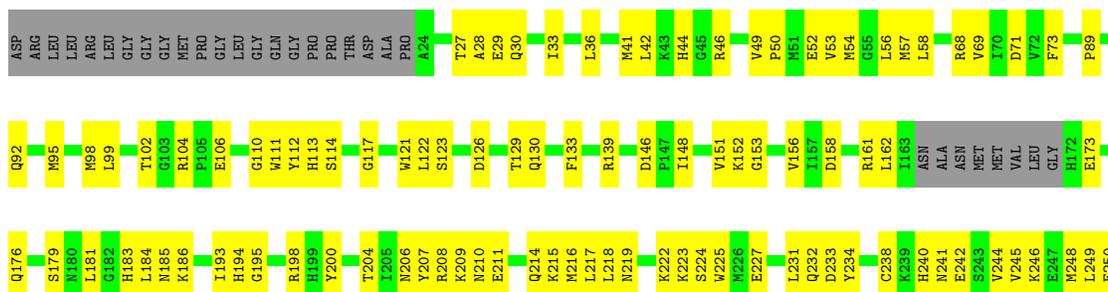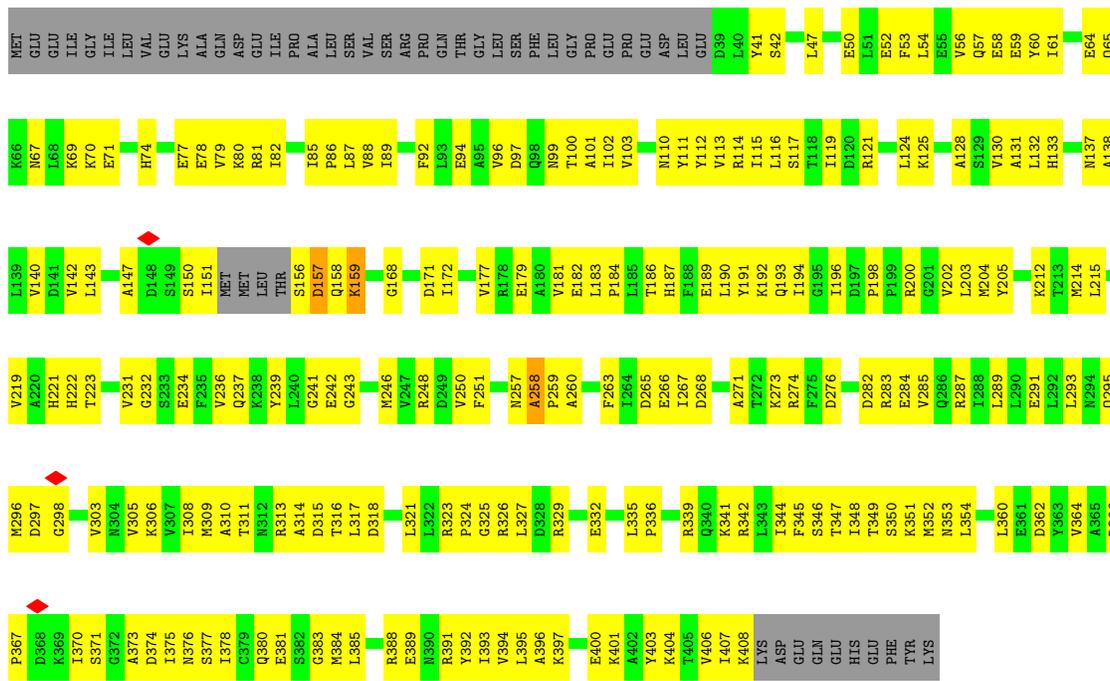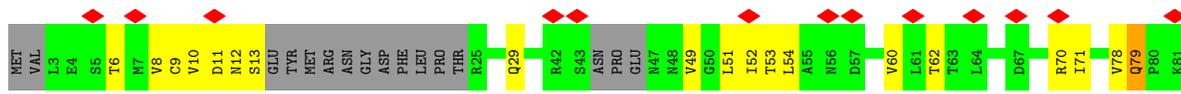• Molecule 2: 26S proteasome non-ATPase regulatory subunit 13

Chain a:

M312 K313 A314 L315 S316 V320 K321 G322 S323 I324 D325 E326 V327 D328 K329 R330 V331 H332 M333 T334 W335 V336 Q337 P338 R339 V340 L341 D342 L343 Q344 Q345 I346 K347 G348 M349 K350 D351 R352 L353 E354 F355 M363 E364 M365 L366 V367 E368 H369 D373 T376

• Molecule 3: substrate peptide

Chain v:

50%   38%   12%

A16 A19 A20 A21 A22 A23

• Molecule 4: 26S proteasome regulatory subunit 4

12%

Chain B:

28%   44%   27%

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

LYS LEU LEU LYS LEU GLU ARG ILE LYS ASP TYR LEU LEU MET GLU GLU GLU PHE ILE ARG ASN GLN GLU GLN MET LYS PRO LEU GLU GLU K91 E95 K98 V99 R103 G104 M107 S108 V109 G110 T111 L112 E113 E114 D117 H120 A121 I122 V123 S124 T125 G128 S129

E130 H131 Y132 V133 S134 I135 L136 S137 F138 K141 D142 L143 LEU GLU PRO GLY CYS S149 V150 L151 L152 N153 H154 K155 V156 H157 A158 V159 I160 G161 V162 L163 M164 D165 D166 T167 D168 P169 L170 L171 T172 K175 V176 E177 K178 A179 P180 Q181 E182 A185 D186 I187 L190 D191 N192 Q193

I194 Q195 E196 I197 K198 E199 S200 V201 E202 L203 P204 L205 E209 Y210 Y211 E212 E213 M214 G215 I216 K217 P218 P219 K220 G221 V222 I223 L224 Y225 G226 P227 P228 K232 T233 L234 L235 A236 K237 A238 V239 A240 N241 Q242 T243 S244 A245 T246 F247 L248 R249 V250 V251 G252 S253 E254 L255 I256 Q257

K258 Y259 L260 G261 D262 G263 P264 K265 L266 V267 R268 F271 R272 V273 H277 A278 P279 S280 I281 V282 F283 I284 D285 E286 I287 D288 A289 I290 G291 T292 LYS ARG TYR ASP SER ASN SER GLY GLU R303 E304 I305 Q306 R307 T308 M309 L310 E311 L312 L313 N314 Q315 L316 D317 G318 PHE ASP

SER R322 G323 D324 V325 K326 V327 I328 M329 A330 T331 N332 R333 I334 E335 T336 L337 D338 P339 A340 L341 I342 R343 P344 G345 R346 I347 D348 R349 K350 I351 E352 F353 P354 L355 P356 K359 T360 K361 K362 R363 I364 I367 H368 T369 S370 R371 M372 T373 L374 A375 D376 D377 V378 L380 D381 D382

L383 I384 M385 A386 K387 D388 D389 L390 S391 G392 K396 C399 T400 E401 L404 M405 R408 R411 M412 K413 V414 T415 N416 E417 D418 K421 Y428 LYS LYS GLN GLU GLY THR PRO GLU GLY LEU TYR LEU

• Molecule 5: 26S proteasome non-ATPase regulatory subunit 14

Chain c:

47%   40%   12%

ASP ARG LEU LEU ARG LEU GLY GLY GLY MET PRO GLY LEU GLY GLN GLY PRO PRO THR ASP ALA PRO A24 T27 A28 E29 Q30 I33 L36 M41 L42 K43 H44 G45 R46 V49 P50 M51 E52 V53 M54 G55 L56 M57 L58 R68 V69 I70 D71 V72 F73 P89

Q92 M95 M98 L99 T102 G103 R104 P105 E106 G110 W111 Y112 H113 S114 G117 W121 L122 S123 D126 T129 Q130 F133 R139 D146 P147 I148 V151 K152 G153 V156 I157 D158 R161 L162 I163 ASN ALA ASN MET MET VAL LEU GLY H172 E173

Q176 S179 N180 L181 G182 H183 L184 N185 K186 I193 H194 G195 R198 H199 Y200 T204 I205 N206 Y207 R208 K209 N210 E211 Q214 K215 M216 L217 L218 N219 K222 K223 S224 W225 M226 E227 L231 Q232 D233 Y234 C238 K239 H240 N241 E242 S243 V244 V245 K246 E247 M248 L249 E250

L251 A252 K253 N254 Y255 N256 K257 E262 E268 GLN LEU ALA ILE LYS ASN VAL GLY K277 Q278 D279 P280 K281 R282 H283 L284 E285 E286 H287 V288 D289 V290 L291 M292 N295 I296 V297 Q298 C299 L300 M303 L304 D305 V308 F309 K310

• Molecule 6: 26S proteasome non-ATPase regulatory subunit 7

Chain Z: 45% 41% 13%

MET PRO GLU LEU A5 K8 V9 H12 P13 L14 V15 L16 L17 S18 V19 V20 D21 I26 G30 N31 Q32 K33 R34 V38 L39 L40 W43 V47 L48 D49 V50 S51 N52 S53 V56 P57 F58 D59 E60 D61 ASP LYS D64 D65 S66 V67 W68 F69 L70 D71 H72 D73

Y74 N77 M78 Y79 G80 M81 F82 K83 N86 A87 R88 E89 R90 I91 W94 Y95 H96 T97 G98 P99 K100 L101 H102 K103 N104 D105 I106 A107 I108 N109 E110 L111 M112 K113 R114 Y115 C116 P117 N118 S119 V120 L121 K127 P128 K129 D130 L131 A137 V144 H145 D146 P150 T151

H157 G163 A164 E165 E166 A167 E168 E169 V170 G171 V172 R177 D178 I179 K180 V184 G185 T186 L187 S188 Q189 R190 I191 T192 N193 G197 L198 N202 S203 K204 L205 I208 Y211 L212 E213 K214 T217 L220 N223 H224 Q225 I226 I227 Y228 Q229 L230 Q231 F234

P238 L242 F245 V246 K247 K252 T253 Q256 M257 V258 V259 V260 Y261 L262 A263 L275 I276 N277 N278 K279 I280 A281 N282 R283 D284 K287 K288 GLU GLY GLN GLU LYS GLU GLU SER LYS ASP ARG LYS GLU ASP LYS LYS ASP GLU ASP LYS LYS SER ASP

VAL LYS LYS GLU GLU LYS GLU LYS GLU LYS

• Molecule 7: 26S proteasome complex subunit SEM1

Chain e: 29% 17% 54%

MET SER GLU LYS LYS GLN PRO VAL ASP LEU GLY LEU LEU GLU GLU ASP ASP PHE GLU GLU PHE PRO ALA GLU ASP TRP ALA GLY LEU ASP GLU D33 H37 D41 N42 W43 D46 D50 S53 N54 A58 E59 K62 H63 G64 TYR LYS MET GLU THR SER

• Molecule 8: 26S proteasome non-ATPase regulatory subunit 1

Chain U: 44% 41% 15%

MET ILE THR SER ALA A6 S10 L11 E14 P17 Q18 L19 K20 E21 F22 A23 L24 H25 K26 L27 V30 V42 D43 K44 I45 E46 V47 L48 R55 Q58 S65 F68 Y69 H70 L71 G72 A73 F74 E75 E76 S77 A81 A84 V90 N93 S94 E95

Y96 T99 I100 I101 A102 K103 C104 I105 D106 H107 Y108 Q111 N115 E122 K123 K124 E131 G132 I133 V134 N135 K136 M137 F138 G139 R140 D144 H145 K146 G152 L155 R159 L160 D161 V162 K165 T166 I167 L168 E169 S170 N171 D172 V173 P174 G175 M176 L177 A178 Y179

L183 C184 M185 S186 L187 M188 Q189 N190 K191 Q192 F193 R194 N195 K196 V197 L198 R199 V202 K203 I204 N207 L208 E209 K210 P211 D212 F213 I214 N215 V216 L220 L223 D224 P226 Q227 A228 V229 S230 D231 I232 L233 E234 K235 E239 D240 N241 L242 L243 M244 I248 C249 F250

D251 L252 Y253 E254 L261 I265 L268 R269 T270 VAL GLY THR PRO ILE ALA SER VAL PRO GLY SER THR ASN THR GLY THR VAL PRO GLY SER GLU LYS ASP SER ASP SER MET GLU THR GLU GLU LYS SER SER ALA PHE VAL LYS THR PRO GLU ALA SER PRO GLU PRO

LYS D320 Q321 T322 L323 K324 M325 I326 K327 I328 G331 E332 M333 A334 I335 E336 L337 F341 L342 I343 R344 M351 I352 L353 K354 N355 T356 V360 R361 N362 C365 H366 T367 A368 T369 V370 I371 A372 N373 S374 F375 M376 H377 T381 S382 D383 Q384 F385 L386 R387 D388 N389 L390 E391

• Molecule 9: 26S proteasome non-ATPase regulatory subunit 12

• Molecule 10: 26S proteasome regulatory subunit 7

Chain A:

7%

32%　43%　25%

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

GLU LEU THR GLY ILE LYS GLU SER D69 T70 G71 L72 A73 P74 P75 A76 L77 W78 D79 L80 A81 A82 D83 K84 P92 L93 Q94 V95 A96 R97 K100 I101 I102 D108 P109 K110 Y111 N114 V115 Q117 F118 A119 K120 V123 D124 L125 S126 D127 A130 D133 I134

R139 V140 G141 V142 D143 Q148 I149 P154 P159 M164 Q165 V166 E167 E168 K169 P170 D171 V172 T173 Y174 S175 D176 V177 G178 G179 C180 K181 E182 Q183 I184 E185 K186 L187 R188 E189 V190 V191 E192 T193 P194 L195 L196 H197 P198 E199 R200 F201 L204 G205 I206 K210 L213 L214

F215 G216 P217 T220 G221 K222 T223 L224 C225 A226 R227 A228 V229 A230 N231 R232 A235 C236 F237 I238 R239 V240 I241 G242 S243 V246 Q247 K248 Y249 V250 A254 R255 V257 R258 E259 L260 F261 E262 M263 A264 R265 T266 K267 K268 A269 C270 L271 I272 F273 F274 D275 E276 I277 ASP ALA

ILE GLY GLY ALA ARG PHE ASP ASP GLY ALA GLY ASP ASN GLU VAL GLN ARG THR MET L300 E301 L302 I303 L306 D307 G308 F309 D310 P311 R312 G313 N314 I315 K316 V317 L318 M319 A320 T321 N322 R323 P324 ASP THR LEU ASP PRO ALA LEU M332 R333 P334 G335 R336 R339 K340 I341

E342 F343 S344 L345 P346 D347 R351 T352 H353 I354 F355 K356 I357 H358 A359 R360 S361 M362 V363 V364 E365 R366 D367 I368 R369 F370 E371 L372 L373 A374 R375 L376 C377 P378 G382 A383 E384 I385 R386 S387 V388 C389 T390 E391 A392 G393 M394 I397 R398 R401 K402 I403 A404 D408 F409

V413 N414 K415 V416 I417 K418 S419 Y420 A421 K422 PHE SER ALA THR PRO ARG TYR MET THR TYR ASN

• Molecule 11: 26S proteasome regulatory subunit 8

Chain C:

41%　50%　9%

MET GLU LEU GLU GLU GLY LYS ALA GLY SER GLY LEU R21 Q22 Y23 Y24 L25 Q32 L33 I34 V35 N36 D37 K38 S39 Q40 N41 L42 R43 R44 L45 Q48 R49 N50 E51 L52 N53 A54 K55 V56 R57 L58 L59 R60 E61 E62 L63 Q64 L65 L66 G70 S71 Y72 V73 G74 E75 V76

V77 R78 A79 M80 D81 K82 K83 K84 V85 L86 V87 K88 V89 G93 K94 F95 V96 V97 D98 V99 D100 I103 D104 I105 N106 D107 V108 N111 C112 R113 V114 A115 L116 R117 N118 D119 S120 Y121 T122 L123 H124 K125 I126 L127 K130 V131 D132 V135 M138 D145 S146 T147

M150 I151 I158 I161 K162 E163 V164 I165 E166 L167 P168 V169 K170 H171 L174 F175 G179 V186 L187 L188 Y189 G190 P191 P192 G193 T194 T197 L198 A202 V203 A204 H205 H206 T207 D208 C209 T210 R213 V214 S217 E218 L219 V220 Q221 K222 F223 I224 G225 E226 G227 A228

R229 M230 V231 R232 E233 L234 F235 V236 R239 P243 S244 I245 I246 F247 M248 D249 E250 I251 D252 S256 S257 R258 LEU GLU GLY GLY SER GLY GLY D266 S267 E268 E275 L276 L277 N278 Q279 L280 E284 A285 T286 K287 N288 I289 K290 V291 T295 N296 R297 I300 L301 D302 S303

A304 L305 L306 R310 I311 I315 E316 F317 E322 R325 L326 D327 I328 L329 K330 S333 R334 K335 M336 N337 L338 I342 N343 L344 R345 K346 I347 A348 E349 L350 M351 A354 S355 E358 V359 K360 G361 V362 E365 M368 Y369 R372 R375 V376 H377 V390 M391

GLN LYS ASP SER GLU LYS ASN MET SER ILE LYS LYS LEU TRP LYS

• Molecule 12: 26S proteasome regulatory subunit 6B

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Chain D: 38%   49%   12%

• Molecule 13: Proteasome 26S subunit, ATPase 6

Chain E: 44%   45%   11%

• Molecule 14: 26S proteasome regulatory subunit 6A

Chain F: 41%   39%   19%

MET ASN LEU PRO ASN ILE GLU SER PRO VAL THR ARG GLN GLU LYS MET ALA THR VAL TRP GLU ALA GLU GLN ASP GLY ILE GLY GLU GLU VAL LEU LEU LYS MET SER THR GLU ILE ILE GLN ARG THR R46 L47 L48 D49 S50 K53 I54 M55 E58 V59 H64

Q67 A68 M69 K70 D71 K72 I73 K74 E75 N76 S77 E78 K79 T85 L86 P87 Y88 L89 V90 S91 I94 E95 V99 ASP ASN ASP GLN GLU GLU ASP GLY ALA ASN ILE ASP LEU ASP SER GLN ARG LYS GLY K120 V123 I124 K125 T126 S127 T128 R129 Q130 T131 Y132 F133 L134

P135 V136 I137 A142 E143 K144 L145 K146 P147 G152 V153 N154 K155 Y158 E162 Y168 D169 S170 R171 V172 K173 A174 M175 E176 V177 D178 E179 R180 G189 D192 K193 Q194 I195 Q196 E197 A201 I202 V203 L204 P205 H208 K209 E210 K211 F212 L215 G216 I217 Q218 P219

G222 V223 L224 M225 Y226 G227 K233 A241 T244 K245 A246 K250 L251 A252 G253 P254 Q255 L256 V257 Q258 M259 F260 I261 A265 R269 L274 K278 A279 P280 I283 F284 L285 D286 E287 L288 R295 PHE ASP SER GLU LYS ALA GLY D303 R304 E305 V306 Q307 R308

T309 M310 L311 E312 L313 L314 L317 D318 G319 F320 Q321 P322 N323 T324 I329 T332 N333 R334 V335 D336 I337 L338 D339 P340 A341 L342 L343 R344 S345 G346 R347 L348 D349 R350 K351 I352 E353 F354 P355 M356 P357 N358 E359 R362 A363 R364 I365 M366 Q367 I368 R371 K372 S376 P377

D378 V379 N380 L384 A385 D389 D390 F391 N392 G393 A394 Q395 V399 M405 I406 A407 L408 R409 R410 T413 E414 L415 T416 H417 E418 D419 Y420 M421 E422 G423 I424 L425 E426 V427 Q428 A429 LYS LYS LYS ALA ASN LEU GLN TYR TYR ALA

• Molecule 15: 26S proteasome non-ATPase regulatory subunit 11

Chain X: 49% 40% 10%

MET ALA ALA ALA VAL VAL GLU PHE GLN ARG ALA ALA GLN SER LEU LEU SER THR ASP ARG GLU SER ILE ILE LEU SER ILE VAL LYS ARG ASP ILE GLN GLU ASN ASP GLU GLU ALA VAL Q44 V45 K46 E47 I50 L51 L56 L57 A58 K59 Q62 A63 A64 E65

L70 K71 Y72 V73 R74 L77 K82 A85 A86 R87 L88 V89 L92 F96 M99 E100 A101 E106 V107 L111 E112 C113 I114 E115 W116 A117 K118 R122 T123 F124 L125 R126 Q127 E130 D139 T140 K141 Q144 H148 L149 Q152 L153 L154 R155 E156

L157 K158 K159 M160 D161 D162 K163 A164 E168 V169 Q170 L171 L172 E173 Y177 L180 S181 N182 L183 P184 K185 A186 R187 L190 A193 Q213 S214 G215 I216 I217 H218 A219 A220 E221 D224 W225 Y229 F232 F236 Y239 P245 K246 A247 I248 T249 S250 L251 K252

Y253 M254 L255 L256 C257 K258 I259 M260 L261 N262 T263 P264 E265 D266 V267 K274 L275 R282 Q283 T284 E285 A291 S294 K295 N296 L299 A300 D301 F302 Y309 R310 A311 E312 L313 R314 I318 I319 L323 L330 L331 N334 L335 I336 R337 V338 I339 E340 P341 F342 S343

R344 V345 Q346 I347 I350 I354 K355 L356 A359 E362 R363 K364 L365 M368 I369 L370 D371 K372 I377 L378 D379 Q380 G381 E382 I386 V393 D394 K395 T396 Y397 E398 A399 A400 L401 E402 T403 I404 Q405 N406 M407 S408 K409 V410 L414 K417 A418 L421 THR

• Molecule 16: 26S proteasome non-ATPase regulatory subunit 3

Chain V: 5% 42% 40% 18%

LYS GLN GLU GLY GLY SER ALA ARG ARG ARG GLY ALA ALA ASP LYS ALA LYS LYS PRO PRO GLY GLY GLU GLN GLU PRO P27 P32 Q33 D34 V35 E36 M37 K38 E39 E40 T43 G46 S47 T48 A51 A57 A58 A59 A60 E61 H62 S63 Q64 R65 E66 L67 D68 T69 L72

E73 D74 I75 K76 E77 H78 V79 K80 Q81 L82 E83 K84 A85 V86 L95 R96 A97 L98 ARG MET LEU PRO SER THR SER ARG LEU ASN HIS TYR LEU TYR LYS ALA VAL GLN GLY PHE PHE THR SER ASN ALA THR ARG ASP PHE L131 F134 L135 E136 E137 P138 M139 D140

• Molecule 17: 26S proteasome non-ATPase regulatory subunit 8

Chain d:

• Molecule 18: 26S proteasome non-ATPase regulatory subunit 4

Chain b:

G82 K83 I84 T85 F86 C87 T88 G89 I90 R91 V92 A93 H94 L95 A96 L97 K98 H99 R100 GLN GLY LYS ASN HIS LYS MET R108 I109 I110 A111 F112 V113 G114 S115 D119 D123 L124 V125 K126 L127 R130 L131 K132 K133 V136 N137 V138 D139 I140 F143 E147 V148 N149 T150

E151 K152 L153 T154 A155 F156 V157 N158 T159 L160 N161 G162 K163 D164 G165 T166 G167 S168 H169 L170 V171 THR VAL PRO PRO GLY PRO SER LEU ALA ASP ALA LEU ILE SER PRO ILE LEU ALA GLY GLU GLY GLY ALA MET LEU GLY LEU GLY ALA SER ASP PHE GLU PHE GLY VAL ASP PRO

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

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

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

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	9022	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.228	Depositor
Minimum map value	-0.105	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	306.0, 306.0, 306.0	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.85, 0.85, 0.85	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, ATP, ADP, 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	Y	0.16	0/3179	0.42	0/4283
2	a	0.16	0/2812	0.47	0/3800
3	v	0.32	0/39	0.65	0/53
4	B	0.20	0/2529	0.45	0/3413
5	c	0.23	0/2173	0.52	0/2936
6	Z	0.19	0/2293	0.50	0/3108
7	e	0.12	0/277	0.38	0/376
8	U	0.22	0/6410	0.50	1/8675 (0.0%)
9	W	0.15	0/3618	0.37	0/4868
10	A	0.22	0/2601	0.46	0/3510
11	C	0.17	0/2916	0.44	0/3925
12	D	0.19	0/2958	0.48	0/3993
13	E	0.17	0/2901	0.40	0/3905
14	F	0.15	0/2825	0.38	0/3808
15	X	0.16	0/3032	0.40	0/4088
16	V	0.25	0/3568	0.54	0/4818
17	d	0.17	0/2226	0.42	0/3009
18	b	0.15	0/1133	0.44	0/1527
All	All	0.19	0/47490	0.45	1/64095 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	U	891	VAL	N-CA-C	-5.03	107.80	112.43

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	Y	3121	0	3122	156	0
2	a	2764	0	2779	146	0
3	v	40	0	39	4	0
4	B	2497	0	2547	235	0
5	c	2134	0	2134	134	0
6	Z	2251	0	2285	142	0
7	e	271	0	214	9	0
8	U	6300	0	6319	299	0
9	W	3570	0	3685	170	0
10	A	2558	0	2623	192	0
11	C	2878	0	2988	196	0
12	D	2912	0	2955	203	0
13	E	2859	0	2930	181	0
14	F	2790	0	2886	158	0
15	X	2988	0	3086	145	0
16	V	3504	0	3549	207	0
17	d	2180	0	2201	95	0
18	b	1125	0	1161	48	0
19	A	27	0	12	2	0
19	B	27	0	12	4	0
19	F	27	0	12	4	0
20	c	1	0	0	0	0
21	C	31	0	12	2	0
21	D	31	0	12	3	0
21	E	31	0	12	8	0
22	C	1	0	0	1	0
All	All	46918	0	47575	2495	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 26.

