Full wwPDB X-ray Structure Validation Report ⓘ

Nov 22, 2023 – 06:21 PM JST

PDB ID	:	7XCN
Title	:	Crystal structure of the MttB-MttC complex at 2.7 A resolution
Authors	:	Li, J.; Chan, M.K.
Deposited on	:	2022-03-24
Resolution	:	2.70 Å(reported)

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

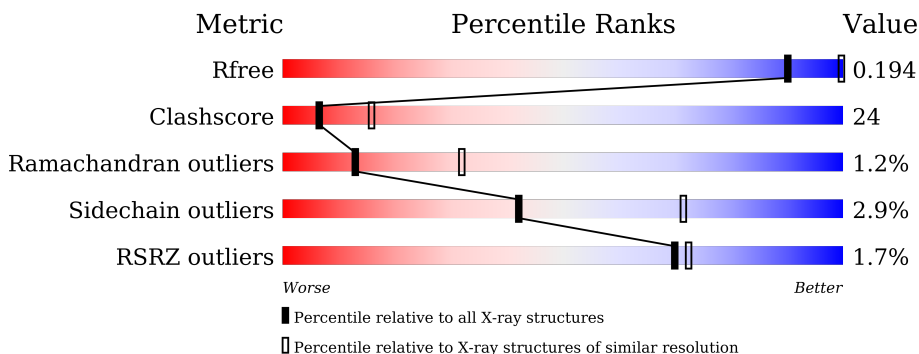|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 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
Rfree		0.194
Clashscore		24
Ramachandran outliers		1.2%
Sidechain outliers		2.9%
RSRZ outliers		1.7%

Worse — *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	503	54% 41% ● ●
1	B	503	69% 28% ● ●
1	C	503	69% 28% ● ●
1	D	503	57% 40% ● ●
1	E	503	70% 27% ● ●
1	F	503	67% 30% ● ●

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Mol	Chain	Length	Quality of chain
2	M	224	% 48% 44%
2	N	224	% 42% 49% 5%
2	O	224	4% 51% 40%
2	P	224	2% 52% 41%
2	Q	224	8% 33% 52% 9% 6%
2	R	224	2% 50% 42%

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 33443 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 Trimethylamine methyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	491	Total	C	N	O	S	0	5	0
			3801	2424	633	722	22			
1	B	494	Total	C	N	O	S	0	8	0
			3843	2446	641	734	22			
1	C	494	Total	C	N	O	S	0	8	0
			3843	2446	641	734	22			
1	D	491	Total	C	N	O	S	0	5	0
			3801	2424	633	722	22			
1	E	494	Total	C	N	O	S	0	8	0
			3843	2446	641	734	22			
1	F	494	Total	C	N	O	S	0	8	0
			3843	2446	641	734	22			

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	496	GLY	-	expression tag	UNP A0A0E3QRM4
A	497	GLY	-	expression tag	UNP A0A0E3QRM4
A	498	HIS	-	expression tag	UNP A0A0E3QRM4
A	499	HIS	-	expression tag	UNP A0A0E3QRM4
A	500	HIS	-	expression tag	UNP A0A0E3QRM4
A	501	HIS	-	expression tag	UNP A0A0E3QRM4
A	502	HIS	-	expression tag	UNP A0A0E3QRM4
A	503	HIS	-	expression tag	UNP A0A0E3QRM4
B	496	GLY	-	expression tag	UNP A0A0E3QRM4
B	497	GLY	-	expression tag	UNP A0A0E3QRM4
B	498	HIS	-	expression tag	UNP A0A0E3QRM4
B	499	HIS	-	expression tag	UNP A0A0E3QRM4
B	500	HIS	-	expression tag	UNP A0A0E3QRM4
B	501	HIS	-	expression tag	UNP A0A0E3QRM4
B	502	HIS	-	expression tag	UNP A0A0E3QRM4
B	503	HIS	-	expression tag	UNP A0A0E3QRM4
C	496	GLY	-	expression tag	UNP A0A0E3QRM4

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Chain	Residue	Modelled	Actual	Comment	Reference
C	497	GLY	-	expression tag	UNP A0A0E3QRM4
C	498	HIS	-	expression tag	UNP A0A0E3QRM4
C	499	HIS	-	expression tag	UNP A0A0E3QRM4
C	500	HIS	-	expression tag	UNP A0A0E3QRM4
C	501	HIS	-	expression tag	UNP A0A0E3QRM4
C	502	HIS	-	expression tag	UNP A0A0E3QRM4
C	503	HIS	-	expression tag	UNP A0A0E3QRM4
D	496	GLY	-	expression tag	UNP A0A0E3QRM4
D	497	GLY	-	expression tag	UNP A0A0E3QRM4
D	498	HIS	-	expression tag	UNP A0A0E3QRM4
D	499	HIS	-	expression tag	UNP A0A0E3QRM4
D	500	HIS	-	expression tag	UNP A0A0E3QRM4
D	501	HIS	-	expression tag	UNP A0A0E3QRM4
D	502	HIS	-	expression tag	UNP A0A0E3QRM4
D	503	HIS	-	expression tag	UNP A0A0E3QRM4
E	496	GLY	-	expression tag	UNP A0A0E3QRM4
E	497	GLY	-	expression tag	UNP A0A0E3QRM4
E	498	HIS	-	expression tag	UNP A0A0E3QRM4
E	499	HIS	-	expression tag	UNP A0A0E3QRM4
E	500	HIS	-	expression tag	UNP A0A0E3QRM4
E	501	HIS	-	expression tag	UNP A0A0E3QRM4
E	502	HIS	-	expression tag	UNP A0A0E3QRM4
E	503	HIS	-	expression tag	UNP A0A0E3QRM4
F	496	GLY	-	expression tag	UNP A0A0E3QRM4
F	497	GLY	-	expression tag	UNP A0A0E3QRM4
F	498	HIS	-	expression tag	UNP A0A0E3QRM4
F	499	HIS	-	expression tag	UNP A0A0E3QRM4
F	500	HIS	-	expression tag	UNP A0A0E3QRM4
F	501	HIS	-	expression tag	UNP A0A0E3QRM4
F	502	HIS	-	expression tag	UNP A0A0E3QRM4
F	503	HIS	-	expression tag	UNP A0A0E3QRM4

- Molecule 2 is a protein called Trimethylamine methyltransferase corrinoid protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	M	214	Total 1595	C 1002	N 263	O 323	S 7	0	0	0
2	N	212	Total 1576	C 992	N 259	O 318	S 7	0	0	0
2	O	214	Total 1595	C 1002	N 263	O 323	S 7	0	0	0
2	P	215	Total 1600	C 1005	N 264	O 324	S 7	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	Q	211	Total 1571	C 989	N 258	O 317	S 7	0	0	0
2	R	214	Total 1595	C 1002	N 263	O 323	S 7	0	0	0

There are 42 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	218	GLY	-	expression tag	UNP A0A0E3QQC8
M	219	GLY	-	expression tag	UNP A0A0E3QQC8
M	220	HIS	-	expression tag	UNP A0A0E3QQC8
M	221	HIS	-	expression tag	UNP A0A0E3QQC8
M	222	HIS	-	expression tag	UNP A0A0E3QQC8
M	223	HIS	-	expression tag	UNP A0A0E3QQC8
M	224	HIS	-	expression tag	UNP A0A0E3QQC8
N	218	GLY	-	expression tag	UNP A0A0E3QQC8
N	219	GLY	-	expression tag	UNP A0A0E3QQC8
N	220	HIS	-	expression tag	UNP A0A0E3QQC8
N	221	HIS	-	expression tag	UNP A0A0E3QQC8
N	222	HIS	-	expression tag	UNP A0A0E3QQC8
N	223	HIS	-	expression tag	UNP A0A0E3QQC8
N	224	HIS	-	expression tag	UNP A0A0E3QQC8
O	218	GLY	-	expression tag	UNP A0A0E3QQC8
O	219	GLY	-	expression tag	UNP A0A0E3QQC8
O	220	HIS	-	expression tag	UNP A0A0E3QQC8
O	221	HIS	-	expression tag	UNP A0A0E3QQC8
O	222	HIS	-	expression tag	UNP A0A0E3QQC8
O	223	HIS	-	expression tag	UNP A0A0E3QQC8
O	224	HIS	-	expression tag	UNP A0A0E3QQC8
P	218	GLY	-	expression tag	UNP A0A0E3QQC8
P	219	GLY	-	expression tag	UNP A0A0E3QQC8
P	220	HIS	-	expression tag	UNP A0A0E3QQC8
P	221	HIS	-	expression tag	UNP A0A0E3QQC8
P	222	HIS	-	expression tag	UNP A0A0E3QQC8
P	223	HIS	-	expression tag	UNP A0A0E3QQC8
P	224	HIS	-	expression tag	UNP A0A0E3QQC8
Q	218	GLY	-	expression tag	UNP A0A0E3QQC8
Q	219	GLY	-	expression tag	UNP A0A0E3QQC8
Q	220	HIS	-	expression tag	UNP A0A0E3QQC8
Q	221	HIS	-	expression tag	UNP A0A0E3QQC8
Q	222	HIS	-	expression tag	UNP A0A0E3QQC8
Q	223	HIS	-	expression tag	UNP A0A0E3QQC8

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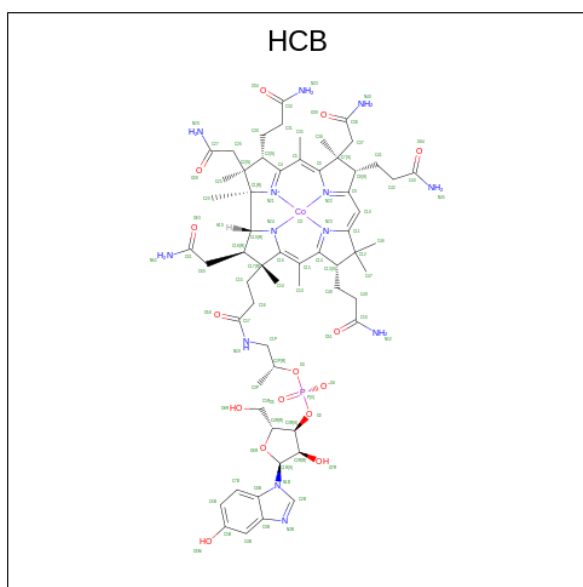
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Chain	Residue	Modelled	Actual	Comment	Reference
Q	224	HIS	-	expression tag	UNP A0A0E3QQC8
R	218	GLY	-	expression tag	UNP A0A0E3QQC8
R	219	GLY	-	expression tag	UNP A0A0E3QQC8
R	220	HIS	-	expression tag	UNP A0A0E3QQC8
R	221	HIS	-	expression tag	UNP A0A0E3QQC8
R	222	HIS	-	expression tag	UNP A0A0E3QQC8
R	223	HIS	-	expression tag	UNP A0A0E3QQC8
R	224	HIS	-	expression tag	UNP A0A0E3QQC8

- Molecule 3 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).
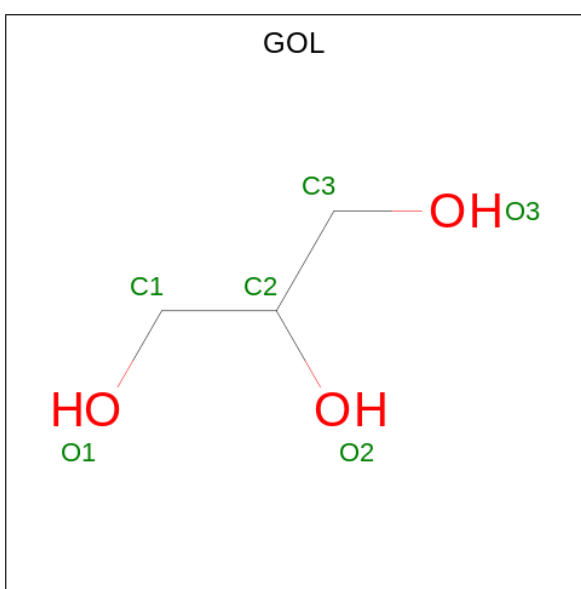
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 6	C 3	O 3	0	0
3	C	1	Total 6	C 3	O 3	0	0
3	E	1	Total 6	C 3	O 3	0	0
3	F	1	Total 6	C 3	O 3	0	0

- Molecule 4 is 5-HYDROXYBENZIMIDAZOLYLCOBAMIDE (three-letter code: HCB) (formula: $C_{60}H_{84}CoN_{13}O_{15}P$).

HCB

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
4	M	1	Total	C	Co	N	O	P	0	0
			90	60	1	13	15	1		
4	N	1	Total	C	Co	N	O	P	0	0
			90	60	1	13	15	1		
4	O	1	Total	C	Co	N	O	P	0	0
			90	60	1	13	15	1		
4	P	1	Total	C	Co	N	O	P	0	0
			90	60	1	13	15	1		
4	Q	1	Total	C	Co	N	O	P	0	0
			90	60	1	13	15	1		
4	R	1	Total	C	Co	N	O	P	0	0
			90	60	1	13	15	1		

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	44	Total	O	0	0
			44	44		
5	B	63	Total	O	0	0
			63	63		
5	C	47	Total	O	0	0
			47	47		
5	D	62	Total	O	0	0
			62	62		
5	E	66	Total	O	0	0
			66	66		
5	F	47	Total	O	0	0
			47	47		

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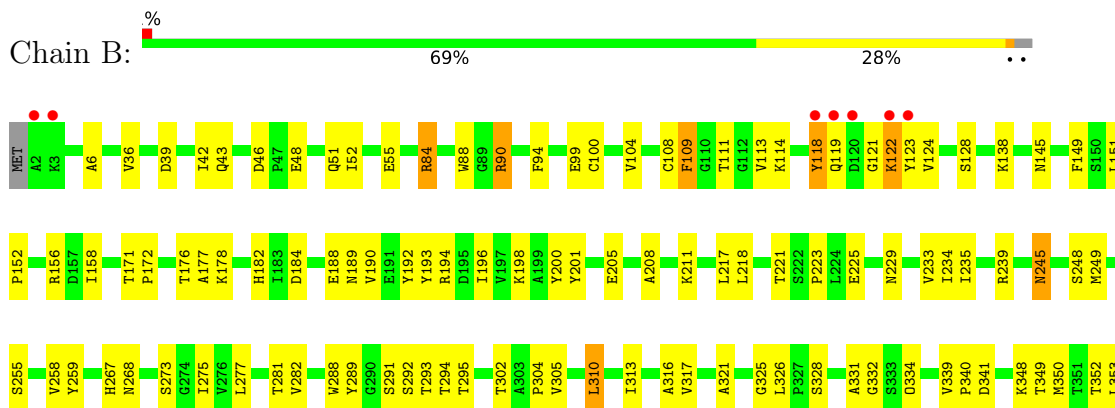| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	M	5	Total 5	O 5	0	0
5	N	13	Total 13	O 13	0	0
5	O	5	Total 5	O 5	0	0
5	P	6	Total 6	O 6	0	0
5	Q	11	Total 11	O 11	0	0
5	R	4	Total 4	O 4	0	0

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 electron 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 dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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.
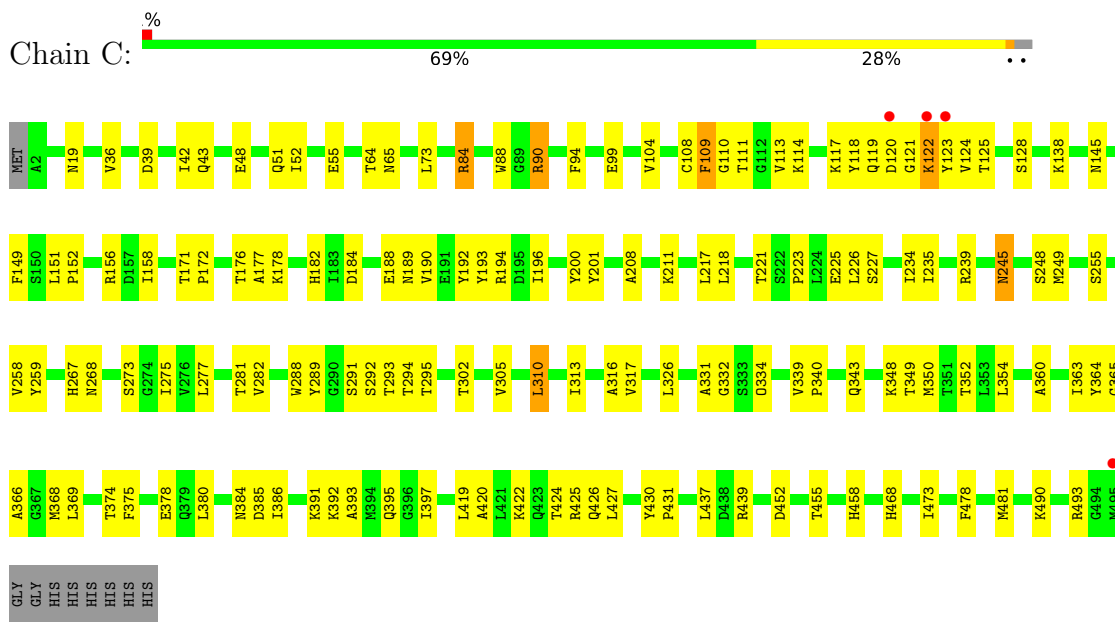
- Molecule 1: Trimethylamine methyltransferase
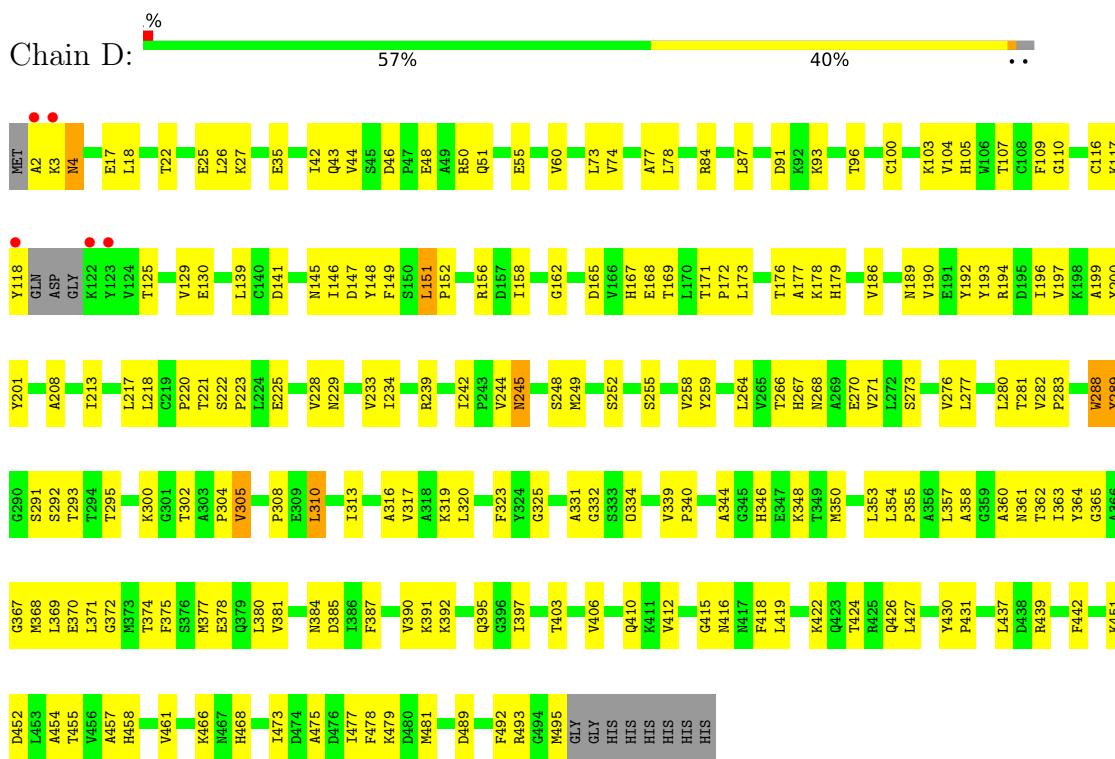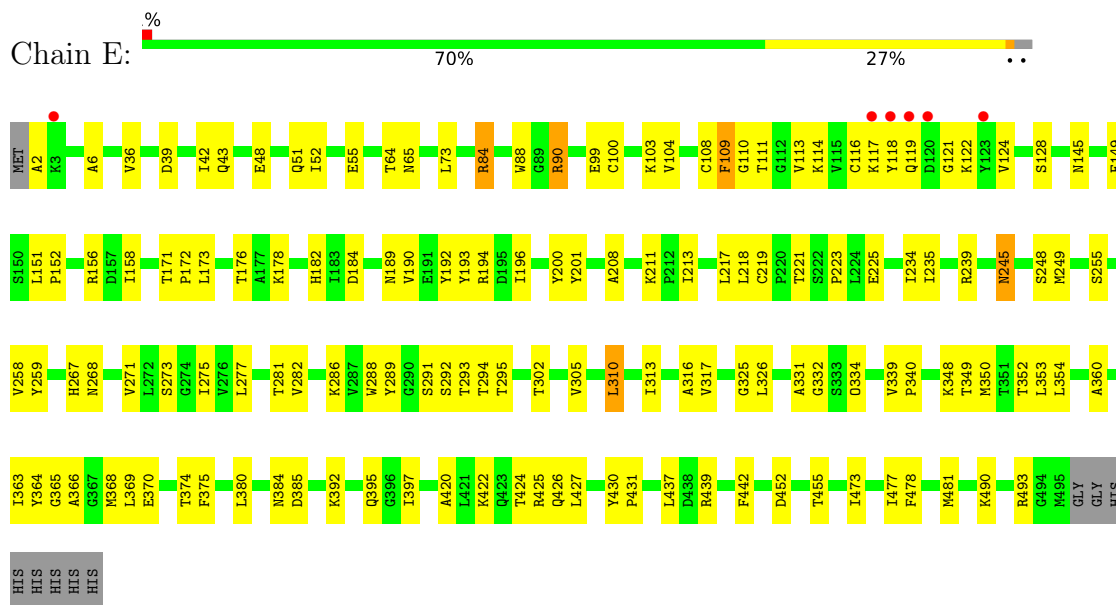
Chain A:

- Molecule 1: Trimethylamine methyltransferase

Chain B:

L354 L357 A360 I363 Y364 G365 A366 G367 M368 L369 E370 T374 F375 L380 N384 D385 K392 Q395 G396 I397 N417 K422 Q423 T424 R425 Q426 L427 Y430 P431 L437 D438 R439 F442 D452 T455 H458 H468 I473 I477 F478

M481 K490 R493 G494 M495 GLY GLY HIS HIS HIS HIS HIS HIS

• Molecule 1: Trimethylamine methyltransferase

%

Chain C: 69% 28% • •

MET A2 N19 V36 D39 I42 Q43 E48 E55 Q51 I52 E55 T64 N65 L73 R84 W88 G89 R90 F94 E99 V104 C108 F109 G110 T111 G112 V113 K114 K117 Y118 Q119 D120 G121 K122 Y123 V124 T125 S128 K138 N145

F149 S150 L151 P152 R156 D157 I158 T171 P172 T176 A177 K178 H182 I183 D184 E188 N189 V190 E191 Y192 Y193 R194 D195 I196 Y200 Y201 A208 K211 L217 L218 T221 S222 P223 E225 L226 S227 I234 I235 R239 N245 S248 M249 S255

V258 Y259 H267 N268 S273 G274 I275 V276 L277 T281 V282 W288 Y289 G290 S291 S292 T293 T294 T295 T302 V305 L310 I313 A316 V317 L326 A331 G332 S333 O334 V339 P340 Q343 K348 T349 M350 T351 T352 L353 L354 A360 I363 Y364 G365

A366 G367 M368 L369 T374 F375 E378 Q379 L380 N384 D385 I386 K391 K392 A393 M394 Q395 G396 I397 L419 A420 L421 K422 Q423 T424 R425 Q426 L427 Y430 P431 L437 D438 R439 D452 T455 H458 H468 I473 F478 M481 K490 R493 G494 M495

GLY GLY HIS HIS HIS HIS HIS HIS

• Molecule 1: Trimethylamine methyltransferase

%

Chain D: 57% 40% • •

MET A2 K3 N4 E17 L18 T22 E25 L26 K27 E35 I42 Q43 V44 S45 D46 P47 E48 A49 R50 Q51 E55 V60 L73 V74 A77 L78 R84 L87 D91 K92 K93 T96 C100 K103 V104 H105 W106 T107 C108 F109 G110 C116 K117

Y118 GLN ASP GLY K122 Y123 V124 T125 V129 E130 L139 C140 D141 N145 I146 D147 Y148 F149 S150 L151 P152 R156 D157 I158 G162 D165 V166 H167 E168 T169 L170 T171 P172 L173 T176 A177 K178 H179 V186 N189 V190 E191 Y192 Y193 R194 D195 I196 V197 K198 A199 Y200

Y201 A208 I213 L217 L218 C219 P220 T221 S222 P223 L224 E225 V228 N229 V233 I234 R239 I242 P243 V244 N245 S248 M249 S252 S255 V258 Y259 L264 V265 T266 H267 N268 A269 E270 V271 L272 S273 V276 L277 L280 T281 V282 P283 W288 Y289

G290 S291 S292 T293 T294 T295 K300 G301 T302 A303 P304 V305 P308 E309 L310 I313 A316 V317 A318 K319 L320 F323 Y324 G325 A331 G332 S333 O334 V339 P340 A344 G345 H346 E347 K348 T349 M350 L353 L354 P355 A356 L357 A358 G359 A360 N361 T362 I363 Y364 G365 A366

G367 M368 L369 E370 L371 G372 M373 T374 F375 S376 M377 E378 Q379 L380 V381 N384 D385 I386 F387 V390 K391 K392 Q395 G396 I397 T403 V406 Q410 K411 V412 G415 N416 N417 F418 L419 K422 Q423 T424 R425 Q426 L427 Y430 P431 L437 D438 R439 F442 K451

D452 L453 A454 T455 V456 A457 H458 V461 K466 N467 H468 I473 D474 A475 D476 I477 F478 K479 D480 M481 D489 F492 R493 G494 M495 GLY GLY HIS HIS HIS HIS HIS HIS
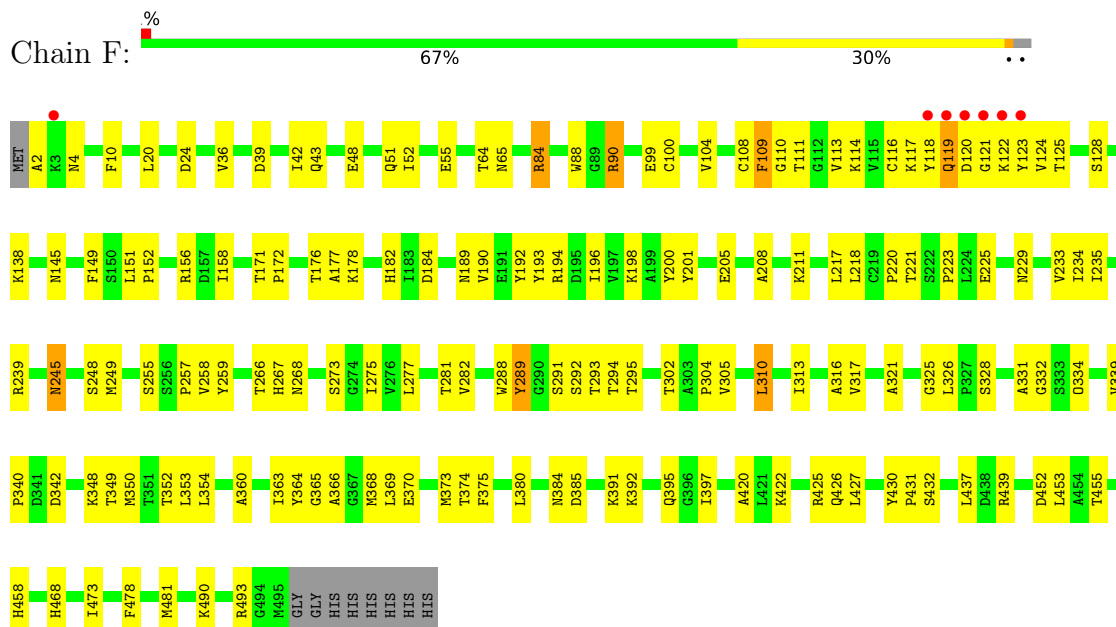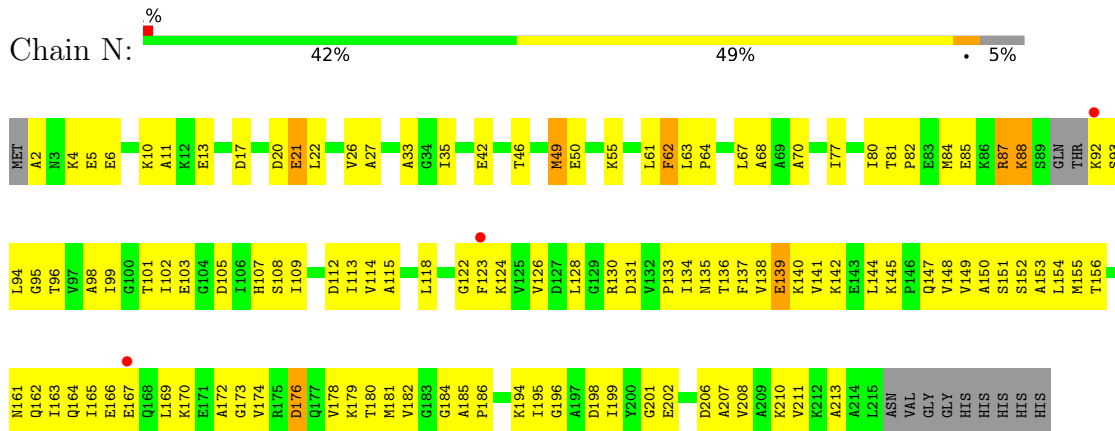
• Molecule 1: Trimethylamine methyltransferase
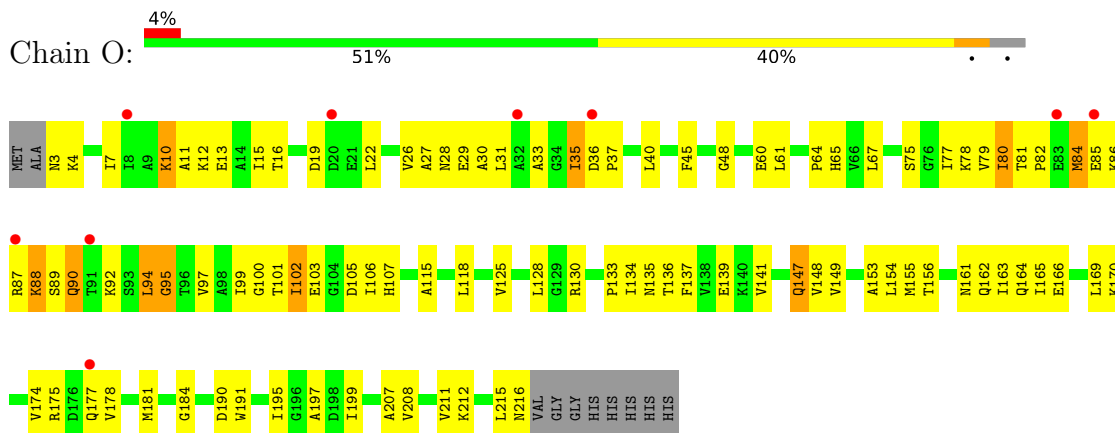
Chain E:

