Full wwPDB X-ray Structure Validation Report ⓘ

Aug 3, 2023 – 07:29 AM EDT

PDB ID	:	1I43
Title	:	CYSTATHIONINE GAMMA-SYNTHASE IN COMPLEX WITH THE INHIBITOR PPCA
Authors	:	Steegborn, C.; Laber, B.; Messerschmidt, A.; Huber, R.; Clausen, T.
Deposited on	:	2001-02-19
Resolution	:	3.10 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

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

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

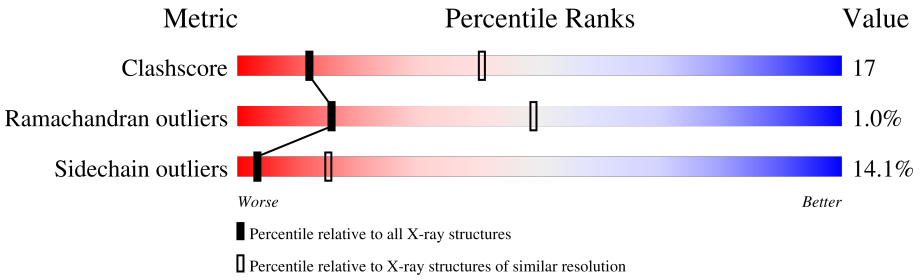
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.34

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)

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%

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	445	56% 29% • 11%
1	B	445	50% 34% 5% 11%
1	C	445	55% 30% • 11%
1	D	445	56% 29% 5% 11%
1	E	445	52% 33% • 11%
1	F	445	53% 31% 5% 11%
1	G	445	51% 34% • 11%
1	H	445	52% 32% 5% 11%

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Mol	Chain	Length	Quality of chain
1	I	445	52% 33% • 11%
1	J	445	53% 31% • 11%
1	K	445	52% 32% 5% 11%
1	L	445	51% 34% • 11%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	PLP	C	500	-	X	-	-
2	PLP	F	500	-	X	-	-
2	PLP	H	500	-	X	-	-

2 Entry composition (i)

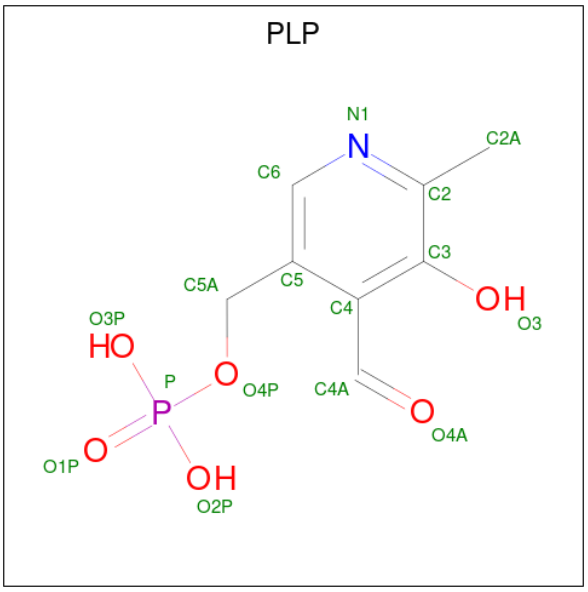
There are 3 unique types of molecules in this entry. The entry contains 36624 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 CYSTATHIONINE GAMMA-SYNTHASE.

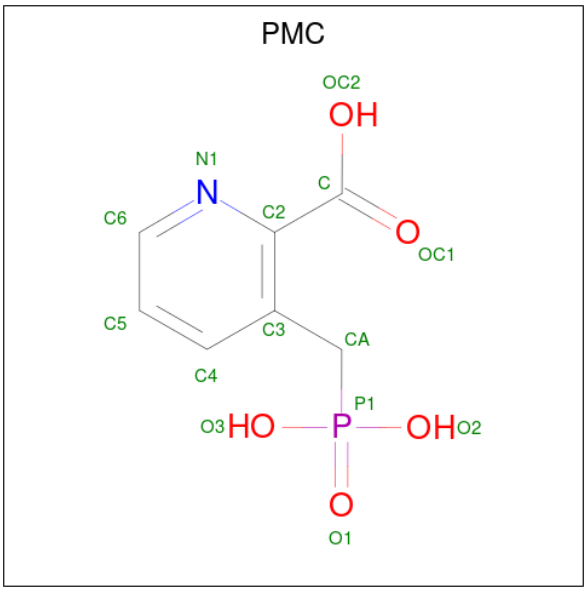
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	B	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	C	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	D	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	E	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	F	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	G	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	H	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	I	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	J	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	K	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			
1	L	396	Total	C	N	O	S	0	0	0
			3023	1928	513	566	16			