All (2495) 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)
17:d:185:SER:H	17:d:188:MET:HE3	1.27	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:216:GLY:HA3	10:A:343:PHE:HB2	1.48	0.95
4:B:203:LEU:HD23	4:B:211:TYR:HE1	1.30	0.93
2:a:174:LYS:HG2	2:a:178:ARG:HH12	1.29	0.92
6:Z:257:MET:HE1	16:V:476:PHE:HB3	1.50	0.91
14:F:399:VAL:HA	14:F:427:VAL:HG21	1.50	0.91
12:D:231:VAL:HG23	12:D:265:ASP:HB3	1.54	0.90
10:A:355:PHE:HB3	10:A:370:PHE:HB3	1.54	0.89
4:B:197:ILE:HG12	4:B:239:VAL:HG11	1.55	0.88
15:X:255:LEU:HD22	15:X:267:VAL:HG13	1.54	0.88
11:C:88:LYS:HA	11:C:94:LYS:HA	1.56	0.88
9:W:373:ILE:HG12	9:W:378:MET:HE3	1.56	0.86
16:V:57:ALA:HA	16:V:60:ALA:HB2	1.58	0.85
10:A:388:VAL:HG22	10:A:416:VAL:HG21	1.58	0.85
17:d:94:MET:HE1	17:d:118:ARG:HB2	1.59	0.85
4:B:224:LEU:HB2	4:B:330:ALA:HA	1.59	0.84
4:B:343:ARG:HE	4:B:344:PRO:HD2	1.44	0.83
11:C:76:VAL:HG22	11:C:87:VAL:HG22	1.60	0.83
14:F:224:LEU:HB2	14:F:348:LEU:HD13	1.58	0.83
4:B:364:ILE:HG13	4:B:392:GLY:HA2	1.59	0.82
18:b:51:LEU:HD21	18:b:71:ILE:HG23	1.61	0.82
4:B:205:LEU:HG	4:B:326:LYS:HD2	1.61	0.82
5:c:27:THR:HB	5:c:176:GLN:HG3	1.60	0.82
8:U:894:MET:HE1	8:U:906:LEU:H	1.45	0.82
4:B:343:ARG:HH22	10:A:416:VAL:HA	1.44	0.81
5:c:99:LEU:HB3	5:c:104:ARG:HB3	1.62	0.81
2:a:331:VAL:HB	2:a:333:MET:HE3	1.59	0.81
4:B:284:ILE:HG21	4:B:287:ILE:HD13	1.63	0.81
13:E:291:ARG:HD2	13:E:293:GLY:H	1.45	0.81
6:Z:100:LYS:HA	9:W:451:MET:HE1	1.64	0.80
16:V:309:MET:HE1	16:V:332:LEU:HA	1.63	0.80
12:D:349:THR:HB	12:D:354:LEU:HD11	1.61	0.80
11:C:227:GLY:HA2	11:C:230:MET:HE2	1.64	0.80
4:B:378:VAL:HA	4:B:416:ASN:HB2	1.63	0.80
1:Y:92:GLU:HG3	1:Y:100:ILE:HG22	1.63	0.80
9:W:372:ARG:HG2	9:W:414:ASN:HA	1.64	0.79
6:Z:276:ILE:HD11	15:X:414:LEU:HD11	1.66	0.78
4:B:224:LEU:HG	4:B:351:ILE:HB	1.64	0.78
1:Y:184:GLN:HG3	1:Y:200:LEU:HD13	1.66	0.77
6:Z:257:MET:HA	6:Z:260:VAL:HG22	1.66	0.77
1:Y:101:ARG:HH12	1:Y:130:LYS:HG3	1.49	0.77
2:a:135:ILE:HG12	2:a:158:LEU:HG	1.65	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:265:ARG:HE	10:A:313:GLY:HA3	1.49	0.77
14:F:259:MET:SD	14:F:260:PHE:N	2.55	0.77
4:B:222:VAL:HG22	4:B:349:ARG:HB3	1.67	0.77
12:D:251:PHE:CD1	12:D:295:GLN:HB3	2.20	0.77
8:U:196:LYS:HA	8:U:199:ARG:HE	1.49	0.76
13:E:275:MET:HE2	13:E:277:MET:HE3	1.67	0.76
4:B:226:GLY:HA3	4:B:353:PHE:HB2	1.67	0.76
16:V:306:ARG:HH12	16:V:339:LEU:HB2	1.49	0.76
13:E:83:CYS:HA	13:E:107:ILE:HB	1.68	0.76
4:B:249:ARG:O	4:B:249:ARG:HD3	1.86	0.76
13:E:47:LEU:HD13	14:F:79:LYS:HE2	1.67	0.76
4:B:151:LEU:HB2	4:B:161:GLY:HA3	1.66	0.75
12:D:204:MET:HE2	12:D:310:ALA:HB2	1.68	0.75
8:U:399:TRP:HA	8:U:402:PHE:HD2	1.50	0.75
14:F:265:ALA:HB1	14:F:269:ARG:HH21	1.51	0.74
8:U:107:HIS:O	8:U:111:GLN:NE2	2.20	0.74
10:A:124:ASP:HB3	14:F:86:LEU:HD22	1.67	0.74
11:C:135:VAL:HG12	11:C:234:LEU:HD23	1.68	0.74
2:a:366:LEU:HA	2:a:369:HIS:CE1	2.23	0.74
11:C:190:GLY:HA3	11:C:317:PHE:HB2	1.68	0.74
12:D:260:ALA:H	12:D:305:VAL:HG12	1.51	0.74
13:E:180:LYS:HD2	13:E:301:ILE:HD12	1.70	0.74
4:B:202:GLU:HA	4:B:205:LEU:HD12	1.69	0.74
1:Y:376:LEU:HD21	15:X:407:MET:HE1	1.70	0.74
10:A:75:PRO:O	10:A:79:ASP:HB2	1.87	0.74
18:b:157:VAL:HG13	18:b:168:SER:HB2	1.70	0.74
6:Z:88:ARG:NH2	13:E:51:GLN:OE1	2.21	0.73
1:Y:45:VAL:HG13	1:Y:50:MET:HB2	1.69	0.73
16:V:452:ASN:HB3	16:V:455:LYS:HG2	1.70	0.73
12:D:89:ILE:HA	12:D:131:ALA:HA	1.68	0.73
1:Y:220:VAL:HG11	1:Y:249:VAL:HG21	1.70	0.73
9:W:129:ARG:HG3	9:W:142:ARG:HD2	1.71	0.73
4:B:374:LEU:HD12	4:B:378:VAL:HG11	1.70	0.73
4:B:138:PHE:CE2	4:B:160:ILE:HA	2.24	0.72
12:D:204:MET:HB3	12:D:212:LYS:HD2	1.71	0.72
1:Y:225:TYR:HA	1:Y:228:MET:HE2	1.70	0.72
5:c:255:TYR:HD2	5:c:280:PRO:HG2	1.53	0.72
16:V:62:HIS:HA	16:V:65:ARG:HB2	1.70	0.72
2:a:217:LEU:HD23	2:a:238:TYR:HD1	1.54	0.72
15:X:338:VAL:HG21	15:X:354:ILE:HD11	1.72	0.72
13:E:182:LEU:HD22	21:E:501:ATP:H2'	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:192:ASP:HA	14:F:195:ILE:HB	1.71	0.72
13:E:194:ASN:ND2	13:E:225:HIS:O	2.23	0.72
14:F:367:GLN:HB3	14:F:371:ARG:HH21	1.55	0.72
2:a:326:GLU:HG3	9:W:373:ILE:HA	1.71	0.72
16:V:477:HIS:ND1	17:d:342:TYR:OH	2.22	0.72
4:B:232:LYS:HD2	4:B:330:ALA:HB1	1.71	0.71
11:C:86:LEU:HA	11:C:96:VAL:HA	1.70	0.71
11:C:365:GLU:HA	11:C:368:MET:HG2	1.73	0.71
12:D:313:ARG:HH12	13:E:242:ARG:HG3	1.53	0.71
5:c:184:LEU:HD11	5:c:204:THR:HG22	1.72	0.71
8:U:620:GLU:HA	8:U:655:ALA:HB2	1.73	0.71
8:U:188:MET:O	8:U:194:ARG:NH2	2.23	0.71
18:b:6:THR:HB	18:b:49:VAL:HG22	1.73	0.71
11:C:150:MET:HB2	11:C:334:ARG:HH22	1.55	0.71
17:d:215:LEU:HD12	17:d:216:PRO:HD2	1.72	0.71
9:W:375:MET:HE1	9:W:386:VAL:HG13	1.73	0.71
13:E:170:CYS:SG	13:E:171:LEU:N	2.64	0.71
10:A:386:ARG:NH2	19:A:501:ADP:O2'	2.23	0.70
16:V:156:SER:HA	16:V:159:LEU:HD12	1.73	0.70
17:d:98:LEU:HB2	17:d:115:GLU:HG2	1.73	0.70
4:B:112:LEU:HD13	4:B:123:VAL:HG22	1.72	0.70
12:D:198:PRO:O	12:D:200:ARG:NH1	2.23	0.70
17:d:295:THR:HB	17:d:298:LYS:HB2	1.73	0.70
15:X:51:LEU:HD12	15:X:88:LEU:HG	1.71	0.70
16:V:319:HIS:HA	16:V:325:LYS:HE3	1.73	0.70
1:Y:228:MET:HE1	1:Y:259:TYR:HE2	1.57	0.70
2:a:208:GLU:HG2	2:a:267:GLN:HB3	1.73	0.70
2:a:352:ARG:HA	2:a:355:PHE:CE1	2.26	0.70
4:B:196:GLU:HB3	4:B:351:ILE:HG12	1.73	0.70
16:V:171:VAL:HA	16:V:174:PHE:HB2	1.74	0.70
2:a:101:ARG:HA	2:a:104:VAL:HB	1.73	0.70
5:c:288:VAL:HG13	6:Z:263:ALA:HB1	1.73	0.70
5:c:295:ASN:O	6:Z:256:GLN:NE2	2.24	0.70
8:U:42:VAL:HA	8:U:45:ILE:HG12	1.74	0.70
10:A:165:GLN:HG3	10:A:238:ILE:HG12	1.73	0.70
10:A:369:ARG:HB3	10:A:372:LEU:HB3	1.73	0.70
14:F:224:LEU:HB3	14:F:351:LYS:HG3	1.74	0.70
1:Y:312:ARG:HH12	15:X:386:ILE:HB	1.55	0.70
4:B:199:GLU:HG2	10:A:398:ARG:HE	1.57	0.70
4:B:203:LEU:HD23	4:B:211:TYR:CE1	2.20	0.70
12:D:214:MET:SD	21:D:501:ATP:H5'2	2.32	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:288:ALA:O	13:E:294:ARG:NH2	2.25	0.70
16:V:176:MET:HB3	16:V:180:ARG:HH12	1.57	0.70
16:V:306:ARG:HH21	16:V:335:VAL:HG22	1.57	0.70
14:F:94:ILE:HB	14:F:123:VAL:HG13	1.73	0.70
4:B:349:ARG:HH21	10:A:398:ARG:HG3	1.57	0.69
13:E:310:LEU:HG	13:E:314:LYS:HE3	1.74	0.69
2:a:138:VAL:HB	2:a:155:PHE:HD1	1.57	0.69
6:Z:67:VAL:HG12	18:b:95:LEU:HD13	1.74	0.69
16:V:358:MET:HA	16:V:361:PHE:CE1	2.27	0.69
2:a:45:VAL:HG21	2:a:79:ILE:HG12	1.73	0.69
8:U:666:LYS:HA	8:U:669:ILE:HG22	1.74	0.69
8:U:899:ARG:NH2	8:U:919:GLU:O	2.25	0.69
16:V:470:ARG:HE	17:d:331:PRO:HG3	1.58	0.69
9:W:21:SER:HA	9:W:24:VAL:HG12	1.74	0.69
16:V:358:MET:HE3	16:V:359:PRO:HD3	1.73	0.69
4:B:339:PRO:HA	4:B:342:ILE:HG12	1.75	0.69
4:B:368:HIS:HE1	4:B:396:LYS:HA	1.58	0.69
10:A:174:TYR:HE1	10:A:229:VAL:HG22	1.58	0.69
14:F:314:LEU:HD13	14:F:342:LEU:HD22	1.73	0.69
11:C:224:ILE:HG22	11:C:268:GLU:HB2	1.74	0.69
4:B:193:GLN:HB3	4:B:235:LEU:HD22	1.75	0.69
6:Z:180:LYS:O	12:D:70:LYS:NZ	2.24	0.68
8:U:791:LEU:HD22	8:U:796:LYS:O	1.93	0.68
15:X:406:ASN:HA	15:X:409:LYS:HD2	1.74	0.68
4:B:214:MET:HE2	10:A:397:ILE:HG12	1.73	0.68
9:W:447:ALA:O	9:W:451:MET:HB2	1.93	0.68
16:V:33:GLN:HG2	16:V:84:LYS:HB2	1.74	0.68
11:C:78:ARG:NH1	11:C:79:ALA:O	2.27	0.68
4:B:125:THR:HG22	4:B:129:SER:H	1.58	0.68
9:W:122:LEU:HD21	9:W:152:ILE:HG21	1.75	0.68
12:D:159:LYS:NZ	12:D:221:HIS:O	2.27	0.68
4:B:137:SER:HB2	4:B:141:LYS:HE3	1.76	0.68
5:c:238:CYS:O	5:c:242:GLU:HG3	1.94	0.68
6:Z:247:LYS:HD2	16:V:468:SER:HB3	1.76	0.68
9:W:329:ARG:HD2	9:W:341:PHE:HB3	1.75	0.68
12:D:177:VAL:HG11	12:D:215:LEU:HD21	1.76	0.68
4:B:411:ARG:NH2	4:B:418:ASP:OD2	2.27	0.67
6:Z:83:LYS:NZ	6:Z:87:ALA:O	2.26	0.67
5:c:46:ARG:HH12	5:c:49:VAL:HG22	1.59	0.67
8:U:599:ILE:HG12	8:U:603:LEU:HD23	1.77	0.67
16:V:228:ARG:HD2	16:V:258:TYR:HE1	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:496:LEU:O	8:U:500:ASN:ND2	2.28	0.67
11:C:256:SER:HA	11:C:301:LEU:HA	1.77	0.67
12:D:248:ARG:NH2	12:D:291:GLU:OE1	2.26	0.67
12:D:283:ARG:O	12:D:287:ARG:HG2	1.93	0.67
15:X:347:ILE:HA	15:X:350:ILE:HD12	1.76	0.67
8:U:20:LYS:HD3	8:U:48:LEU:HD11	1.76	0.67
8:U:165:LYS:HG3	8:U:166:THR:HG23	1.75	0.67
10:A:213:LEU:HD21	10:A:324:PRO:HB3	1.76	0.67
15:X:62:GLN:HB3	15:X:65:GLU:HB2	1.77	0.67
16:V:218:TYR:O	16:V:222:ASP:N	2.27	0.67
2:a:139:GLU:HA	2:a:142:LEU:HB2	1.76	0.67
8:U:559:ARG:NE	8:U:562:GLU:OE1	2.26	0.67
11:C:191:PRO:HA	11:C:297:ARG:HH12	1.60	0.67
1:Y:346:LYS:NZ	16:V:412:LEU:O	2.28	0.67
9:W:405:LYS:NZ	15:X:340:GLU:O	2.28	0.67
2:a:338:PRO:HB2	6:Z:228:TYR:HB3	1.75	0.66
5:c:216:MET:SD	6:Z:20:VAL:HG21	2.36	0.66
8:U:423:MET:HB3	8:U:446:LEU:HD21	1.76	0.66
15:X:330:LEU:O	15:X:334:ASN:ND2	2.28	0.66
16:V:211:TYR:HA	16:V:214:HIS:ND1	2.09	0.66
6:Z:164:ALA:HB1	6:Z:168:GLU:HB2	1.78	0.66
12:D:191:TYR:CD2	12:D:196:ILE:HG21	2.29	0.66
4:B:316:LEU:HD12	4:B:346:ARG:HE	1.61	0.66
5:c:173:GLU:OE2	5:c:176:GLN:NE2	2.29	0.66
12:D:74:HIS:O	12:D:77:GLU:HG3	1.95	0.66
2:a:347:LYS:HD3	2:a:350:LYS:HD3	1.78	0.66
10:A:204:LEU:HG	14:F:413:THR:HA	1.77	0.66
11:C:329:LEU:HB3	11:C:344:LEU:HD13	1.77	0.66
5:c:216:MET:HE1	6:Z:17:LEU:HA	1.76	0.66
12:D:374:ASP:O	12:D:378:ILE:HD12	1.95	0.66
4:B:368:HIS:HA	4:B:371:ARG:HG2	1.78	0.66
11:C:214:VAL:N	11:C:247:PHE:O	2.27	0.66
12:D:102:ILE:HG12	12:D:112:TYR:CE1	2.31	0.66
2:a:286:ALA:O	2:a:289:ARG:NH1	2.29	0.66
4:B:290:ILE:HD11	4:B:308:THR:HG22	1.76	0.66
12:D:191:TYR:HD2	12:D:196:ILE:HG21	1.59	0.66
14:F:285:ILE:HG21	14:F:288:LEU:HD13	1.77	0.66
18:b:95:LEU:HA	18:b:98:LYS:HE3	1.78	0.66
2:a:174:LYS:CG	2:a:178:ARG:HH12	2.07	0.66
6:Z:111:LEU:HA	6:Z:114:ARG:HD3	1.77	0.66
6:Z:202:ASN:HA	6:Z:205:LEU:HG	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:672:LEU:HD11	8:U:687:ALA:HA	1.77	0.66
11:C:75:GLU:N	11:C:88:LYS:O	2.23	0.66
13:E:290:LEU:HA	13:E:295:LEU:HD12	1.77	0.66
5:c:253:LYS:HD2	15:X:406:ASN:ND2	2.11	0.65
8:U:220:LEU:O	8:U:224:ASP:N	2.28	0.65
12:D:296:MET:HG3	12:D:297:ASP:H	1.59	0.65
14:F:128:THR:HG23	14:F:130:GLN:HG2	1.78	0.65
14:F:357:PRO:HG2	14:F:392:ASN:HA	1.77	0.65
8:U:144:ASP:O	8:U:146:LYS:NZ	2.28	0.65
8:U:322:THR:HA	8:U:325:MET:HE2	1.76	0.65
12:D:231:VAL:HG21	13:E:262:ASN:HD22	1.62	0.65
4:B:130:GLU:OE1	4:B:130:GLU:N	2.24	0.65
11:C:246:ILE:HB	11:C:291:VAL:HG22	1.79	0.65
13:E:72:LYS:HA	13:E:78:ARG:HA	1.77	0.65
9:W:135:LYS:HB2	9:W:138:VAL:HG22	1.77	0.65
14:F:175:MET:O	14:F:175:MET:HE3	1.97	0.65
1:Y:195:LYS:HE2	1:Y:196:GLN:HE22	1.61	0.65
10:A:397:ILE:HG22	10:A:398:ARG:HH11	1.61	0.65
18:b:123:ASP:HA	18:b:126:LYS:HE3	1.78	0.65
13:E:85:ARG:HD2	13:E:86:GLN:HE21	1.62	0.65
5:c:29:GLU:HG3	5:c:30:GLN:H	1.62	0.65
14:F:194:GLN:NE2	14:F:353:GLU:O	2.22	0.65
14:F:246:ALA:HB1	14:F:280:PRO:HB2	1.78	0.65
16:V:280:ALA:HB1	16:V:284:GLU:HG2	1.79	0.65
17:d:283:LEU:HD23	17:d:286:GLU:HG2	1.77	0.65
18:b:124:LEU:HD11	18:b:156:PHE:HB2	1.79	0.65
2:a:188:LEU:O	2:a:193:GLN:NE2	2.29	0.65
9:W:106:GLN:OE1	9:W:107:GLN:NE2	2.29	0.65
11:C:222:LYS:NZ	12:D:239:TYR:O	2.30	0.65
1:Y:56:ALA:HA	1:Y:59:LYS:HE3	1.78	0.65
10:A:193:THR:HG23	10:A:197:HIS:CE1	2.31	0.65
10:A:220:THR:HG21	10:A:346:PRO:HG3	1.77	0.65
11:C:147:THR:HA	11:C:206:HIS:HE1	1.62	0.65
12:D:313:ARG:HG3	12:D:314:ALA:H	1.60	0.65
16:V:408:ARG:NH1	16:V:446:VAL:O	2.30	0.65
4:B:316:LEU:O	4:B:322:ARG:N	2.29	0.65
10:A:94:GLN:N	10:A:142:VAL:O	2.23	0.65
10:A:217:PRO:HG2	10:A:220:THR:HB	1.78	0.65
12:D:130:VAL:HA	12:D:142:VAL:HA	1.79	0.65
18:b:90:ILE:HD11	18:b:127:LEU:HD13	1.79	0.65
8:U:575:ASP:HB3	8:U:578:LEU:HD13	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:X:264:PRO:HB2	15:X:295:LYS:HE3	1.79	0.64
9:W:129:ARG:NH2	9:W:168:GLU:OE2	2.29	0.64
12:D:200:ARG:HA	12:D:306:LYS:HD2	1.79	0.64
13:E:72:LYS:HG3	13:E:74:THR:H	1.62	0.64
15:X:364:LYS:NZ	15:X:368:MET:SD	2.69	0.64
5:c:42:LEU:HD21	6:Z:167:ALA:HB1	1.78	0.64
8:U:22:PHE:HA	8:U:25:HIS:HD1	1.62	0.64
10:A:236:CYS:SG	10:A:237:PHE:N	2.70	0.64
14:F:137:ILE:HD13	14:F:142:ALA:HB2	1.78	0.64
15:X:296:ASN:ND2	15:X:301:ASP:OD2	2.30	0.64
4:B:401:GLU:OE2	4:B:421:LYS:NZ	2.30	0.64
15:X:236:PHE:HE1	15:X:251:LEU:HB3	1.63	0.64
8:U:636:VAL:O	8:U:640:LEU:HD23	1.97	0.64
15:X:190:LEU:HD12	15:X:213:GLN:HG3	1.78	0.64
2:a:364:GLU:HG3	6:Z:198:LEU:HD13	1.79	0.64
5:c:104:ARG:HD2	5:c:106:GLU:OE1	1.97	0.64
6:Z:211:TYR:HE1	9:W:450:GLU:HB3	1.62	0.64
8:U:213:PHE:H	8:U:244:MET:HE1	1.63	0.64
11:C:82:LYS:HD3	11:C:105:ILE:HD12	1.79	0.64
5:c:303:MET:HE3	5:c:303:MET:O	1.96	0.64
6:Z:261:TYR:CE1	16:V:479:ARG:HB3	2.33	0.64
8:U:650:TYR:HB2	8:U:683:VAL:HG12	1.79	0.64
10:A:184:ILE:HD13	10:A:225:CYS:HB2	1.80	0.64
11:C:169:VAL:HG11	11:C:288:ASN:HA	1.80	0.64
16:V:80:LYS:HA	16:V:86:VAL:HB	1.80	0.64
16:V:379:LEU:HB2	16:V:395:ILE:HD12	1.78	0.64
8:U:587:ALA:HB2	8:U:621:SER:HB3	1.79	0.64
2:a:188:LEU:HB2	2:a:189:PRO:HD2	1.80	0.64
2:a:275:LEU:O	2:a:279:GLU:HG2	1.98	0.64
5:c:295:ASN:C	6:Z:256:GLN:HE22	2.06	0.64
10:A:187:LEU:HD22	10:A:214:LEU:HD21	1.78	0.64
14:F:189:GLY:H	19:F:501:ADP:HN62	1.45	0.64
14:F:425:LEU:O	14:F:428:GLN:NE2	2.31	0.64
16:V:95:LEU:O	16:V:96:ARG:NH1	2.29	0.64
1:Y:51:ALA:HB3	1:Y:52:PRO:HD3	1.80	0.64
9:W:440:ASN:O	9:W:444:HIS:ND1	2.27	0.64
1:Y:14:ASN:HB2	1:Y:143:TYR:HE2	1.63	0.63
4:B:371:ARG:HE	4:B:372:MET:HE2	1.62	0.63
9:W:344:THR:HG22	9:W:345:GLU:H	1.63	0.63
10:A:241:ILE:HG22	10:A:243:SER:H	1.62	0.63
1:Y:250:LEU:HB3	1:Y:257:ARG:HB2	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:138:PHE:HE2	4:B:160:ILE:HA	1.62	0.63
11:C:354:ALA:HB1	11:C:358:GLU:HB2	1.81	0.63
9:W:34:LEU:O	9:W:37:GLU:HG2	1.98	0.63
12:D:231:VAL:HG22	12:D:232:GLY:H	1.63	0.63
1:Y:22:LEU:HD12	1:Y:41:LEU:HD13	1.81	0.63
1:Y:380:VAL:HA	1:Y:383:LEU:HD12	1.80	0.63
12:D:177:VAL:HG21	12:D:215:LEU:HD11	1.80	0.63
14:F:407:ALA:HB2	14:F:415:LEU:HB3	1.79	0.63
16:V:147:PHE:O	16:V:150:ARG:N	2.31	0.63
2:a:241:ASN:OD1	2:a:339:ARG:NH2	2.29	0.63
2:a:322:GLY:HA3	2:a:333:MET:HA	1.79	0.63
5:c:238:CYS:SG	6:Z:252:LYS:NZ	2.68	0.63
12:D:385:LEU:HD13	12:D:401:LYS:HE3	1.81	0.63
13:E:212:ALA:HB1	13:E:259:GLU:HG2	1.81	0.63
16:V:43:THR:HG23	16:V:65:ARG:HD3	1.80	0.63
4:B:152:LEU:HD23	4:B:157:HIS:HB3	1.81	0.63
4:B:315:GLN:O	4:B:323:GLY:N	2.31	0.63
7:e:50:ASP:OD2	7:e:54:ASN:ND2	2.30	0.63
10:A:354:ILE:HG22	10:A:358:HIS:CE1	2.34	0.63
2:a:174:LYS:HG2	2:a:178:ARG:NH1	2.10	0.63
4:B:113:GLU:HG2	4:B:114:GLU:HG2	1.81	0.62
17:d:302:TYR:HA	17:d:305:LYS:HE2	1.81	0.62
4:B:123:VAL:HG11	4:B:152:LEU:HD11	1.81	0.62
8:U:633:CYS:N	8:U:634:PRO:HD2	2.14	0.62
10:A:183:GLN:HA	10:A:186:LYS:HE2	1.79	0.62
4:B:98:LYS:HZ3	10:A:84:LYS:HG2	1.64	0.62
10:A:81:ALA:O	10:A:84:LYS:HG3	2.00	0.62
3:v:16:ALA:O	13:E:206:LYS:NZ	2.31	0.62
4:B:211:TYR:CD2	4:B:219:PRO:HG3	2.35	0.62
9:W:235:GLN:HG3	9:W:350:ARG:HH21	1.65	0.62
11:C:130:LYS:NZ	11:C:132:ASP:OD1	2.29	0.62
11:C:252:ASP:HB3	11:C:295:THR:HG21	1.81	0.62
11:C:325:ARG:NH1	11:C:351:MET:O	2.32	0.62
13:E:26:LEU:HB2	14:F:59:VAL:HG22	1.81	0.62
13:E:355:ILE:HD11	14:F:217:ILE:HD11	1.81	0.62
17:d:281:LYS:HG3	17:d:315:TYR:HB3	1.82	0.62
6:Z:223:ASN:OD1	6:Z:226:ILE:HD13	2.00	0.62
8:U:680:VAL:HB	8:U:683:VAL:HG22	1.82	0.62
10:A:183:GLN:HG2	10:A:343:PHE:HA	1.80	0.62
12:D:179:GLU:HA	12:D:183:LEU:HB2	1.81	0.62
8:U:19:LEU:HA	8:U:22:PHE:CE1	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:39:ARG:O	9:W:41:GLN:N	2.32	0.62
5:c:219:ASN:OD1	6:Z:129:LYS:NZ	2.32	0.62
8:U:643:SER:O	8:U:649:ARG:NH2	2.33	0.62
18:b:88:THR:HA	18:b:91:ARG:HB2	1.81	0.62
18:b:157:VAL:HG21	18:b:170:LEU:HB2	1.80	0.62
1:Y:175:ASP:O	1:Y:179:ARG:HG3	1.99	0.62
6:Z:261:TYR:HE1	16:V:479:ARG:HB3	1.64	0.62
10:A:170:PRO:HG2	10:A:230:ALA:HB3	1.82	0.62
11:C:222:LYS:HZ1	12:D:242:GLU:H	1.46	0.62
16:V:32:PRO:HA	16:V:35:VAL:HG12	1.82	0.62
10:A:332:MET:HE1	10:A:340:LYS:HB3	1.82	0.62
13:E:323:HIS:HB2	13:E:361:PHE:HB2	1.82	0.62
4:B:129:SER:O	4:B:131:HIS:ND1	2.31	0.62
8:U:599:ILE:HA	8:U:602:LEU:HD23	1.81	0.62
8:U:611:ASN:HB3	8:U:614:VAL:HG12	1.81	0.62
2:a:216:LEU:HD23	2:a:216:LEU:H	1.64	0.61
13:E:22:ILE:HG22	14:F:55:MET:HE2	1.80	0.61
16:V:334:VAL:HG21	16:V:394:LEU:HB2	1.83	0.61
16:V:455:LYS:HD3	16:V:457:TYR:CZ	2.35	0.61
2:a:293:PHE:CD1	2:a:329:LYS:HB3	2.36	0.61
5:c:232:GLN:HB3	5:c:298:GLN:HE22	1.66	0.61
5:c:249:LEU:HD13	15:X:402:GLU:OE1	2.00	0.61
14:F:85:THR:OG1	14:F:86:LEU:N	2.33	0.61
16:V:249:THR:HA	16:V:252:ASN:HD22	1.65	0.61
5:c:225:TRP:HB2	6:Z:197:GLY:HA2	1.82	0.61
11:C:48:GLN:HE22	12:D:65:GLN:HG3	1.64	0.61
12:D:87:LEU:HD13	12:D:140:VAL:HG21	1.82	0.61
10:A:222:LYS:HE2	10:A:322:ASN:HD22	1.65	0.61
2:a:288:HIS:HD2	2:a:291:LEU:HD23	1.64	0.61
5:c:291:LEU:HD11	6:Z:263:ALA:HB2	1.83	0.61
9:W:147:LYS:HB2	9:W:185:PHE:HE1	1.66	0.61
10:A:115:VAL:HB	10:A:118:PHE:HB2	1.81	0.61
10:A:143:ASP:OD1	10:A:148:GLN:N	2.28	0.61
10:A:159:PRO:HB3	10:A:260:LEU:HD21	1.82	0.61
12:D:237:GLN:NE2	12:D:284:GLU:OE2	2.33	0.61
16:V:213:TYR:HB3	16:V:216:ARG:HH21	1.66	0.61
12:D:101:ALA:HB2	12:D:115:ILE:HD11	1.82	0.61
9:W:251:TYR:O	9:W:257:GLN:NE2	2.33	0.61
14:F:94:ILE:HG22	14:F:95:GLU:H	1.66	0.61
8:U:135:ASN:O	8:U:139:GLN:NE2	2.34	0.61
8:U:633:CYS:HB2	8:U:659:CYS:SG	2.41	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:366:MET:HG3	9:W:415:PHE:HE1	1.64	0.61
11:C:74:GLY:O	11:C:113:ARG:NH1	2.34	0.61
13:E:345:ASN:O	13:E:349:GLU:HG2	2.01	0.61
16:V:218:TYR:HA	16:V:221:LEU:HG	1.82	0.61
5:c:58:LEU:HB3	5:c:106:GLU:HB3	1.83	0.60
12:D:354:LEU:HA	12:D:394:VAL:HB	1.82	0.60
13:E:287:PRO:HA	13:E:290:LEU:HB2	1.83	0.60
1:Y:141:VAL:HG11	1:Y:164:ALA:HB2	1.83	0.60
4:B:132:TYR:HB3	10:A:93:LEU:HB2	1.82	0.60
5:c:99:LEU:HA	5:c:102:THR:HG22	1.82	0.60
8:U:681:ASN:OD1	8:U:682:TYR:N	2.34	0.60
9:W:340:VAL:HG13	9:W:350:ARG:HB3	1.82	0.60
4:B:378:VAL:HG12	4:B:380:LEU:H	1.67	0.60
8:U:214:ILE:HD12	8:U:904:LYS:HE3	1.83	0.60
10:A:206:ILE:HG13	14:F:408:LEU:HD11	1.83	0.60
10:A:393:GLY:O	10:A:397:ILE:HG13	2.00	0.60
12:D:342:ARG:HE	12:D:364:VAL:HG11	1.66	0.60
13:E:62:LYS:O	13:E:70:ILE:N	2.32	0.60
13:E:229:ILE:HG22	13:E:274:LYS:HB2	1.82	0.60
15:X:309:TYR:HB3	15:X:312:GLU:HB2	1.82	0.60
6:Z:284:ASP:HA	6:Z:287:LYS:HG2	1.83	0.60
8:U:732:LEU:O	8:U:736:ILE:HD12	2.01	0.60
10:A:376:LEU:HD13	10:A:413:VAL:HG11	1.83	0.60
16:V:306:ARG:NH2	16:V:335:VAL:O	2.34	0.60
4:B:193:GLN:NE2	4:B:352:GLU:O	2.34	0.60
15:X:122:ARG:O	15:X:124:PHE:N	2.35	0.60
15:X:256:LEU:HD12	15:X:319:ILE:HD13	1.82	0.60
4:B:359:LYS:HD2	4:B:362:LYS:HE2	1.81	0.60
18:b:54:LEU:HB3	18:b:84:ILE:HG23	1.84	0.60
2:a:202:LEU:HD11	2:a:257:GLN:HG2	1.84	0.60
6:Z:283:ARG:HH21	6:Z:287:LYS:HB3	1.65	0.60
10:A:139:ARG:NH2	10:A:154:PRO:O	2.34	0.60
10:A:356:LYS:HE3	10:A:370:PHE:HB2	1.84	0.60
13:E:250:ASP:OD2	13:E:251:ARG:NH1	2.34	0.60
16:V:171:VAL:HG12	16:V:175:MET:HE2	1.84	0.60
2:a:81:LEU:HA	2:a:84:VAL:HG12	1.83	0.60
4:B:109:VAL:HG13	4:B:163:LEU:HD11	1.84	0.60
5:c:207:TYR:HE2	5:c:209:LYS:HD3	1.66	0.60
8:U:633:CYS:HB2	8:U:659:CYS:HG	1.66	0.60
18:b:51:LEU:HD12	18:b:62:THR:HG23	1.84	0.60
6:Z:101:LEU:HG	9:W:451:MET:HE3	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:304:PRO:HG2	13:E:309:ARG:HG2	1.84	0.60
6:Z:34:ARG:NH1	6:Z:60:GLU:OE1	2.29	0.60
8:U:69:TYR:HE1	8:U:99:THR:HB	1.65	0.60
11:C:368:MET:HE3	11:C:372:ARG:HH12	1.67	0.60
2:a:101:ARG:HB3	2:a:105:LYS:HZ3	1.66	0.59
4:B:196:GLU:CB	4:B:351:ILE:HG12	2.32	0.59
6:Z:108:ILE:HG22	6:Z:112:MET:HE2	1.83	0.59
6:Z:190:ARG:NH2	6:Z:193:ASN:OD1	2.32	0.59
11:C:117:ARG:HG3	11:C:122:THR:HB	1.83	0.59
13:E:242:ARG:NH1	13:E:242:ARG:O	2.33	0.59
14:F:212:PHE:HE2	14:F:219:PRO:HB3	1.67	0.59
4:B:223:ILE:HG13	4:B:329:MET:HG3	1.84	0.59
5:c:56:LEU:HD13	5:c:111:TRP:HB3	1.84	0.59
6:Z:211:TYR:CE1	9:W:450:GLU:HB3	2.37	0.59
9:W:340:VAL:HA	9:W:350:ARG:HD2	1.83	0.59
13:E:344:ARG:NH2	14:F:345:SER:OG	2.35	0.59
16:V:267:ALA:HB1	16:V:270:LEU:HB3	1.85	0.59
4:B:371:ARG:HB2	11:C:179:GLY:HA3	1.83	0.59
8:U:371:ILE:HG22	8:U:375:PHE:CE2	2.37	0.59
13:E:212:ALA:O	13:E:216:ARG:HG3	2.02	0.59
2:a:321:LYS:HD3	2:a:336:VAL:HG22	1.84	0.59
8:U:554:LEU:HA	8:U:588:MET:HE1	1.84	0.59
13:E:49:ALA:HB1	14:F:136:VAL:HG11	1.85	0.59
14:F:227:GLY:HA3	14:F:354:PHE:HB2	1.84	0.59
2:a:365:MET:O	2:a:369:HIS:ND1	2.34	0.59
4:B:212:GLU:HA	4:B:216:ILE:O	2.03	0.59
10:A:190:VAL:HG21	10:A:339:ARG:HD2	1.85	0.59
8:U:470:ASN:HA	8:U:474:ARG:HD2	1.84	0.59
16:V:391:THR:HG23	16:V:394:LEU:HD23	1.84	0.59
1:Y:318:TYR:CE1	15:X:380:GLN:HG2	2.38	0.59
1:Y:367:GLN:HA	1:Y:370:ILE:HG22	1.84	0.59
5:c:117:GLY:HA2	5:c:148:ILE:HD11	1.84	0.59
5:c:231:LEU:HD23	5:c:231:LEU:H	1.68	0.59
9:W:445:LEU:HA	9:W:448:LYS:HD2	1.85	0.59
11:C:198:LEU:HD11	21:C:501:ATP:H2'	1.84	0.59
13:E:171:LEU:HD13	13:E:277:MET:HB2	1.83	0.59
17:d:331:PRO:HG2	17:d:335:LEU:HD23	1.84	0.59
10:A:270:CYS:O	10:A:272:ILE:HD12	2.03	0.59
11:C:48:GLN:HA	11:C:51:GLU:HG3	1.85	0.59
14:F:94:ILE:HD11	14:F:125:LYS:HB2	1.83	0.59
16:V:169:LEU:C	16:V:171:VAL:H	2.09	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:b:12:ASN:OD1	18:b:53:THR:OG1	2.20	0.59
1:Y:312:ARG:NH2	15:X:377:ILE:O	2.35	0.59
2:a:321:LYS:NZ	2:a:336:VAL:O	2.33	0.59
4:B:204:PRO:HB2	4:B:326:LYS:HE2	1.83	0.59
6:Z:253:THR:O	6:Z:256:GLN:HB3	2.02	0.59
9:W:81:ASP:OD1	9:W:82:LEU:N	2.36	0.59
11:C:85:VAL:O	11:C:97:VAL:N	2.28	0.59
15:X:345:VAL:HG13	15:X:350:ILE:HD11	1.84	0.59
16:V:47:SER:HB2	16:V:150:ARG:NH2	2.18	0.59
16:V:270:LEU:HA	16:V:274:SER:OG	2.03	0.59
1:Y:70:LEU:HG	1:Y:74:LYS:HE3	1.85	0.58
8:U:377:HIS:HB2	8:U:411:ILE:HD12	1.85	0.58
12:D:54:LEU:HA	12:D:57:GLN:HG3	1.84	0.58
15:X:63:ALA:HB2	15:X:101:ALA:HB1	1.85	0.58
16:V:281:ASN:O	16:V:283:ASN:N	2.35	0.58
16:V:452:ASN:HD22	16:V:455:LYS:NZ	2.01	0.58
16:V:495:ARG:HH12	16:V:497:PRO:C	2.11	0.58
5:c:223:LYS:HB3	5:c:227:GLU:OE2	2.03	0.58
6:Z:68:TRP:CD1	6:Z:104:ASN:HD21	2.21	0.58
8:U:742:HIS:O	8:U:883:ARG:NE	2.36	0.58
10:A:172:VAL:O	10:A:231:ASN:HB3	2.03	0.58
12:D:407:ILE:HG22	12:D:408:LYS:HE3	1.85	0.58
16:V:304:GLU:HA	16:V:307:ARG:HG2	1.85	0.58
4:B:283:PHE:HA	4:B:328:ILE:HB	1.84	0.58
8:U:183:LEU:HA	8:U:187:LEU:HD12	1.85	0.58
9:W:187:LEU:HD11	9:W:226:TYR:HB2	1.84	0.58
16:V:159:LEU:O	16:V:162:GLU:HG3	2.03	0.58
16:V:174:PHE:HA	16:V:177:ASN:HD21	1.68	0.58
11:C:197:THR:OG1	21:C:501:ATP:O2A	2.21	0.58
13:E:122:MET:HG3	13:E:197:LYS:O	2.04	0.58
16:V:176:MET:HB3	16:V:180:ARG:NH1	2.18	0.58
1:Y:351:ASN:OD1	16:V:416:ARG:NH2	2.35	0.58
4:B:369:THR:HG23	4:B:374:LEU:HD23	1.85	0.58
5:c:68:ARG:HH12	5:c:106:GLU:HG3	1.68	0.58
5:c:122:LEU:O	5:c:198:ARG:NH1	2.37	0.58
5:c:279:ASP:HB3	5:c:280:PRO:HD3	1.85	0.58
6:Z:137:ALA:O	6:Z:157:HIS:ND1	2.34	0.58
10:A:414:ASN:HA	10:A:418:LYS:HE2	1.84	0.58
11:C:222:LYS:HD2	12:D:239:TYR:CD2	2.38	0.58
15:X:365:LEU:HA	15:X:368:MET:HE2	1.86	0.58
18:b:62:THR:HB	18:b:70:ARG:HH21	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:b:97:LEU:HD22	18:b:109:ILE:HD11	1.85	0.58
8:U:225:ASP:OD1	8:U:227:GLN:NE2	2.37	0.58
8:U:613:ASP:OD1	8:U:616:ARG:NH1	2.37	0.58