• Molecule 1: Trimethylamine methyltransferase

Chain F:

• Molecule 2: Trimethylamine methyltransferase corrinoid protein

Chain M:

• Molecule 2: Trimethylamine methyltransferase corrinoid protein

Chain N:

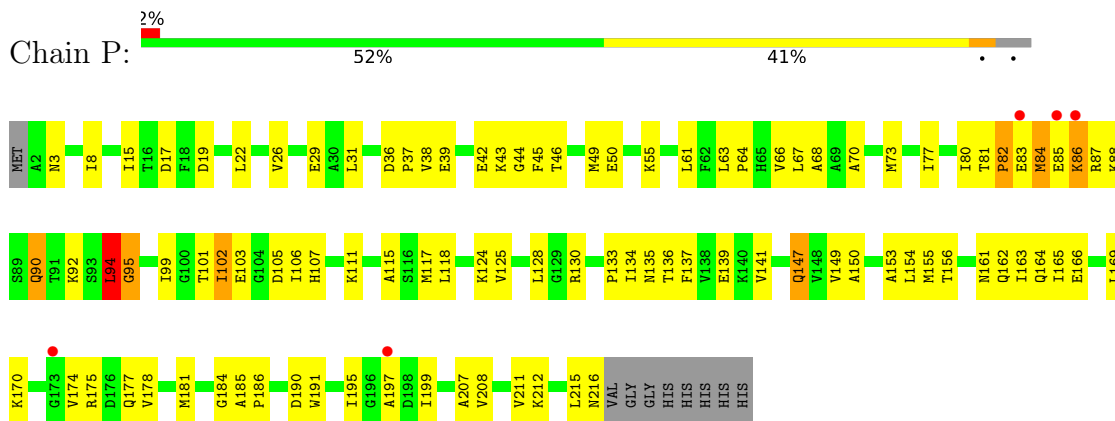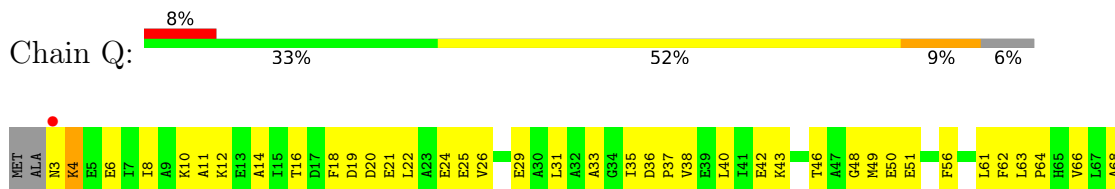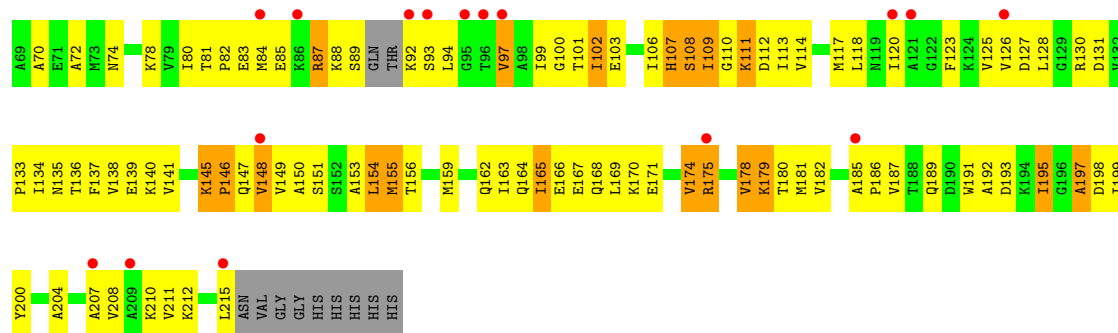• Molecule 2: Trimethylamine methyltransferase corrinoid protein

Chain O:

• Molecule 2: Trimethylamine methyltransferase corrinoid protein
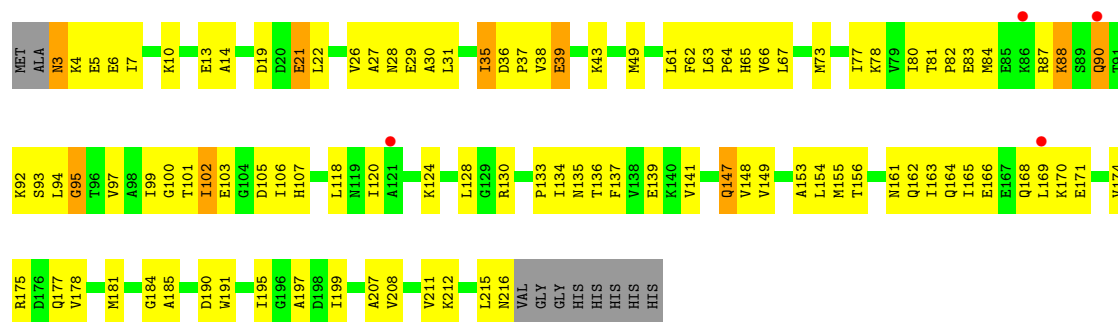
Chain P:

• Molecule 2: Trimethylamine methyltransferase corrinoid protein

Chain Q:

• Molecule 2: Trimethylamine methyltransferase corrinoid protein

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	120.43Å 188.14Å 123.95Å 90.00° 119.25° 90.00°	Depositor
Resolution (Å)	20.00 – 2.70 19.93 – 2.69	Depositor EDS
% Data completeness (in resolution range)	95.0 (20.00-2.70) 94.1 (19.93-2.69)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.01 (at 2.71Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.192 , 0.238 0.190 , 0.194	Depositor DCC
R_{free} test set	6602 reflections (5.27%)	wwPDB-VP
Wilson B-factor (Å^2)	39.5	Xtriage
Anisotropy	0.062	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 10.9	EDS
L-test for twinning[2]	$< |L| > = 0.46, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	0.025 for l,k,-h-l 0.025 for -h-l,k,h 0.277 for h,-k,-h-l 0.033 for l,-k,h 0.025 for -h-l,-k,l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	33443	wwPDB-VP
Average B, all atoms (Å^2)	47.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.91% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: HCB, GOL, PYL

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.39	0/3858	0.63	1/5229 (0.0%)
1	B	0.37	0/3902	0.60	0/5291
1	C	0.36	0/3902	0.60	0/5291
1	D	0.40	0/3858	0.65	1/5229 (0.0%)
1	E	0.37	0/3902	0.60	0/5291
1	F	0.35	0/3902	0.60	1/5291 (0.0%)
2	M	0.31	0/1611	0.55	0/2174
2	N	0.35	0/1591	0.56	0/2145
2	O	0.29	0/1611	0.55	0/2174
2	P	0.31	0/1616	0.55	0/2181
2	Q	0.33	0/1586	0.55	0/2138
2	R	0.30	0/1611	0.55	0/2174
All	All	0.36	0/32950	0.60	3/44608 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	289	TYR	N-CA-C	-6.01	94.78	111.00
1	A	89	GLY	N-CA-C	-5.25	99.97	113.10
1	F	289	TYR	N-CA-C	-5.21	96.92	111.00

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	A	3801	0	3804	208	0
1	B	3843	0	3836	142	0
1	C	3843	0	3836	139	0
1	D	3801	0	3804	185	0
1	E	3843	0	3836	135	0
1	F	3843	0	3836	142	0
2	M	1595	0	1622	115	0
2	N	1576	0	1605	103	0
2	O	1595	0	1622	100	0
2	P	1600	0	1627	92	0
2	Q	1571	0	1600	162	0
2	R	1595	0	1622	104	0
3	A	6	0	8	0	0
3	C	6	0	8	0	0
3	E	6	0	8	3	0
3	F	6	0	8	0	0
4	M	90	0	84	15	0
4	N	90	0	84	10	0
4	O	90	0	84	14	0
4	P	90	0	84	15	0
4	Q	90	0	84	13	0
4	R	90	0	84	16	0
5	A	44	0	0	4	0
5	B	63	0	0	4	0
5	C	47	0	0	6	0
5	D	62	0	0	4	0
5	E	66	0	0	8	0
5	F	47	0	0	2	0
5	M	5	0	0	0	0
5	N	13	0	0	3	0
5	O	5	0	0	0	0
5	P	6	0	0	0	0
5	Q	11	0	0	2	0
5	R	4	0	0	0	0
All	All	33443	0	33186	1580	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 24.