- Molecule 2 is PYRIDOXAL-5'-PHOSPHATE (three-letter code: PLP) (formula: $C_8H_{10}NO_6P$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	B	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	C	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	D	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	E	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	F	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	G	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	H	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	I	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	J	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	K	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	L	1	Total	C	N	O	P	0	0
			15	8	1	5	1		

- Molecule 3 is 3-(PHOSPHONOMETHYL)PYRIDINE-2-CARBOXYLIC ACID (three-letter code: PMC) (formula: $C_7H_8NO_5P$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	B	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	C	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	D	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	E	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	F	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	G	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	H	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	I	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	J	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	K	1	Total	C	N	O	P	0	0
			14	7	1	5	1		
3	L	1	Total	C	N	O	P	0	0
			14	7	1	5	1		

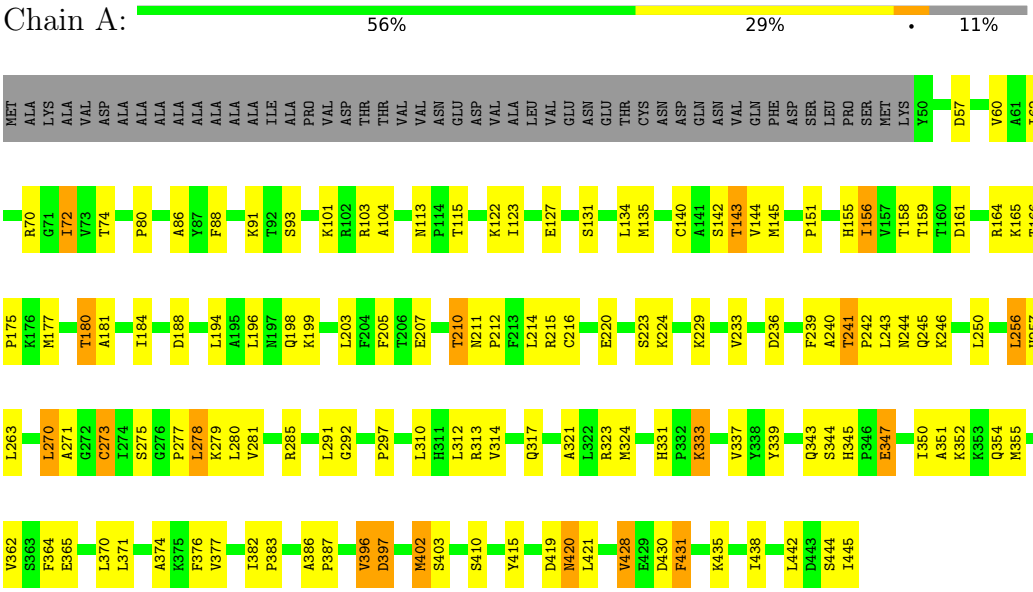
3 Residue-property plots (i)

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

Note EDS was not executed.