9:W:41:GLN:HA	9:W:44:ILE:HG12	1.86	0.58
12:D:345:PHE:CE2	12:D:375:ILE:HD12	2.39	0.58
14:F:250:LYS:HD2	14:F:251:LEU:N	2.19	0.58
9:W:241:LEU:HG	9:W:245:LYS:HE2	1.86	0.58
10:A:358:HIS:HE1	10:A:385:ILE:HG22	1.69	0.58
15:X:236:PHE:CE1	15:X:251:LEU:HB3	2.38	0.58
17:d:308:TRP:HZ3	17:d:318:PHE:HE1	1.51	0.58
1:Y:237:ARG:NE	1:Y:264:TYR:OH	2.31	0.58
2:a:347:LYS:O	2:a:350:LYS:HG2	2.04	0.58
4:B:111:THR:N	4:B:124:SER:O	2.37	0.58
5:c:153:GLY:HA3	6:Z:177:ARG:HH22	1.69	0.58
8:U:356:THR:HG22	8:U:717:ILE:HD12	1.84	0.58
8:U:879:ASP:OD1	8:U:880:ASN:N	2.36	0.58
11:C:43:ARG:HB3	16:V:495:ARG:NH2	2.19	0.58
11:C:346:LYS:O	11:C:349:GLU:HG2	2.04	0.58
12:D:231:VAL:HG21	13:E:262:ASN:ND2	2.18	0.58
14:F:406:ILE:HD11	14:F:426:GLU:HG3	1.84	0.58
17:d:121:LEU:HA	17:d:124:LEU:HG	1.85	0.58
1:Y:66:ASP:HB2	1:Y:70:LEU:HB2	1.86	0.58
1:Y:316:LEU:HD11	1:Y:347:ILE:HD11	1.86	0.58
6:Z:113:LYS:NZ	6:Z:117:PRO:O	2.31	0.58
9:W:308:LEU:O	9:W:311:THR:OG1	2.22	0.58
9:W:326:MET:O	9:W:331:GLY:N	2.37	0.58
11:C:222:LYS:HZ1	12:D:242:GLU:N	2.02	0.58
16:V:393:THR:OG1	16:V:397:ARG:NH1	2.36	0.58
4:B:224:LEU:HD23	4:B:353:PHE:HE1	1.69	0.57
8:U:792:ASN:ND2	8:U:916:ASP:OD1	2.37	0.57
9:W:409:LEU:HD23	15:X:344:ARG:HH12	1.68	0.57
12:D:133:HIS:HB3	12:D:138:ALA:H	1.67	0.57
16:V:339:LEU:O	16:V:404:LYS:NZ	2.34	0.57
16:V:452:ASN:HD22	16:V:455:LYS:HZ1	1.51	0.57
1:Y:128:TYR:O	1:Y:131:THR:HG22	2.04	0.57
4:B:214:MET:HG2	10:A:402:LYS:HA	1.86	0.57
8:U:542:GLU:HA	8:U:545:LEU:HD12	1.86	0.57
8:U:642:GLU:OE2	11:C:49:ARG:NH1	2.37	0.57
1:Y:224:VAL:HG13	1:Y:260:LEU:HD12	1.85	0.57
2:a:122:LYS:HG3	2:a:134:THR:HG21	1.86	0.57
2:a:325:ASP:OD1	2:a:326:GLU:N	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:407:SER:O	8:U:411:ILE:HG12	2.03	0.57
10:A:306:LEU:O	10:A:336:ARG:NH1	2.37	0.57
15:X:63:ALA:HB1	15:X:96:PHE:HE1	1.67	0.57
18:b:114:GLY:HA2	18:b:143:PHE:HB2	1.86	0.57
11:C:337:ASN:HD21	12:D:194:ILE:HA	1.70	0.57
1:Y:28:LEU:O	1:Y:32:ARG:HB2	2.05	0.57
8:U:152:GLY:O	8:U:155:LEU:HG	2.04	0.57
8:U:564:ASP:HA	8:U:567:ILE:HG22	1.85	0.57
13:E:264:MET:SD	13:E:294:ARG:NH1	2.78	0.57
14:F:75:GLU:HA	14:F:78:GLU:HG2	1.86	0.57
8:U:799:LYS:HE2	8:U:923:GLU:HB3	1.86	0.57
9:W:74:CYS:HB3	9:W:83:LEU:HG	1.85	0.57
10:A:70:THR:HG22	10:A:72:LEU:HD22	1.87	0.57
10:A:213:LEU:HB2	10:A:319:MET:HE1	1.86	0.57
11:C:42:LEU:HD21	12:D:57:GLN:HE22	1.70	0.57
16:V:253:LEU:O	16:V:257:ASN:ND2	2.38	0.57
2:a:142:LEU:HD11	2:a:152:HIS:HA	1.87	0.57
13:E:81:VAL:HB	13:E:106:THR:HA	1.87	0.57
16:V:179:LYS:HE3	16:V:214:HIS:CD2	2.40	0.57
16:V:278:GLU:HA	16:V:285:TRP:CZ3	2.40	0.57
18:b:51:LEU:HD11	18:b:71:ILE:HA	1.85	0.57
1:Y:312:ARG:CZ	15:X:377:ILE:HG23	2.35	0.57
4:B:348:ASP:HB3	10:A:394:MET:HE2	1.87	0.57
6:Z:86:ASN:OD1	6:Z:87:ALA:N	2.37	0.57
8:U:553:ALA:HA	8:U:585:THR:HG22	1.87	0.57
10:A:110:LYS:HZ2	14:F:86:LEU:HG	1.69	0.57
11:C:70:GLY:HA3	12:D:111:TYR:HB3	1.87	0.57
14:F:72:LYS:O	14:F:75:GLU:HG2	2.05	0.57
5:c:28:ALA:HB2	5:c:181:LEU:HB2	1.86	0.57
8:U:71:LEU:HD12	16:V:273:LYS:HZ3	1.68	0.57
11:C:38:LYS:HA	11:C:41:ASN:HD22	1.70	0.57
11:C:167:LEU:HG	11:C:175:PHE:HE1	1.70	0.57
12:D:54:LEU:O	12:D:57:GLN:NE2	2.37	0.57
12:D:157:ASP:OD1	12:D:158:GLN:N	2.31	0.57
15:X:382:GLU:OE1	15:X:382:GLU:N	2.38	0.57
18:b:83:LYS:HD3	18:b:84:ILE:N	2.20	0.57
4:B:223:ILE:HA	4:B:329:MET:HG2	1.87	0.57
5:c:305:ASP:HA	5:c:308:VAL:HB	1.86	0.57
8:U:162:VAL:HA	8:U:165:LYS:HB3	1.86	0.57
8:U:406:ALA:HA	8:U:445:ALA:HB2	1.85	0.57
9:W:166:LEU:HD13	9:W:189:GLN:HA	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:177:MET:O	9:W:182:ARG:NH2	2.38	0.57
13:E:55:GLN:O	14:F:133:PHE:N	2.38	0.57
13:E:195:PHE:HD1	13:E:229:ILE:HG13	1.68	0.57
14:F:226:TYR:HE1	14:F:351:LYS:HB3	1.70	0.57
15:X:89:VAL:HG21	15:X:125:LEU:HD21	1.87	0.57
5:c:121:TRP:CG	5:c:194:HIS:HE2	2.23	0.56
11:C:83:LYS:HD2	11:C:98:ASP:HB3	1.87	0.56
1:Y:92:GLU:OE1	1:Y:93:LYS:NZ	2.38	0.56
4:B:245:ALA:HB1	4:B:280:SER:HA	1.87	0.56
10:A:364:VAL:HG12	10:A:404:ALA:HB3	1.87	0.56
12:D:383:GLY:HA3	13:E:164:ILE:HG21	1.87	0.56
13:E:125:GLU:HG3	14:F:320:PHE:HB2	1.87	0.56
13:E:129:ASN:HA	13:E:189:SER:HB2	1.86	0.56
13:E:345:ASN:HD21	14:F:345:SER:HB2	1.70	0.56
16:V:449:ALA:HA	16:V:460:SER:HA	1.87	0.56
1:Y:48:ASN:O	1:Y:113:ARG:HG3	2.05	0.56
2:a:166:ILE:HG22	2:a:167:GLY:H	1.69	0.56
4:B:103:ARG:HH21	10:A:72:LEU:HD12	1.69	0.56
4:B:315:GLN:HA	4:B:322:ARG:HH21	1.69	0.56
5:c:309:PHE:HD2	9:W:432:LEU:HD22	1.71	0.56
6:Z:144:VAL:HA	6:Z:151:THR:HB	1.86	0.56
9:W:375:MET:HB3	9:W:413:ILE:HD11	1.86	0.56
10:A:95:VAL:HA	10:A:141:GLY:HA2	1.87	0.56
10:A:170:PRO:HB3	10:A:227:ARG:HG3	1.87	0.56
11:C:116:LEU:HG	11:C:123:LEU:HD12	1.86	0.56
11:C:214:VAL:O	11:C:249:ASP:N	2.37	0.56
12:D:267:ILE:HG22	12:D:271:ALA:HB2	1.87	0.56
13:E:88:ASP:HB3	13:E:91:LYS:HE3	1.87	0.56
13:E:140:GLU:OE1	13:E:143:ARG:NH1	2.33	0.56
13:E:199:VAL:HG13	13:E:233:ASP:HB3	1.87	0.56
14:F:152:GLY:N	14:F:162:GLU:O	2.38	0.56
16:V:248:ALA:O	16:V:252:ASN:ND2	2.39	0.56
18:b:8:VAL:HA	18:b:110:ILE:O	2.06	0.56
2:a:173:TYR:OH	2:a:216:LEU:HD13	2.05	0.56
2:a:342:ASP:HB3	2:a:345:GLN:HG2	1.87	0.56
9:W:112:VAL:O	9:W:121:LYS:NZ	2.38	0.56
15:X:354:ILE:HG22	15:X:356:LEU:HD13	1.87	0.56
9:W:363:ILE:HD11	9:W:382:LEU:HD11	1.88	0.56
11:C:38:LYS:O	11:C:42:LEU:HG	2.05	0.56
2:a:219:HIS:ND1	2:a:221:VAL:HG22	2.21	0.56
2:a:373:ASP:OD2	17:d:344:ARG:NE	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:c:179:SER:O	5:c:183:HIS:ND1	2.38	0.56
5:c:251:LEU:HD22	5:c:280:PRO:HA	1.87	0.56
4:B:182:GLU:OE2	4:B:237:LYS:HE2	2.06	0.56
8:U:203:LYS:O	8:U:207:ASN:ND2	2.39	0.56
9:W:251:TYR:HA	9:W:256:ILE:HG21	1.88	0.56
1:Y:101:ARG:NH2	1:Y:130:LYS:O	2.38	0.56
2:a:18:GLN:HB3	2:a:22:TRP:CZ3	2.41	0.56
2:a:186:LYS:O	2:a:188:LEU:N	2.39	0.56
9:W:384:LEU:HD21	9:W:388:GLU:HG3	1.88	0.56
11:C:232:ARG:HD2	11:C:279:GLN:HE22	1.70	0.56
12:D:353:ASN:ND2	12:D:392:TYR:O	2.39	0.56
13:E:346:VAL:HG22	13:E:374:VAL:HG21	1.88	0.56
14:F:306:VAL:O	14:F:310:MET:HG3	2.06	0.56
4:B:182:GLU:OE2	4:B:237:LYS:HB3	2.06	0.56
6:Z:116:CYS:HB3	6:Z:119:SER:HB2	1.88	0.56
7:e:37:HIS:NE2	7:e:41:ASP:HB2	2.21	0.56
8:U:381:THR:HG22	8:U:412:HIS:HA	1.88	0.56
8:U:456:ASP:N	8:U:456:ASP:OD1	2.38	0.56
8:U:521:LEU:HD12	8:U:554:LEU:O	2.06	0.56
13:E:119:VAL:HA	13:E:122:MET:HE2	1.87	0.56
13:E:376:ASP:HA	13:E:379:LYS:HD2	1.87	0.56
16:V:432:GLU:O	16:V:435:GLU:HG2	2.06	0.56
1:Y:50:MET:HB3	1:Y:53:TYR:HB3	1.88	0.56
8:U:600:ARG:NH1	12:D:52:GLU:OE2	2.39	0.56
8:U:722:ASP:O	8:U:727:LYS:NZ	2.38	0.56
9:W:139:GLU:HG2	9:W:174:TYR:HD1	1.71	0.56
12:D:205:TYR:HB2	12:D:332:GLU:HA	1.87	0.56
17:d:166:ARG:O	17:d:170:GLN:NE2	2.39	0.56
13:E:98:VAL:HG12	13:E:110:TYR:HA	1.88	0.55
13:E:179:GLY:N	21:E:501:ATP:O1B	2.39	0.55
15:X:274:LYS:HG3	15:X:275:LEU:HD12	1.88	0.55
17:d:199:LEU:HD21	17:d:207:GLU:HB2	1.87	0.55
1:Y:101:ARG:CZ	1:Y:131:THR:HA	2.37	0.55
10:A:353:HIS:CE1	10:A:357:ILE:HD11	2.41	0.55
12:D:150:SER:OG	12:D:151:ILE:N	2.38	0.55
12:D:236:VAL:HG21	13:E:209:GLY:HA3	1.88	0.55
13:E:70:ILE:HA	13:E:80:VAL:HG22	1.88	0.55
13:E:309:ARG:NH1	13:E:335:SER:O	2.30	0.55
16:V:79:VAL:HG13	16:V:81:GLN:H	1.71	0.55
16:V:284:GLU:OE1	16:V:284:GLU:N	2.34	0.55
1:Y:311:TYR:O	1:Y:358:ARG:NH2	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:a:41:VAL:O	2:a:45:VAL:HG23	2.05	0.55
2:a:190:VAL:HG12	2:a:194:GLN:HE22	1.71	0.55
4:B:110:GLY:O	4:B:149:SER:N	2.39	0.55
4:B:349:ARG:HD3	4:B:350:LYS:H	1.71	0.55
8:U:637:VAL:O	8:U:638:SER:C	2.49	0.55
10:A:274:PHE:HE2	10:A:277:ILE:HD13	1.70	0.55
11:C:116:LEU:HA	11:C:123:LEU:HA	1.87	0.55
1:Y:100:ILE:HG13	1:Y:101:ARG:HD2	1.89	0.55
2:a:53:GLY:O	2:a:57:ILE:HD12	2.07	0.55
11:C:232:ARG:HE	11:C:236:VAL:HG23	1.71	0.55
4:B:371:ARG:HG3	4:B:372:MET:HG3	1.87	0.55
8:U:512:ALA:O	8:U:516:LEU:HG	2.06	0.55
10:A:193:THR:HB	10:A:194:PRO:HD3	1.88	0.55
11:C:188:LEU:HD12	11:C:317:PHE:CE1	2.42	0.55
6:Z:211:TYR:OH	9:W:449:GLU:HB3	2.07	0.55
8:U:557:TYR:HB2	8:U:588:MET:HE2	1.89	0.55
11:C:202:ALA:O	11:C:206:HIS:ND1	2.39	0.55
2:a:217:LEU:HD23	2:a:238:TYR:CD1	2.38	0.55
4:B:150:VAL:HG22	4:B:162:VAL:HG23	1.89	0.55
10:A:238:ILE:O	10:A:273:PHE:N	2.40	0.55
16:V:495:ARG:NH1	16:V:497:PRO:O	2.33	0.55
6:Z:185:GLY:HA3	6:Z:190:ARG:NH1	2.21	0.55
8:U:574:LYS:O	8:U:579:ARG:NH2	2.34	0.55
12:D:96:VAL:HB	12:D:100:THR:HG22	1.88	0.55
12:D:117:SER:HA	12:D:121:ARG:HH22	1.71	0.55
13:E:71:VAL:O	13:E:79:TYR:N	2.35	0.55
16:V:163:VAL:HG13	16:V:175:MET:SD	2.47	0.55
18:b:6:THR:HG23	18:b:108:ARG:HG3	1.86	0.55
1:Y:121:LEU:HG	1:Y:125:ARG:HH11	1.72	0.55
6:Z:280:ILE:HD12	15:X:417:LYS:HE2	1.88	0.55
13:E:219:PHE:CE2	13:E:263:GLN:HB3	2.41	0.55
15:X:407:MET:HA	15:X:410:VAL:HG22	1.87	0.55
16:V:140:ASP:HA	16:V:143:ALA:HB2	1.89	0.55
1:Y:365:GLN:OE1	15:X:397:TYR:HD2	1.88	0.55
9:W:420:ASP:OD1	9:W:423:ASN:ND2	2.35	0.55
10:A:272:ILE:HD13	10:A:315:ILE:HG23	1.88	0.55
13:E:74:THR:OG1	13:E:75:ASN:N	2.40	0.55
13:E:282:PRO:HA	13:E:285:LEU:HD23	1.87	0.55
15:X:229:TYR:HB2	15:X:257:CYS:SG	2.47	0.55
16:V:69:THR:HA	16:V:73:GLU:OE1	2.07	0.55
12:D:56:VAL:O	12:D:59:GLU:HG2	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:V:214:HIS:HE2	16:V:227:VAL:HG11	1.72	0.54
2:a:187:ASP:OD1	2:a:188:LEU:N	2.33	0.54
2:a:323:SER:HB2	2:a:332:HIS:HB3	1.88	0.54
4:B:216:ILE:HD12	10:A:397:ILE:HD11	1.88	0.54
4:B:282:VAL:O	4:B:328:ILE:N	2.36	0.54
11:C:338:LEU:O	11:C:377:HIS:ND1	2.26	0.54
12:D:92:PHE:HA	12:D:103:VAL:HG12	1.89	0.54
13:E:60:VAL:HA	13:E:71:VAL:HG12	1.90	0.54
15:X:71:LYS:HA	15:X:74:ARG:HE	1.71	0.54
4:B:107:MET:HG2	4:B:151:LEU:HD13	1.89	0.54
4:B:290:ILE:HG23	4:B:309:MET:HB2	1.89	0.54
5:c:123:SER:N	5:c:126:ASP:OD2	2.40	0.54
8:U:216:VAL:O	8:U:220:LEU:HG	2.08	0.54
8:U:650:TYR:CD2	8:U:654:MET:HE1	2.42	0.54
16:V:35:VAL:HA	16:V:38:LYS:HZ3	1.71	0.54
16:V:193:GLN:O	16:V:241:ARG:NH1	2.40	0.54
6:Z:73:ASP:OD1	6:Z:74:TYR:N	2.40	0.54
6:Z:165:GLU:O	6:Z:168:GLU:N	2.39	0.54
8:U:538:GLU:O	8:U:540:GLN:NE2	2.40	0.54
11:C:207:THR:HG22	11:C:209:CYS:H	1.72	0.54
14:F:222:GLY:O	14:F:349:ASP:N	2.41	0.54
18:b:157:VAL:O	18:b:161:ASN:ND2	2.41	0.54
2:a:342:ASP:OD1	2:a:343:LEU:N	2.41	0.54
8:U:14:GLU:HB3	8:U:19:LEU:HD23	1.89	0.54
8:U:792:ASN:OD1	8:U:793:LYS:N	2.41	0.54
10:A:303:ILE:O	10:A:336:ARG:NH2	2.34	0.54
11:C:98:ASP:OD1	11:C:122:THR:HA	2.07	0.54
13:E:355:ILE:HD13	14:F:212:PHE:HE1	1.73	0.54
14:F:340:PRO:HB2	14:F:342:LEU:HG	1.89	0.54
15:X:86:ALA:HB1	15:X:125:LEU:HD13	1.89	0.54
16:V:304:GLU:HG3	16:V:307:ARG:HE	1.72	0.54
1:Y:333:GLU:HG2	1:Y:337:PHE:CE2	2.43	0.54
2:a:139:GLU:HB3	2:a:155:PHE:CE1	2.42	0.54
8:U:173:VAL:HG23	8:U:176:MET:H	1.72	0.54
8:U:399:TRP:HE1	8:U:772:TRP:HZ2	1.56	0.54
12:D:171:ASP:OD1	12:D:172:ILE:N	2.40	0.54
13:E:97:ARG:HE	13:E:111:LEU:HB3	1.71	0.54
16:V:79:VAL:HG22	16:V:80:LYS:H	1.72	0.54
2:a:327:VAL:HG22	9:W:372:ARG:HH21	1.73	0.54
4:B:309:MET:HE3	4:B:310:LEU:HD22	1.89	0.54
6:Z:32:GLN:OE1	6:Z:33:LYS:N	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:111:GLN:O	8:U:115:ASN:ND2	2.41	0.54
8:U:685:GLN:NE2	8:U:725:MET:HB2	2.23	0.54
10:A:309:PHE:HA	10:A:312:ARG:HE	1.73	0.54
13:E:127:PRO:HB3	14:F:320:PHE:CZ	2.43	0.54
15:X:164:ALA:O	15:X:168:GLU:HG2	2.08	0.54
17:d:228:HIS:HB3	17:d:229:PRO:HD3	1.89	0.54
4:B:349:ARG:NH2	10:A:398:ARG:HG3	2.21	0.54
8:U:603:LEU:HD13	12:D:60:TYR:HB2	1.89	0.54
11:C:188:LEU:HD13	11:C:315:ILE:HB	1.89	0.54
2:a:24:ARG:NH2	2:a:40:GLN:OE1	2.36	0.54
11:C:203:VAL:O	11:C:207:THR:N	2.41	0.54
8:U:633:CYS:CB	8:U:659:CYS:HG	2.20	0.54
12:D:339:ARG:HA	12:D:342:ARG:HB3	1.88	0.54
12:D:378:ILE:HG13	12:D:406:VAL:HG11	1.90	0.54
17:d:189:HIS:HB3	17:d:223:ASN:ND2	2.23	0.54
18:b:109:ILE:O	18:b:139:ASP:N	2.37	0.54
8:U:556:MET:HE3	8:U:559:ARG:HB2	1.90	0.53
9:W:149:LEU:O	9:W:153:LYS:HG2	2.08	0.53
10:A:274:PHE:HB3	10:A:319:MET:HG2	1.88	0.53
11:C:231:VAL:HG12	11:C:279:GLN:HG3	1.90	0.53
11:C:329:LEU:HD13	11:C:344:LEU:HB3	1.90	0.53
8:U:789:ILE:HG22	8:U:791:LEU:HG	1.89	0.53
11:C:228:ALA:HB1	11:C:275:GLU:HG3	1.90	0.53
16:V:407:VAL:HA	16:V:410:ILE:HG22	1.88	0.53
17:d:129:LEU:HG	17:d:131:THR:H	1.72	0.53
17:d:136:LEU:HD22	17:d:140:GLN:HE22	1.73	0.53
4:B:153:ASN:HA	4:B:160:ILE:HD13	1.90	0.53
9:W:405:LYS:HD2	15:X:343:SER:HB2	1.90	0.53
10:A:74:PRO:HD2	10:A:77:LEU:HD12	1.90	0.53
13:E:345:ASN:ND2	14:F:345:SER:HB2	2.23	0.53
14:F:423:GLY:O	14:F:427:VAL:HG23	2.09	0.53
2:a:89:ASP:HB3	2:a:92:VAL:HG12	1.91	0.53
4:B:132:TYR:N	10:A:93:LEU:O	2.27	0.53
6:Z:226:ILE:CG1	9:W:445:LEU:HD13	2.39	0.53
10:A:384:GLU:O	10:A:388:VAL:HG23	2.08	0.53
11:C:368:MET:HE1	12:D:191:TYR:HE2	1.73	0.53
9:W:166:LEU:O	9:W:189:GLN:NE2	2.41	0.53
10:A:108:ASP:HB2	10:A:110:LYS:HE2	1.89	0.53
10:A:110:LYS:NZ	14:F:86:LEU:HG	2.24	0.53
14:F:194:GLN:HE22	14:F:355:PRO:HD3	1.74	0.53
14:F:364:ARG:O	14:F:368:ILE:HG13	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:X:99:MET:SD	15:X:100:GLU:N	2.82	0.53
5:c:41:MET:HG3	5:c:112:TYR:CE2	2.44	0.53
5:c:146:ASP:HB3	5:c:156:VAL:HG21	1.91	0.53
6:Z:43:TRP:H	6:Z:90:ARG:HH22	1.54	0.53
8:U:131:GLU:O	8:U:135:ASN:ND2	2.41	0.53
8:U:250:PHE:HE1	8:U:328:ILE:HG21	1.73	0.53
8:U:388:ASP:OD1	8:U:389:ASN:N	2.41	0.53
9:W:97:LEU:HG	9:W:99:GLN:H	1.74	0.53
11:C:358:GLU:O	11:C:362:VAL:HG13	2.08	0.53
12:D:102:ILE:HG12	12:D:112:TYR:HE1	1.73	0.53
13:E:236:ASP:N	13:E:236:ASP:OD1	2.40	0.53
15:X:139:ASP:O	15:X:141:LYS:NZ	2.42	0.53
17:d:116:LEU:HD23	17:d:119:LEU:HD12	1.90	0.53
2:a:112:ILE:HG12	2:a:138:VAL:HG13	1.90	0.53
2:a:131:THR:O	2:a:135:ILE:HG13	2.08	0.53
4:B:308:THR:O	4:B:311:GLU:HG3	2.09	0.53
8:U:600:ARG:HA	12:D:56:VAL:HG21	1.91	0.53
9:W:103:LYS:O	9:W:107:GLN:HG2	2.08	0.53
16:V:254:LEU:HA	16:V:257:ASN:HD21	1.73	0.53
17:d:142:ILE:HG12	17:d:182:LEU:HD22	1.90	0.53
2:a:98:GLU:OE2	2:a:101:ARG:NH1	2.42	0.53
2:a:232:TRP:HE3	2:a:253:THR:HG22	1.72	0.53
4:B:150:VAL:HA	4:B:162:VAL:HA	1.90	0.53
4:B:202:GLU:HG3	4:B:239:VAL:HB	1.90	0.53
6:Z:56:VAL:HA	6:Z:74:TYR:CE1	2.44	0.53
6:Z:230:LEU:HG	6:Z:234:PHE:CZ	2.44	0.53
8:U:563:ALA:HB1	8:U:566:LEU:HB2	1.91	0.53
12:D:234:GLU:CB	13:E:216:ARG:HH12	2.21	0.53
14:F:90:VAL:HG12	14:F:152:GLY:HA2	1.91	0.53
5:c:54:MET:HA	5:c:113:HIS:HA	1.91	0.53
6:Z:257:MET:HE1	16:V:476:PHE:CB	2.31	0.53
8:U:712:LEU:HA	8:U:715:LYS:HG2	1.90	0.53
9:W:59:ASP:HB3	9:W:62:SER:HB2	1.91	0.53
11:C:222:LYS:HG3	11:C:223:PHE:CD2	2.44	0.53
11:C:235:PHE:O	11:C:239:ARG:HG2	2.09	0.53
15:X:299:LEU:HD21	15:X:331:LEU:HB2	1.91	0.53
1:Y:15:PRO:HD2	1:Y:146:ARG:HB3	1.91	0.53
1:Y:52:PRO:HD2	1:Y:114:ILE:O	2.08	0.53
2:a:130:VAL:HG22	2:a:133:GLU:HB3	1.90	0.53
2:a:350:LYS:HZ1	6:Z:213:GLU:HA	1.73	0.53
4:B:250:VAL:O	4:B:284:ILE:HG23	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:699:THR:O	8:U:702:THR:OG1	2.24	0.53
9:W:367:ALA:HA	9:W:415:PHE:HD1	1.74	0.53
14:F:64:HIS:O	14:F:67:GLN:HG3	2.09	0.53
15:X:47:GLU:HA	15:X:50:ILE:HB	1.90	0.53
15:X:122:ARG:HB3	15:X:125:LEU:HB3	1.90	0.53
18:b:110:ILE:HG12	18:b:139:ASP:HB2	1.90	0.53
4:B:232:LYS:HG2	4:B:353:PHE:CD1	2.43	0.52
8:U:11:LEU:HD22	17:d:166:ARG:HB2	1.91	0.52
8:U:239:GLU:OE2	8:U:241:ASN:ND2	2.42	0.52
8:U:241:ASN:C	8:U:243:LEU:H	2.16	0.52
8:U:510:GLU:OE2	8:U:543:LYS:HB3	2.08	0.52
11:C:300:ILE:HG23	11:C:301:LEU:HD23	1.90	0.52
13:E:63:GLN:HA	13:E:69:PHE:HA	1.91	0.52
16:V:51:ALA:HB2	16:V:150:ARG:HH12	1.73	0.52
16:V:342:ILE:HD12	16:V:343:PRO:HD2	1.91	0.52
4:B:187:ILE:HB	4:B:190:LEU:HD12	1.91	0.52
6:Z:169:GLU:HA	6:Z:172:VAL:HG22	1.90	0.52
8:U:454:GLY:O	8:U:458:ILE:HG12	2.08	0.52
8:U:612:ASP:OD1	8:U:613:ASP:N	2.43	0.52
8:U:636:VAL:HG12	12:D:53:PHE:CZ	2.44	0.52
10:A:415:LYS:O	10:A:419:SER:HB3	2.09	0.52
11:C:303:SER:HA	11:C:306:LEU:HB2	1.92	0.52
13:E:47:LEU:HD22	14:F:79:LYS:HE3	1.91	0.52
16:V:35:VAL:HG23	16:V:38:LYS:HZ1	1.75	0.52
1:Y:155:ASP:HB3	1:Y:159:ARG:HH21	1.73	0.52
8:U:402:PHE:CE2	8:U:437:TYR:HD1	2.27	0.52
8:U:486:MET:HE1	8:U:757:MET:SD	2.49	0.52
8:U:529:ILE:O	8:U:533:VAL:HG12	2.09	0.52
9:W:149:LEU:HG	9:W:153:LYS:HE2	1.91	0.52
11:C:59:LEU:O	11:C:63:LEU:HG	2.09	0.52
12:D:373:ALA:N	21:D:501:ATP:H1'	2.25	0.52
13:E:22:ILE:HG13	13:E:25:ARG:HH11	1.75	0.52
4:B:180:PRO:HB2	4:B:241:ASN:HB2	1.91	0.52
4:B:201:VAL:H	4:B:222:VAL:HG21	1.74	0.52
8:U:419:ALA:HA	8:U:422:LEU:HB3	1.91	0.52
8:U:520:MET:HG3	8:U:528:ALA:HB2	1.91	0.52
8:U:639:LEU:HD11	11:C:49:ARG:HD2	1.92	0.52
14:F:169:ASP:HB3	14:F:172:VAL:HB	1.91	0.52
14:F:362:ARG:NH2	14:F:385:ALA:O	2.34	0.52
15:X:111:LEU:HD13	15:X:114:ILE:HD11	1.92	0.52
5:c:106:GLU:OE1	5:c:106:GLU:N	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:c:151:VAL:HG22	5:c:152:LYS:HG2	1.91	0.52
8:U:353:LEU:HD11	8:U:373:ASN:HB2	1.90	0.52
9:W:276:LEU:HD11	9:W:353:ASP:HB3	1.92	0.52
11:C:138:MET:CE	11:C:214:VAL:HA	2.39	0.52
12:D:177:VAL:O	12:D:181:VAL:HG22	2.10	0.52
17:d:301:ASP:HA	17:d:304:LYS:HE2	1.90	0.52
2:a:312:MET:HG2	9:W:369:TYR:HD2	1.74	0.52
5:c:225:TRP:HB3	6:Z:131:LEU:HD11	1.91	0.52
10:A:194:PRO:HA	10:A:198:PRO:HB3	1.91	0.52
12:D:61:ILE:O	12:D:65:GLN:HG2	2.09	0.52
1:Y:229:ILE:HA	1:Y:299:MET:HE1	1.92	0.52
2:a:162:TYR:HD2	2:a:168:ASN:HD21	1.57	0.52
4:B:290:ILE:HD11	4:B:308:THR:CG2	2.39	0.52
8:U:24:LEU:HD23	8:U:27:LEU:HD12	1.91	0.52
8:U:609:ASP:OD1	8:U:611:ASN:N	2.38	0.52
9:W:367:ALA:HA	9:W:415:PHE:CD1	2.44	0.52
10:A:130:ALA:O	10:A:134:ILE:HD12	2.10	0.52
10:A:358:HIS:ND1	10:A:389:CYS:SG	2.82	0.52
11:C:120:SER:O	11:C:122:THR:N	2.43	0.52
12:D:142:VAL:HG22	12:D:143:LEU:H	1.75	0.52
12:D:222:HIS:ND1	12:D:222:HIS:O	2.43	0.52
12:D:257:ASN:O	12:D:257:ASN:OD1	2.26	0.52
12:D:323:ARG:HD2	12:D:325:GLY:H	1.73	0.52
13:E:54:GLY:HA3	14:F:134:LEU:HD12	1.91	0.52
2:a:308:GLU:HG3	9:W:377:ARG:HH12	1.73	0.52
5:c:215:LYS:HD3	6:Z:129:LYS:HD2	1.92	0.52
10:A:225:CYS:O	10:A:229:VAL:HG23	2.10	0.52
11:C:147:THR:OG1	11:C:150:MET:HE3	2.08	0.52
12:D:219:VAL:O	12:D:223:THR:HB	2.10	0.52
14:F:76:ASN:O	14:F:79:LYS:HG2	2.10	0.52
18:b:147:GLU:HB3	18:b:150:THR:HG22	1.91	0.52
1:Y:22:LEU:HD13	1:Y:37:VAL:HG13	1.92	0.52
2:a:84:VAL:HA	2:a:87:MET:SD	2.50	0.52
2:a:364:GLU:HG3	6:Z:198:LEU:CD1	2.40	0.52
5:c:129:THR:HG22	5:c:133:PHE:HE2	1.74	0.52
5:c:231:LEU:O	5:c:298:GLN:NE2	2.43	0.52
8:U:376:MET:HE1	8:U:738:ASP:HB2	1.92	0.52
13:E:171:LEU:HD21	13:E:295:LEU:CD2	2.40	0.52
14:F:69:MET:O	14:F:73:ILE:HG13	2.10	0.52
17:d:94:MET:HE2	17:d:119:LEU:HG	1.91	0.52
17:d:155:SER:O	17:d:159:LYS:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:a:145:LEU:HG	2:a:147:GLY:H	1.74	0.52
4:B:104:GLY:HA3	4:B:154:HIS:H	1.75	0.52
9:W:188:GLU:HB3	9:W:191:ARG:HH21	1.75	0.52
10:A:358:HIS:NE2	10:A:386:ARG:HG2	2.25	0.52
11:C:368:MET:HE3	11:C:368:MET:HA	1.91	0.52
12:D:87:LEU:HD22	12:D:133:HIS:HA	1.91	0.52
13:E:311:ASP:HA	13:E:314:LYS:HD2	1.90	0.52
15:X:407:MET:O	15:X:410:VAL:HG22	2.10	0.52
16:V:488:ASN:O	16:V:492:LYS:HG2	2.09	0.52
1:Y:193:ASP:OD1	1:Y:196:GLN:NE2	2.42	0.51
2:a:212:ASN:O	2:a:216:LEU:HD21	2.10	0.51
6:Z:100:LYS:HD2	9:W:451:MET:HE1	1.91	0.51
6:Z:279:LYS:HA	6:Z:282:ASN:HD21	1.75	0.51
8:U:17:PRO:HB2	8:U:55:ARG:NH1	2.24	0.51
8:U:69:TYR:CZ	8:U:96:TYR:HA	2.44	0.51
13:E:185:ARG:HH22	21:E:501:ATP:H5'1	1.75	0.51
15:X:182:ASN:OD1	15:X:185:LYS:HG2	2.10	0.51
1:Y:315:THR:HG1	1:Y:318:TYR:HD1	1.58	0.51
8:U:637:VAL:HG11	8:U:656:LEU:HD13	1.92	0.51
9:W:428:TRP:HE1	9:W:432:LEU:HD11	1.75	0.51
10:A:362:MET:HG3	10:A:364:VAL:HG13	1.92	0.51
11:C:106:ASN:OD1	11:C:107:ASP:N	2.43	0.51
13:E:85:ARG:HD3	13:E:86:GLN:HG3	1.93	0.51
14:F:393:GLY:HA3	19:F:501:ADP:N7	2.25	0.51
5:c:162:LEU:HD23	5:c:200:TYR:HB3	1.92	0.51
8:U:898:CYS:SG	8:U:899:ARG:N	2.84	0.51
10:A:371:GLU:O	10:A:375:ARG:HG2	2.10	0.51
12:D:85:ILE:HG22	12:D:86:PRO:HD3	1.91	0.51
13:E:197:LYS:HG2	13:E:231:PHE:CD2	2.46	0.51
14:F:180:ARG:NH2	14:F:246:ALA:O	2.41	0.51
15:X:44:GLN:O	15:X:46:LYS:N	2.41	0.51
16:V:159:LEU:O	16:V:163:VAL:HG23	2.09	0.51
4:B:120:HIS:HA	4:B:134:SER:HA	1.93	0.51
9:W:101:VAL:HA	9:W:104:MET:HG2	1.92	0.51
9:W:433:ASN:HA	9:W:436:MET:HG2	1.92	0.51
10:A:263:MET:O	10:A:266:THR:OG1	2.21	0.51
2:a:190:VAL:O	2:a:194:GLN:NE2	2.44	0.51
4:B:109:VAL:HG22	4:B:163:LEU:HD11	1.93	0.51
5:c:36:LEU:HD22	6:Z:21:ASP:CG	2.35	0.51
5:c:216:MET:HE3	6:Z:16:LEU:HD12	1.93	0.51
6:Z:65:ASP:OD1	6:Z:102:HIS:HB3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:368:ALA:HB2	8:U:728:PHE:CD2	2.46	0.51
8:U:685:GLN:HE21	8:U:725:MET:C	2.18	0.51
8:U:894:MET:SD	8:U:895:PRO:HD2	2.51	0.51
10:A:100:LYS:HE3	10:A:102:ILE:HD13	1.92	0.51
10:A:358:HIS:CE1	10:A:385:ILE:HG22	2.45	0.51
11:C:213:ARG:HA	11:C:247:PHE:HB3	1.91	0.51
11:C:243:PRO:HA	11:C:288:ASN:HB3	1.92	0.51
14:F:205:PRO:O	14:F:209:LYS:HG2	2.11	0.51
15:X:302:PHE:HZ	15:X:323:LEU:HB2	1.75	0.51
16:V:64:GLN:O	16:V:67:LEU:HG	2.11	0.51
4:B:233:THR:O	4:B:237:LYS:HG2	2.11	0.51
4:B:339:PRO:HG3	10:A:422:LYS:HE3	1.91	0.51
8:U:90:VAL:HA	8:U:136:LYS:HE3	1.91	0.51
8:U:135:ASN:HA	8:U:138:PHE:HD2	1.76	0.51
8:U:174:PRO:HA	8:U:177:LEU:HD13	1.93	0.51
10:A:179:GLY:HA3	10:A:346:PRO:HA	1.91	0.51
10:A:214:LEU:HD23	10:A:343:PHE:HZ	1.75	0.51
11:C:214:VAL:HB	11:C:248:MET:HA	1.92	0.51
16:V:162:GLU:O	16:V:171:VAL:HG11	2.10	0.51
16:V:471:GLU:HG3	16:V:472:PRO:HD3	1.91	0.51
17:d:196:LEU:HD13	17:d:208:PHE:HE1	1.74	0.51
17:d:199:LEU:HA	17:d:202:GLN:HG2	1.92	0.51
1:Y:97:GLU:O	1:Y:100:ILE:HG12	2.10	0.51
4:B:136:LEU:HD23	10:A:83:ASP:HB3	1.91	0.51
9:W:138:VAL:HA	9:W:141:GLU:HB3	1.91	0.51
12:D:323:ARG:HH21	12:D:326:ARG:HG2	1.76	0.51
15:X:74:ARG:HA	15:X:77:LEU:HD12	1.93	0.51
1:Y:84:LEU:HD13	1:Y:107:LYS:HG3	1.93	0.51
1:Y:232:GLU:OE1	1:Y:232:GLU:N	2.44	0.51
5:c:211:GLU:C	5:c:215:LYS:HZ2	2.19	0.51
8:U:19:LEU:HD12	8:U:22:PHE:CZ	2.46	0.51
8:U:43:ASP:O	8:U:47:VAL:HG13	2.11	0.51
8:U:132:GLY:HA2	8:U:135:ASN:HD21	1.76	0.51
8:U:140:ARG:HH12	8:U:144:ASP:HB2	1.75	0.51
8:U:599:ILE:HA	8:U:602:LEU:CD2	2.41	0.51
8:U:694:ILE:HG13	8:U:695:MET:HG2	1.93	0.51
10:A:170:PRO:HB3	10:A:227:ARG:CG	2.39	0.51
12:D:303:VAL:HG23	12:D:305:VAL:HG13	1.92	0.51
16:V:66:GLU:O	16:V:69:THR:OG1	2.28	0.51
17:d:271:ILE:O	17:d:275:ILE:HG12	2.11	0.51
4:B:367:ILE:O	4:B:370:SER:OG	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:c:152:LYS:HE2	12:D:81:ARG:HH21	1.76	0.51
6:Z:214:LYS:HB3	6:Z:220:LEU:HD13	1.92	0.51
8:U:43:ASP:OD1	8:U:43:ASP:N	2.44	0.51
8:U:532:MET:HE1	8:U:551:GLY:HA3	1.92	0.51
9:W:165:ILE:O	9:W:168:GLU:HG2	2.11	0.51
12:D:77:GLU:O	12:D:80:LYS:HG3	2.11	0.51
12:D:156:SER:O	12:D:158:GLN:N	2.44	0.51
12:D:267:ILE:H	12:D:267:ILE:HD12	1.75	0.51
17:d:258:PHE:CE2	17:d:262:ILE:HD11	2.46	0.51
18:b:29:GLN:HG2	18:b:112:PHE:HD2	1.76	0.51
4:B:250:VAL:HG11	4:B:255:LEU:HB3	1.92	0.51
5:c:185:ASN:OD1	5:c:186:LYS:N	2.44	0.51
9:W:264:GLN:O	9:W:268:LYS:HG3	2.11	0.51
11:C:165:ILE:HG13	11:C:166:GLU:N	2.26	0.51
12:D:79:VAL:HA	12:D:82:ILE:HD12	1.93	0.51