All (1580) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:37:PRO:HG2	2:P:90:GLN:HE22	1.13	1.12
1:F:473:ILE:HG21	1:F:481:MET:HE1	1.35	1.09
1:B:473:ILE:HG21	1:B:481:MET:HE1	1.36	1.08
2:Q:118:LEU:HD23	2:Q:208:VAL:HG22	1.37	1.07
2:R:94:LEU:HD12	2:R:95:GLY:H	1.11	1.06
1:E:473:ILE:HG21	1:E:481:MET:HE1	1.35	1.05
2:N:99:ILE:HD11	2:N:115:ALA:HB2	1.38	1.05
2:N:149:VAL:HG23	2:N:178:VAL:HG21	1.38	1.05
1:C:120[A]:ASP:HB3	1:C:122[A]:LYS:HE2	1.39	1.04
2:O:94:LEU:HD23	2:O:95:GLY:H	1.20	1.03
1:C:473:ILE:HG21	1:C:481:MET:HE1	1.35	1.02
2:Q:179:LYS:HD3	2:Q:199:ILE:HD11	1.42	1.02
1:D:186:VAL:HB	1:D:189:ASN:HD22	1.23	1.00
2:O:94:LEU:HD23	2:O:95:GLY:N	1.76	0.99
2:M:84:MET:HG2	2:M:85:GLU:H	1.26	0.99
1:D:176:THR:HG22	1:D:178:LYS:H	1.26	0.98
2:Q:99:ILE:HG22	2:Q:150:ALA:HB3	1.45	0.97
1:D:473:ILE:HG21	1:D:481:MET:HE1	1.47	0.96
2:Q:101:THR:HG23	2:Q:131:ASP:H	1.32	0.95
1:B:239:ARG:HD3	5:B:605:HOH:O	1.68	0.94
1:C:176:THR:HG22	1:C:178:LYS:H	1.32	0.94
2:N:142:LYS:HA	2:N:145:LYS:HE3	1.50	0.94
2:M:41:ILE:HD13	2:M:92:LYS:HE2	1.51	0.93
1:A:220:PRO:HD2	1:A:248:SER:HA	1.50	0.93
1:A:267:HIS:CE1	1:A:291:SER:HB2	2.03	0.93
2:Q:63:LEU:HD12	2:Q:63:LEU:H	1.33	0.93
1:A:217:LEU:HD23	1:A:218:LEU:N	1.84	0.92
1:B:176:THR:HG22	1:B:178:LYS:H	1.34	0.92
1:F:176:THR:HG22	1:F:178:LYS:H	1.32	0.92
1:E:176:THR:HG22	1:E:178:LYS:H	1.34	0.90
2:P:37:PRO:HG2	2:P:90:GLN:NE2	1.86	0.90
2:M:37:PRO:HG2	2:M:90:GLN:HE22	1.38	0.89
2:Q:212:LYS:HA	2:Q:215:LEU:HD13	1.55	0.88
1:A:176:THR:HG22	1:A:178:LYS:H	1.37	0.88
2:P:80:ILE:O	2:P:84:MET:HB2	1.73	0.88
2:P:92:LYS:HD2	2:P:124:LYS:HE2	1.56	0.88
1:C:239:ARG:HD3	5:C:715:HOH:O	1.73	0.87
1:A:368:MET:HG2	1:A:369:LEU:N	1.88	0.86
2:M:156:THR:HG23	4:M:301:HCB:H332	1.39	0.86
1:A:368:MET:HG2	1:A:369:LEU:H	1.39	0.86
2:M:10:LYS:HE3	2:M:22:LEU:HD11	1.55	0.86
1:A:60:VAL:HG22	1:A:67:VAL:HG22	1.57	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:156:THR:HG23	4:R:301:HCB:H332	1.41	0.86
2:R:92:LYS:HD2	2:R:124:LYS:HE2	1.56	0.85
2:R:94:LEU:HD12	2:R:95:GLY:N	1.91	0.85
2:O:156:THR:HG23	4:O:301:HCB:H332	1.42	0.84
1:D:331:ALA:HB1	1:D:334:PYL:HE2	1.58	0.84
2:N:118:LEU:HD23	2:N:208:VAL:HG22	1.60	0.83
2:P:156:THR:HG23	4:P:301:HCB:H332	1.42	0.83
1:D:186:VAL:HB	1:D:189:ASN:ND2	1.93	0.83
2:O:149:VAL:HG23	2:O:178:VAL:HG21	1.61	0.82
2:M:149:VAL:HG23	2:M:178:VAL:HG21	1.62	0.82
1:A:218:LEU:HD21	1:A:234:ILE:HG13	1.62	0.81
2:P:149:VAL:HG23	2:P:178:VAL:HG21	1.62	0.81
2:Q:138:VAL:HG21	2:Q:168:GLN:HB3	1.63	0.81
1:A:424:THR:HA	1:F:258:VAL:HG21	1.63	0.81
2:O:26:VAL:HA	2:O:29:GLU:HG2	1.63	0.81
1:E:490:LYS:HD2	1:E:493:ARG:HH12	1.45	0.80
1:F:490:LYS:HD2	1:F:493:ARG:HH12	1.45	0.80
2:R:149:VAL:HG23	2:R:178:VAL:HG21	1.62	0.80
2:Q:102:ILE:H	2:Q:102:ILE:HD12	1.46	0.80
1:B:490:LYS:HD2	1:B:493:ARG:HH12	1.45	0.80
1:A:218:LEU:CD2	1:A:234:ILE:HG13	2.13	0.79
2:M:84:MET:HG2	2:M:85:GLU:HG3	1.63	0.79
1:C:490:LYS:HD2	1:C:493:ARG:HH12	1.46	0.79
2:R:87:ARG:HG3	2:R:88:LYS:H	1.46	0.79
1:F:120[B]:ASP:HB2	1:F:122[B]:LYS:HE3	1.64	0.79
2:Q:80:ILE:O	2:Q:84:MET:HG3	1.84	0.78
2:R:37:PRO:HB3	2:R:80:ILE:HD12	1.65	0.78
1:B:258:VAL:HG21	1:E:424:THR:HA	1.64	0.78
2:Q:169:LEU:HB3	2:Q:174:VAL:O	1.83	0.78
2:O:37:PRO:HB3	2:O:80:ILE:HD12	1.64	0.78
1:C:145:ASN:H	1:C:384:ASN:HD21	1.32	0.78
2:M:137:PHE:O	2:M:141:VAL:HG23	1.84	0.77
1:A:105:HIS:NE2	1:D:4:ASN:HB2	1.99	0.77
1:C:258:VAL:HG21	1:D:424:THR:HA	1.67	0.77
1:E:145:ASN:H	1:E:384:ASN:HD21	1.31	0.77
2:P:137:PHE:O	2:P:141:VAL:HG23	1.83	0.77
1:A:84:ARG:HG3	5:C:713:HOH:O	1.83	0.77
1:B:145:ASN:H	1:B:384:ASN:HD21	1.31	0.77
2:M:92:LYS:HD2	2:M:124:LYS:HE2	1.66	0.77
2:Q:137:PHE:O	2:Q:141:VAL:HB	1.84	0.77
2:M:118:LEU:HD23	2:M:208:VAL:HG22	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:145:ASN:H	1:D:384:ASN:HD21	1.33	0.76
1:F:334:PYL:HD2	1:F:368:MET:HE1	1.67	0.76
1:F:145:ASN:H	1:F:384:ASN:HD21	1.30	0.76
1:F:490:LYS:HD2	1:F:493:ARG:NH1	2.00	0.76
1:C:490:LYS:HD2	1:C:493:ARG:NH1	2.01	0.76
1:D:171:THR:HB	1:D:172:PRO:HD3	1.66	0.76
2:P:118:LEU:HD23	2:P:208:VAL:HG22	1.67	0.76
2:R:137:PHE:O	2:R:141:VAL:HG23	1.84	0.76
2:Q:149:VAL:HG12	2:Q:150:ALA:H	1.49	0.76
2:O:137:PHE:O	2:O:141:VAL:HG23	1.85	0.75
1:B:490:LYS:HD2	1:B:493:ARG:NH1	2.00	0.75
1:E:425:ARG:HD3	2:N:68:ALA:HB2	1.67	0.75
1:E:490:LYS:HD2	1:E:493:ARG:NH1	2.00	0.75
2:O:118:LEU:HD23	2:O:208:VAL:HG22	1.66	0.75
2:Q:31:LEU:HG	2:Q:80:ILE:HG22	1.67	0.75
1:E:425:ARG:HD3	2:N:68:ALA:CB	2.17	0.75
2:N:96:THR:HG22	2:N:124:LYS:HB3	1.66	0.75
1:C:427:LEU:HD11	1:D:259:TYR:CZ	2.21	0.75
1:A:267:HIS:HE1	1:A:291:SER:HB2	1.49	0.75
2:M:8:ILE:HD13	2:M:43:LYS:HB3	1.69	0.75
2:N:2:ALA:HB1	2:N:6:GLU:OE1	1.87	0.75
1:E:117[B]:LYS:HB3	1:E:119[B]:GLN:HE21	1.51	0.74
1:A:145:ASN:H	1:A:384:ASN:HD21	1.33	0.74
1:D:267:HIS:HE1	1:D:291:SER:HB2	1.51	0.74
2:R:22:LEU:O	2:R:26:VAL:HG12	1.87	0.74
1:B:424:THR:HA	1:E:258:VAL:HG21	1.68	0.74
2:R:118:LEU:HD23	2:R:208:VAL:HG22	1.68	0.74
1:C:473:ILE:HG21	1:C:481:MET:CE	2.17	0.74
1:F:473:ILE:HG21	1:F:481:MET:CE	2.16	0.73
2:R:94:LEU:CD1	2:R:95:GLY:H	1.96	0.73
2:N:94:LEU:HD23	2:N:122:GLY:HA3	1.71	0.73
1:C:90:ARG:HG2	1:C:90:ARG:HH11	1.53	0.73
1:B:368:MET:HG2	1:B:369:LEU:N	2.03	0.73
1:B:90:ARG:HH11	1:B:90:ARG:HG2	1.53	0.73
2:M:165:ILE:O	2:M:169:LEU:HB2	1.89	0.73
1:E:334:PYL:HD2	1:E:368:MET:HE1	1.68	0.72
1:A:113:VAL:HG23	1:A:114:LYS:HG3	1.71	0.72
1:A:218:LEU:HD13	1:A:230:ALA:HB1	1.71	0.72
1:D:334:PYL:HD2	1:D:368:MET:HE1	1.72	0.72
2:N:149:VAL:HG23	2:N:178:VAL:CG2	2.19	0.72
1:D:387:PHE:O	1:D:391:LYS:HG3	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:134:ILE:HG21	2:Q:164:GLN:HB2	1.70	0.72
2:P:82:PRO:O	2:P:86:LYS:HB3	1.90	0.72
1:A:266:THR:O	1:A:270:GLU:HG3	1.90	0.72
1:E:473:ILE:HG21	1:E:481:MET:CE	2.18	0.72
2:P:165:ILE:O	2:P:169:LEU:HB2	1.89	0.72
1:B:473:ILE:HG21	1:B:481:MET:CE	2.18	0.71
2:R:165:ILE:O	2:R:169:LEU:HB2	1.89	0.71
2:Q:179:LYS:O	2:Q:180:THR:HG23	1.90	0.71
1:C:368:MET:HG2	1:C:369:LEU:N	2.06	0.71
1:D:267:HIS:CE1	1:D:291:SER:HB2	2.25	0.71
2:O:4:LYS:HG3	2:O:35:ILE:HD12	1.72	0.71
1:A:249:MET:O	1:A:249:MET:HG3	1.89	0.71
1:D:221:THR:HB	1:D:225:GLU:HG3	1.72	0.71
1:E:90:ARG:HG2	1:E:90:ARG:HH11	1.54	0.71
1:A:170:LEU:HD22	1:A:485:VAL:HG21	1.72	0.71
1:F:368:MET:HG2	1:F:369:LEU:N	2.05	0.71
2:O:165:ILE:O	2:O:169:LEU:HB2	1.89	0.71
1:D:22:THR:OG1	1:D:25:GLU:HG3	1.91	0.71
1:A:87:LEU:HB3	1:A:179:HIS:CG	2.26	0.70
2:M:85:GLU:HG2	2:M:90:GLN:O	1.91	0.70
1:E:368:MET:HG2	1:E:369:LEU:N	2.06	0.70
2:P:215:LEU:HD12	2:P:216:ASN:N	2.06	0.70
2:R:215:LEU:HD12	2:R:216:ASN:N	2.07	0.70
1:A:419:LEU:HB3	2:R:67:LEU:HD13	1.72	0.70
2:O:215:LEU:HD12	2:O:216:ASN:N	2.06	0.70
2:Q:149:VAL:HG12	2:Q:150:ALA:N	2.07	0.70
1:A:259:TYR:CZ	1:F:427:LEU:HD11	2.27	0.70
2:O:84:MET:HA	2:O:90:GLN:OE1	1.92	0.69
1:D:109:PHE:HB2	1:D:365:GLY:HA2	1.73	0.69
1:D:222:SER:HB2	5:D:631:HOH:O	1.91	0.69
2:Q:154:LEU:O	2:Q:155:MET:HG3	1.92	0.69
1:D:118[B]:TYR:CE2	1:D:455:THR:HG22	2.27	0.69
1:A:10:PHE:CE1	1:F:24:ASP:HB3	2.28	0.69
1:D:218:LEU:CD2	1:D:234:ILE:HG13	2.23	0.69
2:M:37:PRO:HG2	2:M:90:GLN:NE2	2.08	0.69
1:B:171:THR:HB	1:B:172:PRO:HD3	1.74	0.69
2:Q:162:GLN:NE2	2:Q:182:VAL:HB	2.08	0.68
1:D:116:CYS:HA	1:D:125:THR:HG22	1.75	0.68
1:E:171:THR:HB	1:E:172:PRO:HD3	1.75	0.68
2:N:99:ILE:HG22	2:N:150:ALA:HB3	1.74	0.68
1:C:120[B]:ASP:H	1:C:122[B]:LYS:HD2	1.59	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:90:ARG:HG2	1:F:90:ARG:HH11	1.59	0.68
2:M:215:LEU:HD12	2:M:216:ASN:N	2.08	0.68
1:D:146:ILE:O	1:D:178:LYS:HE2	1.92	0.68
1:E:117[B]:LYS:HB3	1:E:119[B]:GLN:NE2	2.07	0.68
1:F:171:THR:HB	1:F:172:PRO:HD3	1.76	0.68
1:A:245:ASN:HA	1:A:288:TRP:HB2	1.77	0.67
1:B:118[A]:TYR:HA	1:B:122[A]:LYS:O	1.95	0.67
1:D:245:ASN:HA	1:D:288:TRP:HB2	1.76	0.67
1:C:171:THR:HB	1:C:172:PRO:HD3	1.77	0.67
1:D:217:LEU:HD23	1:D:218:LEU:N	2.10	0.67
1:D:305:VAL:HG22	1:D:310:LEU:HD13	1.75	0.67
1:D:249:MET:O	1:D:249:MET:HG3	1.94	0.67
1:D:305:VAL:HG11	1:D:368:MET:HE1	1.76	0.67
2:N:46:THR:O	2:N:50:GLU:HG3	1.95	0.67
2:Q:102:ILE:HD13	2:Q:153:ALA:HB2	1.77	0.67
1:C:245:ASN:HA	1:C:288:TRP:HB2	1.76	0.67
4:M:301:HCB:H252	4:M:301:HCB:H601	1.77	0.67
2:O:31:LEU:HD21	2:O:80:ILE:HA	1.76	0.67
1:B:245:ASN:HA	1:B:288:TRP:HB2	1.77	0.67
1:F:217:LEU:HD23	1:F:218:LEU:N	2.10	0.66
2:O:155:MET:HA	4:O:301:HCB:H331	1.60	0.66
1:A:191:GLU:OE2	1:A:236:LYS:HE2	1.95	0.66
1:B:188:GLU:HG2	5:B:643:HOH:O	1.93	0.66
2:Q:63:LEU:H	2:Q:63:LEU:CD1	2.05	0.66
2:Q:92:LYS:HE3	5:Q:407:HOH:O	1.95	0.66
1:A:267:HIS:HE2	1:A:289:TYR:HE1	1.43	0.66
1:F:245:ASN:HA	1:F:288:TRP:HB2	1.78	0.66
2:M:155:MET:HA	4:M:301:HCB:H331	1.60	0.66
2:Q:114:VAL:O	2:Q:118:LEU:HG	1.95	0.66
1:C:217:LEU:HD23	1:C:218:LEU:N	2.10	0.66
1:B:118[B]:TYR:HB3	1:B:458:HIS:CD2	2.30	0.66
1:C:123[A]:TYR:OH	1:C:378:GLU:HG2	1.96	0.66
2:O:84:MET:HG2	2:O:85:GLU:H	1.60	0.66
2:R:10:LYS:HA	2:R:13:GLU:HG2	1.78	0.66
1:A:90:ARG:HH11	1:A:90:ARG:CB	2.09	0.66
2:Q:101:THR:HG22	2:Q:130:ARG:HA	1.76	0.66
1:A:385:ASP:OD2	1:A:437:LEU:HG	1.96	0.66
1:B:339:VAL:HG22	1:B:340:PRO:HD2	1.78	0.66
1:E:339:VAL:HG22	1:E:340:PRO:HD2	1.77	0.66
2:Q:156:THR:H	4:Q:301:HCB:H332	1.42	0.66
2:Q:141:VAL:O	2:Q:145:LYS:HA	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:302:THR:HG21	1:E:439:ARG:O	1.97	0.65
4:N:301:HCB:H252	4:N:301:HCB:H601	1.78	0.65
2:R:26:VAL:HA	2:R:29:GLU:HG2	1.79	0.65
1:C:339:VAL:HG22	1:C:340:PRO:HD2	1.78	0.65
1:A:145:ASN:H	1:A:384:ASN:ND2	1.94	0.65
1:A:292:SER:OG	1:A:334:PYL:HA2	1.95	0.65
1:B:145:ASN:HB2	1:B:384:ASN:ND2	2.12	0.65
2:P:31:LEU:HD21	2:P:80:ILE:HG22	1.78	0.65
1:E:339:VAL:CG2	1:E:340:PRO:HD2	2.27	0.65
1:A:137:ALA:HB1	1:A:176:THR:OG1	1.96	0.65
1:D:73:LEU:HD13	1:D:280:LEU:HD11	1.79	0.65
1:B:425:ARG:HD3	2:Q:68:ALA:CB	2.27	0.65
1:B:478:PHE:HA	1:B:481:MET:HE2	1.79	0.65
2:N:107:HIS:HB3	2:N:154:LEU:HD22	1.77	0.65
4:Q:301:HCB:H252	4:Q:301:HCB:H601	1.79	0.65
1:A:332:GLY:HA3	1:A:363:ILE:CG2	2.27	0.65
2:M:20:ASP:O	2:M:24:GLU:HG3	1.97	0.64
1:E:182:HIS:HD2	1:E:184:ASP:H	1.46	0.64
2:R:155:MET:HA	4:R:301:HCB:H331	1.62	0.64
1:A:247:LEU:HD23	1:A:247:LEU:O	1.97	0.64
1:F:117[A]:LYS:O	1:F:123[A]:TYR:HA	1.98	0.64
1:F:145:ASN:HB2	1:F:384:ASN:ND2	2.13	0.64
2:Q:46:THR:O	2:Q:50:GLU:HG3	1.96	0.64
1:E:239:ARG:HD3	5:E:721:HOH:O	1.97	0.64
1:F:339:VAL:HG22	1:F:340:PRO:HD2	1.79	0.64
2:N:155:MET:HG2	4:N:301:HCB:H302	1.79	0.64
2:N:170:LYS:NZ	2:N:170:LYS:HB3	2.12	0.64
2:Q:36:ASP:OD1	2:Q:37:PRO:HD2	1.98	0.64
2:R:84:MET:HG2	2:R:90:GLN:OE1	1.97	0.64
2:R:87:ARG:CG	2:R:88:LYS:H	2.11	0.64
1:A:218:LEU:HD21	1:A:234:ILE:CG1	2.27	0.64
1:C:334:PYL:HD2	1:C:368:MET:HE1	1.79	0.64
4:P:301:HCB:H601	4:P:301:HCB:H252	1.78	0.64
1:B:339:VAL:CG2	1:B:340:PRO:HD2	2.27	0.64
1:D:248:SER:OG	1:D:267:HIS:ND1	2.30	0.64
1:D:162:GLY:HA3	1:D:489:ASP:OD1	1.98	0.64
1:D:190:VAL:HA	1:D:193:TYR:CD2	2.32	0.64
1:E:145:ASN:HB2	1:E:384:ASN:ND2	2.12	0.64
2:N:105:ASP:HA	4:N:301:HCB:H452	1.63	0.64
4:O:301:HCB:H252	4:O:301:HCB:H601	1.78	0.64
1:A:473:ILE:HD13	1:A:481:MET:HE3	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:334:PYL:HD2	1:B:368:MET:HE1	1.79	0.64
2:P:155:MET:HA	4:P:301:HCB:H331	1.61	0.64
1:A:43:GLN:HB3	1:A:225:GLU:HB3	1.80	0.63
1:C:182:HIS:HD2	1:C:184:ASP:H	1.46	0.63
2:Q:138:VAL:HG21	2:Q:168:GLN:CB	2.27	0.63
1:C:339:VAL:CG2	1:C:340:PRO:HD2	2.28	0.63
2:R:66:VAL:HG13	2:R:120:ILE:HD12	1.80	0.63
2:N:81:THR:HA	2:N:84:MET:CE	2.27	0.63
1:A:453:LEU:HD23	1:F:342:ASP:HB3	1.81	0.63
2:R:19:ASP:OD2	2:R:21:GLU:HB2	1.98	0.63
1:C:259:TYR:CD1	1:D:403:THR:HG22	2.34	0.63
2:P:102:ILE:HG12	2:P:161:ASN:HB2	1.80	0.63
2:R:28:ASN:C	2:R:30:ALA:H	2.01	0.63
1:F:452:ASP:OD1	1:F:455:THR:HG23	1.99	0.63
2:Q:151:SER:O	4:Q:301:HCB:H4B	1.97	0.63
4:R:301:HCB:H252	4:R:301:HCB:H601	1.79	0.63
1:F:182:HIS:HD2	1:F:184:ASP:H	1.46	0.63
1:E:281:THR:HG22	1:E:282:VAL:HG23	1.81	0.62
1:A:473:ILE:HG21	1:A:481:MET:HE1	1.80	0.62
1:B:368:MET:HG2	1:B:369:LEU:H	1.63	0.62
1:C:267:HIS:CE1	1:C:291:SER:HB2	2.35	0.62
1:E:245:ASN:HA	1:E:288:TRP:HB2	1.79	0.62
2:Q:66:VAL:HG22	2:Q:120:ILE:HD13	1.81	0.62
1:E:452:ASP:OD1	1:E:455:THR:HG23	2.00	0.62
1:F:2:ALA:N	5:F:701:HOH:O	2.33	0.62
1:F:122[A]:LYS:HG3	1:F:123[A]:TYR:N	2.15	0.62
2:O:102:ILE:HG12	2:O:161:ASN:HB2	1.82	0.62
1:A:90:ARG:HH11	1:A:90:ARG:HB2	1.65	0.62
1:B:452:ASP:OD1	1:B:455:THR:HG23	1.99	0.62
1:F:42:ILE:HD12	1:F:273:SER:HB3	1.81	0.62
1:F:339:VAL:CG2	1:F:340:PRO:HD2	2.29	0.62
2:N:101:THR:HG21	2:N:107:HIS:O	1.99	0.62
4:O:301:HCB:H552	4:O:301:HCB:H531	1.81	0.62
1:A:302:THR:HG21	1:F:439:ARG:O	1.99	0.62
1:B:182:HIS:HD2	1:B:184:ASP:H	1.47	0.62
2:M:84:MET:HG2	2:M:85:GLU:N	2.08	0.62
2:M:42:GLU:HA	2:M:46:THR:OG1	2.00	0.62
1:A:427:LEU:HD11	1:F:259:TYR:CZ	2.34	0.62
1:A:439:ARG:O	1:F:302:THR:HG21	1.99	0.62
2:M:84:MET:CG	2:M:85:GLU:H	2.04	0.62
2:M:102:ILE:HG12	2:M:161:ASN:HB2	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:301:HCB:H531	4:P:301:HCB:H552	1.82	0.62
1:C:124[B]:VAL:HG12	1:C:125:THR:N	2.15	0.61
1:C:259:TYR:CZ	1:D:427:LEU:HD11	2.35	0.61
2:Q:162:GLN:HB3	2:Q:182:VAL:HG11	1.81	0.61
2:R:92:LYS:HD2	2:R:124:LYS:CE	2.30	0.61
2:R:102:ILE:HG12	2:R:161:ASN:HB2	1.82	0.61
1:A:105:HIS:CE1	1:D:4:ASN:HD22	2.18	0.61
1:E:267:HIS:CE1	1:E:291:SER:HB2	2.35	0.61
2:P:155:MET:HA	4:P:301:HCB:N33	2.16	0.61
1:D:107:THR:HG23	1:D:364:TYR:CB	2.31	0.61
2:N:99:ILE:CD1	2:N:115:ALA:HB2	2.25	0.61
2:Q:63:LEU:HD12	2:Q:63:LEU:N	2.10	0.61
1:A:194:ARG:HG2	1:A:194:ARG:HH11	1.65	0.61
1:D:109:PHE:HZ	1:D:372:GLY:O	1.84	0.61
2:M:8:ILE:HG23	2:M:44:GLY:HA2	1.83	0.61
2:N:102:ILE:HG21	2:N:161:ASN:HB2	1.81	0.61
1:A:210:LYS:HG2	1:A:211:LYS:HG3	1.82	0.61
1:C:452:ASP:OD1	1:C:455:THR:HG23	2.01	0.61
1:F:267:HIS:CE1	1:F:291:SER:HB2	2.35	0.61
2:P:38:VAL:HG23	2:P:90:GLN:NE2	2.15	0.61
2:M:41:ILE:O	2:M:46:THR:HG23	2.00	0.61
2:N:11:ALA:HB2	2:N:26:VAL:HG11	1.83	0.61
1:A:332:GLY:HA3	1:A:363:ILE:HG23	1.83	0.61
1:A:348:LYS:HE3	1:A:379:GLN:CG	2.31	0.61
1:C:281:THR:HG22	1:C:282:VAL:HG23	1.82	0.61
1:D:406:VAL:O	1:D:410:GLN:HG3	2.01	0.61
2:O:155:MET:HA	4:O:301:HCB:N33	2.16	0.61
1:C:145:ASN:HB2	1:C:384:ASN:ND2	2.16	0.60
1:E:51:GLN:NE2	1:E:55:GLU:HG3	2.16	0.60
2:N:134:ILE:HD13	2:N:164:GLN:HB3	1.81	0.60
4:Q:301:HCB:H552	4:Q:301:HCB:H531	1.83	0.60
1:D:223:PRO:HB3	1:D:255:SER:O	2.00	0.60
2:O:155:MET:HG2	4:O:301:HCB:H302	1.83	0.60
2:R:36:ASP:HB3	2:R:39:GLU:HB2	1.83	0.60
1:A:88:TRP:CZ3	1:A:211:LYS:HD3	2.35	0.60
1:B:267:HIS:CE1	1:B:291:SER:HB2	2.36	0.60
1:D:492:PHE:HA	1:D:495:MET:CE	2.32	0.60
1:A:217:LEU:HD23	1:A:217:LEU:C	2.21	0.60
1:B:217:LEU:HD23	1:B:218:LEU:N	2.16	0.60
1:E:249:MET:HB2	3:E:601:GOL:O3	2.01	0.60
1:F:292:SER:OG	1:F:334:PYL:HA2	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:174:VAL:HA	2:R:177:GLN:HG2	1.84	0.60
1:B:258:VAL:HG23	5:E:716:HOH:O	2.02	0.60
2:N:166:GLU:O	2:N:170:LYS:HG3	2.01	0.60
2:Q:178:VAL:HB	5:Q:408:HOH:O	2.02	0.60
2:R:87:ARG:HG3	2:R:88:LYS:N	2.17	0.60
2:M:155:MET:HA	4:M:301:HCB:N33	2.17	0.60
2:N:180:THR:O	2:N:198:ASP:HB2	2.00	0.60
1:C:478:PHE:HA	1:C:481:MET:HE2	1.84	0.60
1:D:50:ARG:HG2	1:D:60:VAL:HG11	1.84	0.60
4:M:301:HCB:H531	4:M:301:HCB:H552	1.83	0.60
2:Q:20:ASP:O	2:Q:24:GLU:HG3	2.02	0.60
1:E:248:SER:OG	1:E:267:HIS:ND1	2.24	0.60
2:N:207:ALA:O	2:N:211:VAL:HG23	2.00	0.60
2:M:97:VAL:HG13	2:M:148:VAL:HB	1.84	0.59
2:O:77:ILE:HG22	2:O:77:ILE:O	2.00	0.59
2:R:39:GLU:HG3	2:R:43:LYS:HD2	1.84	0.59
2:R:155:MET:HA	4:R:301:HCB:N33	2.17	0.59
2:O:31:LEU:HD11	2:O:79:VAL:HG12	1.83	0.59
2:Q:81:THR:HA	2:Q:84:MET:CE	2.33	0.59
1:C:218:LEU:HD22	1:C:234:ILE:HG13	1.85	0.59
1:B:113:VAL:HG23	1:B:114:LYS:HG3	1.84	0.59
1:D:218:LEU:HD22	1:D:234:ILE:HG13	1.84	0.59
1:E:217:LEU:HD23	1:E:218:LEU:N	2.17	0.59
1:E:350:MET:HE2	1:E:354:LEU:HD11	1.84	0.59
1:A:147:ASP:OD1	1:D:2:ALA:HB3	2.01	0.59
2:M:106:ILE:HG12	4:M:301:HCB:O44	2.02	0.59
1:C:194:ARG:HH11	1:C:194:ARG:HG2	1.67	0.59
1:E:218:LEU:HD22	1:E:234:ILE:HG13	1.84	0.59
2:N:135:ASN:O	2:N:139:GLU:HG2	2.03	0.59
2:R:92:LYS:HG2	2:R:93:SER:H	1.67	0.59
4:R:301:HCB:H531	4:R:301:HCB:H552	1.83	0.59
1:D:332:GLY:HA3	1:D:363:ILE:CG2	2.32	0.59
1:F:194:ARG:HG2	1:F:194:ARG:HH11	1.68	0.59
2:O:107:HIS:HB3	2:O:154:LEU:HD22	1.85	0.59
2:Q:4:LYS:O	2:Q:4:LYS:HD3	2.02	0.59
1:A:350:MET:HE3	1:F:353:LEU:HD21	1.83	0.59
1:D:18:LEU:C	1:D:18:LEU:HD23	2.22	0.59
1:D:151:LEU:HD13	1:D:152:PRO:HD2	1.85	0.59
1:F:113:VAL:HG23	1:F:114:LYS:HG3	1.85	0.59
1:F:478:PHE:HA	1:F:481:MET:HE2	1.85	0.59
2:P:166:GLU:O	2:P:170:LYS:HG3	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:277:LEU:HD22	1:A:277:LEU:O	2.03	0.59
1:C:84:ARG:HB3	1:C:99:GLU:HB2	1.85	0.59
1:C:302:THR:HG21	1:D:439:ARG:O	2.01	0.59
1:F:281:THR:HG22	1:F:282:VAL:HG23	1.84	0.59
2:P:155:MET:HG2	4:P:301:HCB:H302	1.84	0.58
1:B:439:ARG:O	1:E:302:THR:HG21	2.04	0.58
1:D:116:CYS:HB2	1:D:374:THR:HG21	1.85	0.58
2:Q:166:GLU:O	2:Q:170:LYS:HG3	2.03	0.58
1:B:281:THR:HG22	1:B:282:VAL:HG23	1.85	0.58
2:M:22:LEU:O	2:M:26:VAL:HG12	2.03	0.58
2:Q:25:GLU:HG2	2:Q:29:GLU:OE2	2.04	0.58
2:Q:38:VAL:HG13	2:Q:42:GLU:OE2	2.03	0.58
2:Q:126:VAL:HG12	2:Q:126:VAL:O	2.02	0.58
2:R:92:LYS:CG	2:R:93:SER:H	2.15	0.58
1:A:348:LYS:HE3	1:A:379:GLN:HG3	1.84	0.58
1:D:302:THR:HG23	1:D:304:PRO:HD3	1.85	0.58
2:M:166:GLU:O	2:M:170:LYS:HG3	2.03	0.58
2:O:19:ASP:HB3	2:O:22:LEU:HB3	1.85	0.58
2:O:133:PRO:HG2	2:O:136:THR:OG1	2.04	0.58
1:C:42:ILE:HD12	1:C:273:SER:HB3	1.84	0.58
2:M:133:PRO:HG2	2:M:136:THR:OG1	2.04	0.58
2:N:13:GLU:HG2	2:N:17:ASP:OD2	2.02	0.58
2:O:166:GLU:O	2:O:170:LYS:HG3	2.03	0.58
2:Q:114:VAL:HG22	2:Q:204:ALA:HA	1.85	0.58
2:O:85:GLU:HG2	2:O:90:GLN:O	2.04	0.58
1:D:305:VAL:CG2	1:D:310:LEU:HD13	2.34	0.58
2:P:26:VAL:HA	2:P:29:GLU:HG2	1.85	0.58
2:R:92:LYS:HG2	2:R:93:SER:N	2.18	0.58
1:F:218:LEU:HD22	1:F:234:ILE:HG13	1.86	0.58
4:O:301:HCB:H353	4:O:301:HCB:H311	1.86	0.58
1:B:218:LEU:HD22	1:B:234:ILE:HG13	1.86	0.57
2:O:81:THR:HB	2:O:82:PRO:HD3	1.85	0.57
1:B:51:GLN:NE2	1:B:55:GLU:HG3	2.18	0.57
1:B:249:MET:O	1:B:249:MET:HG3	2.03	0.57
2:M:81:THR:N	2:M:82:PRO:CD	2.66	0.57
2:M:155:MET:HG2	4:M:301:HCB:H302	1.86	0.57
2:R:166:GLU:O	2:R:170:LYS:HG3	2.03	0.57
1:C:430:TYR:HB3	1:C:431:PRO:HD3	1.86	0.57
1:D:109:PHE:CD1	1:D:110:GLY:N	2.73	0.57
2:Q:117:MET:HG3	2:Q:204:ALA:HB1	1.86	0.57
2:R:133:PRO:HG2	2:R:136:THR:OG1	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:97:VAL:HG13	2:O:148:VAL:HB	1.85	0.57
2:R:107:HIS:HB3	2:R:154:LEU:HD22	1.86	0.57
1:A:331:ALA:HB1	1:A:334:PYL:HE2	1.87	0.57
1:E:368:MET:HG2	1:E:369:LEU:H	1.68	0.57
1:F:368:MET:HG2	1:F:369:LEU:H	1.68	0.57
2:P:174:VAL:HA	2:P:177:GLN:HG2	1.85	0.57
1:C:51:GLN:NE2	1:C:55:GLU:HG3	2.20	0.57
1:F:249:MET:O	1:F:249:MET:HG3	2.04	0.57
2:Q:103:GLU:HB3	2:Q:133:PRO:HA	1.87	0.57
1:C:113:VAL:HG23	1:C:114:LYS:HG3	1.86	0.57
1:C:424:THR:HA	1:D:258:VAL:HG21	1.87	0.57
2:O:101:THR:HG22	2:O:105:ASP:HB3	1.86	0.57
2:P:106:ILE:HG12	4:P:301:HCB:O44	2.05	0.57
2:Q:155:MET:HG2	4:Q:301:HCB:H302	1.86	0.57
2:R:155:MET:HG2	4:R:301:HCB:H302	1.85	0.57
4:R:301:HCB:H311	4:R:301:HCB:H353	1.87	0.57
1:E:292:SER:OG	1:E:334:PYL:HA2	2.05	0.57
2:P:19:ASP:OD2	2:P:22:LEU:HB2	2.04	0.57
2:P:107:HIS:HB3	2:P:154:LEU:HD22	1.86	0.57
2:Q:134:ILE:O	2:Q:137:PHE:HB2	2.05	0.57
1:D:378:GLU:O	1:D:381:VAL:HG22	2.05	0.57
2:M:174:VAL:HA	2:M:177:GLN:HG2	1.86	0.57
4:M:301:HCB:H311	4:M:301:HCB:H353	1.87	0.57
1:A:339:VAL:HG23	1:A:340:PRO:HD2	1.85	0.57
1:E:194:ARG:HH11	1:E:194:ARG:HG2	1.70	0.57
1:F:430:TYR:HB3	1:F:431:PRO:HD3	1.87	0.57
2:Q:198:ASP:C	2:Q:199:ILE:HD12	2.26	0.57
2:R:63:LEU:HB2	2:R:64:PRO:HD3	1.87	0.57
1:B:425:ARG:HD3	2:Q:68:ALA:HB2	1.85	0.56
1:C:36:VAL:HA	1:C:39:ASP:O	2.05	0.56
1:C:190:VAL:HA	1:C:193:TYR:CD2	2.40	0.56
2:M:81:THR:HG22	2:M:86:LYS:HE3	1.87	0.56
2:P:92:LYS:CD	2:P:124:LYS:HE2	2.33	0.56
2:Q:33:ALA:HB3	2:Q:35:ILE:HG13	1.86	0.56
2:R:3:ASN:HD22	2:R:4:LYS:N	2.03	0.56
1:B:108:CYS:HA	1:B:366:ALA:HB3	1.87	0.56
1:B:350:MET:HE2	1:B:354:LEU:HD11	1.87	0.56
1:E:108:CYS:HA	1:E:366:ALA:HB3	1.87	0.56
1:E:430:TYR:HB3	1:E:431:PRO:HD3	1.87	0.56
2:P:92:LYS:HB2	2:P:124:LYS:HE2	1.88	0.56
2:Q:179:LYS:HD3	2:Q:199:ILE:CD1	2.25	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:42:ILE:HD12	1:B:273:SER:HB3	1.86	0.56
1:B:430:TYR:HB3	1:B:431:PRO:HD3	1.87	0.56
1:F:51:GLN:NE2	1:F:55:GLU:HG3	2.19	0.56
2:M:107:HIS:HB3	2:M:154:LEU:HD22	1.85	0.56
2:M:156:THR:HG23	4:M:301:HCB:N33	2.16	0.56
2:N:81:THR:HA	2:N:84:MET:HE3	1.87	0.56
2:O:81:THR:HG22	2:O:86:LYS:CD	2.36	0.56
2:P:133:PRO:HG2	2:P:136:THR:OG1	2.06	0.56
4:R:301:HCB:H362	4:R:301:HCB:H351	1.88	0.56
1:A:245:ASN:C	1:A:245:ASN:HD22	2.09	0.56
2:Q:134:ILE:HD12	2:Q:164:GLN:HB3	1.86	0.56
1:A:264:LEU:HD11	1:F:397:ILE:HD13	1.87	0.56
1:E:334:PYL:HD2	1:E:368:MET:CE	2.35	0.56
2:N:82:PRO:O	2:N:85:GLU:HB2	2.06	0.56
2:O:166:GLU:HG3	2:O:195:ILE:HG12	1.88	0.56
2:O:174:VAL:HA	2:O:177:GLN:HG2	1.86	0.56
2:P:80:ILE:O	2:P:84:MET:CB	2.52	0.56
1:C:248:SER:OG	1:C:267:HIS:ND1	2.28	0.56
1:D:493:ARG:C	1:D:495:MET:H	2.09	0.56
2:N:134:ILE:HD11	2:N:164:GLN:OE1	2.06	0.56
1:D:173:LEU:HD22	1:D:213:ILE:HD12	1.88	0.56
1:E:113:VAL:HG23	1:E:114:LYS:HG3	1.86	0.56
1:F:473:ILE:HD13	1:F:481:MET:HE1	1.86	0.56
1:B:194:ARG:HG2	1:B:194:ARG:HH11	1.70	0.56
1:D:46:ASP:OD1	1:D:48:GLU:HB3	2.06	0.56
1:F:108:CYS:HA	1:F:366:ALA:HB3	1.88	0.56
2:N:155:MET:HA	4:N:301:HCB:H331	1.70	0.56
2:R:66:VAL:HG13	2:R:120:ILE:CD1	2.35	0.56
1:C:368:MET:HG2	1:C:369:LEU:H	1.69	0.56
1:D:218:LEU:HD21	1:D:234:ILE:HG13	1.86	0.56
2:N:80:ILE:O	2:N:84:MET:HG3	2.06	0.56
4:P:301:HCB:H311	4:P:301:HCB:H353	1.86	0.56
4:Q:301:HCB:H362	4:Q:301:HCB:H351	1.86	0.56
2:R:101:THR:HG22	2:R:105:ASP:HB3	1.87	0.56
1:D:141:ASP:OD1	1:D:176:THR:HG23	2.06	0.56
1:F:84:ARG:HB3	1:F:99:GLU:HB2	1.87	0.56
1:A:88:TRP:HA	1:A:95:ASN:OD1	2.06	0.55
1:B:123[B]:TYR:CE2	1:E:442:PHE:HE2	2.24	0.55
1:F:190:VAL:HA	1:F:193:TYR:CD2	2.41	0.55
2:M:166:GLU:HG3	2:M:195:ILE:HG12	1.88	0.55
2:N:163:ILE:HG12	2:N:195:ILE:CG2	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:80:ILE:O	2:O:84:MET:HB2	2.06	0.55
2:P:88:LYS:HB3	2:P:90:GLN:HG3	1.88	0.55
2:Q:118:LEU:HB2	2:Q:125:VAL:HG21	1.87	0.55
1:A:403:THR:HG22	1:F:259:TYR:CD1	2.41	0.55
1:F:118[B]:TYR:OH	1:F:455:THR:HG22	2.06	0.55
2:O:92:LYS:HZ2	2:O:92:LYS:HB3	1.71	0.55
2:Q:204:ALA:O	2:Q:208:VAL:HG23	2.05	0.55
1:E:478:PHE:HA	1:E:481:MET:HE2	1.87	0.55
2:Q:81:THR:HA	2:Q:84:MET:HE3	1.88	0.55
2:Q:134:ILE:HG13	2:Q:135:ASN:N	2.21	0.55
1:B:128:SER:O	1:B:156:ARG:HB2	2.06	0.55
1:C:108:CYS:HA	1:C:366:ALA:HB3	1.88	0.55
2:M:24:GLU:HA	2:M:79:VAL:HG21	1.88	0.55
2:O:10:LYS:NZ	2:O:10:LYS:HB3	2.21	0.55
2:Q:118:LEU:HB2	2:Q:125:VAL:CG2	2.35	0.55
1:A:118[A]:TYR:OH	1:A:455:THR:HG22	2.05	0.55
1:B:259:TYR:CZ	1:E:427:LEU:HD11	2.40	0.55
1:C:120[B]:ASP:N	1:C:122[B]:LYS:HD2	2.21	0.55
4:M:301:HCB:H362	4:M:301:HCB:H351	1.89	0.55
2:P:101:THR:HG22	2:P:105:ASP:HB3	1.88	0.55
2:R:19:ASP:OD2	2:R:22:LEU:HG	2.06	0.55
1:E:42:ILE:HD12	1:E:273:SER:HB3	1.87	0.55
2:O:106:ILE:HG12	4:O:301:HCB:O44	2.06	0.55
4:O:301:HCB:H362	4:O:301:HCB:H351	1.88	0.55
2:Q:31:LEU:CG	2:Q:80:ILE:HG22	2.34	0.55
1:F:350:MET:HE2	1:F:354:LEU:HD11	1.89	0.55
2:N:109:ILE:O	2:N:113:ILE:HG13	2.06	0.55
2:P:92:LYS:HB2	2:P:124:LYS:CE	2.36	0.55
2:R:106:ILE:HG12	4:R:301:HCB:O44	2.07	0.55
1:B:357:LEU:HA	5:B:654:HOH:O	2.06	0.55
2:M:10:LYS:HG2	2:M:26:VAL:HB	1.88	0.55
2:M:101:THR:HG22	2:M:105:ASP:HB3	1.87	0.55
2:N:63:LEU:HD13	2:N:113:ILE:HD13	1.89	0.55
2:Q:148:VAL:N	2:Q:178:VAL:HG11	2.21	0.55
1:D:104:VAL:HG22	1:D:360:ALA:O	2.07	0.55
1:D:412:VAL:HG11	1:D:418:PHE:CE1	2.42	0.55
2:P:166:GLU:HG3	2:P:195:ILE:HG12	1.87	0.55
1:A:327:PRO:HA	1:A:361:ASN:OD1	2.06	0.55
1:B:122[A]:LYS:HG2	1:B:124[A]:VAL:HG13	1.89	0.55
1:C:117[A]:LYS:O	1:C:123[A]:TYR:HA	2.07	0.55
1:C:316:ALA:HB2	1:D:397:ILE:HD12	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:2:ALA:N	5:E:702:HOH:O	2.39	0.54
1:E:473:ILE:HD13	1:E:481:MET:HE1	1.89	0.54
1:F:374:THR:HG22	1:F:375:PHE:N	2.22	0.54
2:R:10:LYS:HE2	2:R:26:VAL:HB	1.89	0.54
2:R:166:GLU:HG3	2:R:195:ILE:HG12	1.88	0.54
1:A:114:LYS:HB2	1:A:374:THR:HG23	1.89	0.54
1:A:210:LYS:HE2	1:A:211:LYS:HE2	1.90	0.54
1:A:478:PHE:HA	1:A:481:MET:HE2	1.90	0.54
1:C:249:MET:HG3	1:C:249:MET:O	2.07	0.54
1:D:158:ILE:O	1:D:158:ILE:HG22	2.08	0.54
1:D:217:LEU:HD23	1:D:217:LEU:C	2.28	0.54
2:O:75:SER:O	2:O:78:LYS:HB3	2.06	0.54
2:Q:62:PHE:HB2	2:Q:64:PRO:HD2	1.89	0.54
1:A:439:ARG:HD3	1:F:304:PRO:HB3	1.88	0.54
1:C:350:MET:HE2	1:C:354:LEU:HD11	1.89	0.54
1:B:36:VAL:HA	1:B:39:ASP:O	2.08	0.54
1:C:374:THR:HG22	1:C:375:PHE:N	2.23	0.54
2:Q:167:GLU:O	2:Q:171:GLU:HG2	2.08	0.54
1:A:217:LEU:HD23	1:A:218:LEU:CA	2.37	0.54
2:M:46:THR:HA	2:M:49:MET:HB2	1.88	0.54
2:N:27:ALA:HB1	2:N:80:ILE:HG23	1.89	0.54
2:Q:106:ILE:HG22	2:Q:106:ILE:O	2.07	0.54
2:Q:141:VAL:HG23	2:Q:146:PRO:HG3	1.89	0.54
1:A:109:PHE:CD1	1:A:110:GLY:N	2.76	0.54
1:A:316:ALA:HB2	1:F:397:ILE:HD12	1.89	0.54
1:B:374:THR:HG22	1:B:375:PHE:N	2.23	0.54
2:O:94:LEU:CD2	2:O:95:GLY:N	2.63	0.54
1:A:422:LYS:HA	1:A:425:ARG:CZ	2.37	0.54
1:C:305:VAL:HG23	1:C:310:LEU:HD13	1.90	0.54
1:C:420:ALA:HB1	2:P:68:ALA:HA	1.90	0.54
1:D:319:LYS:HE2	1:D:358:ALA:HB1	1.90	0.54
1:E:374:THR:HG22	1:E:375:PHE:N	2.22	0.54
2:M:39:GLU:HG2	2:M:43:LYS:NZ	2.22	0.54
1:A:158:ILE:HG22	1:A:158:ILE:O	2.08	0.54
1:C:397:ILE:HD12	1:D:316:ALA:HB2	1.88	0.54
1:D:105:HIS:HB3	1:D:147:ASP:OD2	2.08	0.54
2:Q:97:VAL:O	2:Q:99:ILE:HG23	2.07	0.54
2:Q:159:MET:HG3	2:Q:187:VAL:HG22	1.90	0.54
1:B:190:VAL:HA	1:B:193:TYR:CD2	2.42	0.53
1:E:36:VAL:HA	1:E:39:ASP:O	2.08	0.53
1:F:36:VAL:HA	1:F:39:ASP:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:473:ILE:CD1	1:A:481:MET:HE3	2.37	0.53
1:E:42:ILE:CD1	1:E:273:SER:HB3	2.38	0.53
1:A:422:LYS:O	1:A:426:GLN:HG3	2.08	0.53
1:D:74:VAL:O	1:D:78:LEU:HG	2.08	0.53
2:M:92:LYS:CD	2:M:124:LYS:HE2	2.36	0.53
2:Q:135:ASN:O	2:Q:139:GLU:HG3	2.09	0.53
1:B:332:GLY:HA3	1:B:363:ILE:CG2	2.39	0.53
2:M:25:GLU:O	2:M:28:ASN:HB2	2.08	0.53
2:Q:108:SER:CB	2:Q:130:ARG:HD2	2.38	0.53
1:D:305:VAL:HG13	1:D:334:PYL:HB2	1.91	0.53
2:Q:99:ILE:HD12	2:Q:100:GLY:N	2.24	0.53
1:B:84:ARG:HB3	1:B:99:GLU:HB2	1.89	0.53
1:B:111:THR:HG22	1:B:151:LEU:O	2.08	0.53
1:C:473:ILE:HD13	1:C:481:MET:HE1	1.91	0.53
4:P:301:HCB:H351	4:P:301:HCB:H362	1.89	0.53
2:Q:165:ILE:O	2:Q:169:LEU:HG	2.09	0.53
1:A:93:LYS:HE3	1:A:94:PHE:CZ	2.44	0.53
2:O:84:MET:HG2	2:O:85:GLU:N	2.23	0.53
1:D:145:ASN:H	1:D:384:ASN:ND2	2.02	0.53
2:Q:141:VAL:HG23	2:Q:146:PRO:CG	2.39	0.53
1:D:167:HIS:HE1	1:D:489:ASP:OD2	1.91	0.53
4:N:301:HCB:H552	4:N:301:HCB:H531	1.91	0.53
2:Q:16:THR:HG21	2:Q:51:GLU:OE1	2.09	0.53
2:Q:108:SER:HB3	2:Q:130:ARG:HD2	1.90	0.53
2:Q:189:GLN:OE1	2:Q:200:TYR:HB3	2.09	0.53
1:A:190:VAL:HA	1:A:193:TYR:CD2	2.43	0.53
1:E:190:VAL:HA	1:E:193:TYR:CD2	2.44	0.53
2:M:63:LEU:HB2	2:M:64:PRO:HD3	1.90	0.53
2:R:134:ILE:HD13	2:R:164:GLN:CB	2.39	0.53
1:A:109:PHE:CG	1:A:110:GLY:N	2.77	0.52
2:Q:101:THR:HG23	2:Q:131:ASP:N	2.14	0.52
1:E:219:CYS:SG	3:E:601:GOL:H32	2.48	0.52
1:E:111:THR:HG22	1:E:151:LEU:O	2.09	0.52
2:N:163:ILE:HG12	2:N:195:ILE:HG22	1.92	0.52
2:R:4:LYS:HB2	2:R:35:ILE:HD11	1.92	0.52
1:E:84:ARG:HB3	1:E:99:GLU:HB2	1.90	0.52
1:B:42:ILE:CD1	1:B:273:SER:HB3	2.40	0.52
1:C:128:SER:O	1:C:156:ARG:HB2	2.09	0.52
1:C:226:LEU:HA	5:C:702:HOH:O	2.08	0.52
2:O:82:PRO:HA	2:O:86:LYS:HD3	1.91	0.52
2:P:195:ILE:HG23	2:P:197:ALA:H	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:252:SER:HB2	1:D:295:THR:OG1	2.10	0.52
1:C:42:ILE:CD1	1:C:273:SER:HB3	2.39	0.52
2:P:156:THR:HG23	4:P:301:HCB:N33	2.20	0.52
1:D:377:MET:O	1:D:381:VAL:HG13	2.10	0.52
1:F:289:TYR:HE1	1:F:317:VAL:HG13	1.75	0.52
2:O:134:ILE:HD13	2:O:164:GLN:CB	2.40	0.52
2:Q:102:ILE:HG22	2:Q:103:GLU:H	1.74	0.52
1:A:220:PRO:HD2	1:A:248:SER:CA	2.31	0.52
1:B:334:PYL:HD2	1:B:368:MET:CE	2.39	0.52
1:C:118[B]:TYR:HB3	1:C:458:HIS:CD2	2.44	0.52
1:D:42:ILE:CD1	1:D:273:SER:HB3	2.40	0.52
1:D:416:ASN:N	1:D:416:ASN:ND2	2.57	0.52
2:Q:102:ILE:HG22	2:Q:103:GLU:N	2.25	0.52
1:A:209:ARG:NH2	1:A:239:ARG:O	2.43	0.51
1:A:370:GLU:C	1:A:371:LEU:HD12	2.30	0.51
1:A:380:LEU:HD13	1:A:380:LEU:C	2.30	0.51
1:F:111:THR:HG21	1:F:151:LEU:HD12	1.92	0.51
2:N:142:LYS:HG2	2:N:174:VAL:HG11	1.92	0.51
2:Q:141:VAL:O	2:Q:146:PRO:HD2	2.09	0.51
2:R:156:THR:HG23	4:R:301:HCB:N33	2.18	0.51
1:E:111:THR:HG21	1:E:151:LEU:HD12	1.93	0.51
1:F:192:TYR:O	1:F:196:ILE:HG13	2.11	0.51
2:N:81:THR:HA	2:N:84:MET:HE2	1.92	0.51
2:Q:83:GLU:O	2:Q:87:ARG:HG2	2.10	0.51
1:F:289:TYR:CE1	1:F:317:VAL:HG13	2.45	0.51
1:A:50:ARG:HD2	1:A:62:GLU:OE2	2.10	0.51
1:A:190:VAL:HB	1:A:236:LYS:HD3	1.92	0.51
1:B:417:ASN:HB3	2:Q:109:ILE:HD11	1.93	0.51
1:C:331:ALA:HB1	1:C:334:PYL:HE2	1.93	0.51
1:C:332:GLY:HA3	1:C:363:ILE:CG2	2.41	0.51
1:C:393:ALA:HB2	1:D:350:MET:HE2	1.93	0.51
2:N:81:THR:N	2:N:82:PRO:HD2	2.26	0.51
1:A:51:GLN:O	1:A:55:GLU:HG3	2.11	0.51
1:A:305:VAL:HG11	1:A:368:MET:HE1	1.93	0.51
1:D:292:SER:OG	1:D:334:PYL:HA2	2.11	0.51
1:F:116:CYS:HA	1:F:124[A]:VAL:O	2.11	0.51
2:O:61:LEU:HD22	2:O:65:HIS:CD2	2.45	0.51
2:P:134:ILE:HD13	2:P:164:GLN:CB	2.40	0.51
2:Q:3:ASN:HA	2:Q:6:GLU:OE1	2.10	0.51
1:A:294:THR:OG1	1:A:295:THR:N	2.42	0.51
1:D:141:ASP:OD2	1:D:468:HIS:HE1	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:422:LYS:O	1:D:426:GLN:HG3	2.11	0.51
2:N:133:PRO:HG2	2:N:136:THR:OG1	2.11	0.51
2:O:81:THR:HG22	2:O:86:LYS:HG3	1.92	0.51
1:A:156:ARG:O	1:A:159:ALA:HB3	2.10	0.51
1:C:119[A]:GLN:C	1:C:121[A]:GLY:H	2.14	0.51
1:F:118[B]:TYR:HB3	1:F:458:HIS:CD2	2.45	0.51
1:F:128:SER:O	1:F:156:ARG:HB2	2.10	0.51
2:M:134:ILE:HD13	2:M:164:GLN:CB	2.41	0.51
2:N:102:ILE:HG22	2:N:103:GLU:N	2.25	0.51
2:N:105:ASP:HA	4:N:301:HCB:N45	2.26	0.51
1:D:169:THR:O	1:D:172:PRO:HD2	2.11	0.51
1:E:420:ALA:HB2	2:N:67:LEU:HB3	1.92	0.51
2:N:123:PHE:H	2:N:123:PHE:HD1	1.59	0.51
2:N:141:VAL:HG22	2:N:149:VAL:HG21	1.91	0.51
2:Q:179:LYS:CD	2:Q:199:ILE:HD11	2.28	0.51
1:D:107:THR:HG23	1:D:364:TYR:HB2	1.93	0.50
2:M:195:ILE:HG23	2:M:197:ALA:H	1.75	0.50
2:N:92:LYS:O	2:N:92:LYS:HG3	2.11	0.50
2:N:134:ILE:HD13	2:N:164:GLN:CB	2.40	0.50
1:E:6:ALA:HA	5:E:754:HOH:O	2.10	0.50
2:O:4:LYS:HG3	2:O:35:ILE:CD1	2.40	0.50
2:Q:78:LYS:HA	2:Q:81:THR:OG1	2.10	0.50
2:Q:178:VAL:HG12	2:Q:179:LYS:N	2.26	0.50
1:A:36:VAL:HA	1:A:39:ASP:O	2.11	0.50
1:A:113:VAL:HG23	1:A:114:LYS:CG	2.41	0.50
1:F:42:ILE:CD1	1:F:273:SER:HB3	2.41	0.50
2:M:19:ASP:OD2	2:M:22:LEU:HB2	2.11	0.50
2:N:138:VAL:HG13	2:N:169:LEU:HD23	1.94	0.50
1:C:343:GLN:HG3	1:D:437:LEU:HD22	1.92	0.50
1:A:46:ASP:OD1	1:A:48:GLU:N	2.45	0.50
1:A:100:CYS:SG	1:A:325:GLY:HA2	2.51	0.50
1:A:122[A]:LYS:HD2	1:A:122[A]:LYS:N	2.25	0.50
1:B:51:GLN:HE21	1:B:55:GLU:CG	2.24	0.50
1:C:292:SER:OG	1:C:334:PYL:HA2	2.12	0.50
1:D:149:PHE:CZ	1:D:152:PRO:HD3	2.47	0.50
1:E:51:GLN:HE21	1:E:55:GLU:CG	2.24	0.50
2:O:195:ILE:HG23	2:O:197:ALA:H	1.77	0.50
2:P:46:THR:O	2:P:50:GLU:HG3	2.12	0.50
2:Q:93:SER:C	2:Q:94:LEU:HD12	2.32	0.50
1:D:416:ASN:N	1:D:416:ASN:HD22	2.09	0.50
1:E:332:GLY:HA3	1:E:363:ILE:CG2	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:10:LYS:CD	2:M:26:VAL:HB	2.42	0.50
2:O:156:THR:HG23	4:O:301:HCB:N33	2.20	0.50
2:O:156:THR:H	4:O:301:HCB:H332	1.60	0.50
2:Q:149:VAL:CG1	2:Q:150:ALA:H	2.22	0.50
1:A:268:ASN:ND2	1:A:289:TYR:OH	2.45	0.50
2:M:85:GLU:O	2:M:89:SER:HA	2.11	0.50
1:D:139:LEU:HD22	1:D:377:MET:HB3	1.93	0.50
1:D:305:VAL:HG11	1:D:368:MET:CE	2.40	0.50
1:F:90:ARG:HG2	5:F:723:HOH:O	2.11	0.50
1:F:420:ALA:HB1	2:M:68:ALA:HA	1.94	0.50
1:B:111:THR:HG21	1:B:151:LEU:HD12	1.93	0.49
1:D:475:ALA:O	1:D:479:LYS:HG3	2.11	0.49
1:E:331:ALA:HB1	1:E:334:PYL:HE2	1.94	0.49
2:M:107:HIS:CB	2:M:154:LEU:HD22	2.42	0.49
2:N:148:VAL:HA	2:N:178:VAL:CG2	2.42	0.49
2:O:107:HIS:CB	2:O:154:LEU:HD22	2.41	0.49
2:P:85:GLU:O	2:P:87:ARG:N	2.45	0.49
2:R:134:ILE:HD13	2:R:164:GLN:HB2	1.94	0.49
1:A:473:ILE:HD13	1:A:481:MET:CE	2.42	0.49
1:D:452:ASP:OD1	1:D:455:THR:HG23	2.12	0.49
2:M:4:LYS:HZ3	2:M:39:GLU:CD	2.15	0.49
1:B:248:SER:OG	1:B:267:HIS:ND1	2.28	0.49
1:D:200:TYR:HA	1:D:477:ILE:CG2	2.42	0.49
2:M:10:LYS:HE3	2:M:22:LEU:CD1	2.35	0.49
2:M:31:LEU:HD21	2:M:80:ILE:HG22	1.95	0.49
2:R:107:HIS:CB	2:R:154:LEU:HD22	2.42	0.49
1:A:306:GLY:HA2	1:A:351:THR:HG21	1.95	0.49
1:D:91:ASP:OD1	1:D:93:LYS:HG2	2.12	0.49
2:M:156:THR:H	4:M:301:HCB:H332	1.59	0.49
2:N:173:GLY:HA2	5:N:404:HOH:O	2.12	0.49
2:O:208:VAL:O	2:O:212:LYS:HG2	2.12	0.49
2:Q:36:ASP:HA	2:Q:87:ARG:NH2	2.26	0.49
2:Q:113:ILE:HD12	4:Q:301:HCB:C3P	2.42	0.49
2:R:195:ILE:HG23	2:R:197:ALA:H	1.77	0.49
2:R:208:VAL:O	2:R:212:LYS:HG2	2.13	0.49
1:A:22:THR:OG1	1:A:25:GLU:HG3	2.11	0.49
1:A:123[A]:TYR:OH	1:A:340:PRO:HG3	2.11	0.49
1:B:305:VAL:HG23	1:B:310:LEU:HD13	1.95	0.49
1:D:289:TYR:CE1	1:D:317:VAL:HG13	2.48	0.49
1:D:353:LEU:HD13	1:D:390:VAL:HG22	1.95	0.49
1:D:478:PHE:HA	1:D:481:MET:HE2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:153:ALA:C	2:N:154:LEU:HD12	2.33	0.49
2:O:13:GLU:HA	2:O:16:THR:OG1	2.13	0.49
2:P:26:VAL:HA	2:P:29:GLU:CG	2.43	0.49
1:A:118[A]:TYR:HB2	1:A:123[A]:TYR:CE1	2.48	0.49
1:B:473:ILE:HD13	1:B:481:MET:HE1	1.94	0.49
1:E:293:THR:HG22	1:E:313:ILE:HD13	1.93	0.49
2:N:138:VAL:C	2:N:140:LYS:H	2.16	0.49
2:P:49:MET:HE1	2:P:70:ALA:N	2.27	0.49
2:Q:102:ILE:CD1	2:Q:151:SER:HB2	2.42	0.49
4:Q:301:HCB:H363	4:Q:301:HCB:H421	1.95	0.49
2:N:153:ALA:O	2:N:184:GLY:HA3	2.12	0.49
1:C:90:ARG:HG3	1:C:200:TYR:CZ	2.48	0.49
1:C:111:THR:HG21	1:C:151:LEU:HD12	1.95	0.49
2:N:49:MET:CE	2:N:70:ALA:HA	2.42	0.49
2:Q:180:THR:O	2:Q:199:ILE:HD13	2.13	0.49
1:A:133:ILE:HD11	1:A:153:VAL:O	2.12	0.49
1:B:119[A]:GLN:O	1:B:122[A]:LYS:HD3	2.12	0.49
1:B:192:TYR:O	1:B:196:ILE:HG13	2.12	0.49
1:B:422:LYS:HA	1:B:425:ARG:CZ	2.43	0.49
1:C:90:ARG:HG2	1:C:90:ARG:NH1	2.26	0.49
1:F:221:THR:HB	1:F:225:GLU:HG3	1.95	0.49
2:P:134:ILE:HD13	2:P:164:GLN:HB2	1.95	0.49
2:Q:81:THR:N	2:Q:82:PRO:HD2	2.27	0.49
2:Q:163:ILE:HG12	2:Q:195:ILE:CG1	2.43	0.49
1:B:427:LEU:HD11	1:E:259:TYR:CZ	2.48	0.49
1:C:221:THR:CG2	2:O:106:ILE:HD12	2.43	0.49
1:D:223:PRO:HD3	1:D:255:SER:HB2	1.94	0.49
1:D:331:ALA:CB	1:D:334:PYL:HE2	2.36	0.49
1:D:466:LYS:O	1:D:466:LYS:HD3	2.12	0.49
1:E:111:THR:CG2	1:E:151:LEU:HD12	2.42	0.49
2:P:162:GLN:C	2:P:195:ILE:HD11	2.33	0.49
1:A:111:THR:HG22	1:A:151:LEU:O	2.13	0.48
1:B:293:THR:HG22	1:B:313:ILE:HD13	1.95	0.48
1:D:374:THR:HG22	1:D:375:PHE:N	2.27	0.48
2:M:162:GLN:C	2:M:195:ILE:HD11	2.34	0.48
2:N:82:PRO:HA	2:N:85:GLU:OE2	2.13	0.48
2:P:170:LYS:HG2	2:P:175:ARG:HG2	1.95	0.48
1:A:187:GLY:O	1:A:190:VAL:HG23	2.12	0.48
1:B:291:SER:CB	1:B:317:VAL:HG21	2.43	0.48
2:M:208:VAL:O	2:M:212:LYS:HG2	2.12	0.48
2:O:162:GLN:C	2:O:195:ILE:HD11	2.34	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:134:ILE:HG21	2:Q:164:GLN:CB	2.42	0.48
1:A:248:SER:OG	1:A:267:HIS:ND1	2.47	0.48
1:C:111:THR:HG22	1:C:151:LEU:O	2.13	0.48
1:D:109:PHE:CZ	1:D:372:GLY:O	2.64	0.48
1:F:43:GLN:HB3	1:F:225:GLU:HB2	1.96	0.48
1:F:51:GLN:HE21	1:F:55:GLU:CG	2.26	0.48
2:P:73:MET:O	2:P:77:ILE:HG13	2.14	0.48
2:R:162:GLN:C	2:R:195:ILE:HD11	2.33	0.48
1:B:268:ASN:ND2	1:B:289:TYR:OH	2.46	0.48
1:C:158:ILE:HG22	1:C:158:ILE:O	2.13	0.48
1:D:380:LEU:C	1:D:380:LEU:HD13	2.34	0.48
1:F:111:THR:CG2	1:F:151:LEU:HD12	2.42	0.48
1:F:332:GLY:HA3	1:F:363:ILE:CG2	2.44	0.48
1:F:422:LYS:HA	1:F:425:ARG:CZ	2.44	0.48