13:E:88:ASP:HB3	13:E:91:LYS:HG2	1.93	0.51
1:Y:143:TYR:HA	1:Y:146:ARG:HE	1.76	0.50
4:B:247:PHE:CE2	4:B:249:ARG:HB2	2.46	0.50
4:B:311:GLU:O	4:B:315:GLN:HG2	2.11	0.50
5:c:232:GLN:NE2	5:c:233:ASP:O	2.44	0.50
6:Z:211:TYR:HA	6:Z:214:LYS:HD2	1.93	0.50
8:U:528:ALA:O	8:U:532:MET:HB3	2.12	0.50
10:A:124:ASP:OD1	10:A:124:ASP:N	2.43	0.50
11:C:125:LYS:NZ	12:D:100:THR:HG21	2.26	0.50
11:C:147:THR:HG23	11:C:206:HIS:NE2	2.26	0.50
13:E:366:ASP:HA	13:E:369:LYS:HD2	1.93	0.50
14:F:405:MET:HA	14:F:408:LEU:HD12	1.92	0.50
15:X:310:ARG:O	15:X:314:ARG:N	2.40	0.50
16:V:285:TRP:HE1	16:V:289:LEU:HD11	1.74	0.50
16:V:393:THR:O	16:V:397:ARG:HG2	2.11	0.50
1:Y:372:LYS:HZ1	15:X:404:ILE:C	2.19	0.50
2:a:139:GLU:HB3	2:a:155:PHE:CZ	2.46	0.50
8:U:644:TYR:HB2	11:C:60:ARG:NH2	2.26	0.50
12:D:243:GLY:O	12:D:246:MET:HG2	2.12	0.50
16:V:149:PRO:HB2	16:V:150:ARG:NH2	2.26	0.50
17:d:165:GLU:HA	17:d:168:MET:HG2	1.92	0.50
2:a:176:ALA:HB3	2:a:200:LEU:HD13	1.93	0.50
2:a:297:ALA:HB2	2:a:307:VAL:HG11	1.93	0.50
4:B:248:LEU:O	4:B:283:PHE:HB3	2.11	0.50
8:U:21:GLU:O	8:U:25:HIS:ND1	2.44	0.50
9:W:132:THR:HB	9:W:138:VAL:HG11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:48:GLN:HE22	12:D:65:GLN:CG	2.24	0.50
13:E:360:ASP:HA	14:F:215:LEU:HD21	1.92	0.50
14:F:305:GLU:OE1	14:F:308:ARG:NH1	2.44	0.50
1:Y:255:ALA:O	1:Y:258:GLN:NE2	2.44	0.50
4:B:203:LEU:HB3	4:B:204:PRO:HD3	1.93	0.50
4:B:312:LEU:O	4:B:316:LEU:HG	2.11	0.50
5:c:277:LYS:O	5:c:282:ARG:HD2	2.12	0.50
6:Z:34:ARG:HH21	6:Z:96:HIS:CD2	2.30	0.50
9:W:153:LYS:HB3	9:W:158:ASP:HB2	1.91	0.50
11:C:333:SER:HA	11:C:336:MET:HB3	1.93	0.50
12:D:321:LEU:O	12:D:326:ARG:HB2	2.11	0.50
13:E:101:ASP:O	13:E:105:LEU:HD23	2.11	0.50
14:F:259:MET:HB2	14:F:305:GLU:HG2	1.93	0.50
15:X:283:GLN:H	15:X:283:GLN:CD	2.20	0.50
16:V:221:LEU:HD12	16:V:222:ASP:OD1	2.12	0.50
1:Y:314:LEU:H	1:Y:314:LEU:HD12	1.76	0.50
5:c:282:ARG:HA	5:c:285:GLU:CD	2.36	0.50
9:W:94:ARG:HG2	9:W:95:SER:H	1.76	0.50
9:W:438:LEU:O	9:W:442:THR:OG1	2.21	0.50
11:C:61:GLU:O	11:C:65:LEU:HD23	2.12	0.50
11:C:62:GLU:O	11:C:66:LEU:HG	2.11	0.50
1:Y:24:PHE:CD2	1:Y:286:TRP:HB3	2.47	0.50
2:a:170:ALA:HB2	2:a:207:GLY:HA3	1.94	0.50
2:a:284:ARG:HE	2:a:286:ALA:HA	1.76	0.50
4:B:200:SER:HB2	4:B:222:VAL:HG21	1.94	0.50
4:B:273:VAL:O	4:B:277:HIS:N	2.39	0.50
4:B:374:LEU:HG	4:B:380:LEU:HD13	1.93	0.50
8:U:513:GLY:HA3	8:U:548:LEU:HD12	1.93	0.50
9:W:339:ASP:OD2	9:W:350:ARG:NH2	2.44	0.50
15:X:56:LEU:HA	15:X:59:LYS:HD2	1.92	0.50
4:B:261:GLY:H	4:B:307:ARG:NH1	2.09	0.50
4:B:342:ILE:HA	4:B:347:ILE:HG13	1.92	0.50
5:c:231:LEU:HD21	9:W:429:SER:OG	2.12	0.50
8:U:764:LEU:O	8:U:768:GLN:NE2	2.44	0.50
9:W:224:LEU:HD22	9:W:250:ILE:HG12	1.94	0.50
9:W:272:LEU:HD13	9:W:341:PHE:HE2	1.76	0.50
10:A:142:VAL:HG12	10:A:149:ILE:HD13	1.94	0.50
10:A:214:LEU:HD23	10:A:343:PHE:CZ	2.46	0.50
13:E:138:LEU:O	13:E:140:GLU:N	2.45	0.50
13:E:168:LYS:N	13:E:296:ASP:OD2	2.44	0.50
13:E:360:ASP:OD1	13:E:361:PHE:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:285:ILE:N	14:F:329:ILE:O	2.40	0.50
14:F:368:ILE:O	14:F:371:ARG:HG2	2.10	0.50
2:a:188:LEU:HD11	2:a:196:ARG:HH12	1.76	0.50
2:a:278:MET:O	2:a:281:THR:OG1	2.28	0.50
4:B:346:ARG:HG3	4:B:347:ILE:HG12	1.94	0.50
8:U:252:LEU:HB3	8:U:261:LEU:HD21	1.92	0.50
8:U:607:VAL:HB	12:D:60:TYR:CE1	2.47	0.50
8:U:654:MET:O	8:U:658:ILE:HG12	2.12	0.50
11:C:73:VAL:HG21	12:D:110:ASN:HB2	1.93	0.50
14:F:314:LEU:HD12	14:F:347:ARG:HD2	1.94	0.50
14:F:318:ASP:HB3	14:F:347:ARG:HH22	1.76	0.50
16:V:165:ALA:HB2	16:V:171:VAL:HG21	1.92	0.50
1:Y:178:ASN:HA	1:Y:181:LYS:HE2	1.92	0.50
1:Y:285:ASP:OD1	1:Y:287:LEU:N	2.45	0.50
2:a:122:LYS:HB3	2:a:131:THR:HG22	1.93	0.50
5:c:287:HIS:HA	5:c:290:VAL:HG22	1.93	0.50
6:Z:12:HIS:ND1	6:Z:168:GLU:OE2	2.45	0.50
6:Z:71:ASP:O	6:Z:74:TYR:HB3	2.12	0.50
6:Z:275:LEU:HD13	16:V:494:MET:HE2	1.93	0.50
8:U:402:PHE:CZ	8:U:437:TYR:HA	2.47	0.50
9:W:194:LEU:HD12	9:W:229:LEU:HD22	1.93	0.50
12:D:296:MET:O	12:D:298:GLY:N	2.40	0.50
1:Y:34:ASP:OD1	1:Y:35:ALA:N	2.45	0.49
2:a:326:GLU:OE2	2:a:327:VAL:HG13	2.12	0.49
4:B:200:SER:HB2	4:B:222:VAL:HG11	1.94	0.49
12:D:231:VAL:HG11	13:E:262:ASN:ND2	2.26	0.49
13:E:97:ARG:HG2	13:E:111:LEU:HD12	1.93	0.49
14:F:368:ILE:HG22	14:F:372:LYS:HE2	1.92	0.49
16:V:33:GLN:O	16:V:36:GLU:HG2	2.11	0.49
16:V:398:LEU:HA	16:V:401:ASN:HB2	1.94	0.49
2:a:166:ILE:HG22	2:a:167:GLY:N	2.27	0.49
2:a:321:LYS:O	2:a:334:THR:OG1	2.27	0.49
3:v:16:ALA:HA	14:F:259:MET:HE1	1.93	0.49
4:B:287:ILE:HG22	4:B:331:THR:HG23	1.94	0.49
8:U:265:ILE:O	8:U:269:ARG:HG3	2.12	0.49
8:U:392:TRP:HA	8:U:395:ARG:NH1	2.27	0.49
9:W:142:ARG:HA	9:W:145:LEU:HB2	1.93	0.49
9:W:344:THR:HG22	9:W:345:GLU:N	2.28	0.49
10:A:222:LYS:H	10:A:343:PHE:HE2	1.57	0.49
10:A:416:VAL:O	10:A:420:TYR:HB3	2.12	0.49
12:D:335:LEU:HD12	12:D:336:PRO:HD2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:366:ARG:HH22	12:D:400:GLU:CD	2.20	0.49
13:E:340:GLY:HA3	21:E:501:ATP:C5	2.48	0.49
14:F:201:ALA:HB2	14:F:350:ARG:HH21	1.77	0.49
14:F:379:VAL:HG23	14:F:384:LEU:HD11	1.93	0.49
18:b:119:ASP:O	18:b:152:LYS:NZ	2.38	0.49
1:Y:248:GLU:OE1	15:X:180:LEU:HB3	2.11	0.49
4:B:384:ILE:O	4:B:385:MET:HE2	2.12	0.49
8:U:421:GLN:O	8:U:425:THR:HG23	2.12	0.49
9:W:132:THR:HA	9:W:135:LYS:HD2	1.94	0.49
10:A:274:PHE:HB3	10:A:319:MET:CG	2.42	0.49
11:C:257:SER:O	12:D:283:ARG:NH2	2.35	0.49
11:C:286:THR:HB	11:C:289:ILE:HD12	1.94	0.49
11:C:368:MET:HB3	11:C:372:ARG:NH2	2.27	0.49
13:E:171:LEU:HD21	13:E:295:LEU:HD22	1.93	0.49
16:V:309:MET:HE1	16:V:332:LEU:CA	2.39	0.49
17:d:223:ASN:OD1	17:d:226:ILE:N	2.45	0.49
17:d:308:TRP:HZ3	17:d:318:PHE:CE1	2.30	0.49
2:a:323:SER:O	2:a:332:HIS:N	2.46	0.49
4:B:113:GLU:OE1	4:B:113:GLU:N	2.44	0.49
4:B:193:GLN:OE1	4:B:193:GLN:N	2.44	0.49
4:B:253:SER:HB2	4:B:289:ALA:HB1	1.95	0.49
4:B:284:ILE:N	4:B:328:ILE:O	2.46	0.49
6:Z:77:ASN:O	6:Z:81:MET:HG2	2.12	0.49
8:U:405:THR:HG21	8:U:438:GLN:HA	1.95	0.49
8:U:796:LYS:NZ	8:U:916:ASP:OD1	2.38	0.49
11:C:277:LEU:O	11:C:280:LEU:HG	2.12	0.49
15:X:334:ASN:O	15:X:337:ARG:HG2	2.12	0.49
16:V:176:MET:HA	16:V:176:MET:HE3	1.94	0.49
16:V:294:ARG:NH2	16:V:390:GLY:O	2.45	0.49
2:a:328:ASP:O	2:a:330:ARG:NH1	2.45	0.49
2:a:341:LEU:HB3	2:a:345:GLN:HB2	1.95	0.49
4:B:195:GLN:NE2	4:B:196:GLU:HG2	2.27	0.49
4:B:344:PRO:O	10:A:387:SER:HB2	2.13	0.49
7:e:59:GLU:OE2	7:e:63:HIS:ND1	2.45	0.49
10:A:322:ASN:HB3	10:A:323:ARG:NH1	2.28	0.49
10:A:397:ILE:HG22	10:A:398:ARG:NH1	2.26	0.49
14:F:322:PRO:O	14:F:324:THR:N	2.45	0.49
15:X:395:LYS:HA	15:X:398:GLU:CD	2.37	0.49
1:Y:50:MET:O	1:Y:54:TYR:HB2	2.12	0.49
1:Y:154:ASN:HA	1:Y:157:ILE:HD12	1.94	0.49
2:a:232:TRP:CE3	2:a:253:THR:HG22	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:c:57:MET:HE2	5:c:111:TRP:O	2.13	0.49
5:c:295:ASN:HB2	6:Z:256:GLN:NE2	2.28	0.49
8:U:761:VAL:O	8:U:765:VAL:HG12	2.13	0.49
10:A:165:GLN:HG2	10:A:167:GLU:HG3	1.95	0.49
11:C:125:LYS:HE3	11:C:127:LEU:HD23	1.92	0.49
12:D:99:ASN:HA	12:D:115:ILE:HB	1.95	0.49
12:D:389:GLU:HB3	12:D:391:ARG:HG2	1.94	0.49
13:E:67:GLU:OE2	13:E:83:CYS:N	2.45	0.49
13:E:75:ASN:HD22	14:F:130:GLN:HA	1.77	0.49
16:V:353:LEU:O	16:V:357:LEU:HB2	2.13	0.49
1:Y:101:ARG:HA	1:Y:127:THR:HG23	1.94	0.49
4:B:368:HIS:CE1	4:B:396:LYS:HA	2.43	0.49
5:c:280:PRO:HD2	5:c:281:LYS:HG3	1.94	0.49
6:Z:57:PRO:HD3	6:Z:74:TYR:CZ	2.48	0.49
8:U:19:LEU:HD12	8:U:22:PHE:CE1	2.47	0.49
8:U:685:GLN:O	8:U:689:ILE:HG12	2.12	0.49
9:W:283:GLN:O	9:W:287:VAL:HG23	2.12	0.49
12:D:243:GLY:HA2	12:D:246:MET:HE3	1.93	0.49
13:E:200:SER:O	13:E:204:VAL:HG23	2.11	0.49
15:X:82:LYS:HE2	15:X:122:ARG:NE	2.28	0.49
15:X:405:GLN:O	15:X:408:SER:OG	2.29	0.49
16:V:217:VAL:O	16:V:220:PHE:HB2	2.12	0.49
1:Y:385:ARG:HG2	16:V:315:LYS:HE2	1.94	0.49
2:a:281:THR:HB	2:a:335:TRP:CH2	2.48	0.49
4:B:187:ILE:HG13	4:B:187:ILE:O	2.12	0.49
4:B:356:PRO:HB3	4:B:391:SER:HB3	1.95	0.49
6:Z:187:LEU:O	6:Z:191:ILE:HD12	2.13	0.49
8:U:73:ALA:HB1	8:U:76:GLU:CD	2.38	0.49
8:U:360:VAL:HG21	8:U:366:HIS:HA	1.94	0.49
9:W:260:SER:HA	9:W:263:TRP:CD1	2.47	0.49
9:W:406:VAL:HG23	9:W:413:ILE:HG13	1.94	0.49
10:A:97:ARG:HA	10:A:139:ARG:HA	1.95	0.49
10:A:232:ARG:NH1	10:A:232:ARG:O	2.46	0.49
10:A:369:ARG:HE	10:A:372:LEU:HD22	1.78	0.49
12:D:291:GLU:OE2	12:D:295:GLN:NE2	2.43	0.49
13:E:253:ILE:H	13:E:253:ILE:HD12	1.78	0.49
14:F:89:LEU:HD12	14:F:90:VAL:H	1.77	0.49
14:F:365:ILE:HD13	14:F:393:GLY:HA2	1.94	0.49
1:Y:79:ASP:O	1:Y:82:LYS:HG3	2.13	0.49
1:Y:278:VAL:O	1:Y:282:MET:HG2	2.12	0.49
6:Z:43:TRP:HB2	6:Z:90:ARG:HH22	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Z:144:VAL:HG13	6:Z:146:ASP:H	1.78	0.49
10:A:80:LEU:O	10:A:83:ASP:N	2.22	0.49
12:D:234:GLU:N	13:E:216:ARG:HH22	2.10	0.49
12:D:274:ARG:NH1	12:D:318:ASP:OD2	2.46	0.49
12:D:371:SER:O	12:D:375:ILE:HG12	2.13	0.49
13:E:63:GLN:HB3	13:E:69:PHE:CD2	2.48	0.49
13:E:306:GLU:HA	13:E:309:ARG:HE	1.78	0.49
15:X:153:LEU:O	15:X:157:LEU:HG	2.12	0.49
16:V:398:LEU:HD12	16:V:401:ASN:HB2	1.95	0.49
2:a:342:ASP:O	2:a:346:ILE:HG12	2.13	0.49
4:B:226:GLY:H	4:B:332:ASN:HA	1.77	0.49
6:Z:34:ARG:HH21	6:Z:96:HIS:CG	2.31	0.49
6:Z:89:GLU:N	6:Z:89:GLU:OE1	2.45	0.49
8:U:185:MET:O	8:U:194:ARG:NH1	2.46	0.49
8:U:409:GLY:HA2	8:U:449:ILE:HG13	1.94	0.49
12:D:347:THR:O	12:D:350:SER:OG	2.28	0.49
13:E:56:ILE:CG2	13:E:100:LEU:HB2	2.43	0.49
14:F:332:THR:HG21	14:F:338:LEU:HD11	1.94	0.49
14:F:343:LEU:HD11	14:F:351:LYS:HD2	1.95	0.49
14:F:344:ARG:HG2	14:F:345:SER:H	1.78	0.49
16:V:393:THR:O	16:V:396:ILE:HG12	2.13	0.49
17:d:207:GLU:O	17:d:210:THR:HG22	2.13	0.49
17:d:208:PHE:O	17:d:212:LEU:HG	2.13	0.49
4:B:112:LEU:HD23	4:B:150:VAL:HG21	1.95	0.48
5:c:262:GLU:OE1	5:c:262:GLU:N	2.46	0.48
9:W:111:TYR:O	9:W:115:ILE:HG12	2.13	0.48
9:W:138:VAL:O	9:W:142:ARG:N	2.44	0.48
11:C:188:LEU:HD12	11:C:317:PHE:HE1	1.77	0.48
11:C:280:LEU:HD11	11:C:310:ARG:HH11	1.78	0.48
13:E:39:GLN:HA	13:E:42:LYS:HE3	1.95	0.48
13:E:185:ARG:HG2	14:F:320:PHE:CE1	2.47	0.48
16:V:280:ALA:HB3	16:V:285:TRP:HB2	1.94	0.48
16:V:435:GLU:HA	16:V:438:VAL:HG12	1.95	0.48
17:d:197:LEU:HD13	17:d:229:PRO:HB3	1.95	0.48
1:Y:238:GLU:HA	1:Y:242:LYS:HD2	1.95	0.48
2:a:145:LEU:HD12	2:a:146:PRO:HD2	1.95	0.48
2:a:348:GLY:O	2:a:352:ARG:HG3	2.13	0.48
4:B:374:LEU:HD13	4:B:414:VAL:HG13	1.95	0.48
5:c:215:LYS:HA	5:c:218:LEU:HD12	1.94	0.48
6:Z:100:LYS:HD2	9:W:451:MET:CE	2.43	0.48
8:U:376:MET:HE3	8:U:735:GLY:HA2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:111:TYR:O	10:A:123:VAL:HG22	2.13	0.48
12:D:376:ASN:O	12:D:380:GLN:HG2	2.13	0.48
13:E:56:ILE:HG23	13:E:100:LEU:HB2	1.94	0.48
14:F:306:VAL:O	14:F:309:THR:OG1	2.25	0.48
16:V:276:PHE:CZ	16:V:285:TRP:HA	2.48	0.48
17:d:332:SER:OG	17:d:333:THR:N	2.46	0.48
1:Y:198:ALA:HB2	1:Y:226:VAL:HG12	1.94	0.48
5:c:44:HIS:NE2	5:c:53:VAL:HB	2.28	0.48
12:D:78:GLU:O	12:D:82:ILE:HG13	2.12	0.48
13:E:171:LEU:HB2	13:E:297:ARG:O	2.14	0.48
15:X:152:GLN:O	15:X:156:GLU:HG2	2.13	0.48
15:X:248:ILE:O	15:X:251:LEU:HG	2.13	0.48
16:V:183:GLU:HA	16:V:186:LYS:HE3	1.94	0.48
1:Y:383:LEU:O	1:Y:386:VAL:HG22	2.13	0.48
2:a:45:VAL:HG11	2:a:79:ILE:HA	1.95	0.48
8:U:185:MET:SD	8:U:186:SER:N	2.86	0.48
9:W:312:MET:N	9:W:312:MET:SD	2.86	0.48
11:C:145:ASP:HA	11:C:205:HIS:HD2	1.77	0.48
11:C:167:LEU:H	11:C:168:PRO:HD2	1.77	0.48
15:X:107:VAL:O	15:X:111:LEU:HD23	2.12	0.48
16:V:134:PHE:HA	16:V:138:PRO:HG2	1.96	0.48
16:V:400:HIS:CE1	17:d:237:MET:HG3	2.48	0.48
17:d:167:TYR:O	17:d:171:LEU:HG	2.14	0.48
18:b:111:ALA:HB3	18:b:140:ILE:HD13	1.95	0.48
2:a:363:MET:O	2:a:367:VAL:HG23	2.14	0.48
4:B:133:VAL:HG12	10:A:92:PRO:HB3	1.94	0.48
8:U:115:ASN:HB3	8:U:123:LYS:HE2	1.94	0.48
8:U:596:ASN:HB3	12:D:52:GLU:CD	2.37	0.48
9:W:276:LEU:HD13	9:W:354:LEU:HG	1.95	0.48
11:C:86:LEU:HB2	11:C:96:VAL:HG22	1.95	0.48
11:C:365:GLU:OE2	11:C:390:VAL:HG23	2.13	0.48
12:D:296:MET:HG3	12:D:297:ASP:N	2.28	0.48
14:F:368:ILE:O	14:F:372:LYS:HG3	2.12	0.48
16:V:263:LEU:HB3	16:V:266:GLN:OE1	2.13	0.48
17:d:205:VAL:HG12	17:d:209:HIS:CE1	2.48	0.48
17:d:207:GLU:HA	17:d:210:THR:HG22	1.94	0.48
4:B:154:HIS:HD2	4:B:155:LYS:HE2	1.79	0.48
4:B:268:ARG:HH21	4:B:272:ARG:HB2	1.79	0.48
5:c:206:ASN:OD1	5:c:207:TYR:N	2.40	0.48
6:Z:178:ASP:OD1	6:Z:178:ASP:N	2.45	0.48
6:Z:184:VAL:O	6:Z:190:ARG:NH1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:362:ASN:HA	8:U:366:HIS:HB3	1.96	0.48
9:W:80:TRP:HA	9:W:83:LEU:HD13	1.95	0.48
11:C:147:THR:H	11:C:150:MET:HG2	1.79	0.48
12:D:100:THR:OG1	12:D:114:ARG:NH1	2.47	0.48
15:X:251:LEU:O	15:X:254:MET:HB2	2.13	0.48
16:V:58:ALA:HA	16:V:201:ARG:NH1	2.29	0.48
16:V:285:TRP:NE1	16:V:289:LEU:HD11	2.29	0.48
16:V:423:ALA:HB1	16:V:428:LEU:HB3	1.96	0.48
4:B:107:MET:O	4:B:151:LEU:HD22	2.14	0.48
8:U:495:ASP:HA	8:U:498:LYS:HE3	1.96	0.48
10:A:254:ALA:O	10:A:257:VAL:HG12	2.14	0.48
10:A:264:ALA:HA	10:A:267:LYS:HG2	1.94	0.48
10:A:357:ILE:HA	10:A:360:ARG:HH12	1.79	0.48
11:C:275:GLU:O	11:C:279:GLN:HG2	2.13	0.48
11:C:369:TYR:HA	11:C:372:ARG:HG2	1.95	0.48
12:D:100:THR:HG23	12:D:114:ARG:HH22	1.79	0.48
12:D:168:GLY:HA3	12:D:344:ILE:HG12	1.95	0.48
15:X:364:LYS:HG3	15:X:368:MET:HE1	1.95	0.48
15:X:395:LYS:HA	15:X:398:GLU:OE2	2.14	0.48
2:a:293:PHE:CE2	2:a:294:GLU:HG2	2.49	0.48
6:Z:214:LYS:O	6:Z:217:THR:OG1	2.27	0.48
8:U:372:ALA:O	8:U:376:MET:HG2	2.14	0.48
8:U:536:ALA:HB2	8:U:548:LEU:HD23	1.95	0.48
8:U:763:VAL:O	8:U:767:THR:HG23	2.14	0.48
9:W:148:THR:O	9:W:152:ILE:HG12	2.14	0.48
9:W:240:TYR:HA	9:W:243:ILE:HD12	1.96	0.48
12:D:94:GLU:OE1	12:D:102:ILE:HD12	2.13	0.48
14:F:358:ASN:O	14:F:362:ARG:HG3	2.12	0.48
15:X:111:LEU:HA	15:X:114:ILE:HG12	1.95	0.48
16:V:268:GLU:O	16:V:271:VAL:HB	2.14	0.48
17:d:196:LEU:HD13	17:d:208:PHE:CE1	2.49	0.48
6:Z:68:TRP:CG	6:Z:104:ASN:HD21	2.31	0.48
9:W:400:LYS:O	9:W:400:LYS:HD3	2.14	0.48
10:A:125:LEU:HD22	10:A:134:ILE:HD13	1.96	0.48
11:C:71:SER:HB2	11:C:116:LEU:O	2.14	0.48
11:C:132:ASP:HB2	11:C:135:VAL:HG22	1.96	0.48
11:C:164:VAL:HG11	11:C:186:VAL:HG23	1.95	0.48
13:E:112:PRO:O	13:E:113:ARG:HG2	2.13	0.48
13:E:242:ARG:HG2	13:E:254:GLN:NE2	2.29	0.48
16:V:79:VAL:O	16:V:81:GLN:NE2	2.34	0.48
17:d:162:PRO:O	17:d:165:GLU:HG3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:d:251:ILE:HD13	17:d:257:THR:OG1	2.14	0.48
18:b:161:ASN:HD22	18:b:168:SER:H	1.62	0.48
1:Y:48:ASN:HB3	1:Y:50:MET:HE2	1.96	0.48
1:Y:188:CYS:HB3	1:Y:193:ASP:HB3	1.95	0.48
1:Y:315:THR:HG22	1:Y:353:ILE:HD12	1.96	0.48
2:a:273:GLN:NE2	2:a:300:ALA:O	2.47	0.48
5:c:193:ILE:HG13	5:c:194:HIS:ND1	2.29	0.48
5:c:219:ASN:HD22	5:c:222:LYS:HD3	1.79	0.48
5:c:292:MET:SD	17:d:346:LEU:HD21	2.54	0.48
8:U:374:SER:HA	8:U:411:ILE:HD11	1.96	0.48
8:U:475:HIS:ND1	8:U:507:VAL:O	2.43	0.48
9:W:90:LEU:HD23	9:W:93:ARG:HE	1.79	0.48
10:A:176:ASP:OD1	10:A:353:HIS:NE2	2.46	0.48
10:A:216:GLY:O	10:A:322:ASN:ND2	2.47	0.48
11:C:24:TYR:HE2	12:D:41:TYR:HA	1.79	0.48
12:D:92:PHE:CE2	12:D:124:LEU:HB2	2.48	0.48
12:D:396:ALA:O	12:D:400:GLU:HG2	2.13	0.48
15:X:63:ALA:HB1	15:X:96:PHE:CE1	2.47	0.48
1:Y:304:TYR:O	1:Y:308:LEU:HD23	2.14	0.47
1:Y:326:GLY:N	7:e:59:GLU:OE1	2.45	0.47
2:a:218:MET:HE3	2:a:340:VAL:HG21	1.95	0.47
4:B:287:ILE:O	4:B:290:ILE:HG22	2.13	0.47
4:B:331:THR:HG21	4:B:337:LEU:HD11	1.96	0.47
6:Z:38:VAL:O	6:Z:53:SER:OG	2.24	0.47
9:W:260:SER:HA	9:W:263:TRP:NE1	2.29	0.47
11:C:376:VAL:HG11	12:D:193:GLN:HE22	1.79	0.47
15:X:258:LYS:NZ	15:X:266:ASP:HB3	2.28	0.47
2:a:112:ILE:O	2:a:116:THR:HG23	2.14	0.47
4:B:364:ILE:HD11	19:B:501:ADP:H2	1.78	0.47
5:c:219:ASN:ND2	5:c:222:LYS:HD3	2.29	0.47
5:c:246:LYS:HZ1	15:X:395:LYS:HD2	1.79	0.47
9:W:74:CYS:O	9:W:83:LEU:HD11	2.14	0.47
10:A:277:ILE:HG22	10:A:321:THR:HB	1.96	0.47
11:C:80:MET:HB2	11:C:84:LYS:O	2.14	0.47
11:C:306:LEU:HA	11:C:311:ILE:HB	1.95	0.47
14:F:180:ARG:NH1	14:F:241:ALA:O	2.48	0.47
14:F:193:LYS:HG3	14:F:194:GLN:OE1	2.15	0.47
14:F:203:VAL:HG13	14:F:244:THR:HG22	1.96	0.47
16:V:306:ARG:NH1	16:V:336:GLU:HA	2.29	0.47
10:A:217:PRO:HG3	10:A:344:SER:O	2.14	0.47
16:V:159:LEU:HD23	16:V:178:SER:HB2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:a:174:LYS:CD	2:a:178:ARG:HH22	2.28	0.47
5:c:218:LEU:O	5:c:222:LYS:HG3	2.14	0.47
9:W:441:LYS:HG3	9:W:445:LEU:HD23	1.96	0.47
13:E:304:PRO:HB2	13:E:308:ALA:HB3	1.97	0.47
14:F:168:TYR:O	14:F:173:LYS:HB2	2.15	0.47
15:X:359:ALA:O	15:X:362:GLU:HG2	2.14	0.47
17:d:339:VAL:HA	17:d:342:TYR:CD2	2.50	0.47
2:a:223:GLU:HG2	2:a:224:SER:N	2.29	0.47
2:a:325:ASP:OD1	9:W:372:ARG:NH2	2.47	0.47
4:B:107:MET:HE1	11:C:83:LYS:HE3	1.96	0.47
5:c:255:TYR:CD2	5:c:280:PRO:HG2	2.43	0.47
8:U:423:MET:SD	8:U:424:ALA:N	2.87	0.47
9:W:120:ILE:HG23	9:W:123:ARG:HH21	1.79	0.47
12:D:344:ILE:O	12:D:348:ILE:HG12	2.15	0.47
12:D:370:ILE:HD12	12:D:374:ASP:HB3	1.96	0.47
14:F:358:ASN:OD1	14:F:359:GLU:N	2.44	0.47
16:V:79:VAL:HG12	16:V:81:GLN:HG3	1.97	0.47
18:b:6:THR:O	18:b:49:VAL:HA	2.15	0.47
18:b:12:ASN:HB3	18:b:78:VAL:HG22	1.97	0.47
1:Y:236:LEU:HD12	1:Y:240:VAL:HB	1.95	0.47
2:a:18:GLN:HB3	2:a:22:TRP:HZ3	1.78	0.47
3:v:19:ALA:C	3:v:21:ALA:H	2.23	0.47
4:B:151:LEU:HD21	4:B:163:LEU:HD21	1.97	0.47
5:c:146:ASP:H	5:c:156:VAL:HB	1.79	0.47
8:U:525:ASN:OD1	8:U:528:ALA:N	2.40	0.47
11:C:158:ILE:HG22	11:C:162:LYS:HD3	1.95	0.47
11:C:305:LEU:O	11:C:310:ARG:HB2	2.15	0.47
13:E:81:VAL:HG23	13:E:107:ILE:HG13	1.97	0.47
14:F:384:LEU:HB3	14:F:420:TYR:HE2	1.80	0.47
15:X:96:PHE:HE2	15:X:106:GLU:HG3	1.80	0.47
16:V:258:TYR:CE2	16:V:266:GLN:HB3	2.48	0.47
16:V:383:GLY:HA2	16:V:386:PHE:CD2	2.50	0.47
17:d:158:ARG:O	17:d:159:LYS:HG2	2.14	0.47
17:d:303:ALA:HA	17:d:308:TRP:CD1	2.50	0.47
1:Y:192:ARG:O	1:Y:194:PHE:N	2.48	0.47
1:Y:312:ARG:NE	15:X:379:ASP:OD1	2.47	0.47
2:a:18:GLN:O	2:a:21:VAL:HG22	2.15	0.47
2:a:160:SER:HB2	2:a:172:TYR:HE1	1.79	0.47
2:a:163:TYR:HE1	2:a:169:HIS:H	1.62	0.47
2:a:212:ASN:ND2	2:a:241:ASN:HA	2.30	0.47
5:c:95:MET:HE2	5:c:95:MET:HA	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:c:231:LEU:HD12	5:c:234:TYR:CZ	2.50	0.47
8:U:332:GLU:HA	8:U:335:ILE:HG12	1.96	0.47
8:U:402:PHE:HZ	8:U:472:ILE:HB	1.80	0.47
8:U:615:ARG:O	8:U:619:VAL:HG23	2.14	0.47
10:A:215:PHE:HA	10:A:321:THR:O	2.13	0.47
10:A:309:PHE:HA	10:A:312:ARG:NE	2.30	0.47
11:C:45:LEU:O	11:C:48:GLN:NE2	2.48	0.47
11:C:232:ARG:HD2	11:C:279:GLN:NE2	2.30	0.47
11:C:327:ASP:HA	11:C:330:LYS:HE3	1.97	0.47
12:D:203:LEU:HD13	12:D:309:MET:HG2	1.96	0.47
12:D:342:ARG:HA	12:D:345:PHE:CD1	2.49	0.47
12:D:342:ARG:HA	12:D:345:PHE:HD1	1.79	0.47
14:F:88:TYR:HE2	14:F:152:GLY:HA3	1.80	0.47
14:F:283:ILE:O	14:F:329:ILE:N	2.47	0.47
14:F:378:ASP:OD2	14:F:416:THR:OG1	2.32	0.47
15:X:144:GLN:O	15:X:148:HIS:ND1	2.46	0.47
16:V:172:VAL:HG12	16:V:217:VAL:HG13	1.95	0.47
16:V:193:GLN:HG2	16:V:241:ARG:NH1	2.30	0.47
17:d:168:MET:HE3	17:d:195:ASN:HB3	1.96	0.47
1:Y:182:VAL:O	1:Y:186:LEU:HG	2.15	0.47
2:a:286:ALA:HB1	2:a:289:ARG:CZ	2.45	0.47
4:B:203:LEU:HB3	4:B:211:TYR:CE1	2.50	0.47
8:U:198:LEU:HB3	8:U:223:LEU:HD11	1.97	0.47
8:U:372:ALA:HA	8:U:375:PHE:HD2	1.80	0.47
9:W:190:MET:SD	9:W:202:THR:HA	2.55	0.47
10:A:262:GLU:O	10:A:266:THR:HG23	2.15	0.47
10:A:353:HIS:NE2	10:A:357:ILE:HD11	2.30	0.47
11:C:189:TYR:O	11:C:317:PHE:N	2.48	0.47
13:E:126:ASP:O	14:F:320:PHE:HB3	2.15	0.47
13:E:231:PHE:CE2	13:E:233:ASP:HB2	2.49	0.47
17:d:299:MET:HE1	17:d:316:TYR:HE2	1.80	0.47
1:Y:231:LEU:HD22	1:Y:235:ASP:HB3	1.97	0.47
4:B:405:MET:HG3	4:B:421:LYS:HD2	1.97	0.47
5:c:52:GLU:HB2	5:c:114:SER:O	2.15	0.47
5:c:209:LYS:HB2	5:c:214:GLN:NE2	2.29	0.47
5:c:219:ASN:HA	5:c:222:LYS:HD3	1.96	0.47
8:U:187:LEU:HD13	12:D:42:SER:OG	2.14	0.47
8:U:230:SER:O	8:U:234:GLU:HG2	2.15	0.47
10:A:333:ARG:HG3	10:A:336:ARG:HB2	1.97	0.47
11:C:76:VAL:O	11:C:111:ASN:N	2.48	0.47
12:D:113:VAL:HG12	12:D:137:ASN:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:213:ARG:HH11	13:E:217:GLU:HG3	1.80	0.47
14:F:380:ASN:O	14:F:384:LEU:HG	2.14	0.47
15:X:57:LEU:HB3	15:X:62:GLN:HB2	1.96	0.47
15:X:310:ARG:HG2	15:X:314:ARG:HD2	1.97	0.47
1:Y:311:TYR:HB2	1:Y:314:LEU:HG	1.97	0.47
2:a:288:HIS:CD2	2:a:291:LEU:HD23	2.49	0.47
4:B:109:VAL:H	11:C:95:PHE:HD1	1.62	0.47
4:B:220:LYS:N	4:B:348:ASP:OD2	2.43	0.47
8:U:10:SER:O	17:d:166:ARG:NH1	2.48	0.47
8:U:196:LYS:O	8:U:199:ARG:HG2	2.14	0.47
8:U:694:ILE:O	8:U:695:MET:HE2	2.15	0.47
9:W:371:THR:O	9:W:415:PHE:HB2	2.15	0.47
11:C:138:MET:HE3	11:C:213:ARG:O	2.15	0.47
11:C:251:ILE:HG22	11:C:295:THR:OG1	2.14	0.47
14:F:309:THR:O	14:F:312:GLU:HG2	2.15	0.47
14:F:384:LEU:HB3	14:F:420:TYR:CE2	2.50	0.47
16:V:348:PHE:CD2	16:V:361:PHE:HB3	2.50	0.47
8:U:68:PHE:HB2	8:U:77:SER:HB2	1.96	0.46
8:U:791:LEU:O	8:U:913:ILE:HG22	2.16	0.46
10:A:164:MET:HB3	10:A:240:VAL:HA	1.96	0.46
10:A:192:GLU:HG3	10:A:196:LEU:HD13	1.96	0.46
11:C:89:VAL:HG22	11:C:93:GLY:O	2.15	0.46
12:D:65:GLN:O	12:D:69:LYS:HG3	2.15	0.46
12:D:265:ASP:OD1	12:D:266:GLU:N	2.48	0.46
13:E:216:ARG:HE	13:E:259:GLU:CD	2.23	0.46
15:X:183:LEU:HD23	15:X:187:ARG:HH11	1.79	0.46
17:d:153:GLN:HA	17:d:156:ILE:HG12	1.98	0.46
18:b:94:HIS:HA	18:b:97:LEU:HB3	1.97	0.46
1:Y:161:THR:HG22	1:Y:165:LYS:NZ	2.30	0.46
2:a:243:GLY:O	2:a:276:CYS:HB3	2.15	0.46
4:B:182:GLU:OE1	4:B:182:GLU:N	2.48	0.46
4:B:263:GLY:N	4:B:304:GLU:OE2	2.49	0.46
4:B:408:ARG:NH1	11:C:163:GLU:HB3	2.31	0.46
6:Z:226:ILE:HG12	9:W:445:LEU:HD13	1.96	0.46
8:U:402:PHE:HZ	8:U:472:ILE:HD12	1.79	0.46
8:U:456:ASP:OD1	8:U:457:ILE:HD12	2.15	0.46
12:D:97:ASP:HB2	12:D:100:THR:HB	1.97	0.46
13:E:291:ARG:HD2	13:E:293:GLY:N	2.22	0.46
13:E:374:VAL:O	13:E:378:LYS:HG2	2.14	0.46
14:F:415:LEU:HD23	14:F:415:LEU:H	1.79	0.46
14:F:416:THR:HG23	14:F:419:ASP:H	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:X:283:GLN:HG3	15:X:312:GLU:OE1	2.14	0.46
16:V:247:GLN:HA	16:V:250:LEU:HD12	1.97	0.46
18:b:126:LYS:O	18:b:130:ARG:HD3	2.15	0.46
1:Y:141:VAL:HG13	1:Y:160:ASN:HB3	1.98	0.46
1:Y:372:LYS:HE3	15:X:405:GLN:HG2	1.96	0.46
5:c:240:HIS:O	5:c:244:VAL:HG23	2.14	0.46
8:U:213:PHE:N	8:U:244:MET:HE1	2.30	0.46
8:U:707:ASN:HA	8:U:710:ARG:HE	1.80	0.46
10:A:347:ASP:O	10:A:351:ARG:HG3	2.16	0.46
11:C:61:GLU:O	11:C:64:GLN:HG2	2.16	0.46
13:E:64:LEU:HD22	13:E:70:ILE:HD11	1.97	0.46
14:F:201:ALA:HB2	14:F:350:ARG:NH2	2.31	0.46
15:X:190:LEU:HD13	15:X:217:ILE:HG13	1.96	0.46
15:X:282:ARG:HA	15:X:285:GLU:OE2	2.14	0.46
17:d:175:TYR:O	17:d:179:LYS:HB2	2.15	0.46
4:B:251:VAL:HA	4:B:285:ASP:O	2.16	0.46
5:c:129:THR:HG22	5:c:133:PHE:CE2	2.49	0.46
8:U:723:ASP:OD1	8:U:725:MET:HE3	2.15	0.46
10:A:114:ASN:HB2	10:A:120:LYS:HE3	1.96	0.46
10:A:269:ALA:HB1	10:A:272:ILE:HD11	1.96	0.46
12:D:345:PHE:O	12:D:346:SER:C	2.59	0.46
15:X:74:ARG:HD2	15:X:116:TRP:CE2	2.50	0.46
16:V:159:LEU:HD13	16:V:182:LYS:HD3	1.96	0.46
16:V:218:TYR:HB3	16:V:222:ASP:O	2.15	0.46
16:V:266:GLN:OE1	16:V:266:GLN:N	2.47	0.46
16:V:359:PRO:O	16:V:363:LEU:HG	2.15	0.46
4:B:224:LEU:N	4:B:329:MET:O	2.29	0.46
4:B:264:PRO:HA	4:B:311:GLU:HG2	1.97	0.46
4:B:284:ILE:O	4:B:329:MET:HA	2.15	0.46
4:B:343:ARG:NH2	10:A:416:VAL:HA	2.22	0.46
4:B:360:THR:O	4:B:364:ILE:HG12	2.15	0.46
4:B:388:ASP:OD1	4:B:388:ASP:N	2.48	0.46
7:e:58:ALA:C	7:e:62:LYS:HZ2	2.22	0.46
8:U:179:TYR:O	8:U:183:LEU:HG	2.15	0.46
8:U:405:THR:OG1	8:U:441:GLY:HA3	2.16	0.46
8:U:556:MET:HE1	8:U:563:ALA:H	1.80	0.46
9:W:86:ASN:HD22	9:W:89:LEU:HD12	1.79	0.46
9:W:324:TYR:O	9:W:328:LEU:HG	2.15	0.46
10:A:97:ARG:CZ	10:A:139:ARG:HB2	2.46	0.46
10:A:174:TYR:CE1	10:A:229:VAL:HG22	2.46	0.46
11:C:57:ARG:O	11:C:61:GLU:HG2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:338:LEU:HD12	11:C:342:ILE:HG21	1.96	0.46
11:C:344:LEU:HA	11:C:347:ILE:HD12	1.98	0.46
12:D:258:ALA:HB1	12:D:259:PRO:HD2	1.97	0.46
13:E:234:GLU:CD	14:F:311:LEU:HD13	2.41	0.46
14:F:71:ASP:HA	14:F:74:LYS:HE2	1.97	0.46
14:F:176:GLU:OE1	14:F:278:LYS:NZ	2.48	0.46
14:F:335:VAL:HA	14:F:338:LEU:HD12	1.98	0.46
15:X:251:LEU:HA	15:X:254:MET:HG2	1.96	0.46
1:Y:68:ASP:HA	1:Y:71:ASN:HD22	1.81	0.46
1:Y:71:ASN:HA	1:Y:74:LYS:HD2	1.98	0.46
4:B:292:THR:HG23	4:B:337:LEU:HA	1.98	0.46
4:B:361:LYS:NZ	4:B:386:ALA:HB3	2.30	0.46
8:U:472:ILE:HG22	8:U:507:VAL:HG11	1.98	0.46
8:U:789:ILE:CG2	8:U:791:LEU:HG	2.46	0.46
9:W:339:ASP:O	9:W:350:ARG:NH1	2.47	0.46
10:A:180:CYS:SG	10:A:220:THR:HG22	2.55	0.46
10:A:220:THR:CG2	10:A:346:PRO:HG3	2.46	0.46
11:C:49:ARG:NE	12:D:64:GLU:OE2	2.43	0.46
12:D:181:VAL:C	12:D:184:PRO:HD2	2.41	0.46
12:D:374:ASP:CG	13:E:292:PRO:HG3	2.41	0.46
13:E:180:LYS:N	21:E:501:ATP:O1B	2.48	0.46
15:X:232:PHE:CD1	15:X:253:TYR:HB3	2.51	0.46
1:Y:210:SER:HB3	1:Y:213:LEU:HG	1.97	0.46
1:Y:360:ASP:OD1	1:Y:361:SER:N	2.48	0.46
4:B:201:VAL:HA	4:B:219:PRO:HG2	1.96	0.46
5:c:195:GLY:HA2	5:c:200:TYR:OH	2.16	0.46
5:c:242:GLU:HB3	15:X:395:LYS:HZ2	1.80	0.46
7:e:42:ASN:OD1	7:e:43:TRP:N	2.49	0.46
8:U:423:MET:HG2	8:U:446:LEU:HD11	1.98	0.46
12:D:316:THR:HG23	12:D:317:LEU:HG	1.97	0.46
12:D:316:THR:OG1	12:D:317:LEU:N	2.47	0.46
12:D:349:THR:HG21	12:D:360:LEU:HD21	1.98	0.46
12:D:373:ALA:CA	21:D:501:ATP:H1'	2.46	0.46
13:E:83:CYS:SG	13:E:84:ARG:N	2.89	0.46
14:F:307:GLN:O	14:F:311:LEU:HG	2.16	0.46
14:F:376:SER:HB3	14:F:415:LEU:O	2.15	0.46
15:X:77:LEU:HB3	15:X:85:ALA:HB1	1.97	0.46
16:V:302:TYR:HB3	16:V:306:ARG:NH2	2.30	0.46
17:d:163:SER:O	17:d:166:ARG:HG2	2.15	0.46
4:B:190:LEU:HD22	4:B:193:GLN:NE2	2.30	0.46
4:B:271:PHE:HZ	4:B:324:ASP:H	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:c:208:ARG:HH12	5:c:210:ASN:HB3	1.80	0.46
6:Z:94:TRP:CZ2	6:Z:121:LEU:HD13	2.51	0.46
6:Z:188:SER:O	6:Z:192:THR:HG23	2.15	0.46
8:U:75:GLU:HG2	8:U:103:LYS:HZ1	1.80	0.46
8:U:232:ILE:HD13	8:U:235:LYS:HZ3	1.81	0.46
8:U:377:HIS:ND1	8:U:382:SER:OG	2.41	0.46
8:U:383:ASP:O	8:U:387:ARG:HG2	2.16	0.46
8:U:392:TRP:CD1	8:U:395:ARG:HH22	2.33	0.46
9:W:172:GLU:HG2	9:W:208:LYS:HE3	1.98	0.46
15:X:336:ILE:O	15:X:340:GLU:HG2	2.16	0.46
15:X:401:LEU:HD13	15:X:404:ILE:HD11	1.98	0.46
16:V:174:PHE:HA	16:V:177:ASN:ND2	2.30	0.46
8:U:243:LEU:HD11	8:U:915:LYS:HG2	1.97	0.46
10:A:210:LYS:HD2	10:A:309:PHE:HB2	1.97	0.46
11:C:34:ILE:O	11:C:38:LYS:HG3	2.16	0.46
11:C:105:ILE:HA	11:C:108:VAL:HB	1.98	0.46
11:C:322:GLU:HB3	11:C:345:ARG:NH2	2.30	0.46
13:E:267:PHE:CD1	13:E:268:ASP:N	2.84	0.46
15:X:154:LEU:HG	15:X:158:LYS:NZ	2.31	0.46
15:X:249:THR:HA	15:X:252:LYS:HD3	1.98	0.46
1:Y:318:TYR:HA	1:Y:321:GLU:CD	2.41	0.46
4:B:257:GLN:HE21	4:B:266:LEU:HD22	1.80	0.46
4:B:309:MET:SD	4:B:313:LEU:HD23	2.56	0.46
4:B:404:LEU:O	4:B:408:ARG:HG2	2.16	0.46
5:c:158:ASP:N	5:c:158:ASP:OD1	2.49	0.46
6:Z:225:GLN:HG3	6:Z:226:ILE:HD12	1.98	0.46
8:U:161:ASP:OD1	8:U:161:ASP:N	2.49	0.46
8:U:744:VAL:HB	8:U:783:TYR:HB3	1.97	0.46
10:A:265:ARG:NE	10:A:313:GLY:HA3	2.25	0.46
12:D:366:ARG:HA	12:D:367:PRO:HD3	1.85	0.46
13:E:43:SER:HA	13:E:46:ASP:OD2	2.16	0.46
15:X:70:LEU:HD13	15:X:92:LEU:HD12	1.98	0.46
16:V:440:LYS:NZ	17:d:237:MET:HA	2.31	0.46
17:d:120:LYS:O	17:d:124:LEU:N	2.49	0.46
17:d:123:LEU:HD13	17:d:126:LEU:HB2	1.98	0.46
1:Y:217:LYS:O	1:Y:221:THR:HG23	2.16	0.45
2:a:135:ILE:HG22	2:a:155:PHE:CE1	2.50	0.45
4:B:214:MET:HE3	4:B:214:MET:HB3	1.83	0.45
4:B:223:ILE:HG12	4:B:331:THR:OG1	2.16	0.45
4:B:333:ARG:O	4:B:337:LEU:HG	2.16	0.45
6:Z:8:LYS:HB3	6:Z:47:VAL:HG23	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:632:GLN:HE21	8:U:636:VAL:HG12	1.81	0.45
9:W:353:ASP:OD1	9:W:357:ARG:NH1	2.49	0.45
10:A:214:LEU:HG	10:A:341:ILE:HD12	1.97	0.45
10:A:256:MET:O	10:A:260:LEU:HG	2.15	0.45
10:A:306:LEU:HD22	10:A:312:ARG:HH12	1.81	0.45
11:C:75:GLU:HB2	11:C:113:ARG:NH2	2.31	0.45
11:C:322:GLU:O	11:C:325:ARG:HG2	2.16	0.45
12:D:189:GLU:HA	12:D:192:LYS:HE3	1.98	0.45
12:D:347:THR:O	12:D:351:LYS:HG2	2.16	0.45
12:D:378:ILE:HA	12:D:381:GLU:OE1	2.15	0.45
14:F:311:LEU:O	14:F:314:LEU:HB3	2.17	0.45
15:X:73:VAL:O	15:X:77:LEU:N	2.42	0.45
16:V:211:TYR:HA	16:V:214:HIS:CE1	2.51	0.45
4:B:263:GLY:H	4:B:304:GLU:CD	2.24	0.45
10:A:190:VAL:HG11	10:A:339:ARG:HG2	1.97	0.45
13:E:148:VAL:HG21	13:E:170:CYS:HB2	1.98	0.45
13:E:308:ALA:O	13:E:312:ILE:HG13	2.16	0.45
15:X:96:PHE:CE2	15:X:106:GLU:HG3	2.52	0.45
17:d:88:LEU:O	17:d:92:THR:HG23	2.16	0.45
17:d:142:ILE:HD11	17:d:182:LEU:HB3	1.99	0.45
17:d:163:SER:O	17:d:167:TYR:HD2	1.99	0.45
2:a:226:ARG:HG3	2:a:234:ILE:HG23	1.98	0.45
4:B:260:LEU:HD12	4:B:307:ARG:HH21	1.81	0.45
6:Z:261:TYR:HA	16:V:480:ILE:HD11	1.99	0.45
8:U:402:PHE:CZ	8:U:472:ILE:HD12	2.52	0.45
9:W:266:ALA:O	9:W:270:VAL:HG23	2.16	0.45
10:A:392:ALA:HB2	10:A:409:PHE:HA	1.99	0.45
14:F:154:ASN:OD1	14:F:155:LYS:N	2.50	0.45
15:X:215:GLY:HA3	15:X:232:PHE:CE2	2.51	0.45
16:V:439:ALA:HA	16:V:442:ILE:HD12	1.98	0.45
1:Y:14:ASN:HB2	1:Y:143:TYR:CE2	2.47	0.45
2:a:186:LYS:O	2:a:193:GLN:NE2	2.50	0.45
2:a:232:TRP:HB3	2:a:252:LYS:HD2	1.98	0.45
5:c:211:GLU:HA	5:c:214:GLN:OE1	2.16	0.45
5:c:242:GLU:OE1	15:X:395:LYS:HE3	2.16	0.45
6:Z:26:ILE:O	6:Z:30:GLY:N	2.43	0.45
9:W:86:ASN:O	9:W:90:LEU:HG	2.16	0.45
10:A:368:ILE:HD12	10:A:409:PHE:CD1	2.52	0.45
11:C:82:LYS:O	11:C:83:LYS:HB3	2.15	0.45
11:C:87:VAL:N	11:C:95:PHE:O	2.33	0.45
11:C:117:ARG:N	11:C:121:TYR:O	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:193:GLY:N	12:D:323:ARG:HH11	2.14	0.45
11:C:296:ASN:HB2	11:C:297:ARG:NH1	2.32	0.45
13:E:23:ASP:HA	14:F:55:MET:HE1	1.98	0.45
13:E:172:LEU:HB3	13:E:301:ILE:HD11	1.99	0.45
13:E:265:ASP:OD1	13:E:294:ARG:NH1	2.48	0.45
13:E:341:ALA:HB1	14:F:345:SER:HB3	1.99	0.45
15:X:335:LEU:HA	15:X:338:VAL:HG22	1.97	0.45
6:Z:96:HIS:NE2	6:Z:98:GLY:O	2.49	0.45
6:Z:189:GLN:HE21	6:Z:193:ASN:HD21	1.65	0.45
8:U:375:PHE:HB3	8:U:739:ALA:HB2	1.99	0.45
8:U:396:ALA:HB1	8:U:400:ALA:HB1	1.98	0.45
8:U:885:MET:SD	8:U:888:GLN:HB2	2.56	0.45
10:A:169:LYS:HE2	10:A:169:LYS:HB3	1.79	0.45
12:D:234:GLU:N	12:D:234:GLU:OE1	2.45	0.45
12:D:360:LEU:O	12:D:364:VAL:HG23	2.17	0.45
13:E:43:SER:HB2	14:F:76:ASN:HB3	1.99	0.45
13:E:93:LYS:HG2	13:E:94:PRO:HD2	1.98	0.45
14:F:274:LEU:O	14:F:278:LYS:HG2	2.16	0.45
15:X:245:PRO:O	15:X:248:ILE:HG12	2.17	0.45
16:V:224:LEU:HD12	16:V:227:VAL:HB	1.98	0.45
16:V:324:PHE:O	16:V:328:VAL:HG23	2.17	0.45
1:Y:331:ASP:OD1	16:V:414:TYR:OH	2.30	0.45
2:a:116:THR:HG21	2:a:154:ARG:HB3	1.99	0.45
2:a:174:LYS:HD2	2:a:178:ARG:HH22	1.81	0.45
4:B:95:GLU:O	4:B:99:VAL:HG22	2.17	0.45
4:B:290:ILE:HD13	4:B:312:LEU:HD12	1.98	0.45
8:U:199:ARG:HA	8:U:202:VAL:HG22	1.99	0.45
8:U:268:LEU:HD21	8:U:325:MET:HE3	1.97	0.45
8:U:792:ASN:OD1	8:U:796:LYS:HD3	2.16	0.45
9:W:48:LEU:HD22	9:W:93:ARG:HH21	1.82	0.45
9:W:171:VAL:HB	9:W:182:ARG:HG3	1.98	0.45
11:C:22:GLN:HA	11:C:25:LEU:HD13	1.98	0.45
11:C:219:LEU:O	11:C:221:GLN:N	2.50	0.45
13:E:197:LYS:HE3	14:F:320:PHE:CZ	2.51	0.45
14:F:49:ASP:OD1	14:F:50:SER:N	2.49	0.45
14:F:154:ASN:O	14:F:158:TYR:HD1	1.98	0.45
14:F:189:GLY:H	19:F:501:ADP:N6	2.14	0.45
16:V:72:LEU:HD12	16:V:76:LYS:NZ	2.31	0.45
1:Y:24:PHE:CG	1:Y:286:TRP:HB3	2.52	0.45
4:B:132:TYR:HB2	10:A:95:VAL:HG23	1.99	0.45
4:B:271:PHE:CE1	4:B:325:VAL:HG12	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:e:59:GLU:HA	7:e:62:LYS:HG2	1.98	0.45
8:U:332:GLU:O	8:U:336:GLU:OE1	2.35	0.45
10:A:401:ARG:NH2	10:A:408:ASP:OD2	2.48	0.45
13:E:172:LEU:HD12	13:E:301:ILE:HG12	1.98	0.45
13:E:276:ILE:O	13:E:277:MET:HE2	2.17	0.45
16:V:295:ILE:HA	16:V:298:ILE:HG12	1.98	0.45
16:V:326:GLN:O	16:V:330:LYS:HG2	2.17	0.45
17:d:114:GLU:O	17:d:118:ARG:HG2	2.17	0.45
18:b:9:CYS:HA	18:b:52:ILE:O	2.16	0.45
2:a:168:ASN:O	2:a:171:SER:N	2.49	0.45
2:a:226:ARG:NH2	2:a:230:ARG:HH21	2.14	0.45
2:a:236:THR:OG1	2:a:253:THR:HG21	2.16	0.45
4:B:260:LEU:HD12	4:B:307:ARG:NH2	2.30	0.45
6:Z:145:HIS:ND1	6:Z:150:PRO:O	2.49	0.45
9:W:90:LEU:HB3	9:W:104:MET:HE1	1.98	0.45
10:A:382:GLY:O	10:A:386:ARG:HG3	2.16	0.45
11:C:48:GLN:HE22	12:D:65:GLN:CD	2.25	0.45
12:D:260:ALA:N	12:D:305:VAL:HG12	2.27	0.45
13:E:144:GLU:O	13:E:148:VAL:HG23	2.17	0.45
13:E:185:ARG:HG2	14:F:320:PHE:CD1	2.51	0.45
15:X:115:GLU:HA	15:X:118:LYS:HG2	1.98	0.45
16:V:477:HIS:CG	17:d:342:TYR:HH	2.33	0.45
18:b:6:THR:HA	18:b:108:ARG:O	2.17	0.45
1:Y:375:LEU:HB3	1:Y:379:ARG:NH1	2.32	0.45
4:B:310:LEU:O	4:B:313:LEU:HG	2.17	0.45
6:Z:225:GLN:O	6:Z:226:ILE:HB	2.15	0.45
8:U:399:TRP:HA	8:U:402:PHE:CD2	2.40	0.45
9:W:150:ALA:HB2	9:W:165:ILE:HG21	1.99	0.45
9:W:210:ASN:OD1	9:W:211:THR:N	2.49	0.45
10:A:273:PHE:CZ	10:A:320:ALA:HB3	2.52	0.45
10:A:309:PHE:HD2	10:A:335:GLY:H	1.63	0.45
11:C:56:VAL:HG21	12:D:71:GLU:OE2	2.16	0.45
11:C:132:ASP:O	11:C:135:VAL:HG22	2.17	0.45
14:F:416:THR:OG1	14:F:417:HIS:N	2.50	0.45
16:V:149:PRO:HB2	16:V:150:ARG:CZ	2.47	0.45
16:V:153:LYS:O	16:V:156:SER:OG	2.20	0.45
16:V:160:LEU:O	16:V:163:VAL:HB	2.17	0.45
16:V:270:LEU:HA	16:V:274:SER:CB	2.46	0.45
17:d:282:ILE:HG12	17:d:318:PHE:HE2	1.81	0.45
1:Y:187:TYR:CZ	1:Y:191:ILE:HD13	2.52	0.45
1:Y:201:PHE:HB3	1:Y:223:THR:HG23	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:c:98:MET:HE3	6:Z:74:TYR:CD2	2.52	0.45
5:c:99:LEU:HD22	5:c:104:ARG:HG2	1.99	0.45
6:Z:40:LEU:HB3	6:Z:89:GLU:O	2.16	0.45
8:U:759:SER:HA	8:U:782:ALA:HA	1.99	0.45
8:U:902:PRO:HA	8:U:914:LEU:HA	1.99	0.45
8:U:903:PHE:CE2	8:U:904:LYS:HE2	2.52	0.45
9:W:244:CYS:O	9:W:248:ARG:HG2	2.17	0.45
9:W:268:LYS:HE2	9:W:299:ILE:HG21	1.99	0.45
11:C:100:ASP:CG	11:C:123:LEU:HB3	2.42	0.45
11:C:359:VAL:O	11:C:362:VAL:HG22	2.16	0.45
12:D:354:LEU:O	12:D:393:ILE:HG13	2.16	0.45
12:D:406:VAL:HG23	12:D:407:ILE:HG13	1.98	0.45
13:E:75:ASN:ND2	14:F:131:THR:H	2.14	0.45
14:F:69:MET:HA	14:F:72:LYS:HG3	1.99	0.45
14:F:362:ARG:CZ	14:F:389:ASP:HA	2.46	0.45
15:X:239:TYR:CE1	15:X:246:LYS:HD2	2.52	0.45
15:X:394:ASP:CG	15:X:397:TYR:HB2	2.42	0.45
1:Y:70:LEU:O	1:Y:74:LYS:HG3	2.17	0.44
4:B:162:VAL:N	10:A:70:THR:OG1	2.51	0.44
4:B:356:PRO:CB	4:B:391:SER:HB3	2.47	0.44
6:Z:15:VAL:HG11	6:Z:50:VAL:HG12	2.00	0.44
6:Z:168:GLU:O	6:Z:172:VAL:HG13	2.17	0.44
8:U:26:LYS:O	8:U:30:VAL:HG22	2.16	0.44
8:U:170:SER:C	8:U:172:ASP:H	2.24	0.44
8:U:391:GLU:HA	8:U:394:ALA:HB3	1.99	0.44
8:U:644:TYR:HB3	11:C:53:ASN:OD1	2.17	0.44
9:W:214:PHE:HE2	9:W:226:TYR:CD2	2.35	0.44
9:W:242:SER:HA	9:W:245:LYS:HE3	1.99	0.44
9:W:366:MET:O	9:W:370:TYR:N	2.50	0.44
10:A:94:GLN:O	10:A:142:VAL:N	2.42	0.44
10:A:97:ARG:HB2	10:A:116:LYS:NZ	2.32	0.44
12:D:268:ASP:N	12:D:268:ASP:OD1	2.49	0.44
13:E:223:ARG:HB2	13:E:271:HIS:CE1	2.51	0.44
13:E:328:TYR:O	13:E:332:VAL:HG23	2.18	0.44
14:F:384:LEU:HD22	14:F:420:TYR:CD2	2.52	0.44
15:X:224:ASP:OD1	15:X:225:TRP:N	2.50	0.44
16:V:155:ALA:O	16:V:159:LEU:HG	2.17	0.44
17:d:333:THR:O	17:d:337:LYS:HG3	2.17	0.44
1:Y:346:LYS:HD2	1:Y:346:LYS:HA	1.69	0.44
1:Y:368:GLU:O	1:Y:371:LYS:HG3	2.17	0.44
5:c:225:TRP:CD2	6:Z:131:LEU:HD21	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:167:GLN:O	9:W:170:GLN:NE2	2.50	0.44
10:A:236:CYS:N	10:A:270:CYS:SG	2.82	0.44
11:C:76:VAL:HA	11:C:87:VAL:HA	1.99	0.44
11:C:79:ALA:HB1	11:C:85:VAL:HG22	1.99	0.44
12:D:96:VAL:H	12:D:101:ALA:HA	1.83	0.44
12:D:362:ASP:O	12:D:366:ARG:HG3	2.17	0.44
14:F:317:LEU:HB2	14:F:347:ARG:HE	1.82	0.44
16:V:137:GLU:HB2	16:V:138:PRO:HD3	1.99	0.44
16:V:387:GLN:HB3	16:V:392:TYR:HB2	2.00	0.44
1:Y:107:LYS:O	1:Y:111:LEU:HG	2.17	0.44
4:B:378:VAL:HG12	4:B:380:LEU:N	2.32	0.44
5:c:52:GLU:O	5:c:52:GLU:HG2	2.18	0.44
8:U:401:LYS:HD2	8:U:437:TYR:HB2	1.98	0.44
9:W:276:LEU:O	9:W:357:ARG:NE	2.50	0.44
10:A:222:LYS:HG3	19:A:501:ADP:O2A	2.17	0.44
10:A:312:ARG:CZ	10:A:317:VAL:HG21	2.47	0.44
13:E:197:LYS:HE3	14:F:320:PHE:CE1	2.52	0.44
13:E:306:GLU:HG3	13:E:309:ARG:HH21	1.81	0.44
16:V:306:ARG:NH1	16:V:339:LEU:HB2	2.27	0.44
1:Y:105:MET:HB2	1:Y:127:THR:HG21	1.99	0.44
4:B:249:ARG:NH1	4:B:251:VAL:HB	2.33	0.44
5:c:111:TRP:NE1	5:c:130:GLN:OE1	2.42	0.44
6:Z:107:ALA:O	6:Z:111:LEU:HD23	2.17	0.44
8:U:541:HIS:HB2	8:U:544:ILE:HG12	1.98	0.44
8:U:617:ALA:HA	8:U:620:GLU:CD	2.42	0.44
10:A:164:MET:CE	10:A:240:VAL:HG13	2.48	0.44
12:D:341:LYS:HA	12:D:344:ILE:HD12	1.99	0.44
12:D:377:SER:O	12:D:381:GLU:OE1	2.34	0.44
13:E:234:GLU:OE1	14:F:311:LEU:HD13	2.18	0.44
14:F:252:ALA:O	14:F:256:LEU:HD23	2.18	0.44
17:d:331:PRO:HB2	17:d:334:GLU:HG2	2.00	0.44
1:Y:309:GLU:HA	1:Y:358:ARG:NH1	2.32	0.44
4:B:124:SER:HB2	4:B:128:GLY:HA2	1.98	0.44
10:A:172:VAL:O	10:A:228:ALA:HA	2.17	0.44
10:A:255:ARG:O	10:A:258:ARG:HG2	2.17	0.44
10:A:319:MET:HE3	10:A:319:MET:HB3	1.75	0.44
11:C:79:ALA:HA	11:C:85:VAL:HA	1.99	0.44
12:D:315:ASP:OD1	12:D:315:ASP:N	2.49	0.44
12:D:403:TYR:HA	12:D:406:VAL:HG22	2.00	0.44
13:E:81:VAL:HG11	13:E:105:LEU:O	2.16	0.44
13:E:235:ILE:HG23	13:E:285:LEU:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:V:176:MET:O	16:V:179:LYS:HG2	2.17	0.44
16:V:336:GLU:OE2	16:V:341:GLU:HB2	2.18	0.44
2:a:97:LEU:HD13	2:a:114:CYS:SG	2.58	0.44
4:B:161:GLY:HA2	10:A:70:THR:HG21	1.98	0.44
4:B:197:ILE:HG13	4:B:202:GLU:HB2	2.00	0.44
5:c:209:LYS:HB2	5:c:214:GLN:HE21	1.83	0.44
5:c:310:LYS:HE2	6:Z:238:PRO:HD2	1.99	0.44
8:U:44:LYS:O	8:U:48:LEU:HD23	2.17	0.44
8:U:169:GLU:OE1	8:U:169:GLU:N	2.49	0.44
8:U:193:PHE:HA	8:U:196:LYS:HD2	1.99	0.44
8:U:213:PHE:H	8:U:244:MET:CE	2.28	0.44
8:U:365:CYS:O	8:U:369:THR:HG23	2.17	0.44
10:A:274:PHE:CE2	10:A:277:ILE:HD13	2.50	0.44
12:D:89:ILE:HB	13:E:78:ARG:NH1	2.33	0.44
12:D:119:ILE:O	12:D:121:ARG:NH1	2.50	0.44
16:V:319:HIS:HA	16:V:325:LYS:CE	2.43	0.44
1:Y:126:LYS:O	1:Y:130:LYS:NZ	2.42	0.44
1:Y:349:LYS:HD3	16:V:414:TYR:CE1	2.53	0.44
8:U:685:GLN:HE22	8:U:725:MET:HB2	1.83	0.44
10:A:182:GLU:O	10:A:186:LYS:HG3	2.17	0.44
11:C:82:LYS:O	11:C:84:LYS:HG3	2.18	0.44
11:C:375:ARG:NH1	11:C:375:ARG:HA	2.33	0.44
13:E:84:ARG:HH12	13:E:86:GLN:CD	2.26	0.44
1:Y:152:MET:HA	1:Y:152:MET:HE2	2.00	0.44
1:Y:281:GLU:OE2	1:Y:284:LYS:NZ	2.45	0.44
4:B:290:ILE:HA	4:B:305:ILE:HG23	2.00	0.44
4:B:335:GLU:H	4:B:335:GLU:CD	2.26	0.44
5:c:292:MET:CE	17:d:346:LEU:HD21	2.48	0.44
6:Z:43:TRP:CD1	6:Z:48:LEU:HD13	2.53	0.44
6:Z:280:ILE:HD11	15:X:418:ALA:HA	1.99	0.44
8:U:352:ILE:O	8:U:356:THR:HG23	2.18	0.44
8:U:581:SER:O	8:U:585:THR:HG23	2.18	0.44
8:U:766:PHE:CG	8:U:779:LEU:HD13	2.52	0.44
8:U:780:SER:HA	8:U:783:TYR:CD2	2.52	0.44
9:W:263:TRP:CH2	9:W:298:GLU:HG3	2.53	0.44
10:A:235:ALA:HB1	10:A:270:CYS:SG	2.57	0.44
10:A:264:ALA:C	10:A:315:ILE:HD11	2.43	0.44
12:D:291:GLU:OE2	12:D:295:GLN:HG2	2.18	0.44
14:F:420:TYR:CE2	14:F:424:ILE:HD11	2.53	0.44
16:V:263:LEU:HD23	16:V:266:GLN:NE2	2.32	0.44
16:V:367:VAL:HG22	16:V:405:THR:HG21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:d:208:PHE:CE2	17:d:212:LEU:HD11	2.52	0.44
17:d:235:TYR:CE1	17:d:243:LYS:HG2	2.53	0.44
1:Y:101:ARG:NH2	1:Y:131:THR:HA	2.33	0.44
1:Y:162:GLU:CD	1:Y:165:LYS:HZ1	2.26	0.44
1:Y:174:TRP:HA	1:Y:177:ARG:HG3	1.99	0.44
1:Y:274:SER:O	1:Y:278:VAL:HG23	2.18	0.44
2:a:20:ALA:HA	2:a:23:HIS:CD2	2.53	0.44
2:a:132:LYS:HA	2:a:135:ILE:HD12	1.99	0.44
4:B:117:ASP:HB2	4:B:120:HIS:O	2.18	0.44
4:B:282:VAL:HG12	4:B:327:VAL:HG23	1.99	0.44
5:c:242:GLU:O	5:c:246:LYS:HG2	2.17	0.44
8:U:44:LYS:O	8:U:47:VAL:HG22	2.18	0.44
8:U:227:GLN:H	8:U:227:GLN:CD	2.25	0.44
8:U:773:PHE:HB2	8:U:774:PRO:HD3	1.99	0.44
9:W:447:ALA:O	9:W:451:MET:CB	2.65	0.44
13:E:376:ASP:OD1	13:E:379:LYS:NZ	2.43	0.44
16:V:201:ARG:O	16:V:204:ASP:OD1	2.36	0.44
16:V:252:ASN:O	16:V:256:ARG:HG2	2.18	0.44
1:Y:45:VAL:O	1:Y:49:ASN:N	2.51	0.43
2:a:304:VAL:O	2:a:307:VAL:HG22	2.17	0.43
5:c:33:ILE:HG13	5:c:69:VAL:HG13	2.00	0.43
5:c:41:MET:HE2	5:c:112:TYR:CG	2.53	0.43
6:Z:12:HIS:HA	6:Z:163:GLY:O	2.18	0.43
6:Z:204:LYS:NZ	9:W:440:ASN:HD22	2.16	0.43
9:W:216:GLU:N	9:W:216:GLU:OE1	2.51	0.43
10:A:401:ARG:NH1	10:A:403:ILE:O	2.51	0.43
13:E:35:GLU:O	13:E:38:LYS:HB3	2.18	0.43
14:F:197:GLU:OE2	14:F:350:ARG:NH2	2.50	0.43
15:X:213:GLN:HE21	15:X:217:ILE:HG12	1.83	0.43
17:d:344:ARG:O	17:d:348:MET:HG2	2.18	0.43
1:Y:154:ASN:O	1:Y:158:THR:HG23	2.18	0.43
2:a:327:VAL:O	2:a:329:LYS:NZ	2.39	0.43
4:B:103:ARG:HD2	4:B:160:ILE:HB	1.99	0.43
4:B:364:ILE:HD11	19:B:501:ADP:C2	2.53	0.43
5:c:198:ARG:HD2	5:c:200:TYR:CE2	2.53	0.43
5:c:215:LYS:HB2	6:Z:129:LYS:HD2	1.99	0.43
8:U:167:ILE:O	8:U:171:ASN:ND2	2.50	0.43
8:U:799:LYS:H	8:U:923:GLU:HB2	1.83	0.43
9:W:361:HIS:O	9:W:365:ILE:HG12	2.18	0.43
10:A:124:ASP:CG	10:A:148:GLN:HG2	2.43	0.43
10:A:220:THR:HG21	10:A:346:PRO:CG	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:44:ARG:HB3	16:V:495:ARG:HE	1.83	0.43
11:C:75:GLU:HB3	11:C:88:LYS:HB3	1.99	0.43
11:C:194:THR:O	11:C:194:THR:HG22	2.18	0.43
14:F:421:MET:O	14:F:425:LEU:HG	2.18	0.43
16:V:165:ALA:HB3	16:V:168:GLN:HA	2.00	0.43
1:Y:91:ALA:HB1	1:Y:99:GLU:HG3	2.01	0.43
4:B:153:ASN:HB3	4:B:158:ALA:H	1.82	0.43
4:B:192:ASN:O	4:B:195:GLN:HG3	2.18	0.43
4:B:288:ASP:OD2	4:B:333:ARG:NE	2.50	0.43
4:B:334:ILE:HD12	4:B:337:LEU:HD12	2.01	0.43
6:Z:104:ASN:O	6:Z:108:ILE:HG13	2.18	0.43
8:U:17:PRO:HB2	8:U:55:ARG:HH12	1.82	0.43
8:U:214:ILE:HD12	8:U:904:LYS:CE	2.48	0.43
8:U:367:THR:O	8:U:371:ILE:HD12	2.18	0.43
9:W:174:TYR:O	9:W:182:ARG:NH2	2.52	0.43
12:D:271:ALA:HB3	12:D:317:LEU:HD22	2.00	0.43
14:F:222:GLY:HA3	14:F:347:ARG:O	2.19	0.43
15:X:394:ASP:O	15:X:397:TYR:N	2.51	0.43
16:V:36:GLU:HA	16:V:39:GLU:OE1	2.18	0.43
16:V:264:TYR:HE1	16:V:294:ARG:HG2	1.83	0.43
16:V:344:ASP:OD1	16:V:345:ARG:N	2.44	0.43
1:Y:111:LEU:O	1:Y:114:ILE:HG12	2.18	0.43
2:a:284:ARG:CZ	2:a:289:ARG:HA	2.48	0.43
5:c:256:ASN:HB3	5:c:257:LYS:NZ	2.34	0.43
8:U:353:LEU:HD13	8:U:385:PHE:CD2	2.53	0.43
8:U:756:HIS:HB3	8:U:759:SER:OG	2.18	0.43
10:A:239:ARG:HB2	10:A:275:ASP:HB2	2.01	0.43
14:F:86:LEU:H	14:F:87:PRO:HD2	1.82	0.43
17:d:94:MET:HE3	17:d:115:GLU:HG3	2.01	0.43
17:d:281:LYS:HA	17:d:316:TYR:O	2.19	0.43
18:b:11:ASP:OD1	18:b:13:SER:N	2.47	0.43
1:Y:79:ASP:OD1	1:Y:80:GLU:N	2.52	0.43
1:Y:97:GLU:OE1	1:Y:97:GLU:N	2.48	0.43
5:c:214:GLN:HA	5:c:217:LEU:HG	2.00	0.43
5:c:253:LYS:O	5:c:257:LYS:HG2	2.18	0.43
6:Z:13:PRO:HA	6:Z:16:LEU:HG	2.01	0.43
6:Z:278:ASN:HD22	6:Z:278:ASN:C	2.26	0.43
8:U:65:SER:CB	8:U:81:ALA:HB2	2.48	0.43
8:U:251:ASP:O	8:U:254:GLU:HG3	2.19	0.43
8:U:322:THR:HA	8:U:325:MET:HG2	2.00	0.43
8:U:728:PHE:O	8:U:732:LEU:HD23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:17:GLU:N	9:W:57:ALA:O	2.52	0.43
9:W:428:TRP:O	9:W:432:LEU:HG	2.18	0.43
10:A:181:LYS:HA	10:A:184:ILE:HG22	2.01	0.43
11:C:48:GLN:HA	11:C:51:GLU:CG	2.47	0.43
11:C:99:VAL:HG11	11:C:103:ILE:HA	1.99	0.43
12:D:231:VAL:HG22	12:D:232:GLY:N	2.31	0.43
15:X:256:LEU:O	15:X:260:MET:HG2	2.18	0.43
16:V:281:ASN:HB2	16:V:284:GLU:OE2	2.18	0.43
1:Y:272:PHE:HA	1:Y:275:LEU:HB3	2.00	0.43
4:B:379:THR:HB	4:B:382:ASP:HB2	2.01	0.43
5:c:49:VAL:HB	5:c:50:PRO:HD3	2.00	0.43
5:c:296:ILE:O	5:c:300:LEU:HD23	2.19	0.43
6:Z:226:ILE:HA	6:Z:229:GLN:NE2	2.33	0.43
8:U:73:ALA:HB1	8:U:76:GLU:OE2	2.18	0.43
8:U:122:GLU:O	8:U:124:LYS:NZ	2.45	0.43
8:U:422:LEU:HD12	8:U:425:THR:OG1	2.19	0.43
9:W:47:LEU:HD23	9:W:47:LEU:HA	1.88	0.43
9:W:315:MET:N	9:W:315:MET:SD	2.92	0.43
9:W:407:ASP:O	9:W:411:GLY:N	2.51	0.43
10:A:80:LEU:HG	10:A:82:ALA:HB3	1.99	0.43
10:A:308:GLY:O	10:A:312:ARG:HG3	2.18	0.43
14:F:253:GLY:O	14:F:257:VAL:HG23	2.18	0.43
15:X:347:ILE:N	15:X:383:GLY:O	2.31	0.43
15:X:379:ASP:HB3	15:X:382:GLU:OE1	2.18	0.43
17:d:136:LEU:HB3	17:d:140:GLN:CD	2.43	0.43
1:Y:381:GLN:O	1:Y:384:SER:HB3	2.19	0.43
2:a:138:VAL:HB	2:a:155:PHE:CD1	2.45	0.43
4:B:107:MET:HA	4:B:152:LEU:O	2.17	0.43
5:c:58:LEU:HD11	5:c:73:PHE:HE1	1.84	0.43
6:Z:242:LEU:HD23	6:Z:245:PHE:CD2	2.53	0.43
8:U:70:HIS:HB3	16:V:236:ARG:NH2	2.33	0.43
8:U:204:ILE:O	8:U:208:LEU:HG	2.19	0.43
8:U:787:CYS:HB2	8:U:789:ILE:HD11	2.00	0.43
10:A:185:GLU:HA	10:A:188:ARG:HD3	2.01	0.43
10:A:206:ILE:HG13	14:F:408:LEU:HD21	2.01	0.43
11:C:147:THR:O	11:C:151:ILE:HG13	2.19	0.43
12:D:282:ASP:HA	12:D:285:VAL:HG12	2.00	0.43
12:D:324:PRO:HA	12:D:327:LEU:O	2.19	0.43
16:V:223:LYS:HZ3	16:V:224:LEU:HD23	1.84	0.43
16:V:306:ARG:NE	16:V:335:VAL:HG13	2.34	0.43
2:a:52:GLN:O	2:a:54:ASP:N	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:201:VAL:O	4:B:204:PRO:HD2	2.19	0.43
4:B:304:GLU:HA	4:B:307:ARG:NH1	2.34	0.43
4:B:343:ARG:NH2	10:A:420:TYR:HB2	2.33	0.43
8:U:666:LYS:CA	8:U:669:ILE:HG22	2.46	0.43
10:A:215:PHE:CG	10:A:324:PRO:HD3	2.53	0.43
10:A:221:GLY:O	10:A:222:LYS:C	2.60	0.43
11:C:61:GLU:HA	11:C:64:GLN:OE1	2.19	0.43
11:C:83:LYS:CD	11:C:98:ASP:HB3	2.49	0.43
11:C:351:MET:HE2	11:C:354:ALA:N	2.34	0.43
12:D:311:THR:HB	12:D:314:ALA:HB2	1.99	0.43
13:E:86:GLN:C	13:E:87:LEU:HD12	2.44	0.43
14:F:208:HIS:C	14:F:210:GLU:H	2.26	0.43
15:X:218:HIS:HA	15:X:221:GLU:HG3	2.01	0.43
15:X:346:GLN:CD	15:X:346:GLN:H	2.27	0.43
15:X:368:MET:O	15:X:372:LYS:N	2.51	0.43
16:V:400:HIS:ND1	17:d:237:MET:HG3	2.34	0.43
1:Y:183:TYR:CE1	1:Y:213:LEU:HD11	2.54	0.43
5:c:295:ASN:HB2	6:Z:256:GLN:HE22	1.84	0.43
8:U:213:PHE:HB2	8:U:248:ILE:HD11	2.00	0.43
8:U:383:ASP:HB2	8:U:386:LEU:HB3	2.01	0.43
8:U:626:LEU:HD23	8:U:626:LEU:O	2.19	0.43
9:W:200:ILE:O	9:W:204:ILE:HG12	2.18	0.43
10:A:127:ASP:OD1	10:A:127:ASP:N	2.52	0.43
11:C:24:TYR:CE2	12:D:41:TYR:HA	2.54	0.43
11:C:32:GLN:HA	11:C:35:VAL:HG12	2.01	0.43
11:C:119:ASP:C	11:C:121:TYR:H	2.25	0.43
11:C:161:ILE:O	11:C:165:ILE:HG12	2.18	0.43
12:D:186:THR:HG23	12:D:187:HIS:ND1	2.34	0.43
13:E:311:ASP:OD1	13:E:314:LYS:NZ	2.39	0.43
14:F:142:ALA:HA	14:F:145:LEU:HD12	2.00	0.43
18:b:140:ILE:HB	18:b:170:LEU:HD12	2.01	0.43
1:Y:226:VAL:HA	1:Y:229:ILE:HG22	2.01	0.43
1:Y:315:THR:OG1	1:Y:318:TYR:HD1	2.01	0.43
2:a:198:PHE:O	2:a:202:LEU:HD23	2.19	0.43
6:Z:40:LEU:HD12	6:Z:52:ASN:HB3	2.01	0.43
6:Z:226:ILE:HA	6:Z:229:GLN:CD	2.44	0.43
8:U:167:ILE:O	8:U:177:LEU:HD11	2.19	0.43
8:U:179:TYR:CE1	8:U:183:LEU:HD21	2.54	0.43
8:U:321:GLN:HA	8:U:324:LYS:HE2	2.01	0.43
8:U:334:ALA:HA	8:U:337:LEU:HG	2.01	0.43
9:W:105:VAL:HA	9:W:108:CYS:SG	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:W:319:THR:HA	9:W:322:GLU:OE1	2.17	0.43