2:P:163:ILE:HG12	2:P:195:ILE:HG13	1.95	0.48
1:A:300:LYS:HB2	1:A:302:THR:HG22	1.95	0.48
1:A:338:LYS:N	1:A:338:LYS:HD3	2.29	0.48
1:D:109:PHE:CG	1:D:110:GLY:N	2.81	0.48
1:D:139:LEU:CD2	1:D:377:MET:HB3	2.43	0.48
1:D:192:TYR:O	1:D:196:ILE:HG13	2.14	0.48
1:D:194:ARG:HG2	1:D:194:ARG:HH11	1.78	0.48
1:D:199:ALA:HB3	1:D:481:MET:HG2	1.95	0.48
1:E:103:LYS:HB3	1:F:4:ASN:ND2	2.28	0.48
1:E:128:SER:O	1:E:156:ARG:HB2	2.14	0.48
2:M:80:ILE:O	2:M:84:MET:HB2	2.14	0.48
2:M:94:LEU:HD13	2:M:122:GLY:HA3	1.95	0.48
2:O:30:ALA:HA	2:O:33:ALA:HB3	1.95	0.48
2:P:208:VAL:O	2:P:212:LYS:HG2	2.13	0.48
2:Q:164:GLN:C	2:Q:166:GLU:H	2.17	0.48
2:R:38:VAL:HG22	2:R:90:GLN:HG3	1.96	0.48
2:R:102:ILE:CD1	2:R:165:ILE:HD11	2.44	0.48
2:P:83:GLU:OE2	2:P:88:LYS:HE3	2.14	0.48
2:Q:102:ILE:HG13	2:Q:151:SER:HB2	1.96	0.48
2:Q:195:ILE:HG22	2:Q:197:ALA:H	1.79	0.48
1:B:118[B]:TYR:CE2	1:B:121[B]:GLY:HA2	2.49	0.48
1:C:51:GLN:HE21	1:C:55:GLU:CG	2.27	0.48
1:D:26:LEU:HD13	1:D:323:PHE:CD1	2.48	0.48
1:D:118[B]:TYR:CZ	1:D:455:THR:HG22	2.48	0.48
1:E:119[A]:GLN:O	1:E:122[A]:LYS:HG2	2.12	0.48
2:M:39:GLU:HG2	2:M:43:LYS:HZ1	1.79	0.48
2:Q:46:THR:O	2:Q:46:THR:HG22	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:162:GLN:HE22	2:Q:187:VAL:HG21	1.79	0.48
1:B:331:ALA:HB1	1:B:334:PYL:HE2	1.95	0.48
1:C:120[A]:ASP:HB3	1:C:122[A]:LYS:CE	2.25	0.48
1:E:90:ARG:HG2	5:E:726:HOH:O	2.13	0.48
1:F:305:VAL:HG23	1:F:310:LEU:HD13	1.96	0.48
2:O:134:ILE:HD13	2:O:164:GLN:HB2	1.96	0.48
2:P:63:LEU:HB2	2:P:64:PRO:HD3	1.96	0.48
2:Q:11:ALA:HA	2:Q:26:VAL:HG11	1.96	0.48
1:A:97:VAL:HG12	1:A:98:GLN:N	2.29	0.48
1:A:130:GLU:HB2	1:A:155:ALA:HB1	1.94	0.48
1:A:245:ASN:C	1:A:245:ASN:ND2	2.67	0.48
1:B:289:TYR:CE1	1:B:317:VAL:HG13	2.49	0.48
1:B:289:TYR:HE1	1:B:317:VAL:HG13	1.79	0.48
1:B:422:LYS:HE2	1:B:426:GLN:NE2	2.29	0.48
1:D:151:LEU:HD21	1:D:168:GLU:O	2.13	0.48
1:E:192:TYR:O	1:E:196:ILE:HG13	2.14	0.48
1:E:422:LYS:HA	1:E:425:ARG:CZ	2.43	0.48
2:M:149:VAL:HG23	2:M:178:VAL:CG2	2.41	0.48
4:Q:301:HCB:H353	4:Q:301:HCB:H311	1.96	0.48
2:R:19:ASP:CG	2:R:21:GLU:HB2	2.34	0.48
1:A:18:LEU:C	1:A:18:LEU:HD23	2.34	0.48
1:A:289:TYR:CE1	1:A:317:VAL:HG13	2.49	0.48
1:D:46:ASP:HB2	1:D:228:VAL:HA	1.96	0.48
1:E:249:MET:HG3	1:E:249:MET:O	2.13	0.48
1:E:289:TYR:HE1	1:E:317:VAL:HG13	1.79	0.48
2:M:134:ILE:HD13	2:M:164:GLN:HB2	1.95	0.48
2:N:98:ALA:HB1	2:N:128:LEU:HD21	1.96	0.48
2:Q:56:PHE:HD1	2:Q:61:LEU:O	1.97	0.48
2:Q:89:SER:C	2:Q:92:LYS:N	2.67	0.48
2:Q:140:LYS:O	2:Q:140:LYS:HG2	2.13	0.48
2:R:135:ASN:O	2:R:139:GLU:HG2	2.14	0.48
1:A:348:LYS:O	1:A:352:THR:HG22	2.13	0.47
1:B:275:ILE:HD13	1:B:326:LEU:HD13	1.96	0.47
2:M:63:LEU:HD12	2:M:63:LEU:H	1.78	0.47
2:N:162:GLN:NE2	2:N:182:VAL:HB	2.29	0.47
2:N:165:ILE:O	2:N:169:LEU:HG	2.14	0.47
2:Q:108:SER:O	2:Q:110:GLY:N	2.48	0.47
2:Q:147:GLN:O	2:Q:148:VAL:HB	2.14	0.47
1:A:84:ARG:HB2	1:A:99:GLU:HB3	1.95	0.47
1:B:349:THR:HA	1:B:352:THR:HG22	1.96	0.47
1:C:268:ASN:ND2	1:C:289:TYR:OH	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:118[B]:TYR:HB3	1:D:458:HIS:CD2	2.49	0.47
1:E:90:ARG:HG3	1:E:200:TYR:CZ	2.49	0.47
1:E:221:THR:HB	1:E:225:GLU:HG3	1.96	0.47
1:F:349:THR:HA	1:F:352:THR:HG22	1.95	0.47
2:O:87:ARG:C	2:O:89:SER:H	2.18	0.47
2:R:31:LEU:HD11	2:R:80:ILE:HG22	1.95	0.47
1:B:397:ILE:HD12	1:E:316:ALA:HB2	1.96	0.47
1:C:111:THR:CG2	1:C:151:LEU:HD12	2.44	0.47
1:C:118[A]:TYR:HA	1:C:122[A]:LYS:O	2.14	0.47
1:C:291:SER:CB	1:C:317:VAL:HG21	2.44	0.47
1:D:371:LEU:HD12	1:D:371:LEU:N	2.29	0.47
1:E:289:TYR:CE1	1:E:317:VAL:HG13	2.49	0.47
2:M:163:ILE:HG12	2:M:195:ILE:HG13	1.97	0.47
2:O:87:ARG:O	2:O:89:SER:N	2.47	0.47
2:P:102:ILE:CD1	2:P:165:ILE:HD11	2.44	0.47
2:Q:138:VAL:O	2:Q:141:VAL:HG12	2.14	0.47
1:A:106:TRP:HZ3	1:A:391:LYS:HE2	1.80	0.47
1:A:118[B]:TYR:HD2	1:A:123[B]:TYR:CD1	2.32	0.47
1:B:111:THR:CG2	1:B:151:LEU:HD12	2.44	0.47
1:E:305:VAL:HG23	1:E:310:LEU:HD13	1.96	0.47
2:N:102:ILE:HG13	2:N:151:SER:HB2	1.96	0.47
2:P:107:HIS:CB	2:P:154:LEU:HD22	2.44	0.47
2:Q:37:PRO:HB2	2:Q:84:MET:HG2	1.96	0.47
2:Q:123:PHE:HD1	2:Q:123:PHE:H	1.60	0.47
2:Q:179:LYS:HD3	2:Q:198:ASP:HB3	1.97	0.47
2:Q:185:ALA:HB3	2:Q:186:PRO:HD3	1.96	0.47
2:R:10:LYS:HE3	2:R:22:LEU:HD22	1.95	0.47
1:A:145:ASN:ND2	1:A:384:ASN:O	2.42	0.47
1:A:252:SER:HB2	1:A:295:THR:HA	1.96	0.47
1:B:119[A]:GLN:HA	1:B:119[A]:GLN:NE2	2.29	0.47
1:D:385:ASP:OD2	1:D:437:LEU:HG	2.14	0.47
1:F:268:ASN:ND2	1:F:289:TYR:OH	2.48	0.47
1:F:275:ILE:HD13	1:F:326:LEU:HD13	1.96	0.47
1:F:373:MET:CE	2:R:185:ALA:HB1	2.43	0.47
2:M:75:SER:O	2:M:79:VAL:HG23	2.14	0.47
2:M:156:THR:N	4:M:301:HCB:H332	2.12	0.47
2:P:84:MET:HG2	2:P:85:GLU:N	2.29	0.47
1:A:386:ILE:O	1:A:390:VAL:HG23	2.15	0.47
1:C:289:TYR:CE1	1:C:317:VAL:HG13	2.49	0.47
1:E:392:LYS:NZ	1:E:395:GLN:HE22	2.12	0.47
1:F:90:ARG:HG3	1:F:200:TYR:CZ	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:102:ILE:HG13	2:M:103:GLU:N	2.30	0.47
2:N:148:VAL:HG23	2:N:179:LYS:O	2.15	0.47
4:N:301:HCB:H362	4:N:301:HCB:H351	1.95	0.47
2:Q:149:VAL:CG1	2:Q:150:ALA:N	2.77	0.47
1:A:58:CYS:SG	1:A:73:LEU:HD12	2.54	0.47
1:A:90:ARG:N	1:A:177:ALA:O	2.43	0.47
1:A:349:THR:HA	1:A:352:THR:HG22	1.97	0.47
1:A:353:LEU:O	1:A:357:LEU:HG	2.15	0.47
1:B:90:ARG:HG3	1:B:200:TYR:CZ	2.49	0.47
1:B:118[B]:TYR:CE2	1:B:455:THR:HG22	2.50	0.47
1:B:267:HIS:HE2	1:B:289:TYR:HE1	1.61	0.47
1:D:268:ASN:ND2	1:D:289:TYR:OH	2.47	0.47
1:D:380:LEU:HD13	1:D:380:LEU:O	2.14	0.47
1:F:267:HIS:HE2	1:F:289:TYR:HE1	1.62	0.47
2:N:33:ALA:HB3	2:N:35:ILE:HG13	1.96	0.47
2:N:210:LYS:O	2:N:213:ALA:HB3	2.14	0.47
2:O:37:PRO:HD2	2:O:90:GLN:OE1	2.14	0.47
2:O:156:THR:N	4:O:301:HCB:H332	2.13	0.47
2:Q:14:ALA:HA	2:Q:22:LEU:HD23	1.96	0.47
2:Q:113:ILE:O	2:Q:117:MET:HB2	2.15	0.47
2:R:3:ASN:HB3	2:R:6:GLU:OE1	2.14	0.47
1:A:110:GLY:HA2	1:A:111:THR:HA	1.66	0.47
1:A:126:VAL:HG23	1:A:126:VAL:O	2.14	0.47
1:A:298:LEU:O	2:M:63:LEU:HD13	2.15	0.47
1:A:320:LEU:O	1:A:323:PHE:HB3	2.15	0.47
1:A:330:VAL:O	1:A:363:ILE:HA	2.15	0.47
1:C:334:PYL:HD2	1:C:368:MET:CE	2.45	0.47
1:D:87:LEU:HB3	1:D:179:HIS:CG	2.49	0.47
1:D:118[B]:TYR:HE2	1:D:455:THR:HG22	1.80	0.47
1:E:286:LYS:HE3	5:E:760:HOH:O	2.14	0.47
2:O:102:ILE:CD1	2:O:165:ILE:HD11	2.44	0.47
1:C:192:TYR:O	1:C:196:ILE:HG13	2.15	0.47
1:D:370:GLU:C	1:D:371:LEU:HD12	2.35	0.47
2:M:41:ILE:CD1	2:M:92:LYS:HE2	2.34	0.47
2:N:134:ILE:O	2:N:137:PHE:HB2	2.15	0.47
2:O:27:ALA:HB1	2:O:80:ILE:HG23	1.97	0.47
2:R:28:ASN:C	2:R:30:ALA:N	2.68	0.47
1:A:91:ASP:HB3	1:A:93:LYS:HG2	1.97	0.47
1:A:149:PHE:CZ	1:A:152:PRO:HD3	2.49	0.47
1:A:251:MET:HB3	1:A:296:PHE:HB2	1.96	0.47
1:A:392:LYS:HG2	1:A:432:SER:HB3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:268:ASN:ND2	1:E:289:TYR:OH	2.47	0.47
2:O:40:LEU:HD23	2:O:80:ILE:HD13	1.97	0.47
2:O:135:ASN:O	2:O:139:GLU:HG2	2.15	0.47
2:Q:87:ARG:HG2	2:Q:87:ARG:H	1.47	0.47
1:A:194:ARG:NH1	1:A:195:ASP:OD1	2.48	0.46
1:D:220:PRO:HD2	1:D:248:SER:HA	1.97	0.46
1:E:291:SER:CB	1:E:317:VAL:HG21	2.45	0.46
2:O:84:MET:CG	2:O:85:GLU:H	2.21	0.46
1:A:305:VAL:HG22	1:A:334:PYL:HD3	1.97	0.46
1:A:455:THR:O	1:A:459:GLU:HG3	2.14	0.46
2:M:135:ASN:O	2:M:139:GLU:HG2	2.15	0.46
2:N:42:GLU:HG2	2:N:92:LYS:HE2	1.96	0.46
2:O:170:LYS:HG2	2:O:175:ARG:HG2	1.97	0.46
1:A:145:ASN:HB2	1:A:384:ASN:ND2	2.30	0.46
1:A:310:LEU:HD11	1:A:331:ALA:HB3	1.97	0.46
1:C:349:THR:HA	1:C:352:THR:HG22	1.96	0.46
1:D:3:LYS:O	1:D:4:ASN:O	2.33	0.46
1:D:492:PHE:HA	1:D:495:MET:HE2	1.98	0.46
2:N:181:MET:HG3	2:N:199:ILE:O	2.16	0.46
2:O:3:ASN:O	2:O:7:ILE:HG13	2.14	0.46
2:O:163:ILE:HG12	2:O:195:ILE:HG13	1.96	0.46
2:P:181:MET:HE3	2:P:199:ILE:HG21	1.96	0.46
2:Q:81:THR:HG22	2:Q:85:GLU:OE2	2.15	0.46
2:R:7:ILE:HD13	2:R:29:GLU:O	2.15	0.46
2:R:153:ALA:O	2:R:184:GLY:HA3	2.15	0.46
1:C:122[A]:LYS:HD3	1:C:122[A]:LYS:N	2.31	0.46
1:C:217:LEU:HD23	1:C:217:LEU:C	2.36	0.46
1:D:42:ILE:HD12	1:D:273:SER:HB3	1.95	0.46
1:D:151:LEU:HD21	1:D:168:GLU:HB3	1.98	0.46
1:F:189:ASN:HB3	1:F:192:TYR:HD2	1.80	0.46
1:F:422:LYS:HE2	1:F:426:GLN:NE2	2.31	0.46
2:O:12:LYS:HG3	2:O:48:GLY:N	2.30	0.46
2:P:94:LEU:HD12	2:P:95:GLY:N	2.30	0.46
2:Q:164:GLN:C	2:Q:166:GLU:N	2.69	0.46
1:A:43:GLN:HB3	1:A:225:GLU:CB	2.46	0.46
1:A:150:SER:HB3	1:A:183:ILE:HD11	1.98	0.46
1:B:6:ALA:HB2	1:C:391:LYS:HG2	1.96	0.46
1:C:235:ILE:O	1:C:239:ARG:HG3	2.16	0.46
1:D:100:CYS:SG	1:D:325:GLY:HA2	2.55	0.46
1:D:422:LYS:HE2	1:D:426:GLN:NE2	2.30	0.46
1:E:217:LEU:HD23	1:E:217:LEU:C	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:331:ALA:HB1	1:F:334:PYL:HE2	1.97	0.46
2:M:84:MET:O	2:M:86:LYS:N	2.49	0.46
2:P:135:ASN:O	2:P:139:GLU:HG2	2.16	0.46
2:Q:12:LYS:HG3	2:Q:48:GLY:N	2.30	0.46
1:A:167:HIS:HE1	1:A:489:ASP:OD2	1.98	0.46
1:B:90:ARG:HG2	1:B:90:ARG:NH1	2.27	0.46
1:C:348:LYS:O	1:C:352:THR:HG22	2.16	0.46
1:E:349:THR:HA	1:E:352:THR:HG22	1.95	0.46
1:E:350:MET:CE	1:E:354:LEU:HD11	2.44	0.46
2:M:31:LEU:CG	2:M:80:ILE:HG22	2.45	0.46
2:O:88:LYS:HB2	2:O:90:GLN:HG2	1.97	0.46
2:P:8:ILE:HG23	2:P:44:GLY:HA2	1.97	0.46
2:Q:107:HIS:HB3	2:Q:154:LEU:HD23	1.98	0.46
1:A:222:SER:HA	1:A:223:PRO:HA	1.69	0.46
1:B:90:ARG:N	1:B:177:ALA:O	2.49	0.46
1:B:221:THR:HB	1:B:225:GLU:HG3	1.98	0.46
1:C:48:GLU:O	1:C:52:ILE:HG13	2.15	0.46
1:D:339:VAL:CG2	1:D:340:PRO:HD2	2.45	0.46
1:D:367:GLY:HA3	1:D:380:LEU:HD23	1.97	0.46
1:F:119[B]:GLN:HG3	1:F:124[B]:VAL:HG21	1.98	0.46
1:F:332:GLY:O	1:F:365:GLY:HA3	2.16	0.46
2:O:92:LYS:HZ2	2:O:92:LYS:CB	2.29	0.46
2:Q:155:MET:O	2:Q:159:MET:HB2	2.16	0.46
1:A:454:ALA:O	1:A:457:ALA:HB3	2.16	0.46
1:B:90:ARG:HH11	1:B:90:ARG:CG	2.26	0.46
1:B:123[B]:TYR:HE2	1:E:442:PHE:HE2	1.64	0.46
1:C:189:ASN:HB3	1:C:192:TYR:HD2	1.80	0.46
1:F:110:GLY:HA3	1:F:151:LEU:O	2.16	0.46
1:F:158:ILE:HG22	1:F:158:ILE:O	2.15	0.46
2:N:88:LYS:HD2	2:N:88:LYS:N	2.31	0.46
2:R:156:THR:H	4:R:301:HCB:H332	1.62	0.46
2:R:170:LYS:HG2	2:R:175:ARG:HG2	1.97	0.46
1:A:419:LEU:HD13	2:R:67:LEU:CD1	2.46	0.46
1:C:422:LYS:HA	1:C:425:ARG:CZ	2.46	0.46
1:C:422:LYS:HE2	1:C:426:GLN:NE2	2.31	0.46
1:E:189:ASN:HB3	1:E:192:TYR:HD2	1.81	0.46
1:E:275:ILE:HD13	1:E:326:LEU:HD13	1.98	0.46
2:M:10:LYS:HE2	2:M:25:GLU:OE1	2.16	0.46
2:P:81:THR:HB	2:P:82:PRO:HD3	1.98	0.46
2:Q:99:ILE:HD12	2:Q:99:ILE:C	2.37	0.46
1:A:90:ARG:NH2	1:A:473:ILE:HG13	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:307:SER:HB2	1:A:308:PRO:HD2	1.98	0.46
1:B:118[B]:TYR:OH	1:B:455:THR:HG22	2.16	0.46
1:C:294:THR:HB	1:C:310:LEU:HD12	1.98	0.46
1:E:249:MET:HE3	1:E:293:THR:HA	1.98	0.46
2:N:102:ILE:CG2	2:N:103:GLU:N	2.79	0.46
2:N:148:VAL:HA	2:N:178:VAL:HG23	1.98	0.46
2:O:181:MET:HE3	2:O:199:ILE:HG21	1.97	0.46
2:Q:43:LYS:O	2:Q:43:LYS:HG2	2.15	0.46
1:A:329:TYR:HE1	1:A:364:TYR:CD1	2.34	0.45
1:A:419:LEU:CB	2:R:67:LEU:HD13	2.43	0.45
1:B:109:PHE:CB	1:B:365:GLY:HA2	2.45	0.45
1:C:332:GLY:O	1:C:365:GLY:HA3	2.16	0.45
1:D:96:THR:HG23	1:D:105:HIS:CD2	2.51	0.45
1:F:121[A]:GLY:O	1:F:122[A]:LYS:HB3	2.16	0.45
2:M:61:LEU:HD22	2:M:65:HIS:CD2	2.50	0.45
2:O:211:VAL:O	2:O:215:LEU:HG	2.15	0.45
2:P:149:VAL:HG23	2:P:178:VAL:CG2	2.41	0.45
2:P:191:TRP:O	2:P:195:ILE:HG22	2.16	0.45
2:Q:191:TRP:O	2:Q:195:ILE:HB	2.15	0.45
1:A:427:LEU:O	1:A:431:PRO:HD3	2.15	0.45
1:D:50:ARG:HG2	1:D:60:VAL:CG1	2.46	0.45
1:F:111:THR:HG22	1:F:151:LEU:O	2.16	0.45
1:F:223:PRO:HB3	1:F:255:SER:O	2.15	0.45
2:N:102:ILE:HD12	2:N:162:GLN:HG2	1.97	0.45
2:R:191:TRP:O	2:R:195:ILE:HG22	2.16	0.45
1:A:200:TYR:HA	1:A:477:ILE:CG2	2.46	0.45
1:A:409:ILE:HD11	1:F:257:PRO:CG	2.46	0.45
1:E:73:LEU:HD23	1:E:73:LEU:HA	1.83	0.45
1:E:118[B]:TYR:HD1	1:E:118[B]:TYR:O	1.98	0.45
1:F:100:CYS:SG	1:F:325:GLY:HA2	2.57	0.45
2:Q:128:LEU:N	2:Q:128:LEU:HD22	2.32	0.45
2:R:181:MET:HE3	2:R:199:ILE:HG21	1.97	0.45
1:D:197:VAL:HG12	1:D:208:ALA:HB1	1.98	0.45
4:N:301:HCB:H561	5:N:409:HOH:O	2.16	0.45
2:P:55:LYS:HB3	2:P:61:LEU:HG	1.98	0.45
1:A:87:LEU:HB3	1:A:179:HIS:ND1	2.31	0.45
1:D:118[B]:TYR:HB3	1:D:458:HIS:HD2	1.81	0.45
1:D:353:LEU:O	1:D:357:LEU:HG	2.17	0.45
1:F:221:THR:HB	1:F:225:GLU:CG	2.47	0.45
2:N:102:ILE:CD1	2:N:162:GLN:HG2	2.47	0.45
2:O:102:ILE:HG13	2:O:103:GLU:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:36:ASP:O	2:P:39:GLU:HB3	2.16	0.45
2:P:102:ILE:HG13	2:P:103:GLU:N	2.31	0.45
2:P:156:THR:H	4:P:301:HCB:H332	1.65	0.45
2:R:163:ILE:HG12	2:R:195:ILE:HG13	1.97	0.45
2:R:211:VAL:O	2:R:215:LEU:HG	2.17	0.45
1:D:267:HIS:NE2	1:D:289:TYR:HE1	2.15	0.45
1:E:332:GLY:O	1:E:365:GLY:HA3	2.17	0.45
1:F:334:PYL:HD2	1:F:368:MET:CE	2.39	0.45
2:P:207:ALA:O	2:P:211:VAL:HG23	2.17	0.45
1:C:419:LEU:HB3	2:P:67:LEU:HD13	1.98	0.45
1:F:332:GLY:HA3	1:F:363:ILE:HG23	1.99	0.45
1:A:232:GLN:O	1:A:236:LYS:HB2	2.17	0.45
1:A:424:THR:HA	1:F:258:VAL:CG2	2.41	0.45
1:B:48:GLU:O	1:B:52:ILE:HG13	2.17	0.45
1:C:227:SER:N	5:C:702:HOH:O	2.34	0.45
1:D:201:TYR:CD2	1:D:208:ALA:HA	2.51	0.45
2:N:202:GLU:HB3	2:N:206:ASP:OD2	2.17	0.45
2:O:191:TRP:O	2:O:195:ILE:HG22	2.17	0.45
2:P:154:LEU:HD21	4:P:301:HCB:O4	2.17	0.45
1:A:387:PHE:O	1:A:391:LYS:HG3	2.17	0.45
1:C:289:TYR:HE1	1:C:317:VAL:HG13	1.80	0.45
1:D:477:ILE:HG22	1:D:481:MET:CE	2.47	0.45
1:E:422:LYS:HE2	1:E:426:GLN:NE2	2.32	0.45
1:F:293:THR:HG22	1:F:313:ILE:HD13	1.99	0.45
2:M:102:ILE:CD1	2:M:165:ILE:HD11	2.46	0.45
2:N:114:VAL:O	2:N:118:LEU:HG	2.17	0.45
2:N:172:ALA:O	2:N:174:VAL:HG13	2.17	0.45
2:O:147:GLN:O	2:O:178:VAL:HG23	2.16	0.45
2:P:147:GLN:O	2:P:178:VAL:HG23	2.17	0.45
2:R:81:THR:HB	2:R:82:PRO:HD3	1.99	0.45
2:R:83:GLU:OE2	2:R:87:ARG:HD2	2.15	0.45
1:A:221:THR:HB	1:A:225:GLU:HG3	1.98	0.45
1:B:100:CYS:SG	1:B:325:GLY:HA2	2.57	0.45
1:B:223:PRO:HB3	1:B:255:SER:O	2.18	0.45
1:B:473:ILE:HD13	1:B:481:MET:CE	2.47	0.45
1:E:223:PRO:HB3	1:E:255:SER:O	2.17	0.45
1:F:51:GLN:NE2	1:F:55:GLU:CG	2.80	0.45
1:F:88:TRP:CD1	1:F:211:LYS:HA	2.52	0.45
2:M:22:LEU:HD12	2:M:25:GLU:OE2	2.17	0.45
2:P:39:GLU:OE1	2:P:39:GLU:HA	2.17	0.45
2:Q:156:THR:HG23	4:Q:301:HCB:H332	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:THR:O	1:A:65:ASN:HB2	2.17	0.44
1:A:334:PYL:HD2	1:A:368:MET:CE	2.46	0.44
1:B:350:MET:CE	1:B:354:LEU:HD11	2.48	0.44
1:C:275:ILE:HD13	1:C:326:LEU:HD13	1.98	0.44
1:C:332:GLY:HA3	1:C:363:ILE:HG23	1.98	0.44
1:C:385:ASP:OD2	1:C:437:LEU:HG	2.17	0.44
1:D:266:THR:O	1:D:270:GLU:HG3	2.17	0.44
1:E:118[B]:TYR:CD1	1:E:118[B]:TYR:C	2.90	0.44
1:F:348:LYS:O	1:F:352:THR:HG22	2.18	0.44
2:M:41:ILE:HG21	2:M:92:LYS:HD3	1.99	0.44
2:P:154:LEU:HD12	2:P:154:LEU:N	2.32	0.44
2:Q:138:VAL:HG22	2:Q:169:LEU:HD23	1.99	0.44
2:Q:163:ILE:HG12	2:Q:195:ILE:HG12	1.99	0.44
1:A:94:PHE:HB3	1:A:178:LYS:HG2	1.98	0.44
1:A:339:VAL:CG2	1:A:340:PRO:HD2	2.47	0.44
1:C:88:TRP:CD1	1:C:211:LYS:HA	2.52	0.44
1:C:109:PHE:CB	1:C:365:GLY:HA2	2.48	0.44
1:C:221:THR:HB	1:C:225:GLU:HG3	1.99	0.44
1:F:380:LEU:HD13	1:F:380:LEU:C	2.38	0.44
2:M:191:TRP:O	2:M:195:ILE:HG22	2.17	0.44
2:Q:192:ALA:CB	2:Q:200:TYR:HB2	2.48	0.44
2:R:61:LEU:HB3	2:R:65:HIS:CG	2.53	0.44
1:B:217:LEU:HD23	1:B:217:LEU:C	2.37	0.44
2:M:170:LYS:HG2	2:M:175:ARG:HG2	1.98	0.44
2:O:15:ILE:HD12	2:O:45:PHE:O	2.17	0.44
2:R:156:THR:N	4:R:301:HCB:H332	2.14	0.44
1:A:16:VAL:HG13	1:F:20:LEU:CD2	2.47	0.44
1:A:239:ARG:HD3	5:A:726:HOH:O	2.17	0.44
1:A:334:PYL:HD2	1:A:368:MET:HE1	1.99	0.44
1:A:415:GLY:C	1:A:416:ASN:HD22	2.20	0.44
1:B:90:ARG:HG2	5:B:622:HOH:O	2.17	0.44
1:B:189:ASN:HB3	1:B:192:TYR:HD2	1.82	0.44
1:D:452:ASP:OD2	1:D:454:ALA:HB3	2.17	0.44
2:M:61:LEU:HB3	2:M:65:HIS:CG	2.53	0.44
1:A:142:TRP:HZ3	1:A:381:VAL:HG12	1.82	0.44
1:A:316:ALA:HB2	1:F:397:ILE:CD1	2.47	0.44
1:B:118[B]:TYR:HB3	1:B:458:HIS:HD2	1.80	0.44
1:B:119[A]:GLN:C	1:B:121[A]:GLY:H	2.21	0.44
1:D:242:ILE:O	1:D:244:VAL:HG23	2.17	0.44
1:D:419:LEU:HD13	2:O:67:LEU:HD22	1.98	0.44
1:D:430:TYR:HB3	1:D:431:PRO:HD3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:473:ILE:HD13	1:D:481:MET:CE	2.47	0.44
1:E:43:GLN:HB3	1:E:225:GLU:HB2	1.99	0.44
1:E:218:LEU:CD2	1:E:234:ILE:HG13	2.48	0.44
1:E:249:MET:SD	3:E:601:GOL:O3	2.76	0.44
1:F:104:VAL:HG22	1:F:360:ALA:O	2.17	0.44
1:F:194:ARG:HG2	1:F:194:ARG:NH1	2.32	0.44
1:F:235:ILE:O	1:F:239:ARG:HG3	2.18	0.44
1:F:291:SER:CB	1:F:317:VAL:HG21	2.48	0.44
2:N:94:LEU:H	2:N:94:LEU:HD22	1.82	0.44
2:N:96:THR:CG2	2:N:124:LYS:HB3	2.40	0.44
2:N:170:LYS:HB3	2:N:170:LYS:HZ2	1.81	0.44
2:P:66:VAL:HG11	2:P:117:MET:SD	2.58	0.44
2:P:211:VAL:O	2:P:215:LEU:HG	2.17	0.44
2:Q:207:ALA:O	2:Q:211:VAL:HG23	2.18	0.44
1:D:27:LYS:HE2	5:D:662:HOH:O	2.16	0.44
1:D:415:GLY:C	1:D:416:ASN:HD22	2.21	0.44
1:E:294:THR:HB	1:E:310:LEU:HD12	2.00	0.44
1:F:392:LYS:NZ	1:F:395:GLN:HE22	2.16	0.44
2:M:81:THR:CG2	2:M:86:LYS:HE3	2.47	0.44
2:O:94:LEU:O	2:O:95:GLY:O	2.36	0.44
2:P:15:ILE:HD12	2:P:45:PHE:HA	2.00	0.44
2:P:147:GLN:C	2:P:178:VAL:HG23	2.38	0.44
2:R:37:PRO:HD3	2:R:88:LYS:NZ	2.33	0.44
2:R:80:ILE:O	2:R:84:MET:HG3	2.17	0.44
1:A:421:LEU:HD23	1:A:421:LEU:HA	1.81	0.44
1:A:430:TYR:HB3	1:A:431:PRO:HD3	2.00	0.44
1:C:293:THR:HG22	1:C:313:ILE:HD13	2.00	0.44
1:E:51:GLN:NE2	1:E:55:GLU:CG	2.79	0.44
1:F:294:THR:HB	1:F:310:LEU:HD12	1.99	0.44
2:M:10:LYS:HD3	2:M:26:VAL:HB	1.98	0.44
2:M:211:VAL:O	2:M:215:LEU:HG	2.18	0.44
2:N:55:LYS:HB3	2:N:61:LEU:HG	1.99	0.44
2:N:63:LEU:HD22	2:N:113:ILE:HG23	2.00	0.44
1:A:16:VAL:HG13	1:F:20:LEU:HD23	1.99	0.44
1:B:353:LEU:HD23	1:E:353:LEU:HD23	1.99	0.44
1:D:43:GLN:HB3	1:D:225:GLU:HB3	1.99	0.44
1:D:148:TYR:OH	1:D:362:THR:HG21	2.18	0.44
1:D:344:ALA:O	1:D:348:LYS:HG2	2.18	0.44
1:D:368:MET:HG2	1:D:369:LEU:H	1.83	0.44
1:A:107:THR:HG23	1:A:364:TYR:CB	2.46	0.44
1:B:370:GLU:OE2	1:E:442:PHE:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:110:GLY:HA2	1:E:111:THR:HA	1.69	0.44
2:O:153:ALA:O	2:O:184:GLY:HA3	2.17	0.44
1:A:256:SER:HB2	1:A:257:PRO:HD2	1.99	0.43
1:A:342:ASP:HB3	1:F:453:LEU:HD23	2.00	0.43
1:B:88:TRP:CD1	1:B:211:LYS:HA	2.53	0.43
1:B:294:THR:HB	1:B:310:LEU:HD12	2.00	0.43
1:B:305:VAL:HG11	1:B:368:MET:HE1	2.00	0.43
1:C:176:THR:HG22	1:C:178:LYS:N	2.15	0.43
1:C:194:ARG:HG2	1:C:194:ARG:NH1	2.31	0.43
1:D:492:PHE:HA	1:D:495:MET:HE3	1.99	0.43
1:F:90:ARG:HH11	1:F:90:ARG:CG	2.30	0.43
2:N:130:ARG:O	2:N:131:ASP:HB3	2.18	0.43
2:O:36:ASP:OD1	2:O:90:GLN:NE2	2.50	0.43
2:P:153:ALA:O	2:P:184:GLY:HA3	2.18	0.43
2:Q:111:LYS:HE3	2:Q:111:LYS:HB3	1.91	0.43
2:R:147:GLN:C	2:R:178:VAL:HG23	2.38	0.43
1:A:53:PHE:CZ	1:A:277:LEU:HB2	2.53	0.43
1:A:126:VAL:O	1:A:127:ASP:C	2.57	0.43
1:B:332:GLY:O	1:B:365:GLY:HA3	2.19	0.43
1:C:43:GLN:HB3	1:C:225:GLU:HB2	2.00	0.43
1:E:158:ILE:HG22	1:E:158:ILE:O	2.18	0.43
2:M:3:ASN:O	2:M:6:GLU:N	2.48	0.43
2:M:12:LYS:HG2	2:M:47:ALA:HB3	2.00	0.43
2:Q:70:ALA:O	2:Q:74:ASN:ND2	2.51	0.43
1:A:168:GLU:O	1:A:172:PRO:HG2	2.17	0.43
1:A:217:LEU:HD11	1:A:247:LEU:HD22	1.99	0.43
1:B:104:VAL:HG22	1:B:360:ALA:O	2.18	0.43
1:B:392:LYS:NZ	1:B:395:GLN:HE22	2.17	0.43
1:D:392:LYS:HD2	1:D:395:GLN:NE2	2.33	0.43
1:D:477:ILE:HG22	1:D:481:MET:HE2	2.00	0.43
1:E:194:ARG:HG2	1:E:194:ARG:NH1	2.33	0.43
1:E:348:LYS:O	1:E:352:THR:HG22	2.18	0.43
1:F:109:PHE:CB	1:F:365:GLY:HA2	2.48	0.43
1:F:217:LEU:HD23	1:F:217:LEU:C	2.37	0.43
1:F:473:ILE:HD13	1:F:481:MET:CE	2.49	0.43
2:M:94:LEU:HD13	2:M:122:GLY:C	2.39	0.43
2:Q:19:ASP:OD1	2:Q:21:GLU:HB3	2.18	0.43
2:Q:164:GLN:O	2:Q:166:GLU:N	2.51	0.43
2:Q:192:ALA:HB2	2:Q:200:TYR:HB2	2.00	0.43
1:A:328:SER:O	1:A:361:ASN:HB2	2.18	0.43
1:C:90:ARG:HH11	1:C:90:ARG:CG	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:119[A]:GLN:C	1:C:121[A]:GLY:N	2.71	0.43
1:D:87:LEU:HD13	1:D:179:HIS:CD2	2.53	0.43
1:E:104:VAL:HG22	1:E:360:ALA:O	2.18	0.43
1:E:109:PHE:CB	1:E:365:GLY:HA2	2.49	0.43
1:E:305:VAL:HG11	1:E:368:MET:HE1	2.00	0.43
2:M:147:GLN:C	2:M:178:VAL:HG23	2.38	0.43
2:M:154:LEU:HD12	2:M:154:LEU:N	2.34	0.43
2:M:156:THR:N	4:M:301:HCB:N33	2.67	0.43
2:N:199:ILE:HG21	2:N:210:LYS:HB3	2.00	0.43
2:O:207:ALA:O	2:O:211:VAL:HG23	2.17	0.43
2:Q:198:ASP:CB	2:Q:199:ILE:HD12	2.48	0.43
2:R:147:GLN:O	2:R:178:VAL:HG23	2.17	0.43
2:R:207:ALA:O	2:R:211:VAL:HG23	2.19	0.43
1:B:138:LYS:HE3	1:B:468:HIS:O	2.19	0.43
1:C:51:GLN:NE2	1:C:55:GLU:CG	2.82	0.43
1:C:380:LEU:HD13	1:C:380:LEU:C	2.39	0.43
1:D:77:ALA:CB	1:D:276:VAL:HG22	2.48	0.43
1:E:110:GLY:HA3	1:E:151:LEU:O	2.19	0.43
1:E:116:CYS:HA	1:E:124[B]:VAL:O	2.18	0.43
1:F:176:THR:HG22	1:F:178:LYS:N	2.15	0.43
2:O:26:VAL:HG13	2:O:27:ALA:N	2.34	0.43
2:O:147:GLN:C	2:O:178:VAL:HG23	2.38	0.43
2:O:154:LEU:N	2:O:154:LEU:HD12	2.33	0.43
2:Q:211:VAL:HG12	2:Q:211:VAL:O	2.19	0.43
1:A:111:THR:HG21	1:A:151:LEU:HD13	2.01	0.43
1:A:150:SER:O	1:A:151:LEU:C	2.57	0.43
1:B:119[A]:GLN:HA	1:B:119[A]:GLN:HE21	1.84	0.43
1:B:158:ILE:O	1:B:158:ILE:HG22	2.18	0.43
1:C:419:LEU:HD13	2:P:67:LEU:HD13	2.01	0.43
1:E:235:ILE:O	1:E:239:ARG:HG3	2.19	0.43
2:M:101:THR:CG2	2:M:105:ASP:HB3	2.49	0.43
2:N:194:LYS:C	2:N:196:GLY:H	2.22	0.43
2:O:156:THR:N	4:O:301:HCB:N33	2.67	0.43
2:Q:178:VAL:HG12	2:Q:179:LYS:H	1.84	0.43
2:Q:199:ILE:HD12	2:Q:199:ILE:N	2.34	0.43
2:R:39:GLU:O	2:R:43:LYS:HB2	2.18	0.43
1:B:176:THR:HG22	1:B:178:LYS:N	2.17	0.43
1:B:332:GLY:HA3	1:B:363:ILE:HG23	1.99	0.43
2:N:62:PHE:CD1	2:N:62:PHE:N	2.86	0.43
2:P:95:GLY:HA2	2:P:147:GLN:HE21	1.83	0.43
2:R:102:ILE:HG13	2:R:103:GLU:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:124[A]:VAL:HG22	1:A:125:THR:N	2.33	0.43
1:B:229:ASN:O	1:B:233:VAL:HG23	2.19	0.43
1:D:457:ALA:O	1:D:461:VAL:HG23	2.19	0.43
1:E:6:ALA:HB2	1:F:391:LYS:HG2	2.00	0.43
2:M:10:LYS:CG	2:M:26:VAL:HB	2.48	0.43
2:P:39:GLU:CD	2:P:43:LYS:HD2	2.38	0.43
2:P:101:THR:CG2	2:P:105:ASP:HB3	2.49	0.43
2:Q:63:LEU:N	2:Q:64:PRO:CD	2.81	0.43
2:R:3:ASN:ND2	2:R:5:GLU:H	2.17	0.43
2:R:26:VAL:HG13	2:R:27:ALA:N	2.33	0.43
2:R:154:LEU:HD12	2:R:154:LEU:N	2.33	0.43
1:A:90:ARG:NH2	1:A:473:ILE:CG1	2.82	0.43
1:A:218:LEU:HD22	1:A:234:ILE:HG13	1.96	0.43
1:C:73:LEU:HD23	1:C:73:LEU:HA	1.86	0.43
1:D:141:ASP:HA	1:D:178:LYS:NZ	2.34	0.43
2:M:153:ALA:O	2:M:184:GLY:HA3	2.19	0.43
1:B:430:TYR:HE2	5:E:763:HOH:O	2.02	0.43
1:D:44:VAL:O	1:D:50:ARG:HD3	2.19	0.43
1:D:51:GLN:NE2	1:D:55:GLU:HG3	2.33	0.43
1:D:222:SER:HA	1:D:223:PRO:HA	1.77	0.43
1:D:427:LEU:O	1:D:431:PRO:HD3	2.18	0.43
1:E:48:GLU:O	1:E:52:ILE:HG13	2.19	0.43
1:E:221:THR:HB	1:E:225:GLU:CG	2.49	0.43
1:F:90:ARG:N	1:F:177:ALA:O	2.52	0.43
2:P:99:ILE:HG13	2:P:150:ALA:HB3	2.00	0.43
2:Q:101:THR:CG2	2:Q:131:ASP:H	2.17	0.43
2:Q:179:LYS:CD	2:Q:198:ASP:HB3	2.48	0.43
2:R:99:ILE:HG12	2:R:100:GLY:N	2.34	0.43
1:B:221:THR:HB	1:B:225:GLU:CG	2.49	0.42
1:C:110:GLY:HA3	1:C:151:LEU:O	2.19	0.42
1:E:88:TRP:CD1	1:E:211:LYS:HA	2.54	0.42
1:F:385:ASP:OD2	1:F:437:LEU:HG	2.19	0.42
2:N:93:SER:C	2:N:95:GLY:N	2.72	0.42
2:P:101:THR:HB	2:P:130:ARG:HA	2.01	0.42
2:P:153:ALA:C	2:P:154:LEU:HD12	2.40	0.42
2:Q:189:GLN:NE2	2:Q:193:ASP:OD1	2.47	0.42
4:R:301:HCB:H482	4:R:301:HCB:H533	2.01	0.42
1:A:397:ILE:CD1	1:F:316:ALA:HB2	2.49	0.42
1:A:409:ILE:HD11	1:F:257:PRO:HG2	2.01	0.42
1:B:43:GLN:HB3	1:B:225:GLU:HB2	2.00	0.42
1:E:149:PHE:CZ	1:E:152:PRO:HD3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:267:HIS:HE1	1:F:291:SER:HB2	1.84	0.42
2:M:46:THR:HA	2:M:49:MET:CB	2.49	0.42
2:M:115:ALA:O	2:M:125:VAL:HG21	2.20	0.42
2:M:185:ALA:HB3	2:M:186:PRO:HD3	2.00	0.42
2:N:93:SER:C	2:N:95:GLY:H	2.23	0.42
2:Q:43:LYS:HB2	2:Q:43:LYS:NZ	2.34	0.42
2:Q:114:VAL:HG23	4:Q:301:HCB:O8R	2.18	0.42
2:Q:179:LYS:HG2	2:Q:198:ASP:OD2	2.19	0.42
1:A:135:ASP:O	1:A:138:LYS:N	2.53	0.42
1:A:141:ASP:OD2	1:A:468:HIS:HE1	2.02	0.42
1:A:218:LEU:HD12	1:A:218:LEU:C	2.38	0.42
1:B:109:PHE:HB2	1:B:365:GLY:HA2	2.01	0.42
1:C:223:PRO:HB3	1:C:255:SER:O	2.19	0.42
1:C:305:VAL:CG2	1:C:310:LEU:HD13	2.49	0.42
1:F:201:TYR:CD2	1:F:208:ALA:HA	2.55	0.42
2:O:15:ILE:HD12	2:O:45:PHE:HA	2.02	0.42
2:O:37:PRO:CB	2:O:80:ILE:HD12	2.44	0.42
2:P:185:ALA:HB3	2:P:186:PRO:HD3	2.01	0.42
2:R:101:THR:HB	2:R:130:ARG:HA	2.01	0.42
1:A:333:SER:HA	1:A:348:LYS:O	2.19	0.42
1:B:316:ALA:HB2	1:E:397:ILE:HD12	2.01	0.42
1:C:64:THR:O	1:C:65:ASN:HB2	2.19	0.42
1:C:90:ARG:N	1:C:177:ALA:O	2.51	0.42
1:D:282:VAL:O	1:D:283:PRO:C	2.57	0.42
1:F:110:GLY:HA2	1:F:111:THR:HA	1.68	0.42
2:N:5:GLU:HA	2:N:5:GLU:OE1	2.19	0.42
2:N:102:ILE:HG21	2:N:161:ASN:CB	2.47	0.42
2:O:101:THR:CG2	2:O:105:ASP:HB3	2.48	0.42
2:Q:81:THR:HA	2:Q:84:MET:HE2	2.01	0.42
2:R:3:ASN:HD22	2:R:3:ASN:C	2.22	0.42
2:R:153:ALA:C	2:R:154:LEU:HD12	2.40	0.42
1:A:210:LYS:HG2	1:A:211:LYS:CG	2.47	0.42
1:C:104:VAL:HG22	1:C:360:ALA:O	2.19	0.42
1:C:221:THR:HB	1:C:225:GLU:CG	2.50	0.42
1:C:439:ARG:O	1:D:302:THR:HG21	2.19	0.42
2:N:63:LEU:O	2:N:64:PRO:C	2.57	0.42
2:N:101:THR:HG22	2:N:152:SER:HB3	2.02	0.42
2:O:163:ILE:HA	2:O:195:ILE:HD11	2.02	0.42
2:P:156:THR:N	4:P:301:HCB:H332	2.16	0.42
2:R:35:ILE:HG22	2:R:36:ASP:O	2.19	0.42
2:R:49:MET:HG3	2:R:73:MET:SD	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:97:VAL:CG1	1:A:98:GLN:N	2.82	0.42
1:A:156:ARG:CG	1:A:156:ARG:HH11	2.32	0.42
1:A:229:ASN:O	1:A:233:VAL:HG23	2.19	0.42
1:C:138:LYS:HE3	1:C:468:HIS:O	2.20	0.42
1:C:386:ILE:HG23	1:D:346:HIS:CE1	2.55	0.42
1:E:90:ARG:HG2	1:E:90:ARG:NH1	2.28	0.42
1:F:220:PRO:HD2	1:F:248:SER:HA	2.01	0.42
2:N:126:VAL:HG11	2:N:144:LEU:CD1	2.50	0.42
2:O:87:ARG:C	2:O:89:SER:N	2.73	0.42
2:P:15:ILE:HD11	2:P:45:PHE:HB3	2.01	0.42
2:Q:20:ASP:OD1	2:Q:72:ALA:HA	2.19	0.42
2:Q:180:THR:O	2:Q:181:MET:HB2	2.20	0.42
2:R:154:LEU:HD21	4:R:301:HCB:O4	2.20	0.42
1:B:275:ILE:HD13	1:B:326:LEU:CD1	2.49	0.42
1:B:294:THR:OG1	1:B:295:THR:N	2.52	0.42
1:B:321:ALA:CB	1:B:328:SER:HB3	2.50	0.42
1:B:348:LYS:O	1:B:352:THR:HG22	2.19	0.42
1:C:473:ILE:HD13	1:C:481:MET:CE	2.48	0.42
1:D:281:THR:HG22	1:D:282:VAL:HG23	2.01	0.42
1:F:122[A]:LYS:HG3	1:F:123[A]:TYR:H	1.83	0.42
2:N:142:LYS:CA	2:N:145:LYS:HE3	2.34	0.42
2:N:156:THR:H	4:N:301:HCB:H332	1.64	0.42
2:N:185:ALA:N	2:N:186:PRO:HD2	2.34	0.42
2:R:13:GLU:HG3	2:R:14:ALA:N	2.35	0.42
2:R:87:ARG:CG	2:R:88:LYS:N	2.79	0.42
1:C:94:PHE:CG	1:C:178:LYS:HG2	2.55	0.42
1:D:293:THR:HG22	1:D:313:ILE:HD13	2.02	0.42
1:D:381:VAL:HG11	1:D:461:VAL:HG22	2.01	0.42
1:E:84:ARG:HB2	1:E:99:GLU:HB3	2.02	0.42
1:E:116:CYS:O	1:E:117[A]:LYS:HG3	2.20	0.42
1:E:221:THR:HG21	2:Q:106:ILE:HG21	2.00	0.42
1:E:380:LEU:HD13	1:E:380:LEU:C	2.39	0.42
1:F:321:ALA:CB	1:F:328:SER:HB3	2.49	0.42
2:M:147:GLN:O	2:M:178:VAL:HG23	2.18	0.42
2:P:115:ALA:O	2:P:125:VAL:HG21	2.20	0.42
1:A:183:ILE:O	1:A:183:ILE:HG22	2.20	0.42
1:B:51:GLN:NE2	1:B:55:GLU:CG	2.79	0.42
1:B:341:ASP:HB2	5:E:743:HOH:O	2.19	0.42
1:F:138:LYS:HE3	1:F:468:HIS:O	2.20	0.42
2:M:94:LEU:HD13	2:M:122:GLY:O	2.19	0.42
2:M:207:ALA:O	2:M:211:VAL:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:10:LYS:HD3	2:N:26:VAL:HG22	2.02	0.42
2:N:22:LEU:O	2:N:26:VAL:HG23	2.19	0.42
2:P:15:ILE:HD12	2:P:45:PHE:O	2.20	0.42
1:B:122[A]:LYS:HD3	1:B:122[A]:LYS:N	2.34	0.42
1:C:392:LYS:NZ	1:C:395:GLN:HE22	2.18	0.42
1:E:173:LEU:HD22	1:E:213:ILE:HD12	2.01	0.42
2:P:163:ILE:HA	2:P:195:ILE:HD11	2.02	0.42
2:Q:49:MET:HG3	2:Q:120:ILE:HG13	2.02	0.42
2:Q:87:ARG:HB2	2:Q:88:LYS:H	1.71	0.42
2:R:163:ILE:HA	2:R:195:ILE:HD11	2.01	0.42
1:A:281:THR:HG22	1:A:282:VAL:HG23	2.01	0.41
1:A:409:ILE:HD12	1:F:266:THR:OG1	2.20	0.41
1:A:483:ALA:O	1:A:486:ASP:HB2	2.20	0.41
1:B:149:PHE:CZ	1:B:152:PRO:HD3	2.54	0.41
1:B:380:LEU:C	1:B:380:LEU:HD13	2.41	0.41
1:D:473:ILE:HD13	1:D:481:MET:HE1	2.02	0.41
2:M:49:MET:HG3	2:M:120:ILE:HA	2.00	0.41
2:P:81:THR:N	2:P:82:PRO:CD	2.83	0.41
2:P:85:GLU:HG3	2:P:86:LYS:N	2.35	0.41
2:P:212:LYS:O	2:P:216:ASN:N	2.53	0.41
2:Q:174:VAL:O	2:Q:174:VAL:HG23	2.20	0.41
2:R:90:GLN:HE21	2:R:90:GLN:HB3	1.51	0.41
1:C:119[B]:GLN:HB2	1:C:122[B]:LYS:HD2	2.02	0.41
1:C:392:LYS:HB3	1:D:308:PRO:HG3	2.02	0.41
1:D:107:THR:O	1:D:364:TYR:HA	2.20	0.41
1:D:176:THR:HG22	1:D:177:ALA:N	2.34	0.41
1:E:118[A]:TYR:CE2	1:E:121[A]:GLY:HA2	2.55	0.41
2:M:101:THR:HB	2:M:130:ARG:HA	2.02	0.41
2:O:153:ALA:C	2:O:154:LEU:HD12	2.41	0.41
4:O:301:HCB:H482	4:O:301:HCB:H533	2.02	0.41
2:Q:185:ALA:HB3	2:Q:186:PRO:CD	2.50	0.41
4:Q:301:HCB:H3P1	4:Q:301:HCB:H5R2	2.02	0.41
2:R:156:THR:N	4:R:301:HCB:N33	2.68	0.41
1:A:81:ALA:CB	1:A:326:LEU:HD21	2.49	0.41
1:B:200:TYR:HA	1:B:477:ILE:CG2	2.51	0.41
1:B:201:TYR:CD2	1:B:208:ALA:HA	2.54	0.41
1:C:149:PHE:CZ	1:C:152:PRO:HD3	2.55	0.41
1:D:248:SER:HB3	1:D:271:VAL:HG23	2.01	0.41
1:E:294:THR:OG1	1:E:295:THR:N	2.51	0.41
2:Q:146:PRO:HA	2:Q:147:GLN:OE1	2.20	0.41
1:A:37:LEU:HD23	1:A:37:LEU:HA	1.82	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:332:GLY:O	1:A:333:SER:C	2.58	0.41
1:C:201:TYR:CD2	1:C:208:ALA:HA	2.54	0.41
1:D:334:PYL:HD2	1:D:368:MET:CE	2.48	0.41
1:E:145:ASN:HB2	1:E:384:ASN:HD22	1.85	0.41
1:F:109:PHE:HB2	1:F:365:GLY:HA2	2.02	0.41
1:F:124[A]:VAL:HG12	1:F:125:THR:N	2.35	0.41
1:A:319:LYS:NZ	5:A:704:HOH:O	2.46	0.41
1:B:245:ASN:C	1:B:245:ASN:HD22	2.23	0.41
1:E:385:ASP:OD2	1:E:437:LEU:HG	2.21	0.41
2:M:46:THR:O	2:M:50:GLU:HG3	2.20	0.41
2:O:115:ALA:O	2:O:125:VAL:HG21	2.21	0.41
4:P:301:HCB:H531	4:P:301:HCB:C55	2.50	0.41
4:P:301:HCB:H482	4:P:301:HCB:H533	2.03	0.41
2:Q:10:LYS:HB3	2:Q:26:VAL:CG2	2.50	0.41
2:Q:40:LEU:HD23	2:Q:80:ILE:HD13	2.03	0.41
2:R:101:THR:CG2	2:R:105:ASP:HB3	2.50	0.41
1:A:24:ASP:HB3	1:F:10:PHE:CE2	2.56	0.41
1:A:156:ARG:NH2	2:M:156:THR:HG22	2.34	0.41
1:D:171:THR:CB	1:D:172:PRO:HD3	2.43	0.41
1:F:229:ASN:O	1:F:233:VAL:HG23	2.20	0.41
2:N:170:LYS:HB3	2:N:170:LYS:HZ3	1.84	0.41
2:O:29:GLU:HG3	2:O:29:GLU:O	2.20	0.41
2:Q:118:LEU:CD2	2:Q:208:VAL:HG22	2.28	0.41
2:R:168:GLN:HA	2:R:171:GLU:HG2	2.03	0.41
1:B:94:PHE:CG	1:B:178:LYS:HG2	2.56	0.41
1:C:176:THR:CG2	1:C:178:LYS:HB2	2.51	0.41
1:C:294:THR:OG1	1:C:295:THR:N	2.52	0.41
1:C:331:ALA:HB1	1:C:334:PYL:CE	2.51	0.41
1:F:48:GLU:O	1:F:52:ILE:HG13	2.21	0.41
2:M:212:LYS:O	2:M:216:ASN:N	2.54	0.41
2:N:21:GLU:N	2:N:21:GLU:OE1	2.53	0.41
2:P:85:GLU:C	2:P:87:ARG:N	2.74	0.41
1:B:292:SER:OG	1:B:334:PYL:HA2	2.21	0.41
1:C:245:ASN:C	1:C:245:ASN:HD22	2.23	0.41
1:C:350:MET:CE	1:C:354:LEU:HD11	2.49	0.41
1:E:201:TYR:CD2	1:E:208:ALA:HA	2.55	0.41
1:E:473:ILE:HD13	1:E:481:MET:CE	2.48	0.41
2:M:63:LEU:HD23	2:M:113:ILE:HD13	2.01	0.41
2:M:181:MET:HE3	2:M:199:ILE:HG21	2.02	0.41
2:O:101:THR:HB	2:O:130:ARG:HA	2.03	0.41
2:O:141:VAL:HG22	2:O:149:VAL:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:86:VAL:HG12	1:A:87:LEU:O	2.20	0.41
1:A:348:LYS:HG3	1:A:379:GLN:NE2	2.36	0.41
1:A:354:LEU:HB2	1:A:355:PRO:CD	2.51	0.41
1:A:457:ALA:O	1:A:461:VAL:HG23	2.21	0.41
1:B:84:ARG:HB2	1:B:99:GLU:HB3	2.03	0.41
1:B:249:MET:HG2	5:N:413:HOH:O	2.21	0.41
1:C:430:TYR:HE2	5:D:659:HOH:O	2.04	0.41
1:D:103:LYS:O	1:D:361:ASN:HA	2.21	0.41
1:D:118[B]:TYR:CD1	1:D:118[B]:TYR:C	2.94	0.41
1:D:129:VAL:O	1:D:130:GLU:C	2.59	0.41
1:E:100:CYS:SG	1:E:325:GLY:HA2	2.60	0.41
1:E:200:TYR:HA	1:E:477:ILE:CG2	2.51	0.41
1:F:176:THR:CG2	1:F:178:LYS:HB2	2.51	0.41
1:F:218:LEU:CD2	1:F:234:ILE:HG13	2.51	0.41
1:F:392:LYS:HG2	1:F:432:SER:HB3	2.03	0.41
2:N:140:LYS:HD3	2:N:140:LYS:HA	1.91	0.41
2:O:11:ALA:HB1	2:O:45:PHE:CD1	2.56	0.41
2:O:15:ILE:HD12	2:O:45:PHE:CA	2.51	0.41
2:O:81:THR:HG22	2:O:86:LYS:CG	2.51	0.41
2:O:88:LYS:O	2:O:89:SER:C	2.58	0.41
2:O:99:ILE:HG12	2:O:100:GLY:N	2.36	0.41
2:O:212:LYS:O	2:O:216:ASN:N	2.53	0.41
2:P:31:LEU:CD2	2:P:80:ILE:HG22	2.47	0.41
2:Q:148:VAL:HG12	2:Q:148:VAL:O	2.21	0.41
2:Q:153:ALA:C	2:Q:154:LEU:HD13	2.42	0.41
2:R:141:VAL:HG22	2:R:149:VAL:HG21	2.02	0.41
4:R:301:HCB:H531	4:R:301:HCB:C55	2.51	0.41
1:B:198:LYS:HE3	1:B:205:GLU:HB2	2.03	0.41
1:C:305:VAL:HG11	1:C:368:MET:HE1	2.02	0.41
1:D:165:ASP:OD2	1:D:189:ASN:ND2	2.54	0.41
1:D:267:HIS:NE2	1:D:289:TYR:CE1	2.89	0.41
1:D:320:LEU:O	1:D:323:PHE:HB3	2.21	0.41
2:M:95:GLY:HA2	2:M:147:GLN:HE21	1.85	0.41
2:Q:10:LYS:HB3	2:Q:26:VAL:HG21	2.03	0.41
2:Q:97:VAL:HG11	2:Q:118:LEU:HD13	2.02	0.41
2:Q:111:LYS:HD2	2:Q:112:ASP:N	2.35	0.41
2:Q:169:LEU:HB2	2:Q:175:ARG:HD2	2.03	0.41
2:R:62:PHE:CD1	2:R:62:PHE:N	2.88	0.41
1:A:217:LEU:C	1:A:217:LEU:CD2	2.89	0.40
1:A:442:PHE:HB2	1:F:370:GLU:OE2	2.22	0.40
1:B:46:ASP:OD1	1:B:48:GLU:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:188:GLU:HG2	5:C:733:HOH:O	2.21	0.40
1:C:227:SER:HB3	5:C:712:HOH:O	2.20	0.40
1:D:229:ASN:O	1:D:233:VAL:HG23	2.21	0.40
1:D:419:LEU:O	2:O:64:PRO:HA	2.22	0.40
1:E:64:THR:O	1:E:65:ASN:HB2	2.20	0.40
2:M:92:LYS:HB2	2:M:124:LYS:HE2	2.02	0.40
2:M:154:LEU:HD21	4:M:301:HCB:O4	2.20	0.40
4:M:301:HCB:H533	4:M:301:HCB:H482	2.03	0.40
2:N:49:MET:HE1	2:N:70:ALA:HA	2.03	0.40
2:N:87:ARG:O	2:N:88:LYS:HB2	2.21	0.40
2:P:26:VAL:HG23	2:P:29:GLU:OE2	2.20	0.40
2:Q:134:ILE:CD1	2:Q:164:GLN:HB3	2.50	0.40
1:A:219:CYS:HA	1:A:220:PRO:HD3	1.97	0.40
1:A:397:ILE:HD12	1:F:316:ALA:HB2	2.03	0.40
5:A:735:HOH:O	2:M:62:PHE:HD2	2.03	0.40
1:B:218:LEU:CD2	1:B:234:ILE:HG13	2.50	0.40
1:B:235:ILE:O	1:B:239:ARG:HG3	2.20	0.40
1:B:304:PRO:HB3	1:E:439:ARG:HD3	2.02	0.40
1:B:385:ASP:OD2	1:B:437:LEU:HG	2.20	0.40
1:C:19:ASN:HB2	1:D:17:GLU:HB3	2.04	0.40
1:E:374:THR:CG2	1:E:375:PHE:N	2.84	0.40
2:M:117:MET:HA	2:M:120:ILE:HG22	2.04	0.40
2:M:141:VAL:HG22	2:M:149:VAL:HG21	2.03	0.40
2:M:153:ALA:C	2:M:154:LEU:HD12	2.41	0.40
2:M:168:GLN:HA	2:M:171:GLU:HG2	2.03	0.40
2:Q:8:ILE:O	2:Q:8:ILE:HG22	2.20	0.40
1:B:194:ARG:HG2	1:B:194:ARG:NH1	2.34	0.40
1:D:73:LEU:HD23	1:D:73:LEU:HA	1.66	0.40
1:D:354:LEU:HB2	1:D:355:PRO:CD	2.51	0.40
1:E:248:SER:HB3	1:E:271:VAL:HG23	2.02	0.40
1:F:198:LYS:HE3	1:F:205:GLU:HB2	2.03	0.40
2:M:81:THR:N	2:M:82:PRO:HD3	2.37	0.40
2:N:77:ILE:HA	2:N:80:ILE:HG12	2.04	0.40
2:N:102:ILE:HD12	2:N:162:GLN:CG	2.52	0.40
2:P:99:ILE:HA	2:P:150:ALA:O	2.21	0.40
4:Q:301:HCB:H473	4:Q:301:HCB:H481	2.01	0.40
2:R:77:ILE:O	2:R:78:LYS:C	2.59	0.40
2:R:81:THR:N	2:R:82:PRO:CD	2.83	0.40
2:R:97:VAL:HG13	2:R:148:VAL:HB	2.04	0.40
1:A:332:GLY:O	1:A:365:GLY:HA3	2.22	0.40
1:B:442:PHE:HB2	1:E:370:GLU:OE2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:291:SER:HB3	1:C:317:VAL:HG11	2.03	0.40
1:D:116:CYS:H	1:D:374:THR:CG2	2.35	0.40
1:D:169:THR:C	1:D:172:PRO:HD2	2.41	0.40
1:D:451:LYS:N	5:D:602:HOH:O	2.37	0.40
1:D:493:ARG:C	1:D:495:MET:N	2.75	0.40
1:F:64:THR:O	1:F:65:ASN:HB2	2.22	0.40
1:F:294:THR:OG1	1:F:295:THR:N	2.54	0.40
1:A:26:LEU:HD13	1:A:323:PHE:CD1	2.57	0.40
1:A:248:SER:HB2	5:A:703:HOH:O	2.22	0.40
1:A:489:ASP:O	1:A:493:ARG:HG3	2.22	0.40
1:B:123[B]:TYR:HE2	1:E:442:PHE:CE2	2.39	0.40
1:C:397:ILE:HD13	1:D:264:LEU:HD11	2.04	0.40
1:D:300:LYS:HB2	1:D:302:THR:HG22	2.03	0.40
1:D:381:VAL:CG2	1:D:457:ALA:HB1	2.52	0.40
1:F:149:PHE:CZ	1:F:152:PRO:HD3	2.56	0.40
1:F:275:ILE:HD13	1:F:326:LEU:CD1	2.52	0.40
2:M:56:PHE:CE2	2:M:117:MET:CE	3.05	0.40
2:N:201:GLY:HA3	4:N:301:HCB:C7B	2.52	0.40
2:Q:133:PRO:HG2	2:Q:136:THR:OG1	2.21	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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	489/503 (97%)	453 (93%)	35 (7%)	1 (0%)	47	73
1	B	499/503 (99%)	479 (96%)	20 (4%)	0	100	100
1	C	499/503 (99%)	482 (97%)	17 (3%)	0	100	100
1	D	489/503 (97%)	457 (94%)	30 (6%)	2 (0%)	34	60
1	E	499/503 (99%)	475 (95%)	24 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	F	499/503 (99%)	469 (94%)	30 (6%)	0	100	100
2	M	212/224 (95%)	191 (90%)	14 (7%)	7 (3%)	4	8
2	N	208/224 (93%)	186 (89%)	15 (7%)	7 (3%)	3	8
2	O	212/224 (95%)	187 (88%)	18 (8%)	7 (3%)	4	8
2	P	213/224 (95%)	187 (88%)	20 (9%)	6 (3%)	5	11
2	Q	207/224 (92%)	155 (75%)	36 (17%)	16 (8%)	1	1
2	R	212/224 (95%)	185 (87%)	22 (10%)	5 (2%)	6	15
All	All	4238/4362 (97%)	3906 (92%)	281 (7%)	51 (1%)	13	32