9:W:436:MET:HA	9:W:439:VAL:HG12	2.01	0.43
11:C:290:LYS:HD3	11:C:290:LYS:HA	1.80	0.43
12:D:77:GLU:HA	12:D:80:LYS:HG3	2.00	0.43
12:D:246:MET:O	12:D:250:VAL:HG23	2.18	0.43
14:F:88:TYR:HB2	14:F:153:VAL:O	2.18	0.43
14:F:146:LYS:HD2	14:F:147:PRO:O	2.19	0.43
14:F:178:ASP:OD1	14:F:178:ASP:N	2.51	0.43
14:F:233:LYS:HE3	14:F:333:ASN:OD1	2.19	0.43
15:X:70:LEU:O	15:X:74:ARG:HG3	2.19	0.43
16:V:77:GLU:OE2	16:V:81:GLN:NE2	2.52	0.43
18:b:12:ASN:HB2	18:b:79:GLN:O	2.19	0.43
4:B:109:VAL:HA	4:B:151:LEU:HD23	2.00	0.42
4:B:122:ILE:HG13	4:B:132:TYR:HD1	1.82	0.42
4:B:168:ASP:CG	4:B:169:PRO:HD2	2.43	0.42
4:B:309:MET:SD	4:B:341:LEU:HD11	2.59	0.42
4:B:368:HIS:ND1	4:B:399:CYS:HB2	2.34	0.42
6:Z:12:HIS:HB2	6:Z:50:VAL:O	2.19	0.42
6:Z:204:LYS:O	6:Z:208:ILE:HG12	2.18	0.42
8:U:140:ARG:O	8:U:140:ARG:NH1	2.45	0.42
8:U:341:PHE:CD2	8:U:342:LEU:HD22	2.53	0.42
8:U:790:GLY:O	8:U:791:LEU:HD23	2.17	0.42
9:W:397:VAL:HB	15:X:341:PRO:HB3	2.01	0.42
11:C:55:LYS:O	11:C:59:LEU:HG	2.19	0.42
12:D:202:VAL:HA	12:D:329:ARG:O	2.19	0.42
13:E:60:VAL:HG13	13:E:94:PRO:HA	2.01	0.42
15:X:127:GLN:HA	15:X:130:GLU:HG2	2.00	0.42
16:V:263:LEU:HD23	16:V:266:GLN:CD	2.43	0.42
17:d:279:TYR:CD2	17:d:282:ILE:HD11	2.54	0.42
18:b:62:THR:HB	18:b:70:ARG:HE	1.84	0.42
1:Y:20:ALA:HB2	1:Y:150:PHE:CD1	2.54	0.42
2:a:95:THR:O	2:a:99:LYS:N	2.44	0.42
5:c:57:MET:HE3	5:c:110:GLY:HA3	2.01	0.42
5:c:214:GLN:O	5:c:218:LEU:HG	2.18	0.42
5:c:241:ASN:O	5:c:245:VAL:HG23	2.19	0.42
5:c:244:VAL:O	5:c:248:MET:HG2	2.19	0.42
6:Z:105:ASP:OD1	6:Z:108:ILE:HD12	2.18	0.42
8:U:397:THR:HG23	8:U:398:ASN:OD1	2.19	0.42
9:W:63:THR:HA	9:W:66:ILE:HG12	2.02	0.42
12:D:54:LEU:HA	12:D:54:LEU:HD23	1.88	0.42
12:D:189:GLU:HG2	12:D:190:LEU:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:342:ARG:HH21	12:D:364:VAL:HG11	1.85	0.42
13:E:138:LEU:HB3	13:E:141:GLN:HB2	2.01	0.42
16:V:183:GLU:HA	16:V:186:LYS:HG2	2.00	0.42
17:d:137:THR:HB	17:d:140:GLN:HB3	2.00	0.42
1:Y:45:VAL:HG11	1:Y:54:TYR:CD1	2.53	0.42
4:B:153:ASN:OD1	4:B:154:HIS:N	2.52	0.42
4:B:227:PRO:HD2	4:B:353:PHE:O	2.20	0.42
4:B:235:LEU:O	4:B:239:VAL:HG13	2.19	0.42
6:Z:9:VAL:HG22	6:Z:48:LEU:HB3	2.02	0.42
6:Z:70:LEU:HD23	6:Z:71:ASP:N	2.35	0.42
8:U:69:TYR:OH	8:U:95:GLU:OE1	2.36	0.42
8:U:662:GLY:HA2	8:U:693:LEU:O	2.18	0.42
9:W:184:GLU:O	9:W:188:GLU:HG2	2.19	0.42
9:W:368:LYS:HG3	9:W:369:TYR:CD1	2.53	0.42
12:D:53:PHE:O	12:D:57:GLN:HG3	2.19	0.42
12:D:92:PHE:HB3	12:D:128:ALA:HB3	2.01	0.42
13:E:215:ILE:HA	13:E:218:MET:HE3	2.00	0.42
14:F:76:ASN:HA	14:F:79:LYS:NZ	2.34	0.42
14:F:128:THR:O	14:F:130:GLN:NE2	2.50	0.42
14:F:393:GLY:HA3	19:F:501:ADP:C8	2.55	0.42
15:X:149:LEU:O	15:X:152:GLN:HG2	2.18	0.42
15:X:155:ARG:O	15:X:159:LYS:HG2	2.19	0.42
16:V:306:ARG:NH2	16:V:335:VAL:HG22	2.31	0.42
1:Y:38:ARG:HA	1:Y:41:LEU:HB3	2.01	0.42
2:a:135:ILE:HA	2:a:158:LEU:HD23	2.01	0.42
2:a:188:LEU:HD21	2:a:196:ARG:HH12	1.83	0.42
4:B:361:LYS:HZ1	4:B:386:ALA:HB3	1.84	0.42
5:c:30:GLN:HA	5:c:204:THR:OG1	2.19	0.42
8:U:213:PHE:HA	8:U:216:VAL:HG22	2.00	0.42
8:U:874:ASN:OD1	8:U:875:PHE:N	2.52	0.42
8:U:884:VAL:HG21	8:U:892:LEU:HD22	2.00	0.42
9:W:63:THR:O	9:W:67:LEU:HG	2.19	0.42
9:W:167:GLN:O	9:W:201:ARG:NH2	2.52	0.42
10:A:386:ARG:O	10:A:390:THR:HG22	2.19	0.42
11:C:125:LYS:HZ1	12:D:100:THR:HG21	1.83	0.42
12:D:50:GLU:HA	12:D:53:PHE:HB3	2.02	0.42
12:D:276:ASP:OD1	12:D:276:ASP:N	2.49	0.42
13:E:139:SER:OG	13:E:140:GLU:N	2.52	0.42
13:E:316:HIS:CE1	13:E:340:GLY:O	2.73	0.42
15:X:112:GLU:O	15:X:115:GLU:HG3	2.19	0.42
16:V:136:GLU:OE2	16:V:181:TYR:OH	2.30	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:d:156:ILE:HD12	17:d:255:SER:HB3	2.01	0.42
1:Y:281:GLU:HA	1:Y:284:LYS:HD2	2.00	0.42
4:B:240:ALA:HB2	4:B:281:ILE:HG21	2.01	0.42
4:B:251:VAL:HG12	4:B:254:GLU:OE1	2.19	0.42
4:B:360:THR:HG22	19:B:501:ADP:N6	2.35	0.42
4:B:374:LEU:HD12	4:B:378:VAL:HG21	2.02	0.42
4:B:413:LYS:HE2	4:B:413:LYS:HB3	1.92	0.42
8:U:766:PHE:O	8:U:769:PHE:HD1	2.03	0.42
9:W:405:LYS:HD3	9:W:405:LYS:HA	1.85	0.42
10:A:220:THR:O	10:A:222:LYS:HG2	2.20	0.42
12:D:125:LYS:HB2	12:D:128:ALA:HB2	2.00	0.42
13:E:40:TYR:CE1	14:F:72:LYS:HE3	2.55	0.42
13:E:180:LYS:H	13:E:180:LYS:HG2	1.65	0.42
15:X:261:LEU:O	15:X:263:THR:HG23	2.19	0.42
17:d:149:GLU:OE1	17:d:187:TYR:HD2	2.03	0.42
1:Y:243:GLY:HA3	1:Y:246:ILE:HD13	2.00	0.42
1:Y:250:LEU:HD22	1:Y:257:ARG:HA	2.02	0.42
1:Y:351:ASN:O	1:Y:353:ILE:HG12	2.19	0.42
2:a:150:SER:O	2:a:154:ARG:HD3	2.19	0.42
4:B:142:ASP:OD1	4:B:142:ASP:N	2.53	0.42
4:B:153:ASN:HB3	4:B:157:HIS:N	2.34	0.42
4:B:175:LYS:N	4:B:175:LYS:HD2	2.33	0.42
5:c:139:ARG:O	5:c:161:ARG:NH1	2.52	0.42
5:c:231:LEU:HD11	9:W:429:SER:HB2	2.02	0.42
5:c:304:LEU:O	5:c:308:VAL:HG23	2.19	0.42
8:U:101:ILE:O	8:U:105:ILE:HG12	2.20	0.42
8:U:322:THR:O	8:U:326:ILE:HG12	2.20	0.42
8:U:628:ARG:NH2	8:U:749:GLN:HE22	2.18	0.42
8:U:757:MET:HB3	8:U:758:PRO:HD3	2.01	0.42
9:W:39:ARG:HG3	9:W:43:VAL:HG23	2.02	0.42
9:W:81:ASP:HA	9:W:123:ARG:HH12	1.85	0.42
10:A:101:ILE:HG23	10:A:111:TYR:CE1	2.54	0.42
11:C:87:VAL:HG11	11:C:116:LEU:HD11	2.01	0.42
11:C:167:LEU:HG	11:C:175:PHE:CE1	2.53	0.42
12:D:116:LEU:HB3	12:D:119:ILE:HG13	2.01	0.42
12:D:384:MET:O	12:D:388:ARG:HG2	2.19	0.42
13:E:84:ARG:HH12	13:E:86:GLN:NE2	2.17	0.42
13:E:180:LYS:HG2	21:E:501:ATP:O1B	2.20	0.42
13:E:376:ASP:O	13:E:380:LEU:HG	2.20	0.42
18:b:10:VAL:HG23	18:b:29:GLN:NE2	2.34	0.42
1:Y:53:TYR:HB2	1:Y:115:GLY:HA3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:a:137:ASP:OD1	2:a:138:VAL:N	2.53	0.42
5:c:153:GLY:H	6:Z:170:VAL:HG23	1.84	0.42
6:Z:94:TRP:CH2	6:Z:121:LEU:HD13	2.55	0.42
8:U:243:LEU:O	8:U:913:ILE:HD11	2.20	0.42
8:U:331:GLY:O	8:U:335:ILE:HG23	2.20	0.42
9:W:111:TYR:O	9:W:114:GLU:HG2	2.19	0.42
10:A:221:GLY:O	10:A:224:LEU:N	2.51	0.42
11:C:113:ARG:O	11:C:127:LEU:HB2	2.20	0.42
11:C:284:GLU:C	11:C:286:THR:H	2.28	0.42
11:C:361:GLY:O	11:C:365:GLU:OE1	2.38	0.42
12:D:214:MET:HE2	12:D:214:MET:HB2	1.96	0.42
13:E:213:ARG:HA	13:E:216:ARG:HD2	2.01	0.42
13:E:312:ILE:HA	13:E:315:ILE:HD12	2.01	0.42
14:F:258:GLN:HB3	14:F:260:PHE:CE2	2.55	0.42
15:X:406:ASN:O	15:X:410:VAL:HG13	2.20	0.42
16:V:77:GLU:HB3	16:V:161:PRO:HB3	2.02	0.42
16:V:209:LYS:O	16:V:212:TYR:HB3	2.20	0.42
17:d:123:LEU:HD13	17:d:126:LEU:HD12	2.02	0.42
17:d:272:ALA:HB1	17:d:308:TRP:HZ2	1.84	0.42
1:Y:21:GLN:NE2	1:Y:286:TRP:HD1	2.18	0.42
1:Y:214:MET:HE1	1:Y:219:PHE:N	2.35	0.42
4:B:111:THR:O	4:B:124:SER:OG	2.25	0.42
4:B:121:ALA:HB2	4:B:135:ILE:HD11	2.02	0.42
4:B:150:VAL:HG13	4:B:161:GLY:O	2.19	0.42
4:B:224:LEU:HD23	4:B:353:PHE:CE1	2.53	0.42
5:c:29:GLU:HG3	5:c:30:GLN:N	2.33	0.42
6:Z:101:LEU:H	9:W:451:MET:CE	2.32	0.42
8:U:398:ASN:HA	8:U:437:TYR:CD1	2.55	0.42
8:U:661:ALA:O	8:U:694:ILE:HA	2.20	0.42
8:U:804:SER:HB3	8:U:876:GLN:OE1	2.20	0.42
8:U:806:CYS:O	8:U:874:ASN:HB2	2.20	0.42
10:A:201:PHE:O	10:A:206:ILE:N	2.44	0.42
11:C:305:LEU:HA	11:C:310:ARG:HD2	2.02	0.42
15:X:318:ILE:H	15:X:318:ILE:HD12	1.84	0.42
16:V:156:SER:O	16:V:160:LEU:HD12	2.20	0.42
2:a:290:GLN:HB2	2:a:330:ARG:HB3	2.00	0.42
4:B:232:LYS:HE3	4:B:286:GLU:OE2	2.20	0.42
4:B:343:ARG:NE	4:B:344:PRO:HD2	2.23	0.42
6:Z:128:PRO:O	6:Z:129:LYS:HE2	2.20	0.42
8:U:209:GLU:OE2	8:U:210:LYS:NZ	2.52	0.42
8:U:509:GLY:HA3	8:U:544:ILE:HD12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:306:LEU:HD22	10:A:312:ARG:NH1	2.35	0.42
12:D:289:LEU:O	12:D:293:LEU:HG	2.20	0.42
13:E:228:CYS:SG	13:E:229:ILE:N	2.93	0.42
13:E:305:ASN:O	13:E:309:ARG:HG3	2.19	0.42
15:X:219:ALA:HA	15:X:225:TRP:CZ3	2.55	0.42
1:Y:246:ILE:HD12	1:Y:246:ILE:H	1.85	0.42
4:B:223:ILE:O	4:B:350:LYS:HA	2.20	0.42
4:B:349:ARG:HD3	4:B:350:LYS:N	2.35	0.42
6:Z:12:HIS:O	6:Z:15:VAL:HG22	2.19	0.42
8:U:785:PRO:HB2	8:U:787:CYS:SG	2.60	0.42
10:A:197:HIS:CE1	10:A:200:ARG:HH21	2.38	0.42
11:C:76:VAL:HB	11:C:112:CYS:SG	2.59	0.42
12:D:267:ILE:HG22	12:D:271:ALA:CB	2.50	0.42
12:D:401:LYS:HA	12:D:404:LYS:HG2	2.00	0.42
13:E:215:ILE:O	13:E:218:MET:HG2	2.20	0.42
14:F:391:PHE:HA	14:F:395:GLN:OE1	2.20	0.42
15:X:171:LEU:HD12	15:X:172:LEU:N	2.34	0.42
16:V:255:LEU:HD21	16:V:270:LEU:HD13	2.02	0.42
18:b:88:THR:O	18:b:92:VAL:HG12	2.20	0.42
1:Y:48:ASN:HB2	1:Y:50:MET:HG2	2.01	0.41
1:Y:226:VAL:O	1:Y:229:ILE:HG22	2.20	0.41
2:a:8:LEU:HB3	2:a:63:PHE:HE2	1.84	0.41
2:a:284:ARG:NH2	2:a:289:ARG:HG3	2.34	0.41
2:a:316:SER:HA	9:W:369:TYR:OH	2.20	0.41
3:v:23:ALA:HB3	11:C:224:ILE:HG23	2.02	0.41
4:B:268:ARG:NH2	4:B:271:PHE:HD2	2.18	0.41
4:B:291:GLY:HA3	4:B:309:MET:HG3	2.01	0.41
10:A:215:PHE:CD2	10:A:324:PRO:HD3	2.55	0.41
11:C:147:THR:HA	11:C:206:HIS:CE1	2.50	0.41
13:E:181:THR:N	21:E:501:ATP:O2B	2.53	0.41
13:E:241:ARG:HG3	13:E:287:PRO:HD3	2.02	0.41
13:E:291:ARG:HG2	13:E:292:PRO:HD2	2.02	0.41
15:X:400:ALA:O	15:X:404:ILE:HG12	2.20	0.41
17:d:306:ARG:HB2	17:d:308:TRP:HE1	1.85	0.41
2:a:364:GLU:HG2	2:a:368:GLU:OE1	2.20	0.41
4:B:103:ARG:NH2	4:B:138:PHE:HB2	2.34	0.41
4:B:243:THR:HG23	4:B:245:ALA:H	1.85	0.41
5:c:211:GLU:O	5:c:215:LYS:HG2	2.20	0.41
6:Z:79:TYR:CE1	6:Z:91:ILE:HG13	2.55	0.41
6:Z:127:LYS:N	6:Z:128:PRO:HD3	2.35	0.41
6:Z:231:GLN:HA	6:Z:234:PHE:CD2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Z:258:VAL:HG21	15:X:397:TYR:CE1	2.56	0.41
8:U:55:ARG:HD3	8:U:55:ARG:H	1.85	0.41
8:U:377:HIS:O	8:U:411:ILE:HA	2.20	0.41
8:U:796:LYS:HD2	8:U:921:ILE:HG21	2.02	0.41
9:W:31:CYS:HB3	9:W:47:LEU:HD21	2.02	0.41
9:W:64:SER:O	9:W:68:VAL:HG23	2.20	0.41
9:W:375:MET:HE1	9:W:386:VAL:CG1	2.45	0.41
12:D:57:GLN:NE2	12:D:58:GLU:HG3	2.35	0.41
13:E:100:LEU:HD23	13:E:107:ILE:HA	2.01	0.41
14:F:334:ARG:O	14:F:337:ILE:HG22	2.20	0.41
14:F:410:ARG:NE	14:F:419:ASP:OD2	2.45	0.41
15:X:399:ALA:HA	15:X:402:GLU:HG3	2.03	0.41
16:V:204:ASP:OD2	16:V:246:GLY:HA3	2.20	0.41
17:d:207:GLU:O	17:d:208:PHE:C	2.62	0.41
18:b:52:ILE:HD13	18:b:60:VAL:HA	2.02	0.41
1:Y:279:GLU:OE1	7:e:53:SER:N	2.53	0.41
1:Y:380:VAL:HG12	1:Y:383:LEU:HD12	2.02	0.41
4:B:223:ILE:O	4:B:223:ILE:HG23	2.20	0.41
4:B:304:GLU:HG2	4:B:307:ARG:HH22	1.86	0.41
5:c:282:ARG:HA	5:c:285:GLU:OE2	2.20	0.41
5:c:303:MET:HE1	17:d:332:SER:HB2	2.02	0.41
5:c:309:PHE:HE2	9:W:432:LEU:HB3	1.84	0.41
8:U:193:PHE:HD1	8:U:196:LYS:HD2	1.84	0.41
8:U:447:GLY:C	8:U:483:LEU:HD11	2.45	0.41
11:C:34:ILE:HG22	11:C:38:LYS:NZ	2.36	0.41
11:C:86:LEU:HD21	11:C:94:LYS:HD2	2.02	0.41
11:C:171:HIS:HB3	11:C:174:LEU:HB2	2.00	0.41
13:E:55:GLN:N	14:F:133:PHE:O	2.52	0.41
13:E:261:LEU:HA	13:E:264:MET:SD	2.59	0.41
14:F:91:SER:CB	14:F:126:THR:HA	2.50	0.41
15:X:214:SER:O	15:X:218:HIS:ND1	2.53	0.41
15:X:232:PHE:CE1	15:X:253:TYR:HB3	2.55	0.41
16:V:183:GLU:O	16:V:187:ILE:HG12	2.20	0.41
16:V:330:LYS:HB2	16:V:360:TYR:CZ	2.55	0.41
17:d:239:GLY:HA2	17:d:241:TYR:CE2	2.55	0.41
18:b:155:ALA:O	18:b:159:THR:HG22	2.19	0.41
4:B:216:ILE:HD11	10:A:393:GLY:HA3	2.02	0.41
4:B:316:LEU:HD22	4:B:327:VAL:HG11	2.03	0.41
4:B:380:LEU:O	4:B:384:ILE:HB	2.21	0.41
5:c:36:LEU:HD22	6:Z:21:ASP:OD2	2.20	0.41
5:c:225:TRP:CB	6:Z:197:GLY:HA2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:44:LYS:HA	8:U:47:VAL:HG22	2.03	0.41
10:A:130:ALA:O	10:A:133:ASP:N	2.53	0.41
11:C:36:ASN:O	11:C:39:SER:OG	2.37	0.41
11:C:326:LEU:HG	11:C:330:LYS:HE2	2.02	0.41
11:C:355:SER:N	11:C:358:GLU:OE1	2.52	0.41
12:D:318:ASP:O	12:D:321:LEU:HG	2.21	0.41
15:X:291:ALA:O	15:X:294:SER:OG	2.26	0.41
17:d:298:LYS:O	17:d:302:TYR:CD2	2.73	0.41
1:Y:179:ARG:O	1:Y:183:TYR:HD1	2.03	0.41
2:a:346:ILE:HA	2:a:349:MET:HG3	2.02	0.41
4:B:344:PRO:HA	4:B:347:ILE:O	2.20	0.41
5:c:54:MET:N	5:c:54:MET:SD	2.93	0.41
5:c:98:MET:HG2	6:Z:78:MET:SD	2.60	0.41
6:Z:109:ASN:O	6:Z:109:ASN:ND2	2.52	0.41
8:U:708:GLN:HA	8:U:711:GLN:HG2	2.01	0.41
9:W:440:ASN:C	9:W:444:HIS:HD1	2.23	0.41
11:C:368:MET:O	11:C:372:ARG:NH1	2.54	0.41
12:D:67:ASN:O	12:D:71:GLU:HG3	2.20	0.41
12:D:234:GLU:HB3	13:E:216:ARG:HH12	1.85	0.41
13:E:156:PRO:O	13:E:160:GLN:HG3	2.20	0.41
13:E:205:ASP:OD1	13:E:206:LYS:N	2.51	0.41
13:E:320:ILE:HD11	13:E:347:CYS:HB3	2.03	0.41
13:E:364:GLN:HA	13:E:367:PHE:HD1	1.86	0.41
15:X:170:GLN:HB3	15:X:193:ALA:HB2	2.02	0.41
16:V:401:ASN:O	16:V:402:VAL:C	2.63	0.41
17:d:98:LEU:HD13	17:d:115:GLU:HB3	2.02	0.41
17:d:149:GLU:HG3	17:d:171:LEU:HD22	2.01	0.41
17:d:204:ARG:HB3	17:d:207:GLU:OE1	2.20	0.41
4:B:333:ARG:HB3	4:B:336:THR:OG1	2.20	0.41
4:B:375:ALA:HA	4:B:413:LYS:HD2	2.01	0.41
5:c:282:ARG:HG2	5:c:283:HIS:N	2.35	0.41
6:Z:73:ASP:O	6:Z:77:ASN:ND2	2.54	0.41
6:Z:279:LYS:HA	6:Z:282:ASN:ND2	2.35	0.41
9:W:317:TRP:O	9:W:321:VAL:HG23	2.21	0.41
11:C:217:SER:OG	12:D:291:GLU:OE1	2.37	0.41
13:E:61:LEU:HD12	13:E:70:ILE:HG22	2.01	0.41
13:E:178:THR:N	21:E:501:ATP:O1B	2.54	0.41
16:V:321:ALA:HB1	16:V:324:PHE:HB3	2.02	0.41
16:V:452:ASN:ND2	16:V:454:GLU:OE1	2.54	0.41
1:Y:104:MET:HE2	1:Y:126:LYS:HD3	2.03	0.41
2:a:159:SER:OG	2:a:175:ASP:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:123:VAL:HG11	4:B:152:LEU:HD21	2.01	0.41
4:B:216:ILE:HG22	4:B:217:LYS:N	2.35	0.41
8:U:159:ARG:HB3	8:U:162:VAL:HG12	2.03	0.41
8:U:616:ARG:O	8:U:620:GLU:OE1	2.39	0.41
9:W:30:GLU:O	9:W:34:LEU:HG	2.21	0.41
9:W:158:ASP:HB3	9:W:161:GLU:CD	2.46	0.41
9:W:177:MET:SD	9:W:182:ARG:HB2	2.60	0.41
10:A:123:VAL:HG21	10:A:149:ILE:HD11	2.03	0.41
12:D:237:GLN:NE2	12:D:243:GLY:H	2.18	0.41
15:X:177:TYR:O	15:X:181:SER:N	2.54	0.41
15:X:251:LEU:HA	15:X:254:MET:CG	2.50	0.41
16:V:37:MET:O	16:V:40:GLU:HG3	2.21	0.41
16:V:228:ARG:HD2	16:V:258:TYR:CE1	2.46	0.41
17:d:287:ALA:O	17:d:291:LEU:HB2	2.20	0.41
1:Y:238:GLU:OE1	1:Y:239:LYS:HE3	2.20	0.41
1:Y:248:GLU:HA	1:Y:251:HIS:CD2	2.56	0.41
1:Y:369:THR:OG1	15:X:401:LEU:HD21	2.21	0.41
2:a:111:VAL:O	2:a:115:LYS:HG2	2.21	0.41
4:B:367:ILE:HG22	4:B:368:HIS:HD2	1.85	0.41
8:U:140:ARG:HH11	8:U:140:ARG:C	2.29	0.41
8:U:204:ILE:HD13	8:U:204:ILE:HA	1.91	0.41
10:A:265:ARG:HG2	10:A:314:ASN:H	1.85	0.41
10:A:265:ARG:HG2	10:A:314:ASN:N	2.36	0.41
10:A:339:ARG:CZ	10:A:341:ILE:HG12	2.50	0.41
11:C:59:LEU:O	11:C:62:GLU:HG3	2.21	0.41
11:C:81:ASP:HB3	11:C:84:LYS:HD2	2.02	0.41
13:E:93:LYS:HD2	13:E:94:PRO:O	2.19	0.41
1:Y:18:ARG:CZ	1:Y:22:LEU:HD21	2.50	0.41
1:Y:188:CYS:O	1:Y:193:ASP:N	2.53	0.41
1:Y:195:LYS:O	1:Y:199:GLU:OE1	2.39	0.41
1:Y:259:TYR:CE2	1:Y:278:VAL:HG21	2.56	0.41
1:Y:387:ILE:C	1:Y:389:MET:H	2.29	0.41
2:a:101:ARG:NE	2:a:114:CYS:SG	2.85	0.41
2:a:160:SER:HB2	2:a:172:TYR:CE1	2.55	0.41
2:a:207:GLY:O	2:a:210:VAL:HG22	2.21	0.41
2:a:290:GLN:HA	2:a:331:VAL:O	2.21	0.41
4:B:132:TYR:CD2	10:A:93:LEU:HD12	2.56	0.41
4:B:159:VAL:HG12	4:B:159:VAL:O	2.21	0.41
4:B:288:ASP:H	4:B:331:THR:HG22	1.85	0.41
5:c:68:ARG:O	5:c:68:ARG:HD2	2.20	0.41
6:Z:34:ARG:HH22	6:Z:105:ASP:CG	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Z:101:LEU:O	6:Z:101:LEU:HD12	2.21	0.41
6:Z:278:ASN:O	6:Z:282:ASN:ND2	2.54	0.41
8:U:100:ILE:HD13	8:U:100:ILE:HA	1.93	0.41
8:U:190:ASN:HB3	8:U:192:GLN:HE22	1.86	0.41
8:U:226:PRO:HA	8:U:229:VAL:HG12	2.02	0.41
9:W:20:TYR:HD2	9:W:54:THR:HA	1.86	0.41
9:W:82:LEU:O	9:W:85:GLU:HG3	2.21	0.41
9:W:239:SER:O	9:W:243:ILE:HG13	2.21	0.41
9:W:359:VAL:O	9:W:363:ILE:HG12	2.20	0.41
9:W:444:HIS:O	9:W:448:LYS:HG3	2.21	0.41
10:A:140:VAL:HG21	10:A:149:ILE:HD12	2.03	0.41
10:A:188:ARG:HB3	10:A:192:GLU:OE1	2.21	0.41
11:C:210:THR:HB	11:C:244:SER:HA	2.02	0.41
12:D:94:GLU:OE2	12:D:102:ILE:HB	2.21	0.41
12:D:395:LEU:HB3	12:D:397:LYS:HZ3	1.86	0.41
13:E:166:PRO:HA	13:E:167:PRO:HD3	1.89	0.41
13:E:193:CYS:HB2	13:E:227:PRO:HG2	2.02	0.41
13:E:194:ASN:HB2	13:E:228:CYS:HB2	2.02	0.41
14:F:143:GLU:OE1	14:F:143:GLU:N	2.41	0.41
14:F:225:MET:HA	14:F:352:ILE:HB	2.02	0.41
15:X:73:VAL:O	15:X:77:LEU:HG	2.21	0.41
15:X:114:ILE:O	15:X:118:LYS:HE3	2.20	0.41
15:X:149:LEU:O	15:X:153:LEU:HD23	2.20	0.41
15:X:160:MET:HE1	15:X:162:ASP:CB	2.51	0.41
16:V:148:ARG:HD2	16:V:199:ASN:HD21	1.86	0.41
16:V:169:LEU:C	16:V:171:VAL:N	2.78	0.41
16:V:172:VAL:O	16:V:176:MET:HG2	2.20	0.41
16:V:214:HIS:O	16:V:218:TYR:HD1	2.04	0.41
16:V:247:GLN:H	16:V:247:GLN:HG3	1.70	0.41
16:V:267:ALA:O	16:V:270:LEU:HB3	2.21	0.41
16:V:364:THR:HA	16:V:367:VAL:HG12	2.01	0.41
16:V:376:ASN:HA	16:V:379:LEU:HG	2.01	0.41
16:V:401:ASN:O	16:V:404:LYS:N	2.53	0.41
18:b:13:SER:HB3	18:b:84:ILE:HG12	2.02	0.41
18:b:52:ILE:HG13	18:b:93:ALA:HA	2.03	0.41
1:Y:88:LEU:HD23	1:Y:92:GLU:OE1	2.21	0.41
1:Y:196:GLN:O	1:Y:200:LEU:HG	2.20	0.41
1:Y:233:ARG:HH12	1:Y:264:TYR:HA	1.85	0.41
2:a:106:SER:OG	2:a:107:SER:N	2.53	0.41
2:a:216:LEU:HG	2:a:217:LEU:N	2.36	0.41
4:B:259:TYR:HB3	4:B:262:ASP:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:167:ILE:HG13	8:U:168:LEU:H	1.84	0.41
10:A:142:VAL:HA	10:A:148:GLN:O	2.21	0.41
11:C:146:SER:HA	11:C:150:MET:SD	2.61	0.41
12:D:345:PHE:HE2	12:D:375:ILE:HD12	1.82	0.41
14:F:154:ASN:HB3	14:F:158:TYR:N	2.35	0.41
15:X:169:VAL:O	15:X:173:GLU:HB2	2.20	0.41
17:d:89:GLN:O	17:d:92:THR:OG1	2.28	0.41
17:d:185:SER:O	17:d:188:MET:HG2	2.21	0.41
17:d:231:SER:O	17:d:234:GLN:HG2	2.21	0.41
17:d:283:LEU:HB2	17:d:315:TYR:CZ	2.56	0.41
1:Y:73:MET:O	1:Y:77:ASN:ND2	2.54	0.40
2:a:353:LEU:HD21	6:Z:234:PHE:CE1	2.55	0.40
4:B:187:ILE:HA	19:B:501:ADP:N6	2.36	0.40
5:c:224:SER:O	5:c:227:GLU:HG3	2.20	0.40
8:U:108:TYR:CE2	8:U:134:VAL:HG11	2.55	0.40
8:U:344:ARG:HH21	8:U:927:PRO:HB2	1.85	0.40
8:U:550:VAL:O	8:U:554:LEU:HG	2.22	0.40
8:U:666:LYS:HA	8:U:669:ILE:CG2	2.46	0.40
8:U:685:GLN:NE2	8:U:725:MET:O	2.53	0.40
9:W:34:LEU:C	9:W:43:VAL:HG21	2.46	0.40
9:W:203:GLN:HE21	9:W:233:LEU:HD21	1.86	0.40
9:W:233:LEU:O	9:W:237:GLU:HG2	2.21	0.40
10:A:74:PRO:O	10:A:77:LEU:HB2	2.21	0.40
10:A:353:HIS:O	10:A:357:ILE:HG13	2.21	0.40
11:C:38:LYS:HA	11:C:41:ASN:ND2	2.34	0.40
11:C:267:SER:OG	11:C:268:GLU:N	2.54	0.40
11:C:390:VAL:HG12	11:C:391:MET:HE2	2.03	0.40
12:D:181:VAL:HG23	12:D:182:GLU:N	2.36	0.40
13:E:16:LEU:O	13:E:20:LYS:HG2	2.21	0.40
13:E:20:LYS:HA	13:E:20:LYS:HD3	1.92	0.40
14:F:251:LEU:O	14:F:286:ASP:N	2.44	0.40
16:V:148:ARG:HB3	16:V:149:PRO:HD3	2.02	0.40
16:V:307:ARG:HG3	16:V:308:THR:N	2.36	0.40
18:b:11:ASP:OD1	18:b:84:ILE:HD11	2.21	0.40
1:Y:49:ASN:HB3	1:Y:77:ASN:OD1	2.21	0.40
1:Y:259:TYR:HD1	1:Y:274:SER:HG	1.65	0.40
1:Y:371:LYS:O	1:Y:375:LEU:HG	2.22	0.40
1:Y:374:ASP:CG	16:V:479:ARG:HH21	2.28	0.40
5:c:68:ARG:NH1	5:c:106:GLU:HG3	2.34	0.40
5:c:156:VAL:HG12	5:c:156:VAL:O	2.21	0.40
6:Z:96:HIS:HD2	6:Z:98:GLY:H	1.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:212:ASP:OD2	8:U:215:ASN:ND2	2.53	0.40
8:U:353:LEU:HD13	8:U:385:PHE:CE2	2.57	0.40
10:A:215:PHE:HZ	10:A:340:LYS:HD3	1.86	0.40
11:C:22:GLN:HG3	11:C:25:LEU:HD22	2.03	0.40
11:C:112:CYS:SG	11:C:114:VAL:HG13	2.61	0.40
12:D:263:PHE:HA	12:D:308:ILE:O	2.21	0.40
12:D:352:MET:HE1	13:E:163:GLY:O	2.20	0.40
13:E:39:GLN:O	13:E:42:LYS:HG2	2.22	0.40
13:E:283:ASP:OD1	13:E:283:ASP:N	2.51	0.40
14:F:169:ASP:OD1	14:F:170:SER:N	2.54	0.40
15:X:370:LEU:O	15:X:372:LYS:NZ	2.40	0.40
16:V:46:GLY:HA3	16:V:65:ARG:HH12	1.86	0.40
16:V:182:LYS:O	16:V:185:GLN:HG2	2.22	0.40
16:V:267:ALA:O	16:V:271:VAL:HG23	2.20	0.40
1:Y:104:MET:HE3	1:Y:123:ALA:HB1	2.03	0.40
2:a:247:ARG:HH21	2:a:251:LEU:N	2.19	0.40
4:B:201:VAL:C	4:B:204:PRO:HD2	2.45	0.40
4:B:290:ILE:O	4:B:309:MET:HB2	2.21	0.40
5:c:250:GLU:OE2	5:c:251:LEU:HG	2.21	0.40
8:U:228:ALA:HA	8:U:231:ASP:OD2	2.22	0.40
8:U:351:MET:HA	8:U:354:LYS:HG3	2.03	0.40
8:U:471:ASP:CG	8:U:472:ILE:H	2.29	0.40
8:U:684:ARG:O	8:U:688:LEU:HG	2.21	0.40
9:W:125:ILE:HG21	9:W:149:LEU:HD13	2.04	0.40
9:W:164:SER:HA	9:W:167:GLN:CD	2.47	0.40
10:A:254:ALA:HA	10:A:257:VAL:HG12	2.03	0.40
11:C:72:TYR:OH	11:C:121:TYR:HD1	2.05	0.40
11:C:197:THR:HG23	22:C:502:MG:MG	1.46	0.40
11:C:221:GLN:O	12:D:241:GLY:HA3	2.21	0.40
11:C:226:GLU:HB2	11:C:229:ARG:HH21	1.86	0.40
12:D:54:LEU:CA	12:D:57:GLN:HE21	2.34	0.40
12:D:77:GLU:O	12:D:81:ARG:HG3	2.21	0.40
12:D:341:LYS:O	12:D:345:PHE:CD1	2.75	0.40
15:X:239:TYR:CZ	15:X:246:LYS:HD2	2.56	0.40
16:V:163:VAL:O	16:V:168:GLN:NE2	2.54	0.40
16:V:167:LEU:H	16:V:167:LEU:HD23	1.86	0.40
16:V:278:GLU:HA	16:V:285:TRP:HZ3	1.83	0.40
16:V:452:ASN:HA	17:d:279:TYR:CE2	2.57	0.40
1:Y:55:GLU:O	1:Y:59:LYS:HG2	2.22	0.40
1:Y:188:CYS:HA	1:Y:191:ILE:HG12	2.03	0.40
2:a:109:GLU:O	2:a:112:ILE:HG22	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:a:308:GLU:HG2	2:a:309:LEU:N	2.36	0.40
2:a:314:ALA:HB1	2:a:320:VAL:HG21	2.03	0.40
4:B:232:LYS:HA	4:B:353:PHE:CZ	2.56	0.40
6:Z:16:LEU:O	6:Z:19:VAL:HG12	2.21	0.40
6:Z:258:VAL:HG11	15:X:397:TYR:HE1	1.87	0.40
8:U:58:GLN:HB2	8:U:84:ALA:HA	2.03	0.40
9:W:39:ARG:CZ	9:W:43:VAL:HG22	2.52	0.40
9:W:305:LEU:HD13	9:W:324:TYR:CD2	2.57	0.40
10:A:365:GLU:HG3	10:A:367:ASP:H	1.87	0.40
11:C:21:ARG:NE	11:C:22:GLN:HE22	2.20	0.40
12:D:47:LEU:HA	12:D:50:GLU:HG3	2.02	0.40
13:E:330:ALA:O	13:E:334:LEU:HG	2.22	0.40
15:X:336:ILE:HD13	15:X:336:ILE:HA	1.97	0.40
15:X:407:MET:HE3	15:X:407:MET:HB3	1.95	0.40
16:V:61:GLU:OE1	16:V:61:GLU:N	2.47	0.40
16:V:248:ALA:HB2	16:V:277:PRO:HG2	2.03	0.40
17:d:204:ARG:NH1	17:d:204:ARG:HA	2.36	0.40
17:d:241:TYR:O	17:d:245:PHE:HD1	2.03	0.40
18:b:124:LEU:HD22	18:b:152:LYS:HB2	2.02	0.40
4:B:304:GLU:OE1	4:B:307:ARG:NH1	2.30	0.40
5:c:89:PRO:HA	5:c:92:GLN:HG3	2.03	0.40
7:e:46:ASP:OD2	16:V:345:ARG:NH1	2.54	0.40
8:U:138:PHE:CE1	8:U:162:VAL:HG11	2.57	0.40
11:C:194:THR:HG21	11:C:317:PHE:HB3	2.04	0.40
12:D:54:LEU:C	12:D:57:GLN:HE21	2.28	0.40
12:D:88:VAL:O	12:D:132:LEU:N	2.34	0.40
12:D:273:LYS:HD3	12:D:318:ASP:HA	2.02	0.40
13:E:56:ILE:HD13	14:F:132:TYR:HE1	1.85	0.40
15:X:255:LEU:O	15:X:259:ILE:HG12	2.22	0.40
16:V:48:THR:OG1	16:V:150:ARG:HD2	2.21	0.40
16:V:156:SER:HA	16:V:159:LEU:HB2	2.02	0.40
16:V:175:MET:HA	16:V:178:SER:OG	2.22	0.40
18:b:54:LEU:HB2	18:b:84:ILE:HD12	2.04	0.40
18:b:84:ILE:HD13	18:b:84:ILE:HA	1.91	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	Y	378/389 (97%)	365 (97%)	13 (3%)	0	100	100
2	a	338/376 (90%)	310 (92%)	26 (8%)	2 (1%)	22	59
3	v	6/8 (75%)	2 (33%)	3 (50%)	1 (17%)	0	2
4	B	312/440 (71%)	280 (90%)	31 (10%)	1 (0%)	37	71
5	c	265/309 (86%)	248 (94%)	14 (5%)	3 (1%)	12	45
6	Z	278/324 (86%)	255 (92%)	22 (8%)	1 (0%)	30	67
7	e	30/70 (43%)	28 (93%)	2 (7%)	0	100	100
8	U	803/953 (84%)	748 (93%)	50 (6%)	5 (1%)	22	59
9	W	436/456 (96%)	426 (98%)	9 (2%)	1 (0%)	44	77
10	A	319/433 (74%)	279 (88%)	39 (12%)	1 (0%)	37	71
11	C	360/398 (90%)	314 (87%)	45 (12%)	1 (0%)	37	71
12	D	362/418 (87%)	321 (89%)	37 (10%)	4 (1%)	12	45
13	E	356/403 (88%)	334 (94%)	17 (5%)	5 (1%)	9	40
14	F	351/439 (80%)	320 (91%)	25 (7%)	6 (2%)	7	37
15	X	376/422 (89%)	363 (96%)	10 (3%)	3 (1%)	16	53
16	V	435/533 (82%)	392 (90%)	42 (10%)	1 (0%)	44	77
17	d	267/349 (76%)	254 (95%)	11 (4%)	2 (1%)	19	56
18	b	140/377 (37%)	133 (95%)	5 (4%)	2 (1%)	9	40
All	All	5812/7097 (82%)	5372 (92%)	401 (7%)	39 (1%)	21	56