All (51) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	4	ASN
2	M	85	GLU
2	O	94	LEU
2	O	95	GLY
2	P	84	MET
2	Q	109	ILE
2	Q	178	VAL
2	Q	179	LYS
2	M	33	ALA
2	M	95	GLY
2	N	87	ARG
2	P	82	PRO
2	P	86	LYS
2	P	95	GLY
2	Q	197	ALA
2	R	35	ILE
2	R	95	GLY
2	N	88	LYS
2	N	108	SER
2	N	139	GLU
2	N	167	GLU
2	O	88	LYS
2	R	21	GLU
1	D	442	PHE
2	M	94	LEU
2	N	176	ASP
2	O	35	ILE
2	P	94	LEU

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Mol	Chain	Res	Type
2	Q	108	SER
2	Q	127	ASP
2	Q	146	PRO
2	Q	148	VAL
1	A	130	GLU
2	M	92	LYS
2	O	84	MET
2	Q	107	HIS
2	Q	145	LYS
2	Q	210	LYS
2	R	88	LYS
2	N	4	LYS
2	Q	155	MET
2	Q	174	VAL
2	P	102	ILE
2	Q	102	ILE
2	M	82	PRO
2	M	102	ILE
2	O	80	ILE
2	O	102	ILE
2	Q	165	ILE
2	R	102	ILE
2	Q	97	VAL