All (39) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	a	187	ASP
5	c	279	ASP
5	c	281	LYS
8	U	416	GLU

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Mol	Chain	Res	Type
11	C	167	LEU
12	D	147	ALA
12	D	157	ASP
14	F	169	ASP
15	X	123	THR
17	d	323	GLN
18	b	79	GLN
9	W	40	LEU
13	E	85	ARG
14	F	86	LEU
14	F	170	SER
15	X	393	VAL
16	V	282	ASN
6	Z	224	HIS
8	U	93	ASN
13	E	74	THR
13	E	139	SER
14	F	259	MET
15	X	310	ARG
17	d	332	SER
3	v	21	ALA
8	U	638	SER
13	E	114	GLU
14	F	261	ILE
2	a	166	ILE
8	U	920	ASP
10	A	79	ASP
12	D	258	ALA
14	F	324	THR
5	c	71	ASP
8	U	794	ASP
13	E	208	ILE
18	b	148	VAL
4	B	168	ASP
12	D	159	LYS

5.3.2 Protein sidechains ⓘ

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	Y	334/344 (97%)	334 (100%)	0	100	100
2	a	307/336 (91%)	307 (100%)	0	100	100
4	B	279/385 (72%)	279 (100%)	0	100	100
5	c	238/267 (89%)	238 (100%)	0	100	100
6	Z	254/295 (86%)	253 (100%)	1 (0%)	89	91
7	e	29/63 (46%)	29 (100%)	0	100	100
8	U	685/816 (84%)	683 (100%)	2 (0%)	91	92
9	W	403/416 (97%)	402 (100%)	1 (0%)	92	94
10	A	280/372 (75%)	280 (100%)	0	100	100
11	C	319/346 (92%)	319 (100%)	0	100	100
12	D	318/366 (87%)	318 (100%)	0	100	100
13	E	315/353 (89%)	315 (100%)	0	100	100
14	F	307/379 (81%)	306 (100%)	1 (0%)	91	92
15	X	324/362 (90%)	324 (100%)	0	100	100
16	V	374/459 (82%)	374 (100%)	0	100	100
17	d	235/293 (80%)	234 (100%)	1 (0%)	89	91
18	b	128/312 (41%)	128 (100%)	0	100	100
All	All	5129/6164 (83%)	5123 (100%)	6 (0%)	92	95

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	Z	101	LEU
8	U	366	HIS
8	U	636	VAL
9	W	416	GLN
14	F	255	GLN
17	d	221	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (55) such sidechains are listed below:

Mol	Chain	Res	Type
1	Y	94	ASN
1	Y	196	GLN

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Mol	Chain	Res	Type
1	Y	306	GLN
2	a	168	ASN
2	a	193	GLN
2	a	249	GLN
2	a	267	GLN
2	a	288	HIS
4	B	154	HIS
4	B	195	GLN
4	B	241	ASN
4	B	332	ASN
5	c	237	HIS
5	c	241	ASN
5	c	298	GLN
6	Z	44	GLN
6	Z	189	GLN
6	Z	223	ASN
6	Z	225	GLN
6	Z	256	GLN
7	e	55	GLN
8	U	111	GLN
8	U	135	ASN
8	U	139	GLN
8	U	171	ASN
8	U	632	GLN
8	U	685	GLN
9	W	84	ASN
9	W	107	GLN
9	W	228	ASN
9	W	440	ASN
9	W	453	HIS
10	A	197	HIS
10	A	322	ASN
11	C	40	GLN
11	C	48	GLN
11	C	288	ASN
12	D	48	GLN
12	D	57	GLN
12	D	340	GLN
12	D	376	ASN
13	E	345	ASN
14	F	243	GLN
14	F	321	GLN

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Mol	Chain	Res	Type
15	X	78	ASN
15	X	152	GLN
15	X	213	GLN
16	V	214	HIS
16	V	252	ASN
16	V	347	GLN
16	V	452	ASN
16	V	488	ASN
17	d	250	ASN
18	b	38	HIS
18	b	161	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 8 ligands modelled in this entry, 2 are monoatomic - leaving 6 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	$\#|Z| > 2$
19	ADP	F	501	-	24,29,29	0.94	1 (4%)	29,45,45	1.48	4 (13%)
19	ADP	A	501	-	24,29,29	0.94	1 (4%)	29,45,45	1.46	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
21	ATP	E	501	-	26,33,33	0.62	0	31,52,52	0.77	2 (6%)
19	ADP	B	501	-	24,29,29	0.94	1 (4%)	29,45,45	1.47	4 (13%)
21	ATP	D	501	-	26,33,33	0.60	0	31,52,52	0.88	2 (6%)
21	ATP	C	501	22	26,33,33	0.61	0	31,52,52	0.80	2 (6%)

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
19	ADP	F	501	-	-	8/12/32/32	0/3/3/3
19	ADP	A	501	-	-	4/12/32/32	0/3/3/3
21	ATP	E	501	-	-	11/18/38/38	0/3/3/3
19	ADP	B	501	-	-	0/12/32/32	0/3/3/3
21	ATP	D	501	-	-	4/18/38/38	0/3/3/3
21	ATP	C	501	22	-	4/18/38/38	0/3/3/3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	F	501	ADP	C5-C4	2.52	1.47	1.40
19	B	501	ADP	C5-C4	2.52	1.47	1.40
19	A	501	ADP	C5-C4	2.44	1.47	1.40

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(º)	Ideal(º)
19	A	501	ADP	PA-O3A-PB	-3.94	119.32	132.83
19	B	501	ADP	C3'-C2'-C1'	3.84	106.77	100.98
19	F	501	ADP	C3'-C2'-C1'	3.64	106.45	100.98
19	F	501	ADP	PA-O3A-PB	-3.40	121.15	132.83
19	A	501	ADP	N3-C2-N1	-3.30	123.52	128.68
19	B	501	ADP	PA-O3A-PB	-3.18	121.92	132.83
19	B	501	ADP	N3-C2-N1	-3.13	123.78	128.68
19	F	501	ADP	N3-C2-N1	-3.03	123.95	128.68
19	A	501	ADP	C3'-C2'-C1'	2.87	105.30	100.98
19	A	501	ADP	C4-C5-N7	-2.68	106.61	109.40
19	B	501	ADP	C4-C5-N7	-2.41	106.88	109.40
19	F	501	ADP	C4-C5-N7	-2.40	106.90	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
21	D	501	ATP	C5-C6-N6	2.30	123.85	120.35
21	E	501	ATP	C5-C6-N6	2.29	123.83	120.35
21	C	501	ATP	C5-C6-N6	2.28	123.82	120.35
21	E	501	ATP	PB-O3B-PG	2.06	139.91	132.83
21	C	501	ATP	PB-O3B-PG	2.05	139.85	132.83
21	D	501	ATP	PB-O3B-PG	2.04	139.84	132.83

There are no chirality outliers.

All (31) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	A	501	ADP	C5'-O5'-PA-O1A
19	F	501	ADP	C5'-O5'-PA-O1A
19	F	501	ADP	C5'-O5'-PA-O2A
21	D	501	ATP	C4'-C5'-O5'-PA
21	E	501	ATP	PB-O3B-PG-O2G
21	E	501	ATP	PB-O3B-PG-O3G
21	E	501	ATP	C5'-O5'-PA-O1A
21	E	501	ATP	C3'-C4'-C5'-O5'
19	F	501	ADP	O4'-C4'-C5'-O5'
19	F	501	ADP	C3'-C4'-C5'-O5'
21	E	501	ATP	C4'-C5'-O5'-PA
21	C	501	ATP	C3'-C4'-C5'-O5'
21	E	501	ATP	O4'-C4'-C5'-O5'
21	C	501	ATP	O4'-C4'-C5'-O5'
21	D	501	ATP	C3'-C4'-C5'-O5'
19	F	501	ADP	PB-O3A-PA-O1A
19	A	501	ADP	C4'-C5'-O5'-PA
21	C	501	ATP	C4'-C5'-O5'-PA
21	E	501	ATP	PB-O3A-PA-O5'
19	A	501	ADP	C5'-O5'-PA-O3A
19	F	501	ADP	C5'-O5'-PA-O3A
19	A	501	ADP	O4'-C4'-C5'-O5'
21	E	501	ATP	PG-O3B-PB-O3A
21	E	501	ATP	C5'-O5'-PA-O2A
19	F	501	ADP	PB-O3A-PA-O2A
19	F	501	ADP	C4'-C5'-O5'-PA
21	D	501	ATP	PA-O3A-PB-O3B
21	E	501	ATP	PG-O3B-PB-O1B
21	C	501	ATP	C5'-O5'-PA-O3A
21	E	501	ATP	C5'-O5'-PA-O3A
21	D	501	ATP	PA-O3A-PB-O1B

There are no ring outliers.

6 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	F	501	ADP	4	0
19	A	501	ADP	2	0
21	E	501	ATP	8	0
19	B	501	ADP	4	0
21	D	501	ATP	3	0
21	C	501	ATP	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand ADP F 501

Bond lengths   Bond angles

Torsions   Rings

Ligand ADP A 501

Bond lengths

Bond angles

Torsions

Rings

Ligand ATP E 501

Bond lengths

Bond angles

Torsions

Rings

Ligand ADP B 501

Bond lengths

Bond angles

Torsions

Rings

Ligand ATP D 501

Bond lengths

Bond angles

Torsions

Rings

Ligand ATP C 501

Bond lengths

Bond angles

Torsions

Rings
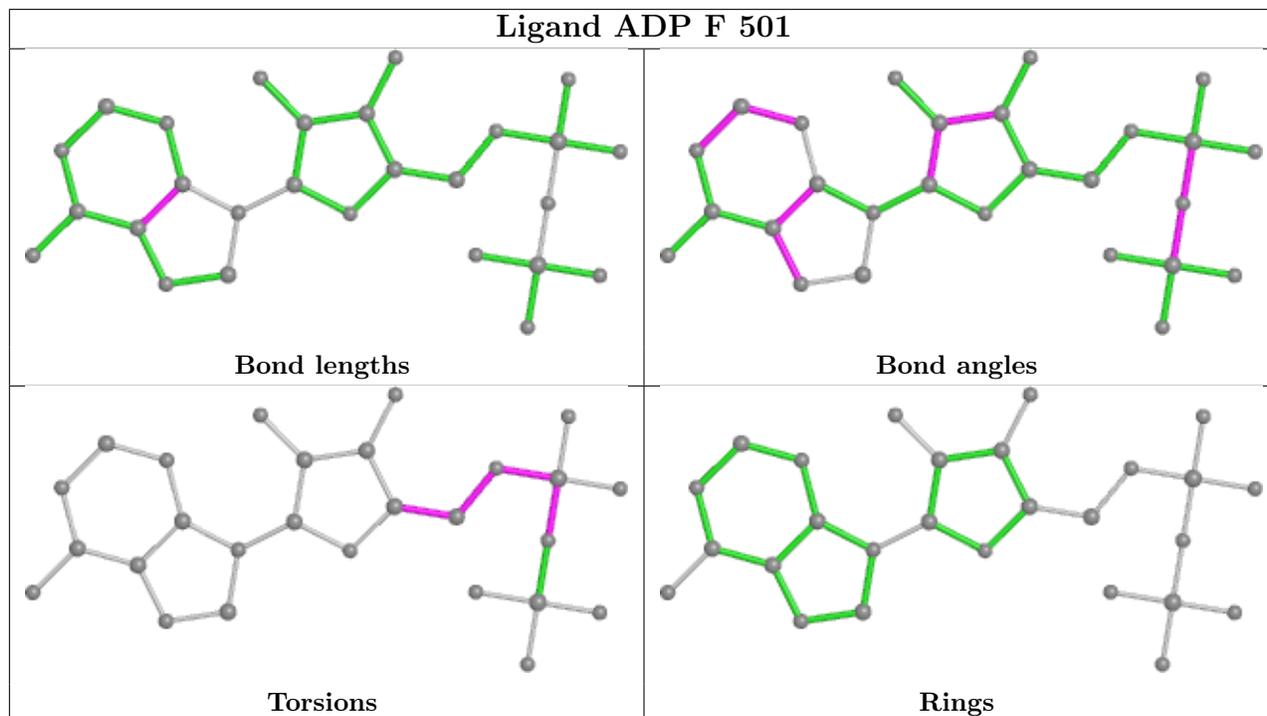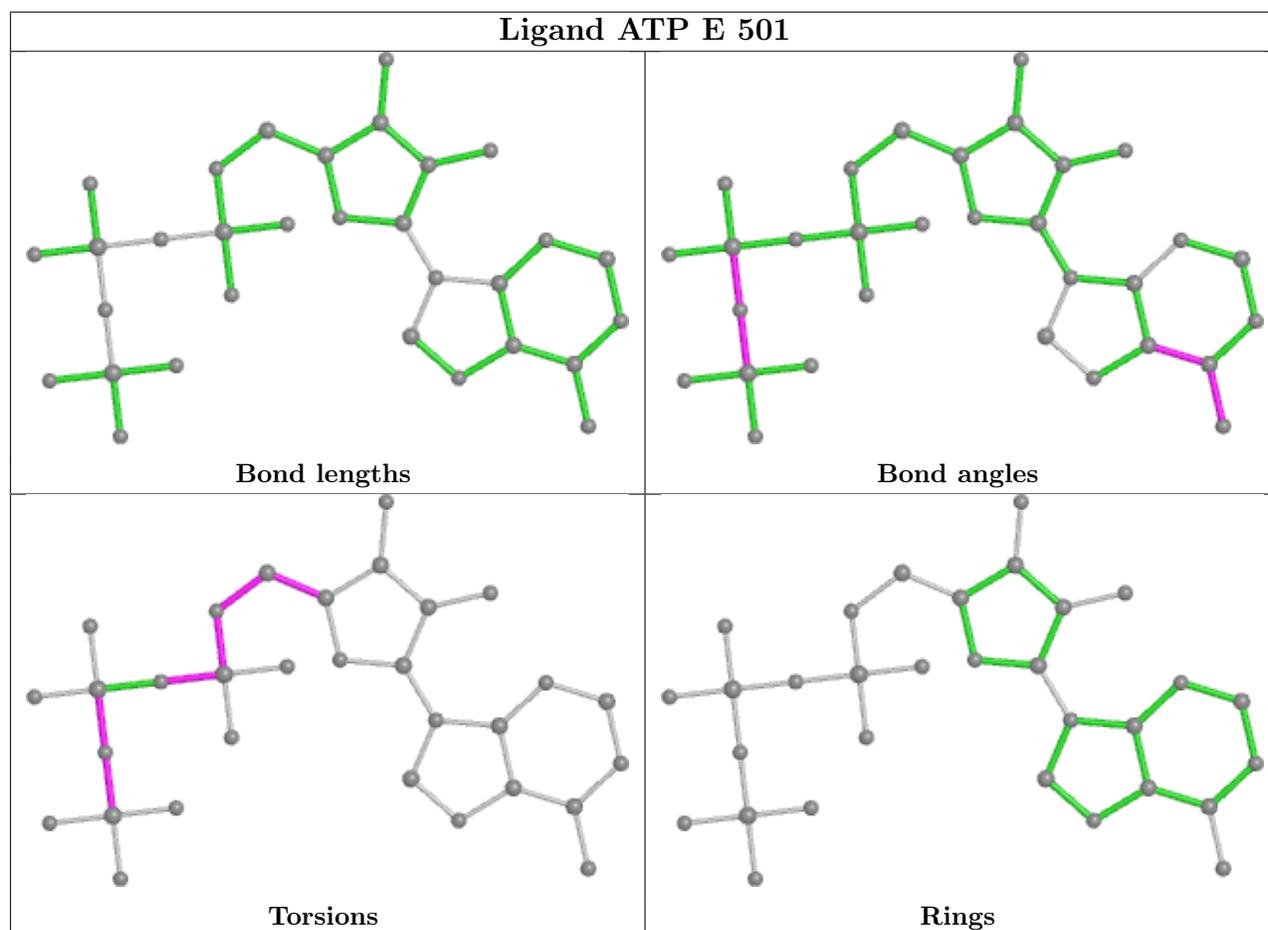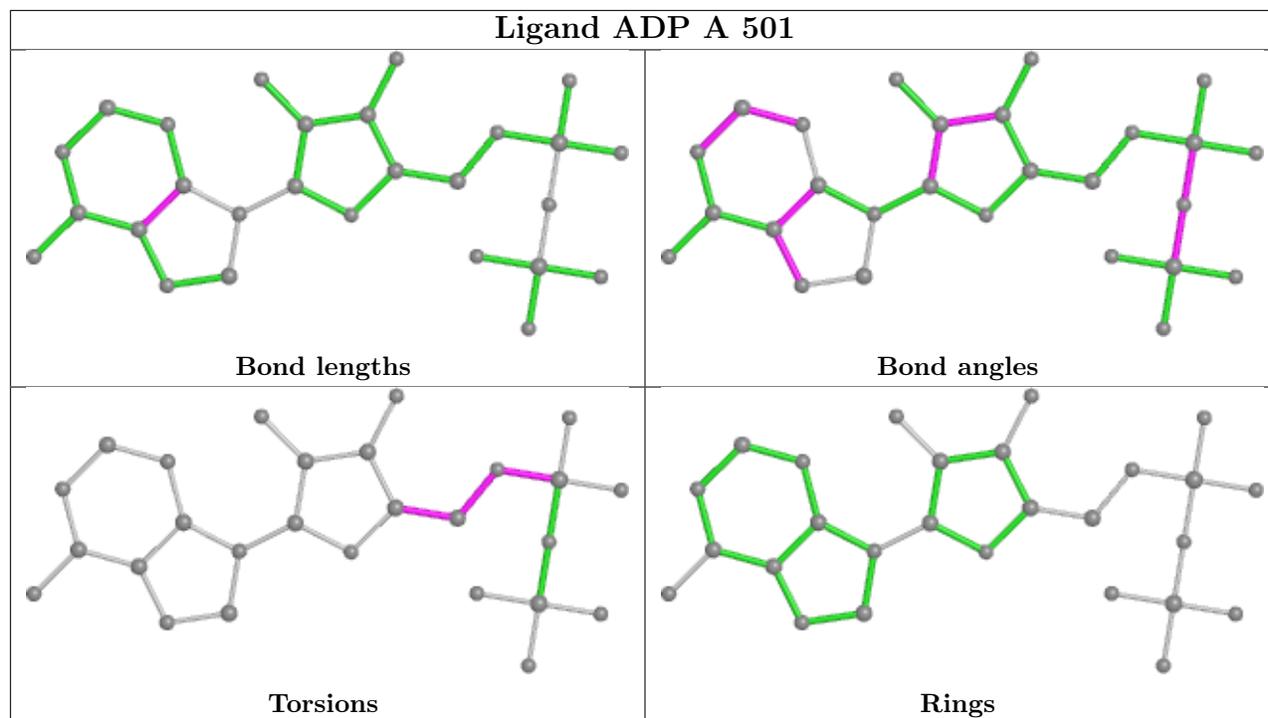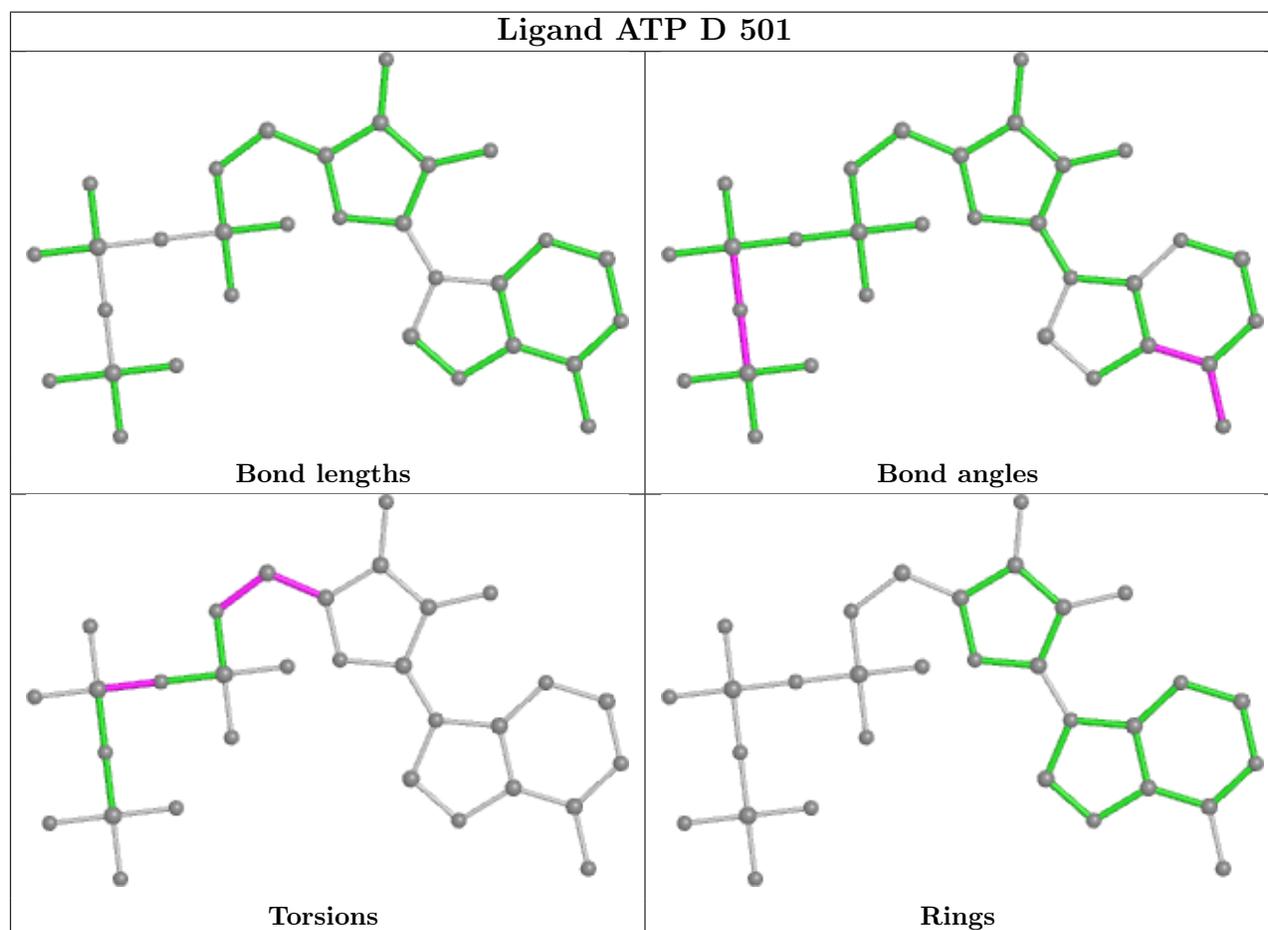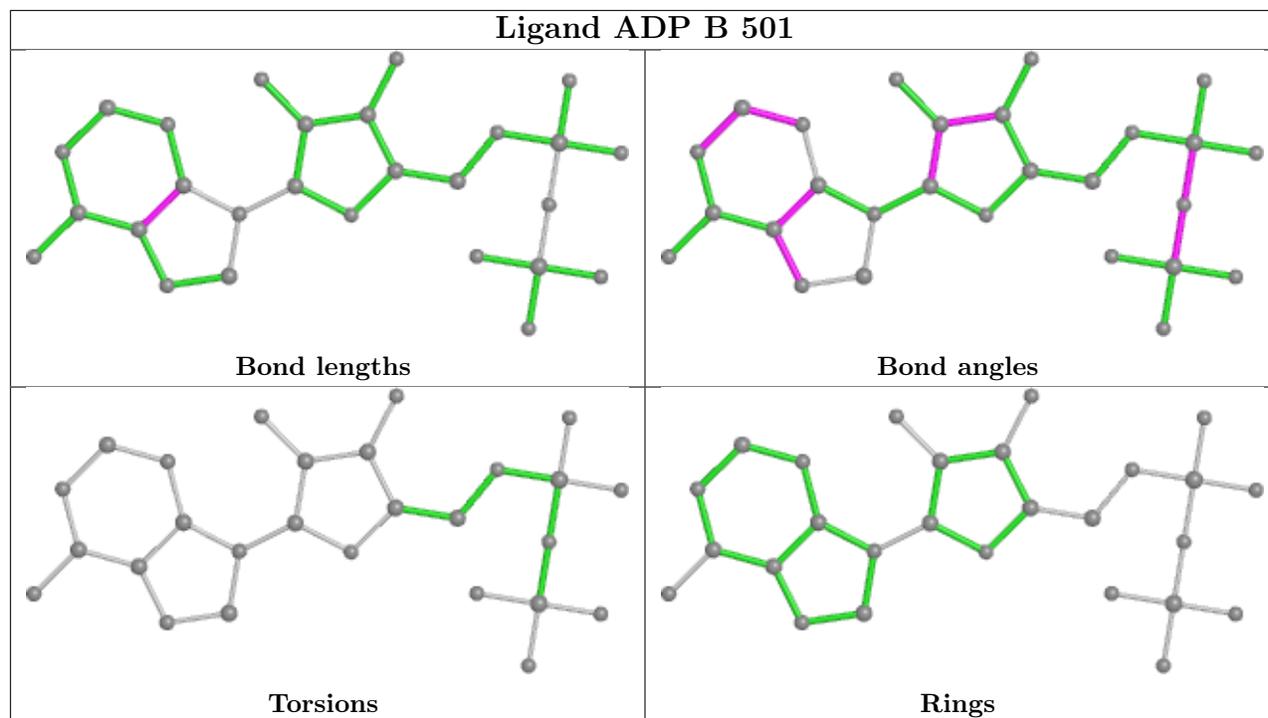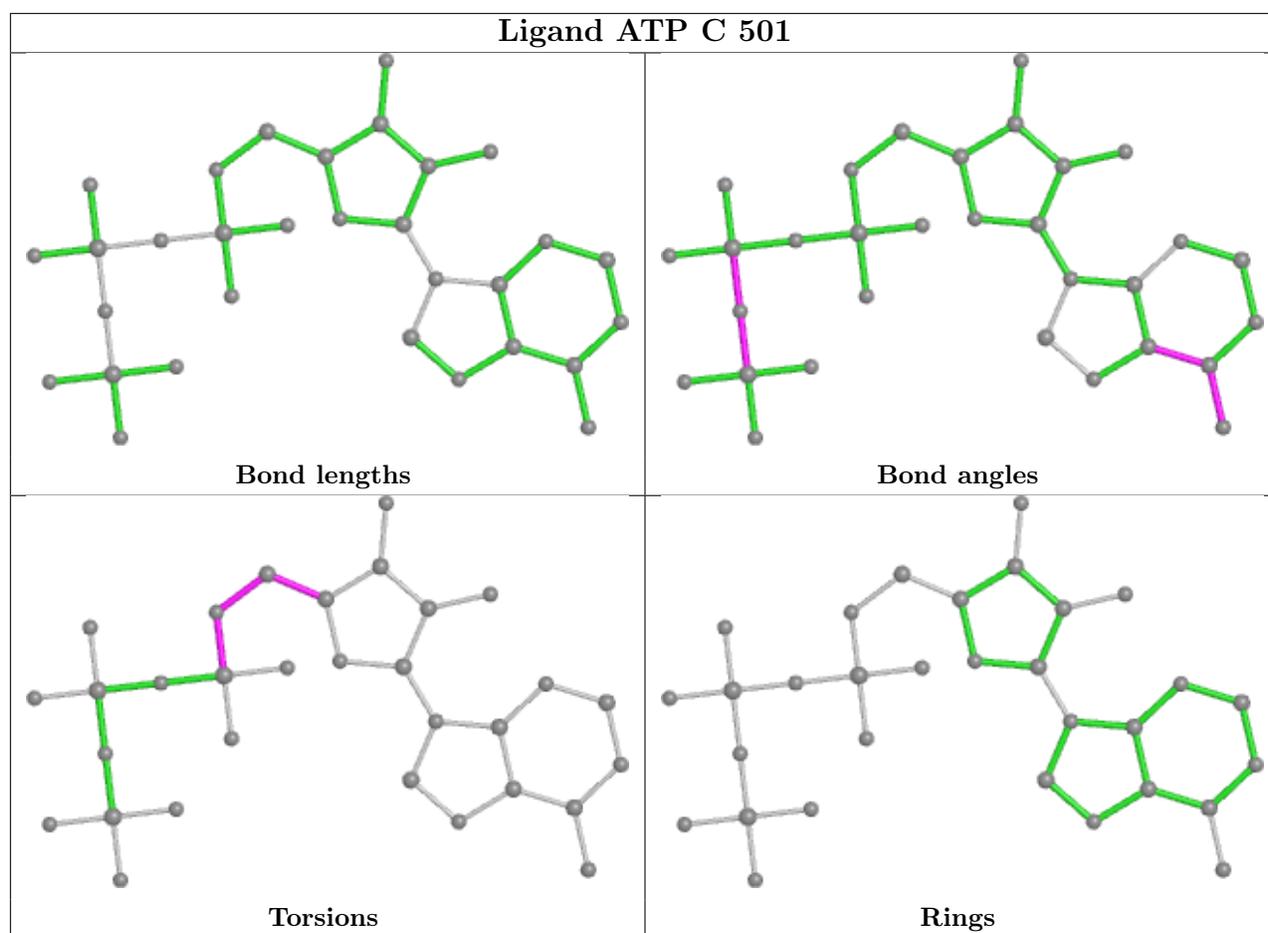
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-63850. 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 (i)

6.1.1 Primary map
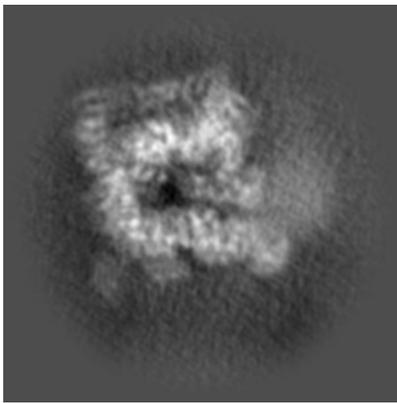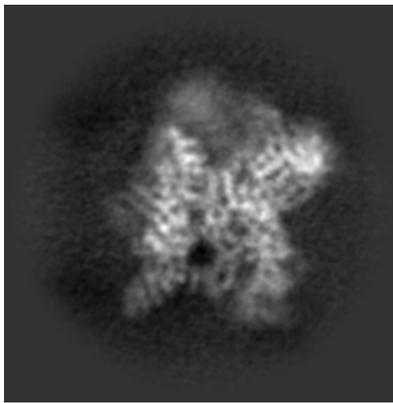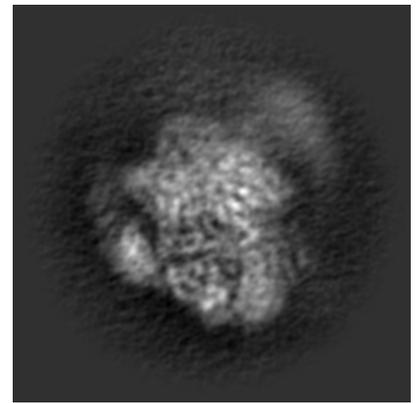
| X | Y | Z |

6.1.2 Raw map

| X | Y | Z |
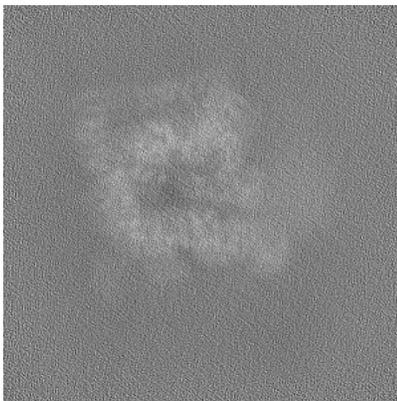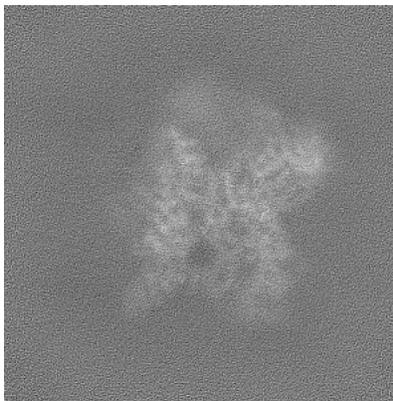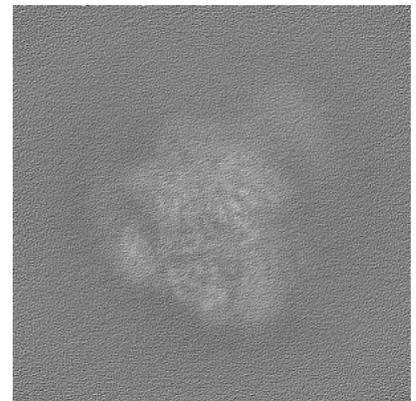
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
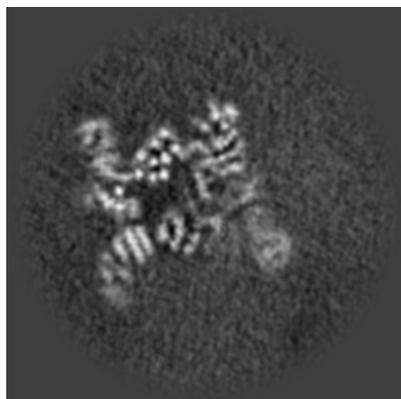
6.2.1 Primary map
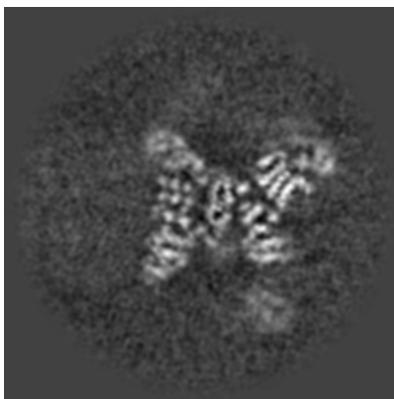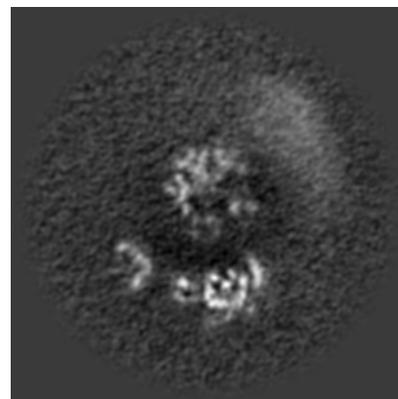
X Index: 180   Y Index: 180   Z Index: 180