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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	407/411 (99%)	391 (96%)	16 (4%)	32	61
1	B	411/411 (100%)	401 (98%)	10 (2%)	49	77
1	C	411/411 (100%)	402 (98%)	9 (2%)	52	79
1	D	407/411 (99%)	395 (97%)	12 (3%)	42	71
1	E	411/411 (100%)	404 (98%)	7 (2%)	60	84
1	F	411/411 (100%)	402 (98%)	9 (2%)	52	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles		
2	M	169/176 (96%)	163 (96%)	6 (4%)		35	64
2	N	166/176 (94%)	159 (96%)	7 (4%)		30	58
2	O	169/176 (96%)	162 (96%)	7 (4%)		30	59
2	P	169/176 (96%)	160 (95%)	9 (5%)		22	48
2	Q	166/176 (94%)	159 (96%)	7 (4%)		30	58
2	R	169/176 (96%)	163 (96%)	6 (4%)		35	64
All	All	3466/3522 (98%)	3361 (97%)	105 (3%)		42	70

All (105) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	13	LEU
1	A	84	ARG
1	A	90	ARG
1	A	91	ASP
1	A	116	CYS
1	A	123[A]	TYR
1	A	123[B]	TYR
1	A	151	LEU
1	A	156	ARG
1	A	239	ARG
1	A	245	ASN
1	A	277	LEU
1	A	288	TRP
1	A	289	TYR
1	A	342	ASP
1	A	374	THR
1	B	84	ARG
1	B	90	ARG
1	B	109	PHE
1	B	118[A]	TYR
1	B	118[B]	TYR
1	B	122[A]	LYS
1	B	122[B]	LYS
1	B	245	ASN
1	B	277	LEU
1	B	310	LEU
1	C	84	ARG
1	C	90	ARG
1	C	109	PHE

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Mol	Chain	Res	Type
1	C	122[A]	LYS
1	C	122[B]	LYS
1	C	245	ASN
1	C	277	LEU
1	C	310	LEU
1	C	364	TYR
1	D	35	GLU
1	D	84	ARG
1	D	117[A]	LYS
1	D	117[B]	LYS
1	D	151	LEU
1	D	156	ARG
1	D	239	ARG
1	D	245	ASN
1	D	277	LEU
1	D	288	TRP
1	D	305	VAL
1	D	310	LEU
1	E	84	ARG
1	E	90	ARG
1	E	109	PHE
1	E	245	ASN
1	E	277	LEU
1	E	310	LEU
1	E	364	TYR
1	F	84	ARG
1	F	90	ARG
1	F	109	PHE
1	F	119[A]	GLN
1	F	119[B]	GLN
1	F	245	ASN
1	F	277	LEU
1	F	310	LEU
1	F	364	TYR
2	M	17	ASP
2	M	21	GLU
2	M	90	GLN
2	M	128	LEU
2	M	147	GLN
2	M	190	ASP
2	N	20	ASP
2	N	21	GLU

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Mol	Chain	Res	Type
2	N	49	MET
2	N	62	PHE
2	N	112	ASP
2	N	147	GLN
2	N	176	ASP
2	O	10	LYS
2	O	28	ASN
2	O	60	GLU
2	O	90	GLN
2	O	128	LEU
2	O	147	GLN
2	O	190	ASP
2	P	3	ASN
2	P	17	ASP
2	P	42	GLU
2	P	90	GLN
2	P	94	LEU
2	P	111	LYS
2	P	128	LEU
2	P	147	GLN
2	P	190	ASP
2	Q	4	LYS
2	Q	18	PHE
2	Q	87	ARG
2	Q	111	LYS
2	Q	154	LEU
2	Q	175	ARG
2	Q	195	ILE
2	R	3	ASN
2	R	39	GLU
2	R	90	GLN
2	R	128	LEU
2	R	147	GLN
2	R	190	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (104) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	51	GLN
1	A	167	HIS
1	A	175	ASN
1	A	182	HIS

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Mol	Chain	Res	Type
1	A	232	GLN
1	A	245	ASN
1	A	268	ASN
1	A	384	ASN
1	A	395	GLN
1	A	410	GLN
1	A	416	ASN
1	A	468	HIS
1	B	51	GLN
1	B	167	HIS
1	B	182	HIS
1	B	232	GLN
1	B	245	ASN
1	B	268	ASN
1	B	384	ASN
1	B	395	GLN
1	B	410	GLN
1	B	416	ASN
1	B	426	GLN
1	B	440	HIS
1	B	458	HIS
1	B	468	HIS
1	C	51	GLN
1	C	167	HIS
1	C	182	HIS
1	C	232	GLN
1	C	245	ASN
1	C	268	ASN
1	C	384	ASN
1	C	395	GLN
1	C	410	GLN
1	C	416	ASN
1	C	426	GLN
1	C	440	HIS
1	C	458	HIS
1	C	468	HIS
1	D	51	GLN
1	D	167	HIS
1	D	182	HIS
1	D	189	ASN
1	D	232	GLN
1	D	245	ASN

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Mol	Chain	Res	Type
1	D	268	ASN
1	D	384	ASN
1	D	395	GLN
1	D	416	ASN
1	D	426	GLN
1	D	468	HIS
1	D	482	GLN
1	E	51	GLN
1	E	167	HIS
1	E	182	HIS
1	E	232	GLN
1	E	245	ASN
1	E	268	ASN
1	E	384	ASN
1	E	395	GLN
1	E	410	GLN
1	E	416	ASN
1	E	426	GLN
1	E	468	HIS
1	F	51	GLN
1	F	167	HIS
1	F	182	HIS
1	F	232	GLN
1	F	245	ASN
1	F	268	ASN
1	F	384	ASN
1	F	395	GLN
1	F	410	GLN
1	F	416	ASN
1	F	426	GLN
1	F	458	HIS
1	F	468	HIS
2	M	3	ASN
2	M	161	ASN
2	M	164	GLN
2	M	216	ASN
2	N	119	ASN
2	N	205	ASN
2	O	3	ASN
2	O	28	ASN
2	O	161	ASN
2	O	164	GLN

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Mol	Chain	Res	Type
2	O	216	ASN
2	P	58	GLN
2	P	74	ASN
2	P	90	GLN
2	P	147	GLN
2	P	161	ASN
2	P	164	GLN
2	P	216	ASN
2	Q	74	ASN
2	Q	135	ASN
2	Q	162	GLN
2	Q	177	GLN
2	R	3	ASN
2	R	161	ASN
2	R	164	GLN
2	R	216	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 monosaccharides in this entry.

5.6　Ligand geometry ⓘ

10 ligands are modelled in this entry.

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
3	GOL	A	601	-	5,5,5	0.32	0	5,5,5	0.89	0
3	GOL	E	601	-	5,5,5	0.26	0	5,5,5	0.96	0
4	HCB	N	301	2	88,100,100	1.05	3 (3%)	138,164,164	1.48	18 (13%)
4	HCB	Q	301	2	88,100,100	1.00	3 (3%)	138,164,164	1.50	18 (13%)
3	GOL	C	601	-	5,5,5	0.34	0	5,5,5	0.49	0
4	HCB	O	301	2	88,100,100	1.02	4 (4%)	138,164,164	1.46	16 (11%)
4	HCB	R	301	2	88,100,100	1.02	2 (2%)	138,164,164	1.47	18 (13%)
4	HCB	P	301	2	88,100,100	0.99	4 (4%)	138,164,164	1.48	18 (13%)
4	HCB	M	301	2	88,100,100	1.00	4 (4%)	138,164,164	1.46	16 (11%)
3	GOL	F	601	-	5,5,5	0.37	0	5,5,5	0.61	0

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
3	GOL	A	601	-	-	0/4/4/4	-
3	GOL	E	601	-	-	0/4/4/4	-
4	HCB	N	301	2	-	14/52/223/223	0/3/11/11
4	HCB	Q	301	2	-	16/52/223/223	0/3/11/11
3	GOL	C	601	-	-	2/4/4/4	-
4	HCB	O	301	2	-	12/52/223/223	0/3/11/11
4	HCB	R	301	2	-	12/52/223/223	0/3/11/11
4	HCB	P	301	2	-	12/52/223/223	0/3/11/11
4	HCB	M	301	2	-	12/52/223/223	0/3/11/11
3	GOL	F	601	-	-	0/4/4/4	-

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	Q	301	HCB	C14-N23	4.47	1.42	1.30
4	P	301	HCB	C14-N23	4.44	1.42	1.30
4	M	301	HCB	C14-N23	4.38	1.42	1.30
4	N	301	HCB	C14-N23	4.35	1.42	1.30
4	R	301	HCB	C14-N23	4.35	1.42	1.30
4	O	301	HCB	C14-N23	4.33	1.42	1.30
4	R	301	HCB	C6B-C5B	3.25	1.45	1.38
4	O	301	HCB	C6B-C5B	3.16	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	P	301	HCB	C6B-C5B	3.11	1.44	1.38
4	M	301	HCB	C6B-C5B	3.07	1.44	1.38
4	Q	301	HCB	C6B-C5B	3.05	1.44	1.38
4	N	301	HCB	C6B-C5B	2.81	1.44	1.38
4	M	301	HCB	C2B-N3B	-2.20	1.30	1.34
4	N	301	HCB	C4B-C5B	2.20	1.41	1.37
4	Q	301	HCB	C2B-N3B	-2.14	1.30	1.34
4	P	301	HCB	C2B-N3B	-2.13	1.30	1.34
4	O	301	HCB	C4B-C5B	2.13	1.41	1.37
4	P	301	HCB	C4B-C5B	2.10	1.41	1.37
4	M	301	HCB	C4B-C5B	2.08	1.41	1.37
4	O	301	HCB	C2B-N3B	-2.01	1.31	1.34

All (104) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	Q	301	HCB	C11-N23-C14	8.89	109.67	106.31
4	R	301	HCB	C11-N23-C14	8.74	109.62	106.31
4	P	301	HCB	C11-N23-C14	8.68	109.59	106.31
4	M	301	HCB	C11-N23-C14	8.39	109.48	106.31
4	N	301	HCB	C11-N23-C14	8.35	109.47	106.31
4	O	301	HCB	C11-N23-C14	8.35	109.47	106.31
4	N	301	HCB	C18-C60-C61	4.54	125.30	113.97
4	Q	301	HCB	C18-C60-C61	4.34	124.79	113.97
4	M	301	HCB	C18-C60-C61	4.08	124.15	113.97
4	O	301	HCB	C18-C60-C61	4.03	124.03	113.97
4	P	301	HCB	C18-C60-C61	3.96	123.85	113.97
4	R	301	HCB	C18-C60-C61	3.91	123.73	113.97
4	N	301	HCB	C2R-C3R-C4R	3.01	108.56	103.22
4	R	301	HCB	C30-C3-C4	2.94	116.47	109.63
4	Q	301	HCB	C30-C3-C4	2.92	116.43	109.63
4	M	301	HCB	C30-C3-C4	2.92	116.42	109.63
4	P	301	HCB	C30-C3-C4	2.90	116.38	109.63
4	R	301	HCB	P-O2-C3R	2.90	129.95	119.41
4	O	301	HCB	C30-C3-C4	2.90	116.37	109.63
4	O	301	HCB	P-O2-C3R	2.88	129.87	119.41
4	P	301	HCB	C20-C1-N21	-2.83	105.62	110.27
4	P	301	HCB	P-O2-C3R	2.80	129.59	119.41
4	M	301	HCB	C20-C1-N21	-2.79	105.70	110.27
4	N	301	HCB	P-O2-C3R	2.75	129.40	119.41
4	M	301	HCB	C2R-C3R-C4R	2.73	108.06	103.22
4	M	301	HCB	P-O2-C3R	2.72	129.32	119.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	N	301	HCB	C30-C3-C4	2.72	115.95	109.63
4	Q	301	HCB	O5M-C5B-C4B	-2.71	113.20	120.98
4	R	301	HCB	O5M-C5B-C4B	-2.71	113.21	120.98
4	O	301	HCB	C20-C1-N21	-2.70	105.83	110.27
4	Q	301	HCB	C30-C31-C32	2.69	121.73	112.59
4	O	301	HCB	C2R-C3R-C4R	2.66	107.94	103.22
4	P	301	HCB	C2R-C3R-C4R	2.66	107.94	103.22
4	O	301	HCB	O5M-C5B-C4B	-2.64	113.40	120.98
4	R	301	HCB	C2R-C3R-C4R	2.64	107.90	103.22
4	M	301	HCB	O5M-C5B-C4B	-2.63	113.42	120.98
4	N	301	HCB	C30-C31-C32	2.63	121.52	112.59
4	N	301	HCB	O5M-C5B-C4B	-2.61	113.49	120.98
4	P	301	HCB	O5M-C5B-C4B	-2.61	113.49	120.98
4	M	301	HCB	C30-C31-C32	2.59	121.38	112.59
4	N	301	HCB	C12-C11-N23	2.58	114.27	111.48
4	Q	301	HCB	O5M-C5B-C6B	2.56	127.33	120.02
4	R	301	HCB	C30-C31-C32	2.56	121.27	112.59
4	O	301	HCB	C30-C31-C32	2.55	121.23	112.59
4	P	301	HCB	C12-C11-N23	2.54	114.23	111.48
4	Q	301	HCB	C31-C30-C3	-2.53	107.44	114.73
4	P	301	HCB	C30-C31-C32	2.52	121.13	112.59
4	R	301	HCB	C20-C1-N21	-2.52	106.14	110.27
4	Q	301	HCB	P-O2-C3R	2.50	128.51	119.41
4	P	301	HCB	C36-C7-C6	2.47	125.22	112.40
4	M	301	HCB	C36-C7-C6	2.47	125.21	112.40
4	Q	301	HCB	C36-C7-C6	2.46	125.18	112.40
4	Q	301	HCB	C12-C13-C14	2.45	105.10	101.86
4	R	301	HCB	O5M-C5B-C6B	2.45	127.01	120.02
4	O	301	HCB	C36-C7-C37	-2.44	106.78	110.80
4	O	301	HCB	C36-C7-C6	2.44	125.05	112.40
4	R	301	HCB	C36-C7-C6	2.43	125.00	112.40
4	M	301	HCB	C12-C11-N23	2.41	114.09	111.48
4	N	301	HCB	C36-C7-C6	2.41	124.93	112.40
4	O	301	HCB	O5M-C5B-C6B	2.41	126.89	120.02
4	P	301	HCB	C36-C7-C37	-2.40	106.84	110.80
4	O	301	HCB	C12-C11-N23	2.40	114.07	111.48
4	P	301	HCB	C54-C17-C55	-2.39	105.30	109.25
4	M	301	HCB	O5M-C5B-C6B	2.39	126.84	120.02
4	M	301	HCB	C36-C7-C37	-2.38	106.88	110.80
4	N	301	HCB	C2P-C1P-N59	2.38	116.44	112.93
4	Q	301	HCB	C2R-C3R-C4R	2.35	107.39	103.22
4	P	301	HCB	O5M-C5B-C6B	2.35	126.72	120.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	N	301	HCB	O5M-C5B-C6B	2.34	126.69	120.02
4	N	301	HCB	C1-C19-N24	2.32	110.00	106.33
4	R	301	HCB	C54-C17-C55	-2.31	105.43	109.25
4	R	301	HCB	C12-C11-N23	2.30	113.97	111.48
4	N	301	HCB	C8-C9-C10	-2.29	118.37	123.32
4	O	301	HCB	C8-C9-C10	-2.26	118.44	123.32
4	R	301	HCB	C36-C7-C37	-2.26	107.08	110.80
4	M	301	HCB	C8-C9-C10	-2.25	118.47	123.32
4	R	301	HCB	C8-C9-C10	-2.23	118.50	123.32
4	Q	301	HCB	C2-C3-C4	2.21	104.14	101.63
4	Q	301	HCB	C54-C17-C55	-2.20	105.62	109.25
4	Q	301	HCB	C20-C1-C19	-2.19	105.83	110.23
4	N	301	HCB	C36-C7-C37	-2.19	107.19	110.80
4	M	301	HCB	C19-C1-N21	2.18	104.44	101.67
4	Q	301	HCB	C36-C7-C37	-2.18	107.22	110.80
4	M	301	HCB	C54-C17-C55	-2.17	105.67	109.25
4	P	301	HCB	C8-C9-C10	-2.16	118.65	123.32
4	Q	301	HCB	C12-C11-N23	2.16	113.82	111.48
4	O	301	HCB	C54-C17-C55	-2.15	105.70	109.25
4	Q	301	HCB	C1-C19-N24	2.14	109.73	106.33
4	N	301	HCB	C20-C1-C19	-2.14	105.95	110.23
4	R	301	HCB	C12-C13-C14	2.12	104.66	101.86
4	R	301	HCB	C19-C1-N21	2.11	104.35	101.67
4	O	301	HCB	C12-C13-C14	2.10	104.64	101.86
4	N	301	HCB	O3-C2P-C1P	2.10	111.11	106.92
4	O	301	HCB	C19-C1-N21	2.09	104.33	101.67
4	N	301	HCB	C42-C41-C8	2.09	120.76	114.73
4	N	301	HCB	C12-C13-C14	2.09	104.62	101.86
4	M	301	HCB	C12-C13-C14	2.08	104.60	101.86
4	P	301	HCB	C1-C2-C3	-2.05	98.98	101.60
4	P	301	HCB	C19-C1-N21	2.05	104.27	101.67
4	R	301	HCB	C1-C19-N24	2.04	109.57	106.33
4	P	301	HCB	C1-C19-N24	2.04	109.56	106.33
4	Q	301	HCB	C42-C41-C8	2.02	120.55	114.73
4	R	301	HCB	C20-C1-C19	-2.01	106.19	110.23
4	P	301	HCB	C42-C41-C8	2.00	120.51	114.73

There are no chirality outliers.

All (80) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	M	301	HCB	C2-C3-C30-C31

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Mol	Chain	Res	Type	Atoms
4	M	301	HCB	C4-C3-C30-C31
4	M	301	HCB	C1P-C2P-O3-P
4	M	301	HCB	C3P-C2P-O3-P
4	M	301	HCB	C2P-O3-P-O4
4	N	301	HCB	C1P-C2P-O3-P
4	N	301	HCB	C3P-C2P-O3-P
4	N	301	HCB	C2P-O3-P-O4
4	O	301	HCB	C2-C3-C30-C31
4	O	301	HCB	C4-C3-C30-C31
4	O	301	HCB	C1P-C2P-O3-P
4	O	301	HCB	C3P-C2P-O3-P
4	O	301	HCB	C2P-O3-P-O4
4	P	301	HCB	C2-C3-C30-C31
4	P	301	HCB	C4-C3-C30-C31
4	P	301	HCB	C1P-C2P-O3-P
4	P	301	HCB	C3P-C2P-O3-P
4	P	301	HCB	C2P-O3-P-O4
4	Q	301	HCB	C4-C3-C30-C31
4	Q	301	HCB	C1P-C2P-O3-P
4	Q	301	HCB	C3P-C2P-O3-P
4	Q	301	HCB	C2P-O3-P-O4
4	R	301	HCB	C2-C3-C30-C31
4	R	301	HCB	C4-C3-C30-C31
4	R	301	HCB	C1P-C2P-O3-P
4	R	301	HCB	C3P-C2P-O3-P
4	R	301	HCB	C2P-O3-P-O4
4	Q	301	HCB	C2-C3-C30-C31
4	N	301	HCB	C42-C41-C8-C9
4	Q	301	HCB	C14-C13-C48-C49
4	N	301	HCB	O6R-C4R-C5R-O8R
4	N	301	HCB	C18-C60-C61-O63
4	N	301	HCB	C18-C60-C61-N62
4	N	301	HCB	C30-C31-C32-N33
4	O	301	HCB	C30-C31-C32-N33
4	Q	301	HCB	C30-C31-C32-N33
3	C	601	GOL	O1-C1-C2-C3
4	M	301	HCB	C30-C31-C32-O34
4	M	301	HCB	C30-C31-C32-N33
4	N	301	HCB	C30-C31-C32-O34
4	O	301	HCB	C30-C31-C32-O34
4	P	301	HCB	C30-C31-C32-O34
4	P	301	HCB	C30-C31-C32-N33

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Mol	Chain	Res	Type	Atoms
4	Q	301	HCB	C30-C31-C32-O34
4	R	301	HCB	C30-C31-C32-O34
4	R	301	HCB	C30-C31-C32-N33
3	C	601	GOL	O1-C1-C2-O2
4	M	301	HCB	O6R-C4R-C5R-O8R
4	O	301	HCB	O6R-C4R-C5R-O8R
4	R	301	HCB	O6R-C4R-C5R-O8R
4	P	301	HCB	O6R-C4R-C5R-O8R
4	Q	301	HCB	C12-C13-C48-C49
4	M	301	HCB	C2P-O3-P-O2
4	N	301	HCB	C2P-O3-P-O2
4	O	301	HCB	C2P-O3-P-O2
4	P	301	HCB	C2P-O3-P-O2
4	Q	301	HCB	C2P-O3-P-O2
4	R	301	HCB	C2P-O3-P-O2
4	M	301	HCB	C2P-O3-P-O5
4	N	301	HCB	C2P-O3-P-O5
4	O	301	HCB	C2P-O3-P-O5
4	P	301	HCB	C2P-O3-P-O5
4	Q	301	HCB	C2P-O3-P-O5
4	R	301	HCB	C2P-O3-P-O5
4	M	301	HCB	C41-C42-C43-O44
4	Q	301	HCB	C41-C42-C43-O44
4	R	301	HCB	C41-C42-C43-O44
4	N	301	HCB	C4-C3-C30-C31
4	O	301	HCB	C41-C42-C43-O44
4	P	301	HCB	C41-C42-C43-O44
4	N	301	HCB	C3R-C4R-C5R-O8R
4	Q	301	HCB	C3R-C4R-C5R-O8R
4	M	301	HCB	C41-C42-C43-N45
4	P	301	HCB	C41-C42-C43-N45
4	O	301	HCB	C41-C42-C43-N45
4	R	301	HCB	C41-C42-C43-N45
4	Q	301	HCB	C42-C41-C8-C7
4	Q	301	HCB	C41-C42-C43-N45
4	Q	301	HCB	O6R-C4R-C5R-O8R
4	N	301	HCB	C14-C13-C48-C49

There are no ring outliers.

7 monomers are involved in 86 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	E	601	GOL	3	0
4	N	301	HCB	10	0
4	Q	301	HCB	13	0
4	O	301	HCB	14	0
4	R	301	HCB	16	0
4	P	301	HCB	15	0
4	M	301	HCB	15	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 HCB N 301