6.2.2 Raw map
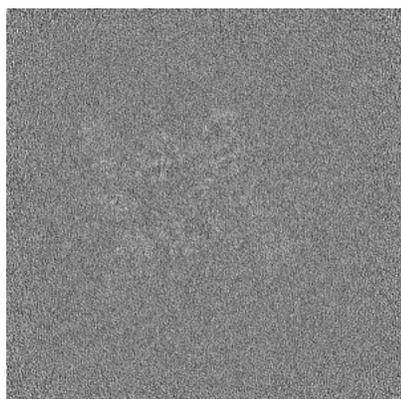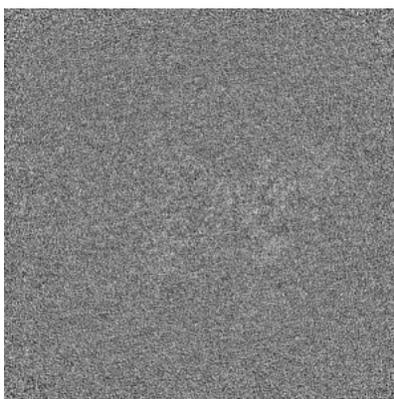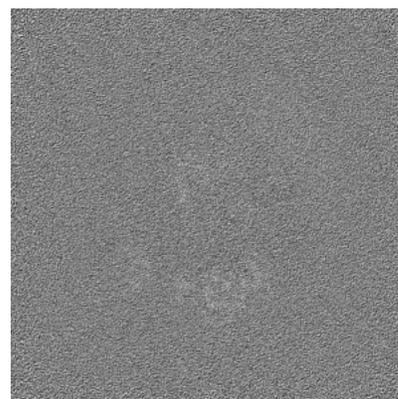
X Index: 180   Y Index: 180   Z Index: 180

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

6.3 Largest variance slices ⓘ
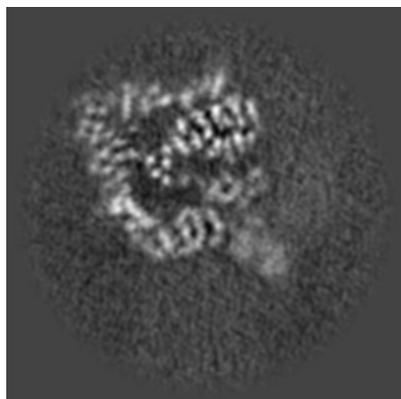
6.3.1 Primary map
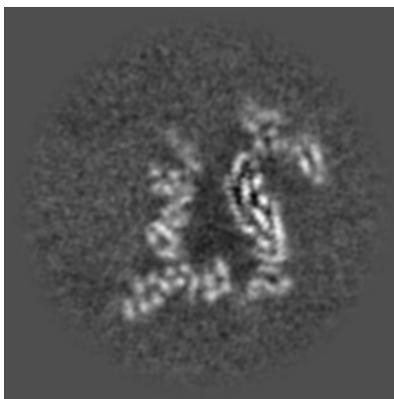
| X Index: 210 | Y Index: 138 | Z Index: 235 |
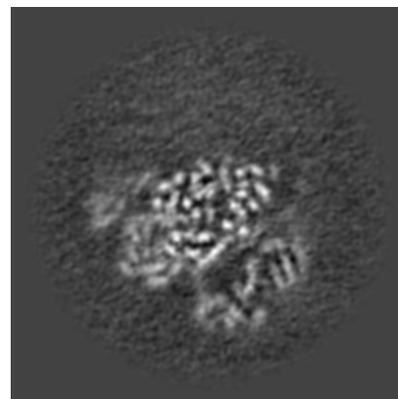
6.3.2 Raw map
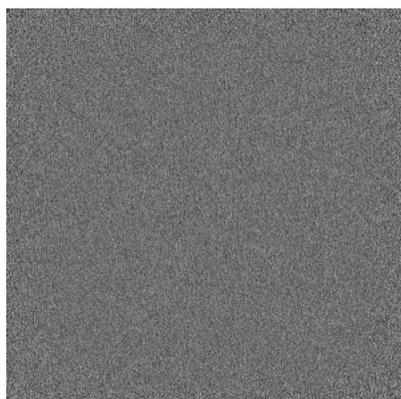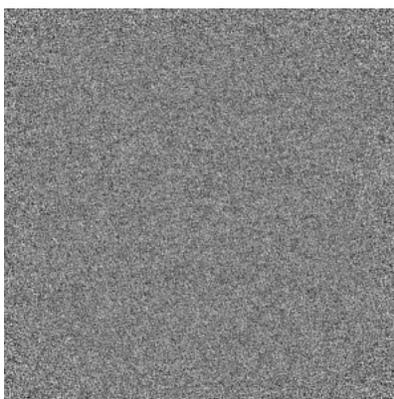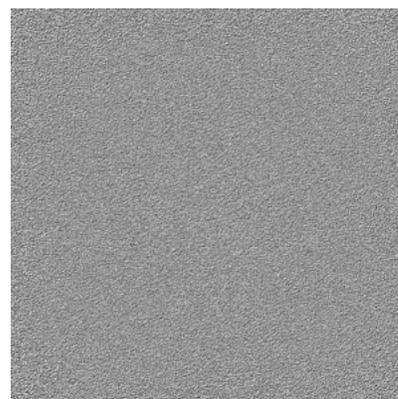
| X Index: 0 | Y Index: 0 | Z Index: 0 |

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

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

6.4.1 Primary map
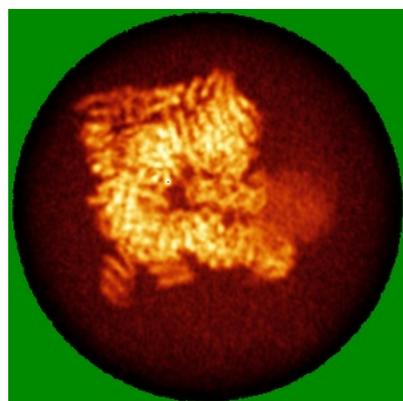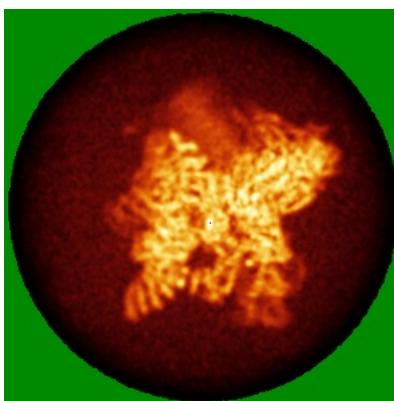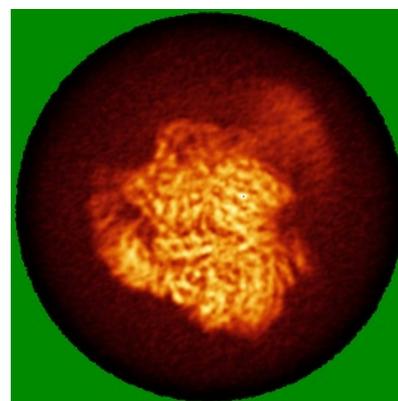
X Y Z

6.4.2 Raw map

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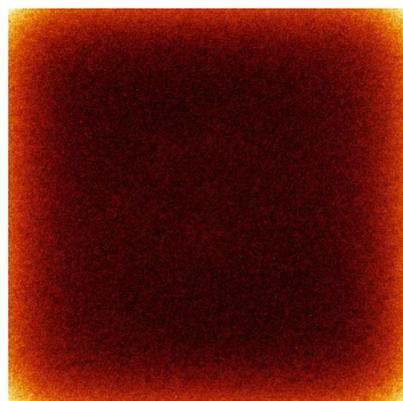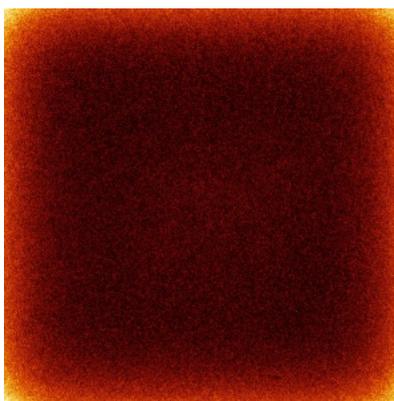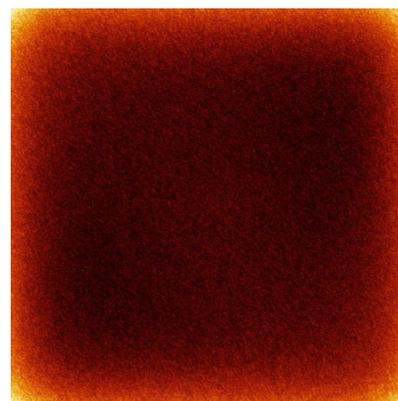
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

| X | Y | Z |
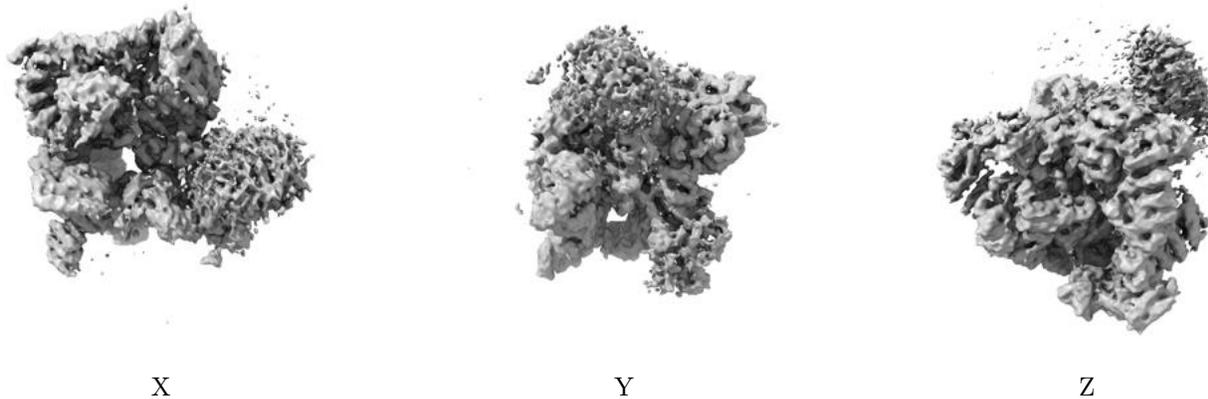
The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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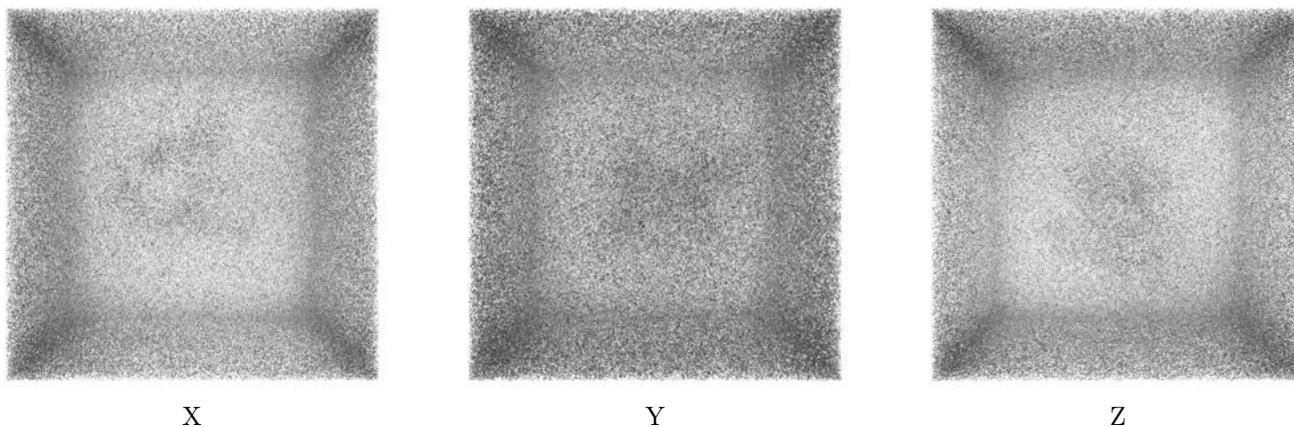
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

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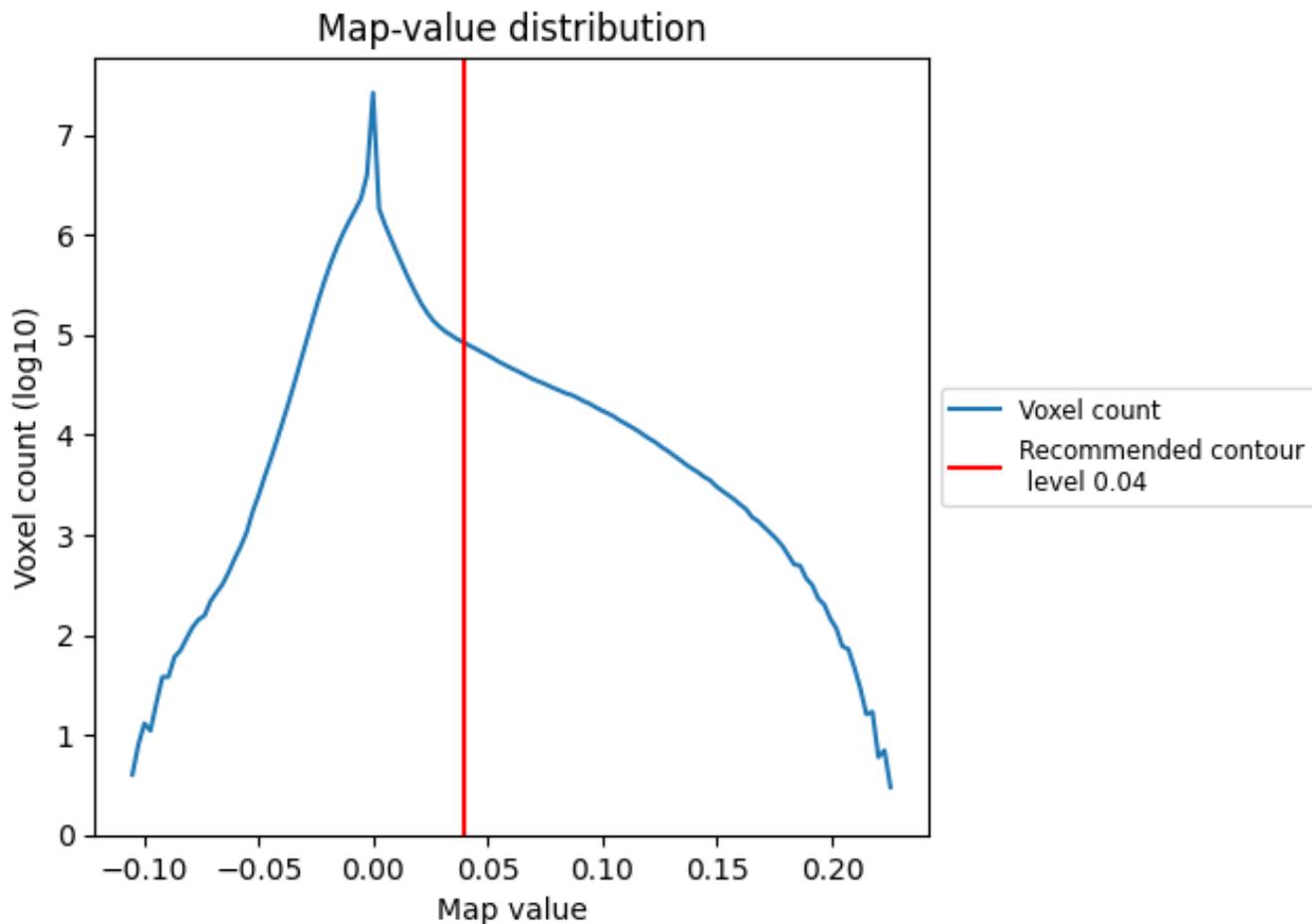
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
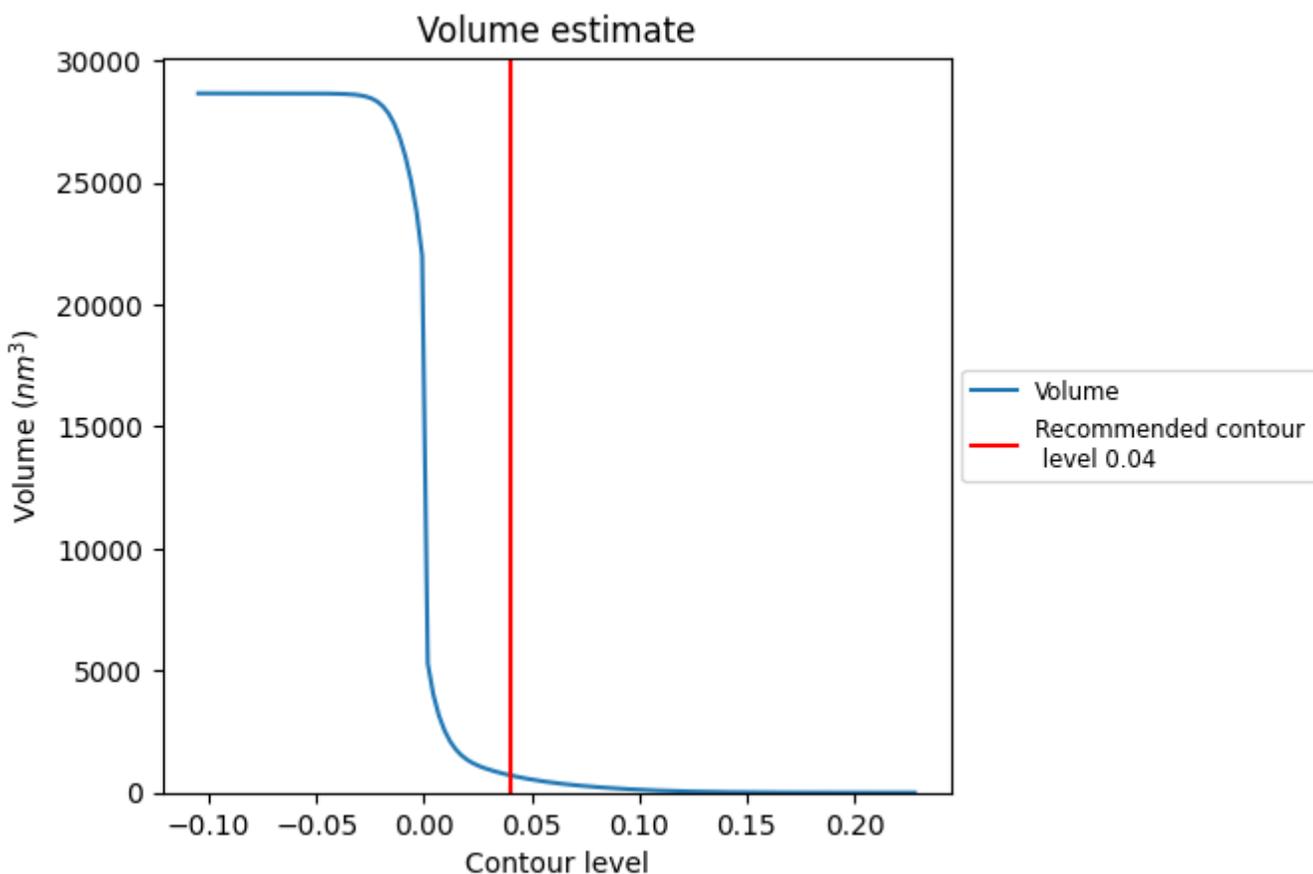
The volume at the recommended contour level is 713 nm^3; this corresponds to an approximate mass of 644 kDa.

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 ⓘ
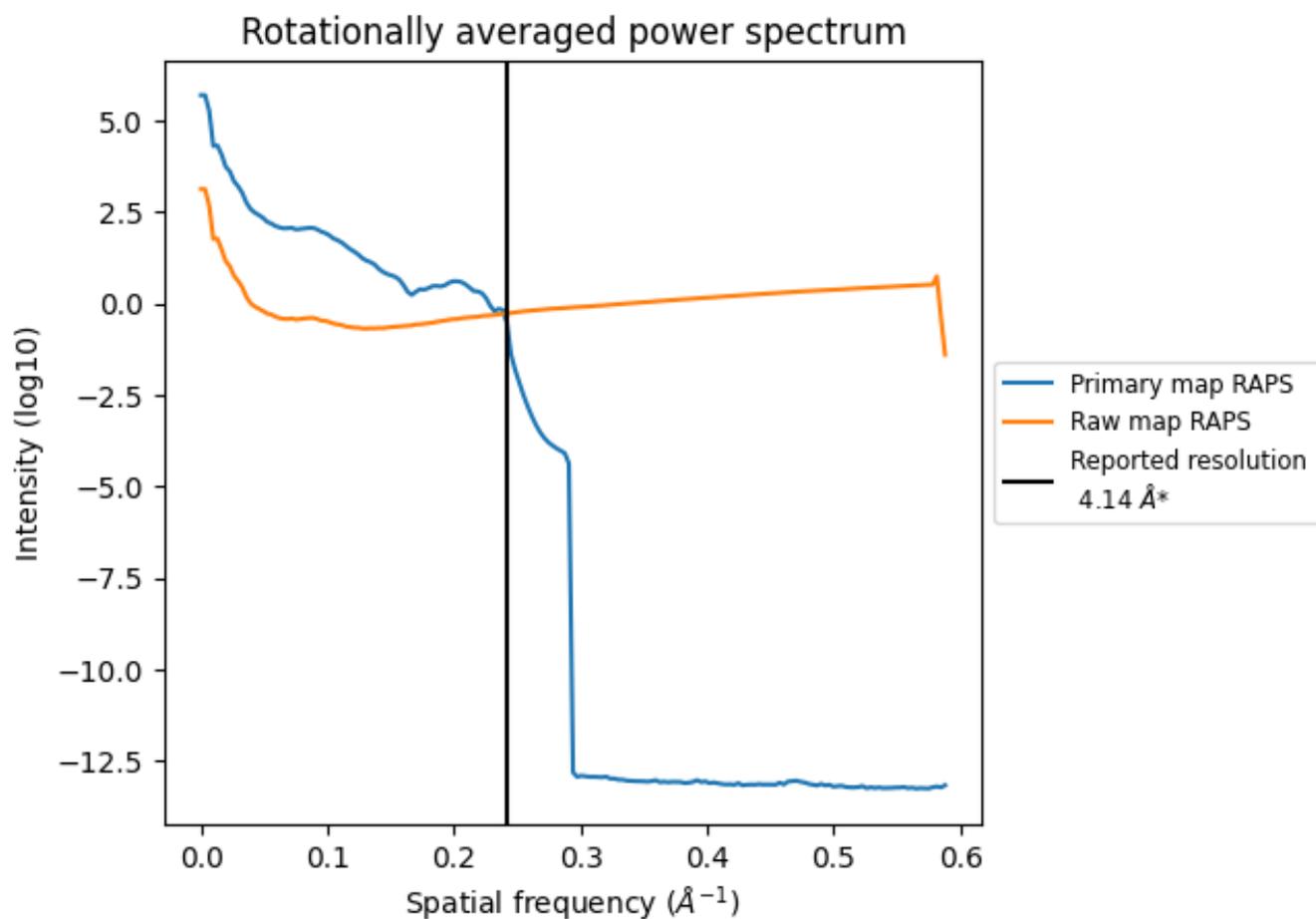
*Reported resolution corresponds to spatial frequency of 0.242 Å^{-1}

8 Fourier-Shell correlation (i)

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 (i)
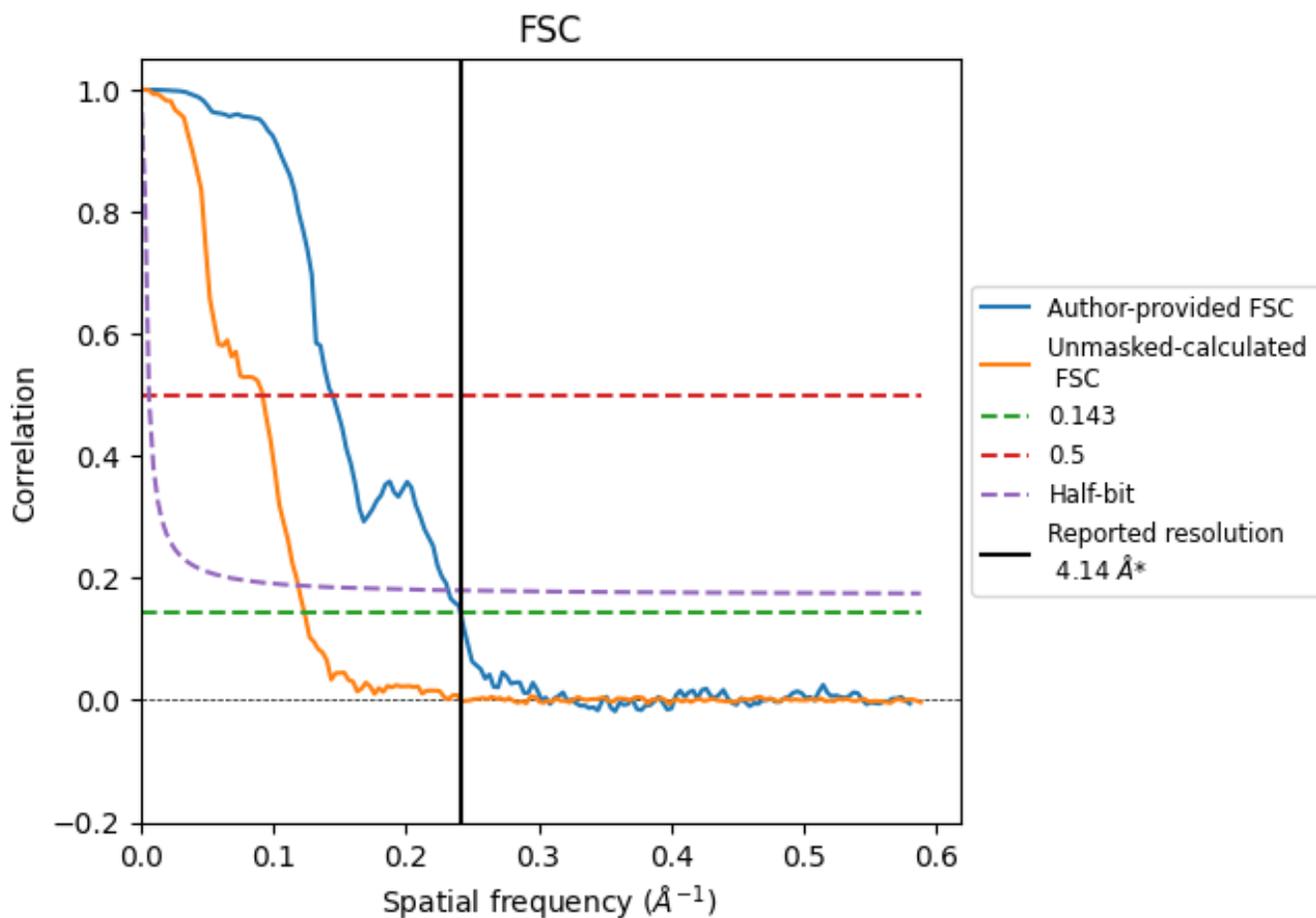
*Reported resolution corresponds to spatial frequency of 0.242 Å^{-1}

8.2   Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.14	-	-
Author-provided FSC curve	4.14	6.92	4.31
Unmasked-calculated*	8.09	10.88	8.41

*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 8.09 differs from the reported value 4.14 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-63850 and PDB model 9U4M. Per-residue inclusion information can be found in section 3 on page 9.

9.1 Map-model overlay ⓘ


X　　　　　　　　　　　　Y　　　　　　　　　　　　Z
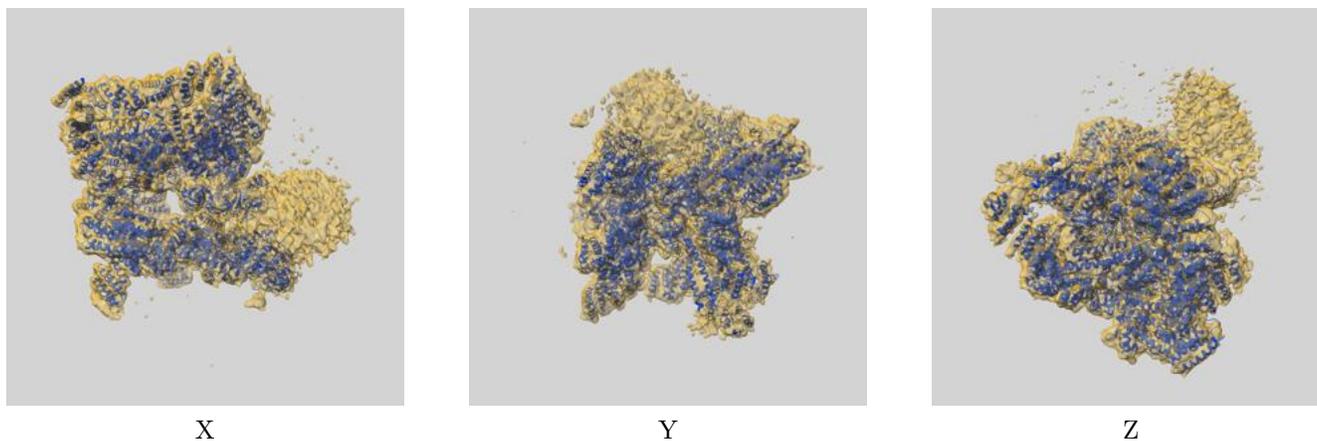
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 9.2 Q-score mapped to coordinate model ⓘ

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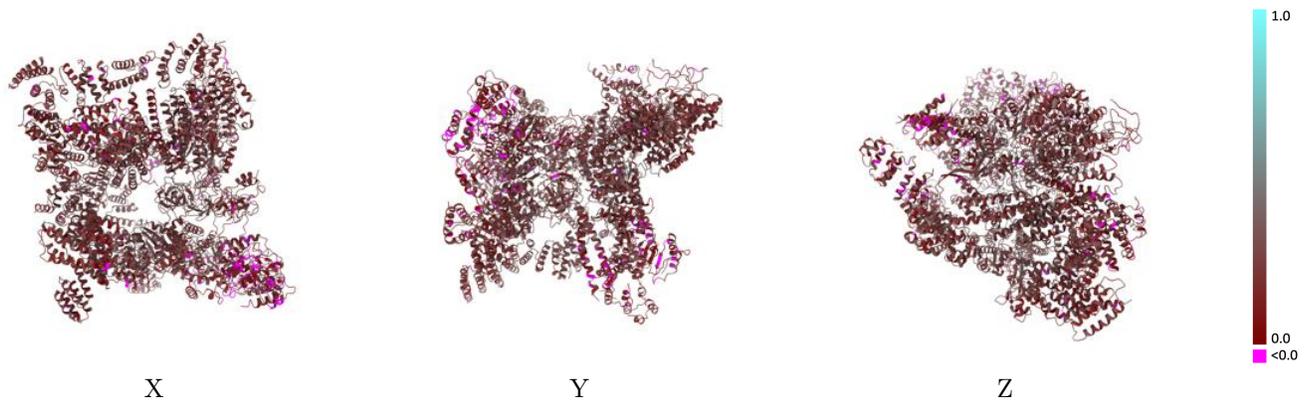
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model ⓘ

X   Y   Z
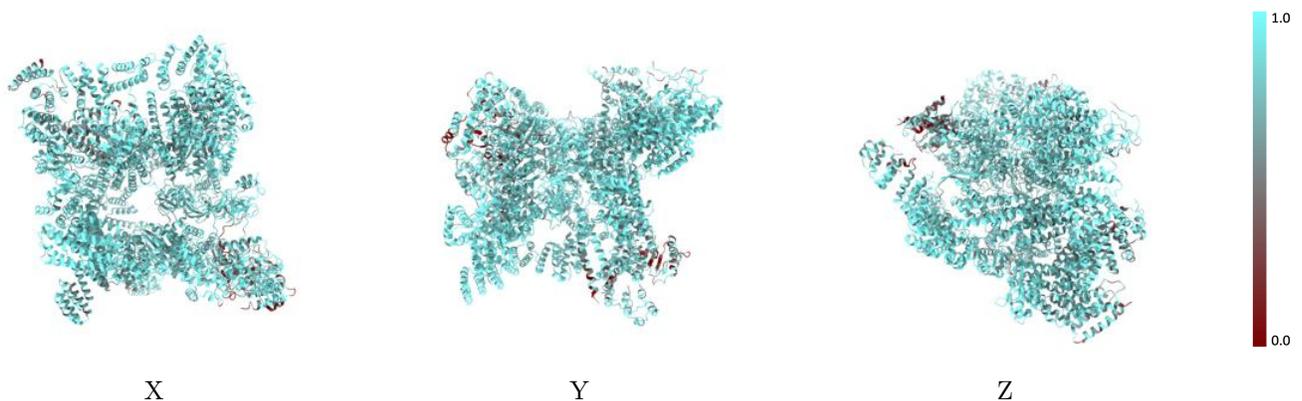
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.04).

9.4 Atom inclusion ⓘ
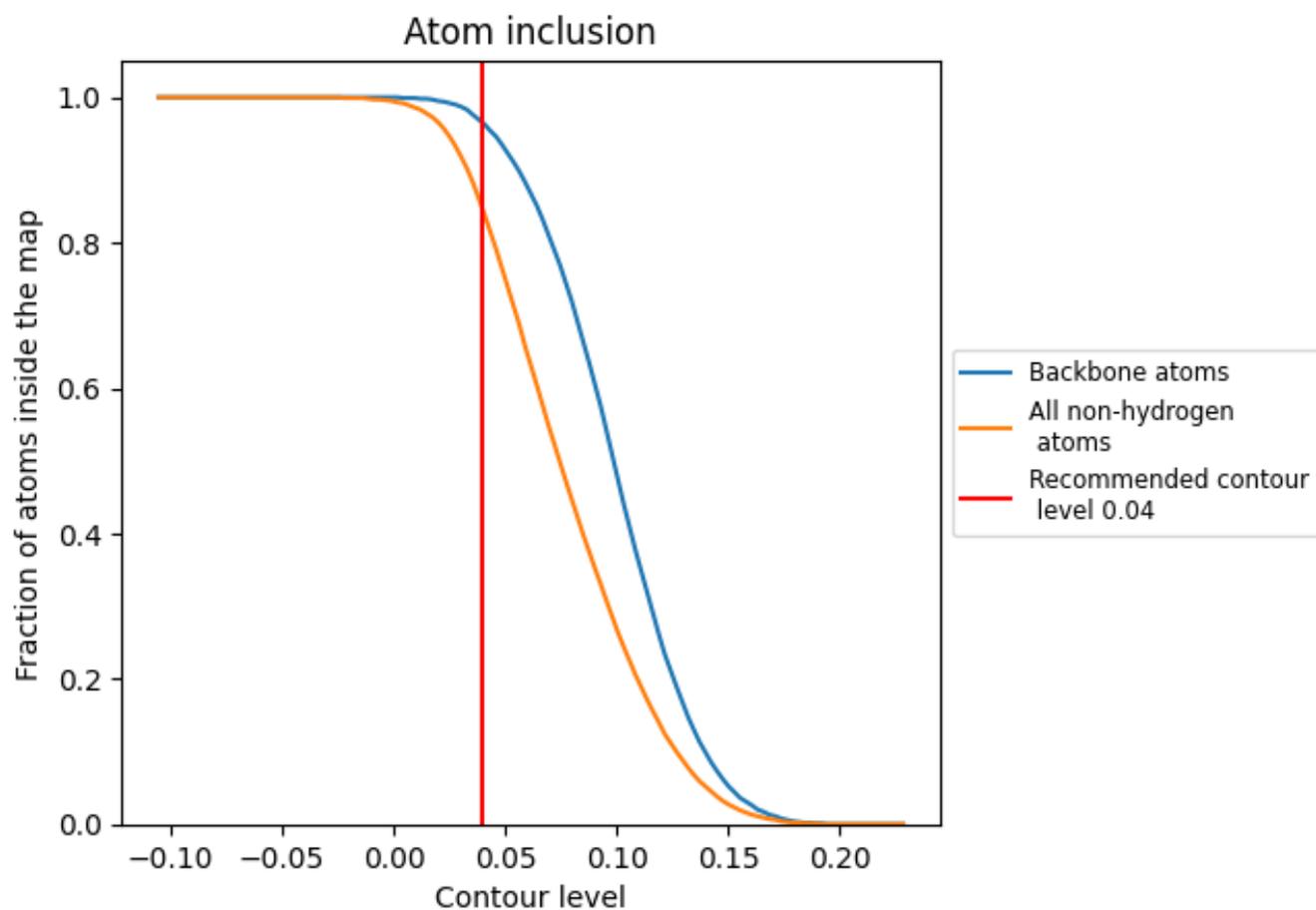
Atom inclusion

At the recommended contour level, 96% of all backbone atoms, 85% of all non-hydrogen atoms, are inside the map.

9.5　Map-model fit summary　(i)

The table lists the average atom inclusion at the recommended contour level (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8460	0.2270
A	0.7940	0.1610
B	0.7150	0.1340
C	0.8710	0.2440
D	0.8540	0.2710
E	0.8520	0.2580
F	0.8690	0.2330
U	0.8930	0.2440
V	0.7890	0.2160
W	0.9100	0.2200
X	0.8490	0.2450
Y	0.9050	0.2330
Z	0.8640	0.2290
a	0.8530	0.2010
b	0.5640	0.1650
c	0.8950	0.2740
d	0.7980	0.2310
e	0.9400	0.2780
v	0.9750	0.2730

1.0

0.0
<0.0