Bond lengths

Bond angles

Torsions

Rings

Ligand HCB Q 301

Bond lengths

Bond angles

Torsions

Rings

Ligand HCB O 301

Bond lengths

Bond angles

Torsions

Rings

Ligand HCB R 301

Bond lengths

Bond angles

Torsions

Rings

Ligand HCB P 301

Bond lengths

Bond angles

Torsions

Rings

Ligand HCB M 301

Bond lengths

Bond angles

Torsions

Rings
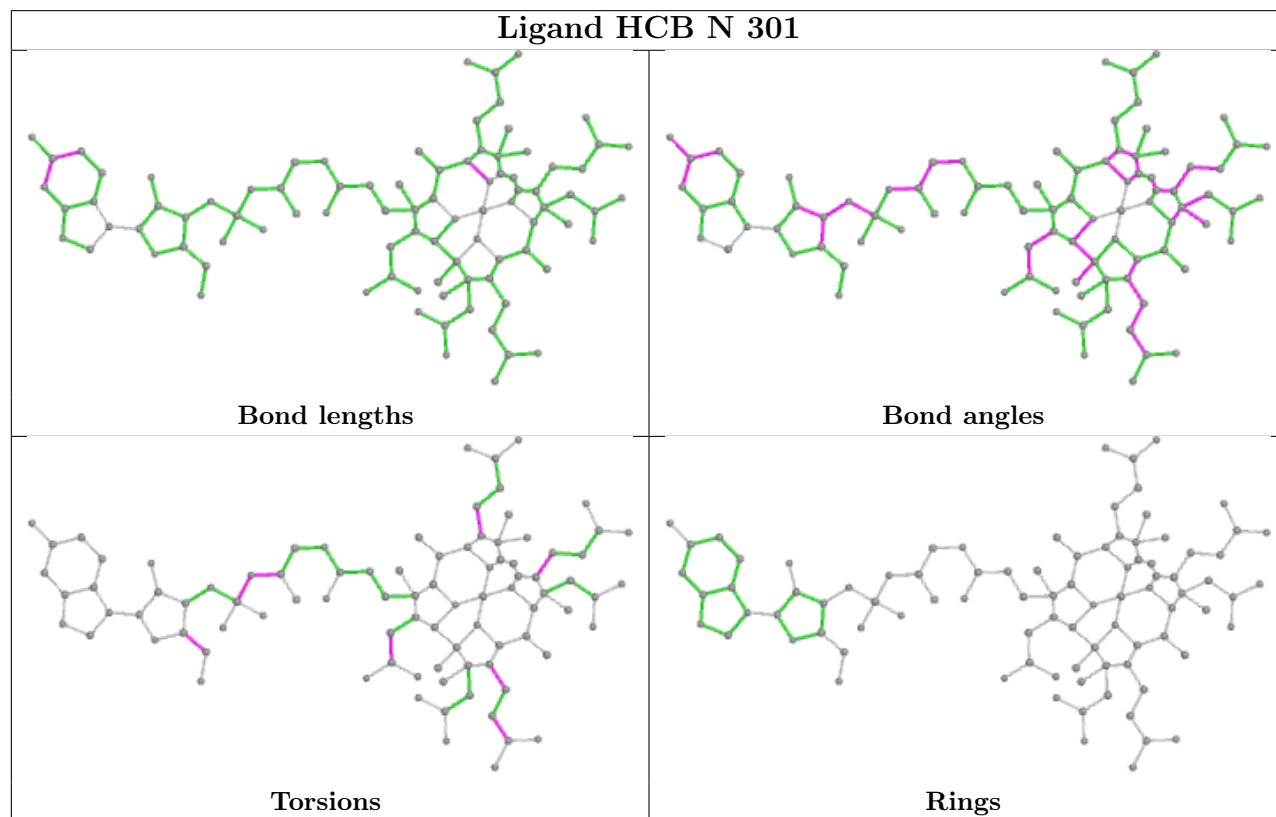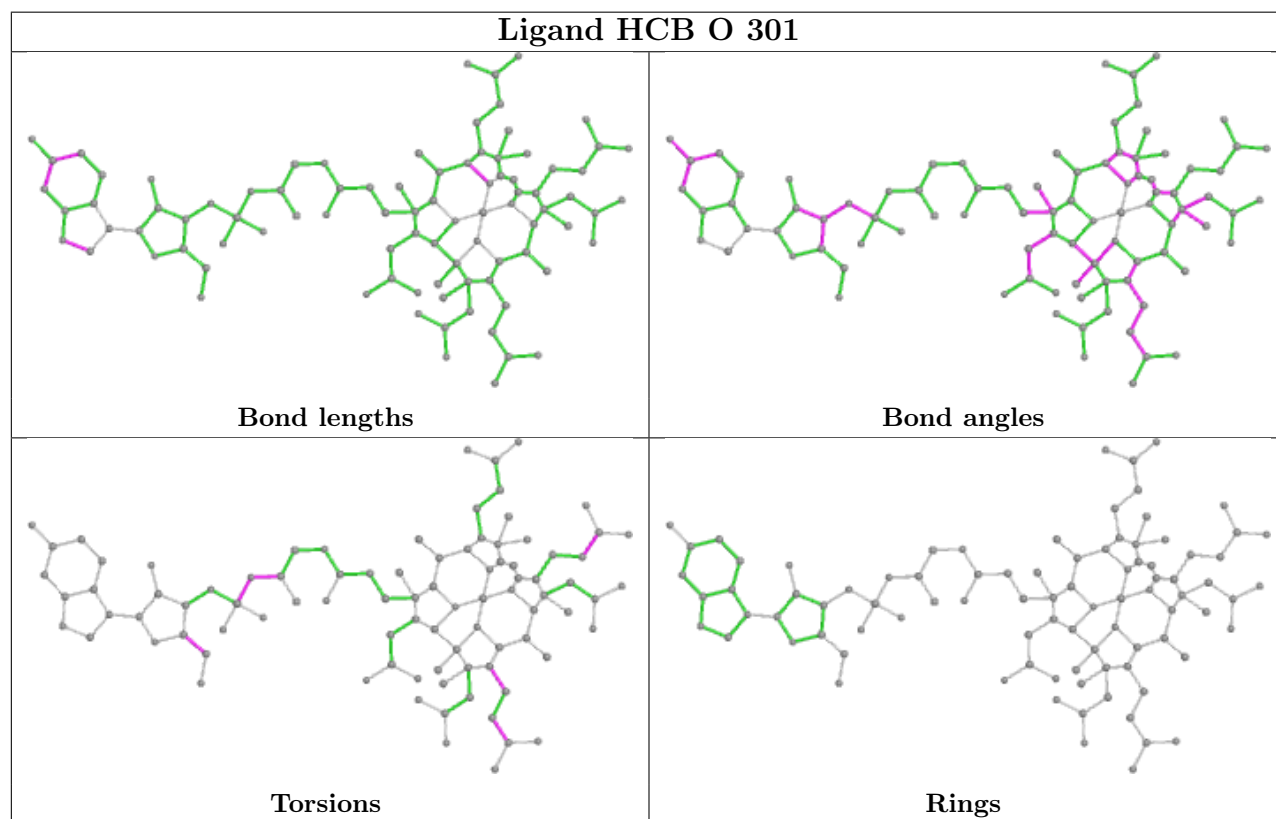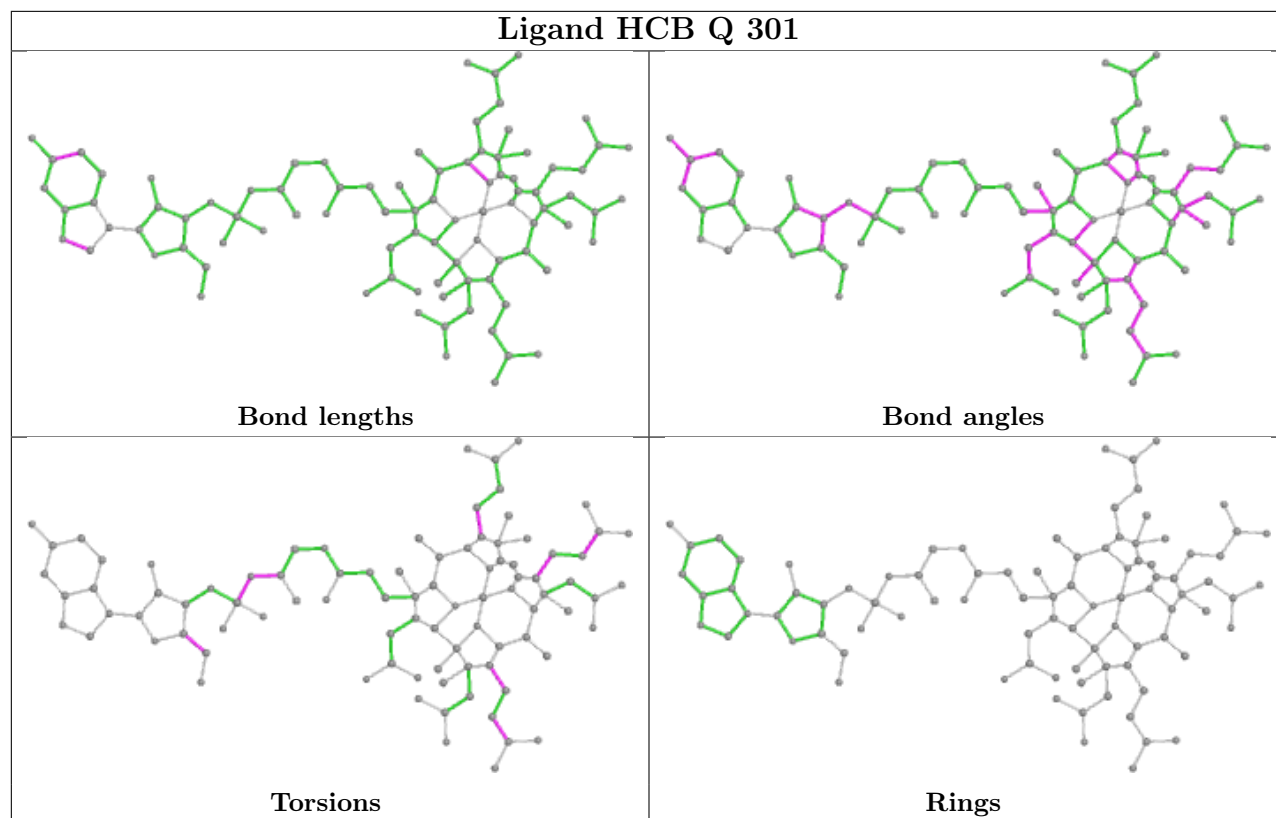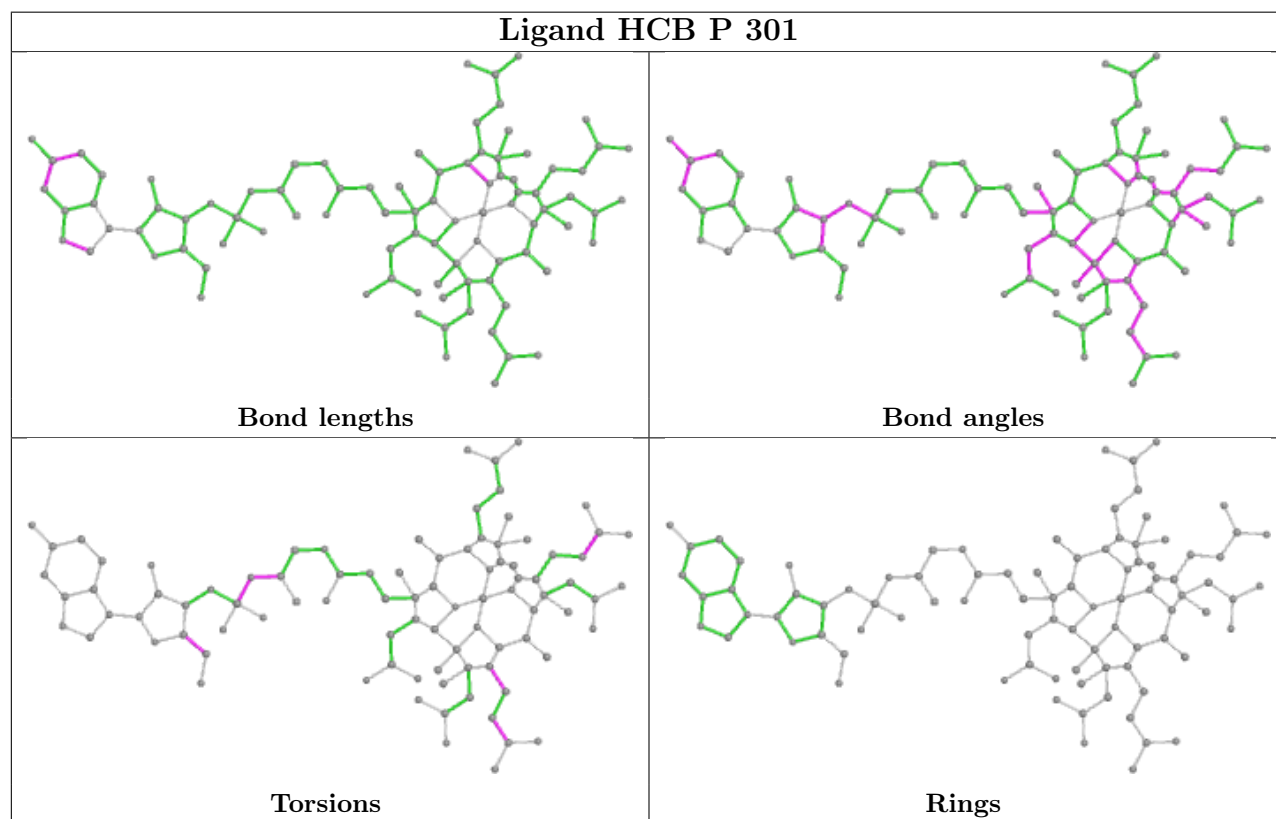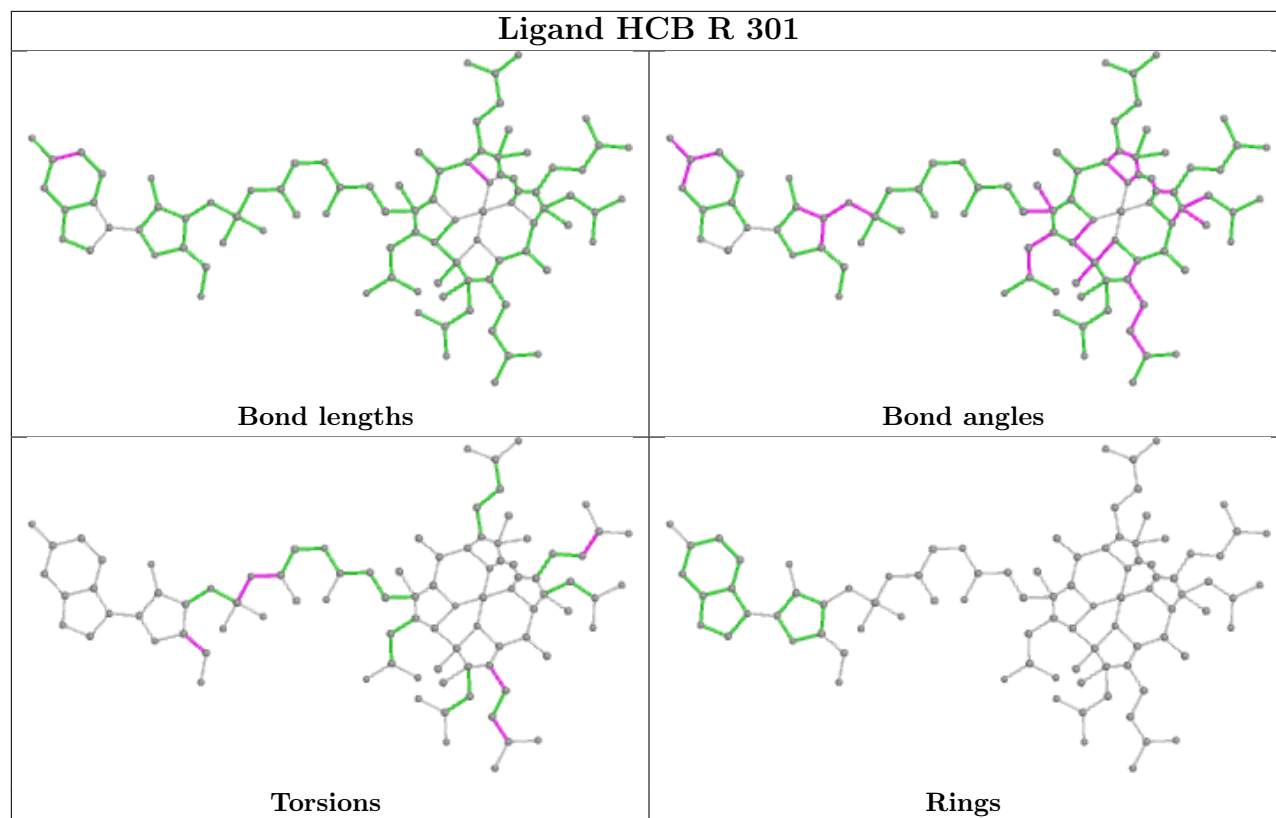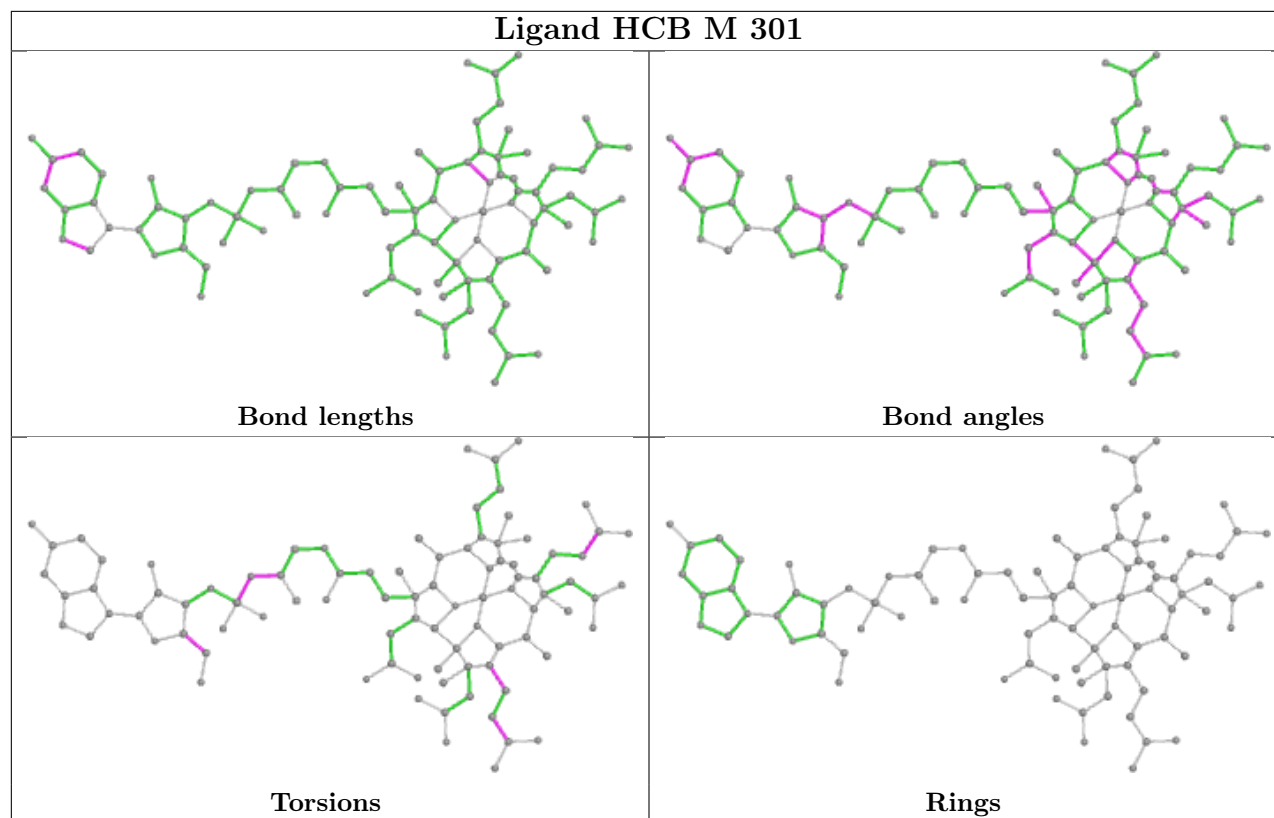
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	490/503 (97%)	-0.42	4 (0%)	86	87	16, 40, 63, 103	0
1	B	493/503 (98%)	-0.40	7 (1%)	75	77	11, 33, 59, 85	0
1	C	493/503 (98%)	-0.42	4 (0%)	86	87	15, 36, 62, 92	0
1	D	490/503 (97%)	-0.47	5 (1%)	82	83	13, 36, 59, 95	0
1	E	493/503 (98%)	-0.42	6 (1%)	79	80	12, 31, 56, 86	0
1	F	493/503 (98%)	-0.42	7 (1%)	75	77	15, 38, 64, 93	0
2	M	214/224 (95%)	0.02	3 (1%)	75	77	35, 66, 92, 129	0
2	N	212/224 (94%)	-0.18	3 (1%)	75	77	27, 60, 84, 95	0
2	O	214/224 (95%)	0.04	9 (4%)	36	35	33, 68, 98, 125	0
2	P	215/224 (95%)	-0.07	5 (2%)	60	62	31, 62, 90, 115	0
2	Q	211/224 (94%)	0.44	17 (8%)	12	10	31, 76, 111, 123	0
2	R	214/224 (95%)	-0.00	4 (1%)	66	69	36, 66, 93, 121	0
All	All	4232/4362 (97%)	-0.29	74 (1%)	70	72	11, 42, 85, 129	0

All (74) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	R	86	LYS	8.8
2	Q	97	VAL	8.8
2	M	85	GLU	8.0
1	F	120[A]	ASP	7.5
1	D	123[A]	TYR	7.1
1	A	123[A]	TYR	5.9
2	Q	93	SER	5.5
1	F	118[A]	TYR	5.2
1	A	118[A]	TYR	5.2
1	B	119[A]	GLN	5.2
2	Q	95	GLY	4.9

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Mol	Chain	Res	Type	RSRZ
1	F	121[A]	GLY	4.7
1	E	118[A]	TYR	4.7
1	D	122[A]	LYS	4.5
2	M	89	SER	4.4
2	Q	120	ILE	4.3
1	C	123[A]	TYR	4.2
2	Q	92	LYS	4.2
2	O	91	THR	4.1
1	B	122[A]	LYS	4.0
1	F	119[A]	GLN	3.9
1	E	3	LYS	3.8
1	D	3	LYS	3.6
2	Q	96	THR	3.6
1	D	118[A]	TYR	3.6
2	P	85	GLU	3.6
2	P	86	LYS	3.5
2	R	90	GLN	3.5
1	A	2	ALA	3.3
1	B	123[A]	TYR	3.3
1	E	123[A]	TYR	3.3
1	B	2	ALA	3.2
1	B	120[A]	ASP	3.0
1	B	3	LYS	2.9
2	O	85	GLU	2.8
2	P	173	GLY	2.8
1	C	120[A]	ASP	2.7
2	Q	148	VAL	2.7
2	Q	215	LEU	2.7
1	A	122[A]	LYS	2.6
1	C	122[A]	LYS	2.6
1	F	123[A]	TYR	2.6
2	R	121	ALA	2.6
2	O	36	ASP	2.6
2	Q	209	ALA	2.5
2	Q	121	ALA	2.5
2	M	90	GLN	2.5
2	Q	126	VAL	2.5
1	E	120[A]	ASP	2.4
2	Q	84	MET	2.4
2	N	92	LYS	2.4
1	E	119[A]	GLN	2.4
2	O	32	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
2	P	83	GLU	2.4
2	P	197	ALA	2.3
1	B	118[A]	TYR	2.3
1	C	495	MET	2.3
2	R	169	LEU	2.3
1	F	122[A]	LYS	2.2
2	O	87	ARG	2.2
2	Q	86	LYS	2.2
2	Q	175	ARG	2.2
2	O	8	ILE	2.1
2	Q	207	ALA	2.1
2	O	83	GLU	2.1
1	F	3	LYS	2.1
2	O	177	GLN	2.1
1	D	2	ALA	2.1
2	N	167	GLU	2.0
2	Q	3	ASN	2.0
2	Q	185	ALA	2.0
2	O	20	ASP	2.0
1	E	117[A]	LYS	2.0
2	N	123	PHE	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	GOL	F	601	6/6	0.76	0.26	53,66,72,80	0
3	GOL	C	601	6/6	0.79	0.33	59,73,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	GOL	A	601	6/6	0.79	0.26	64,76,82,90	0
3	GOL	E	601	6/6	0.89	0.28	56,61,70,74	0
4	HCB	Q	301	90/90	0.92	0.20	35,67,100,109	0
4	HCB	R	301	90/90	0.95	0.16	30,51,62,70	0
4	HCB	O	301	90/90	0.96	0.17	27,48,67,73	0
4	HCB	P	301	90/90	0.96	0.17	24,48,66,72	0
4	HCB	M	301	90/90	0.96	0.17	30,53,70,84	0
4	HCB	N	301	90/90	0.96	0.17	16,54,67,95	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.
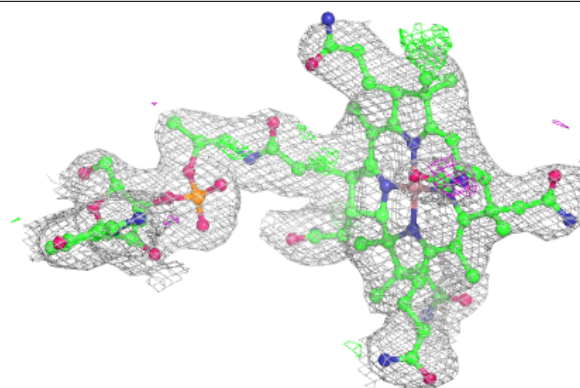
Electron density around HCB Q 301:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
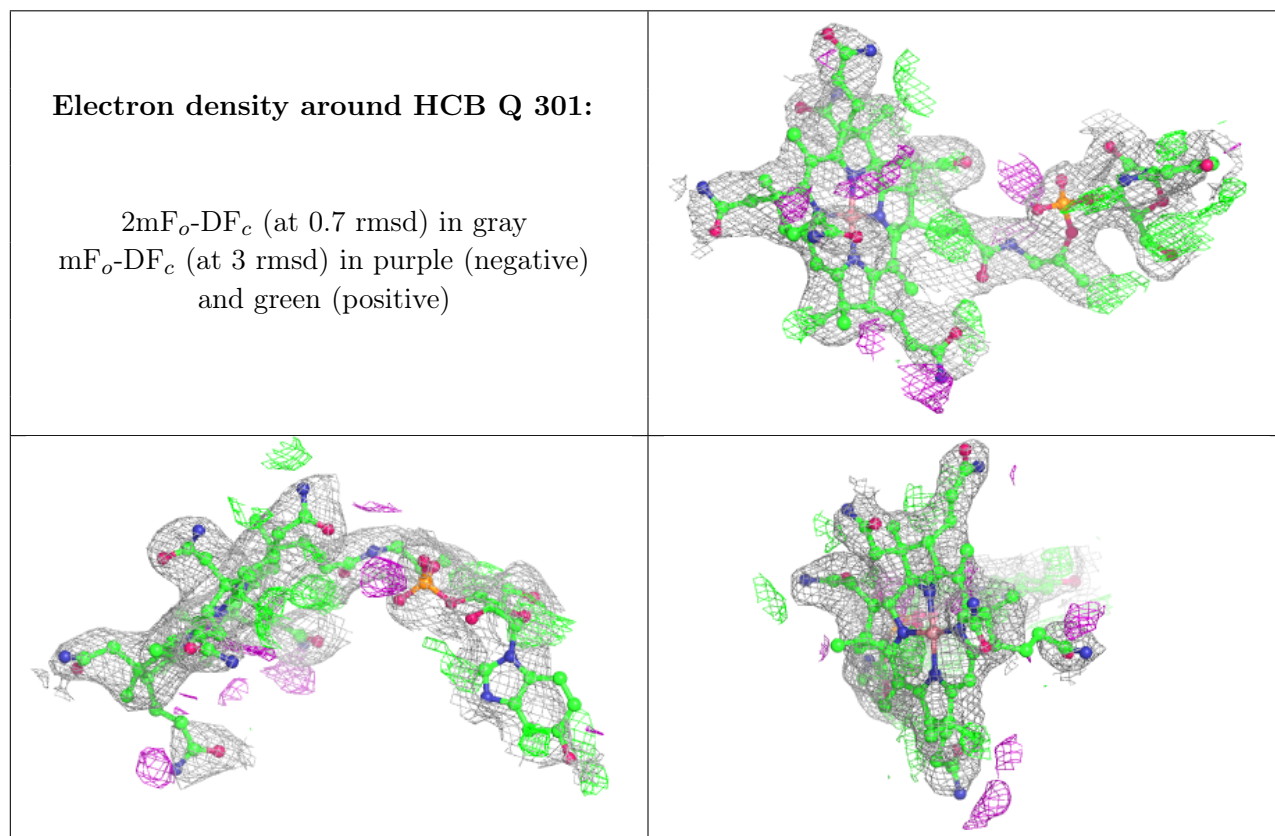
Electron density around HCB R 301:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
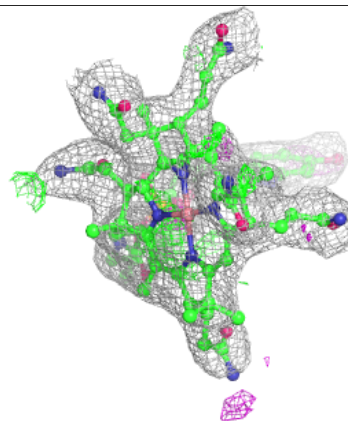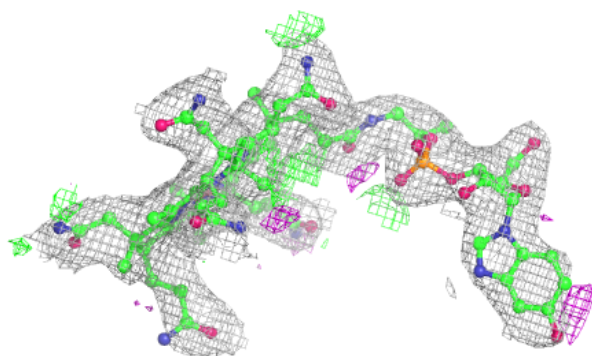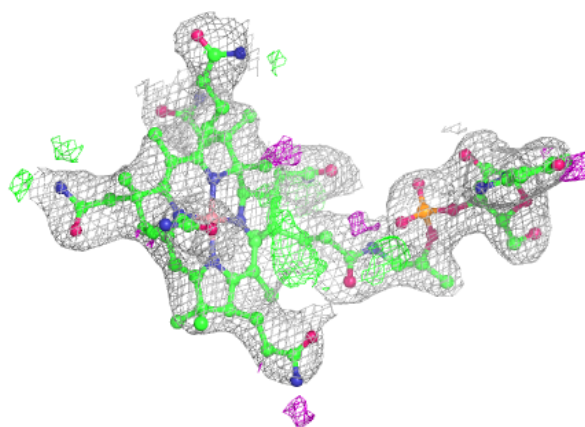
Electron density around HCB O 301:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
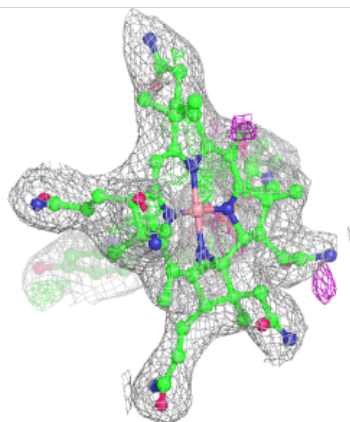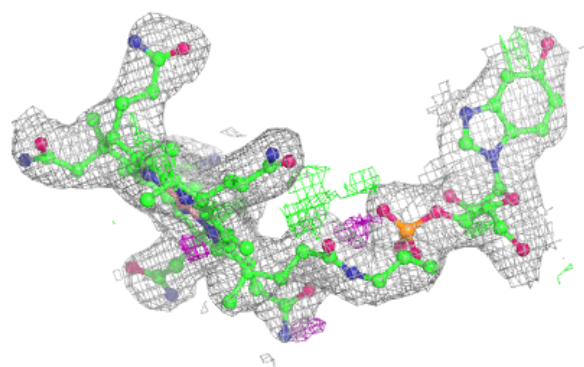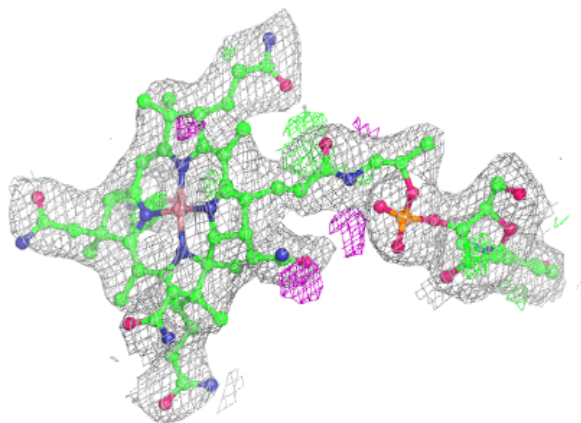
Electron density around HCB P 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
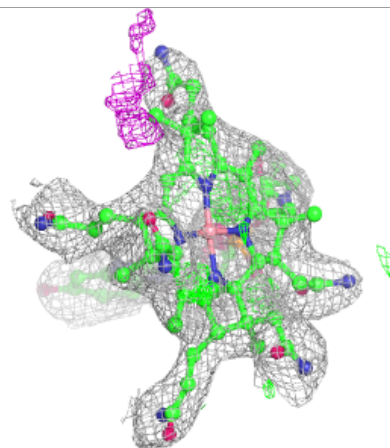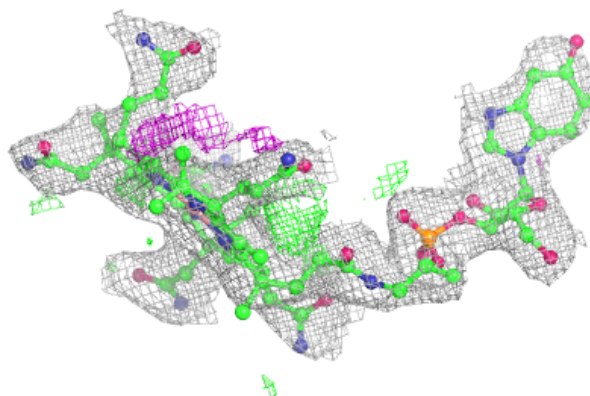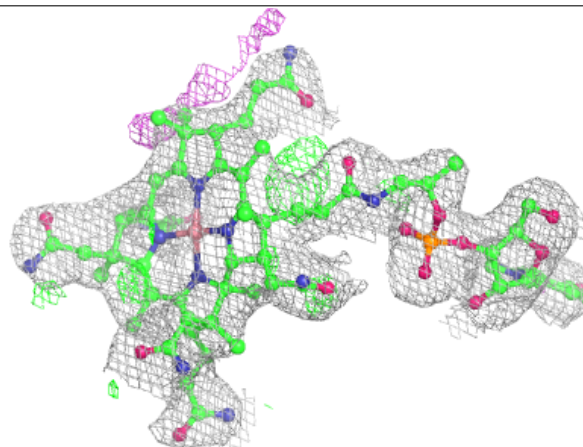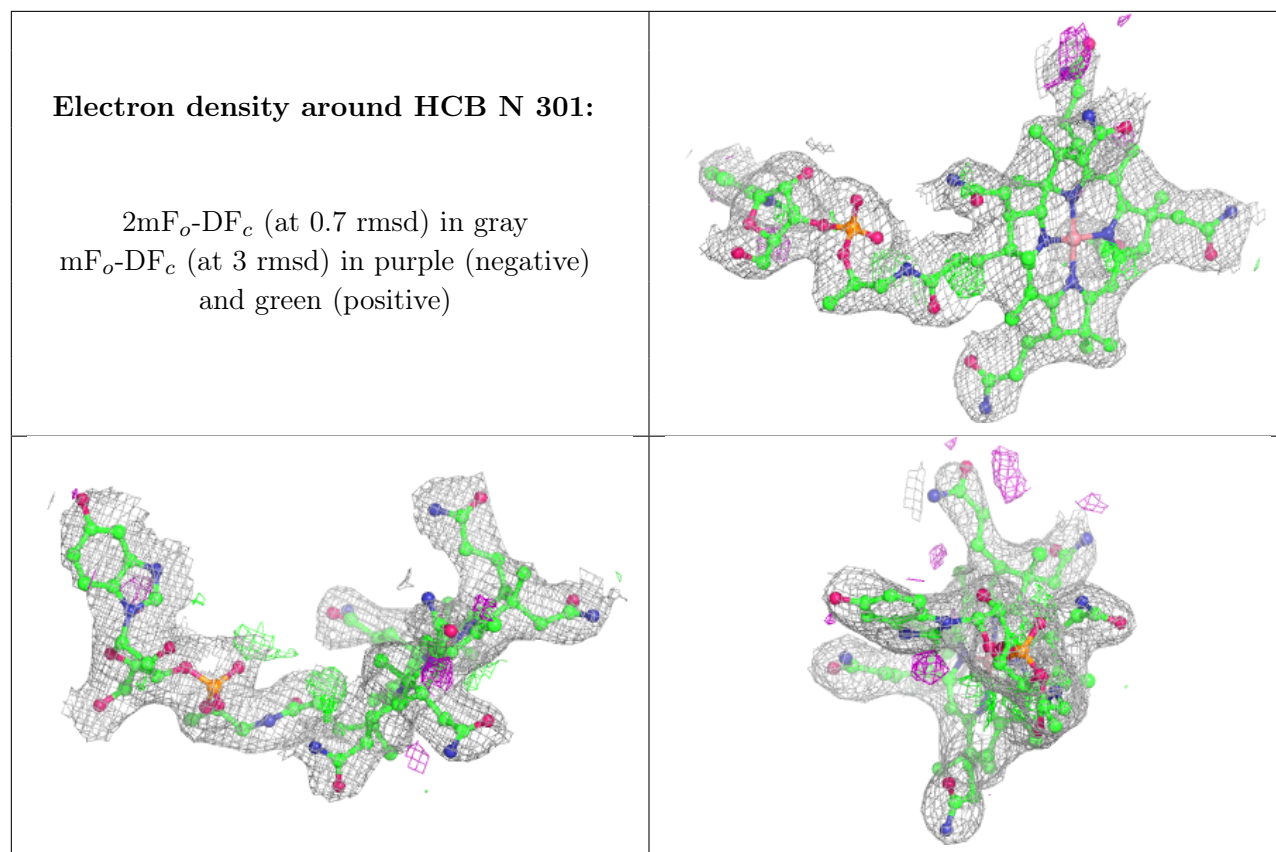mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
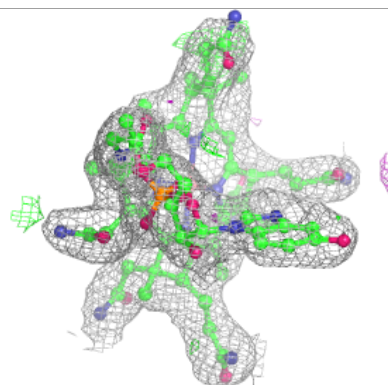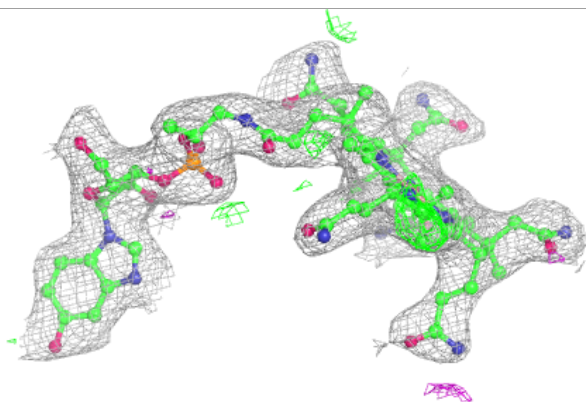
Electron density around HCB M 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around HCB N 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

6.5 Other polymers (i)

There are no such residues in this entry.