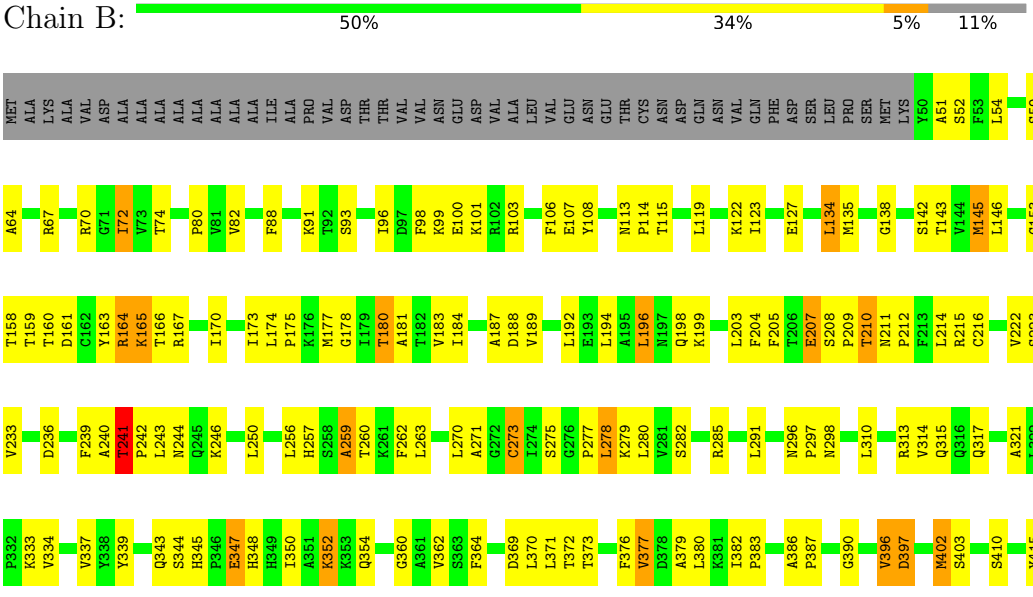
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain A:



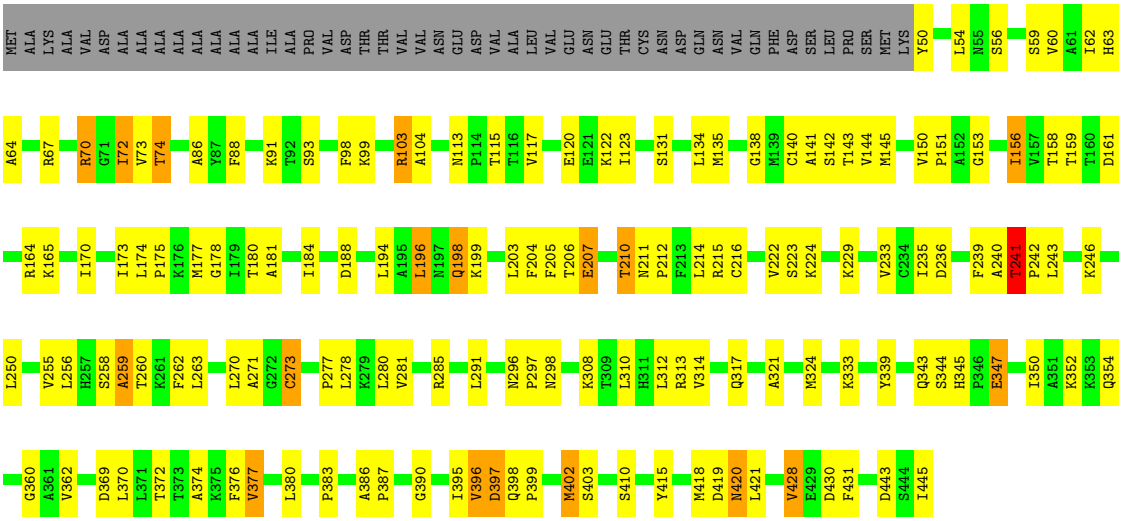
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain B:



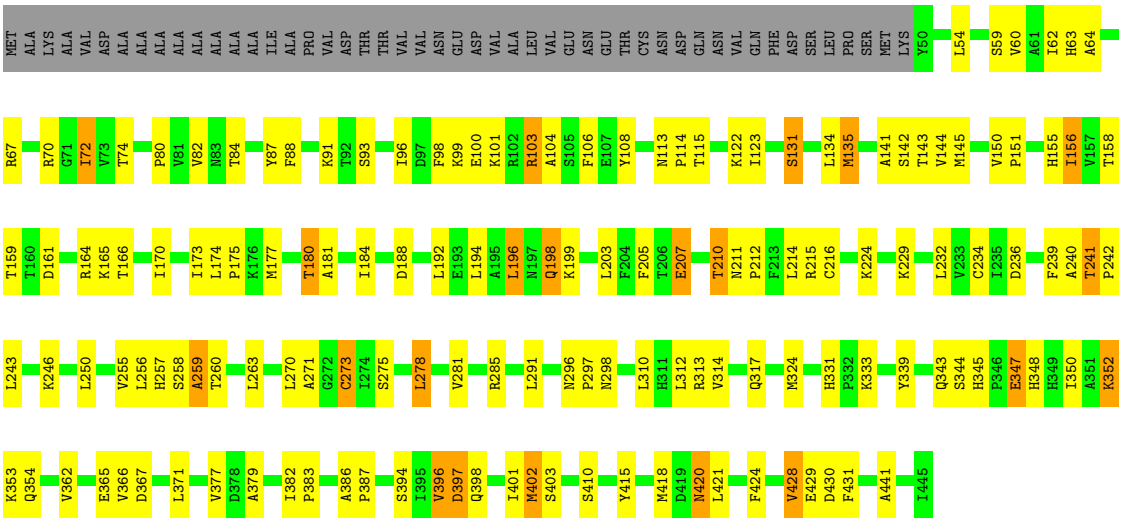
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain C:



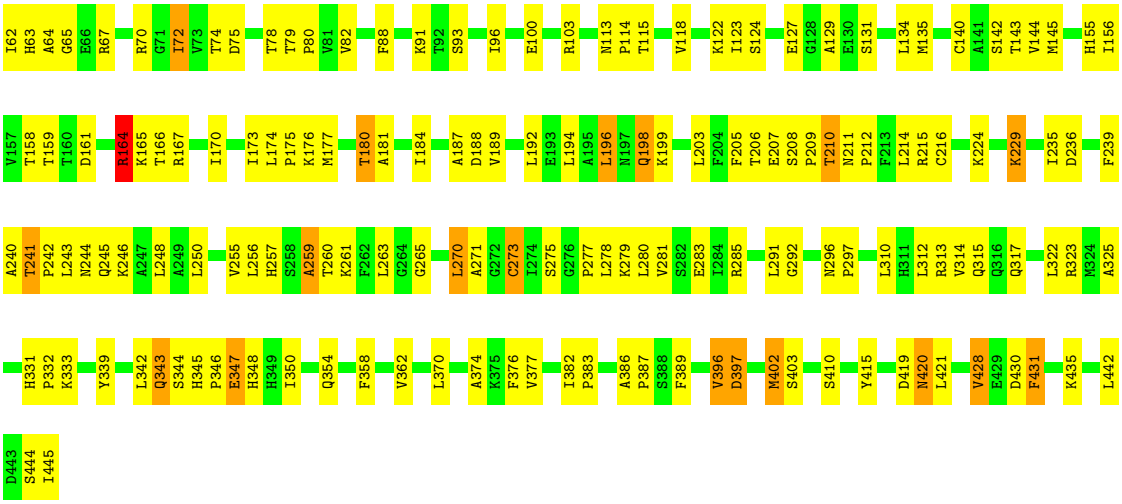
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain D:



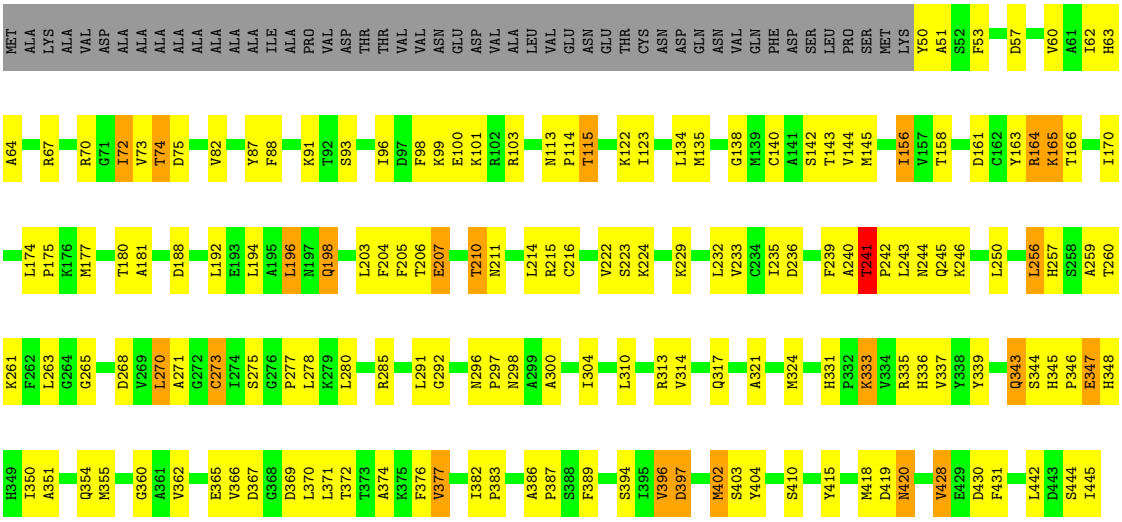
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain E:



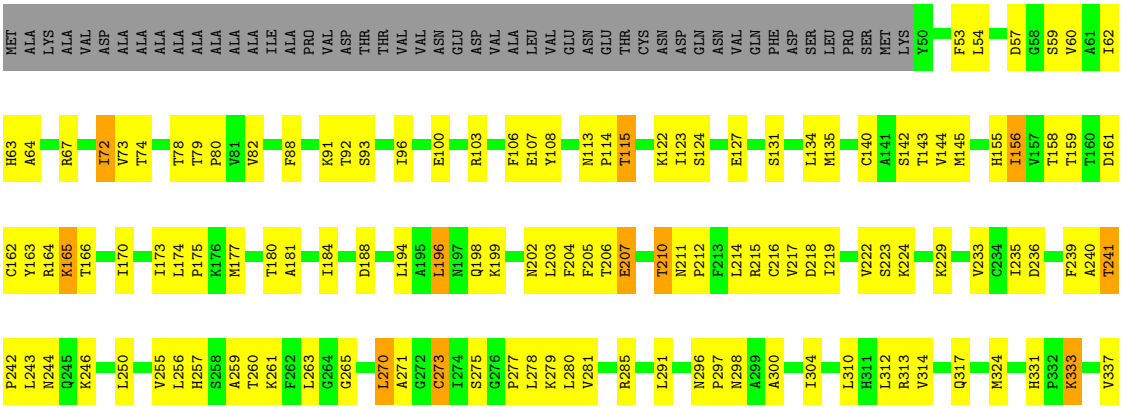
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

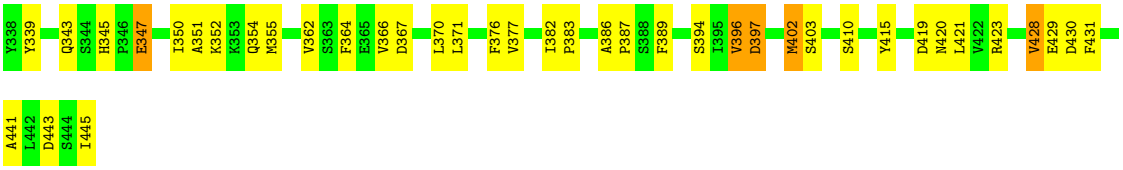
Chain F:



• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

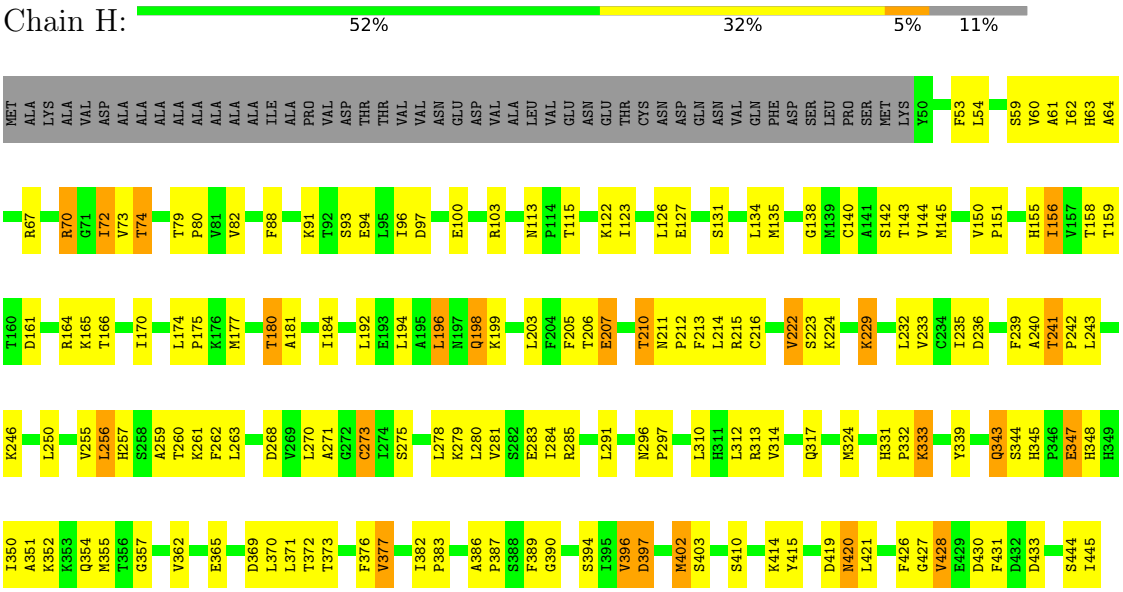
Chain G:





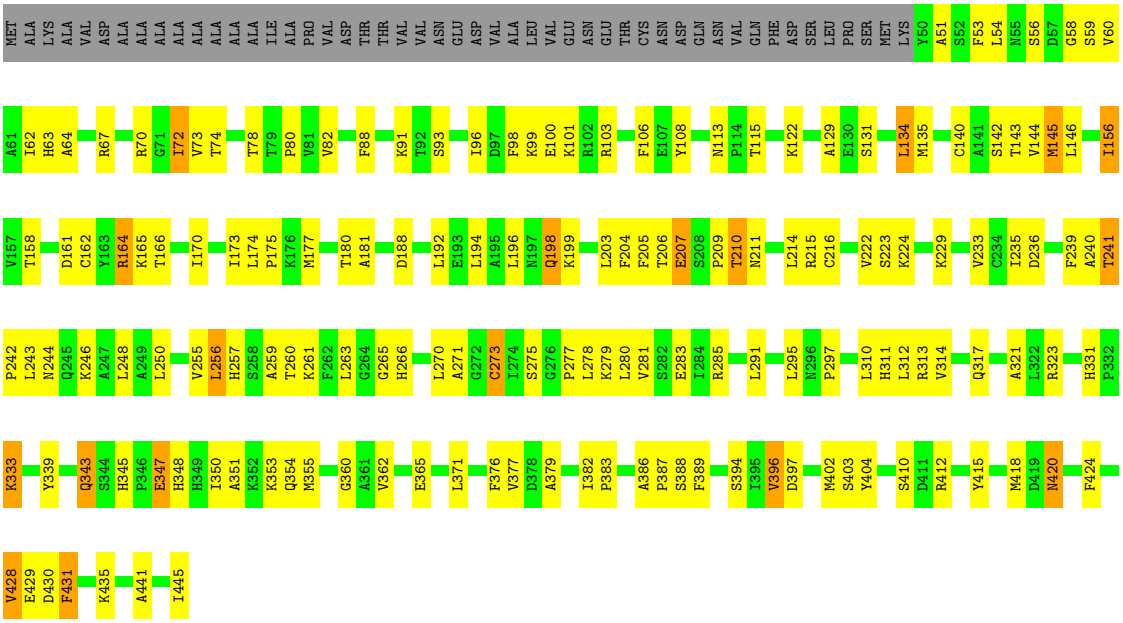
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain H:



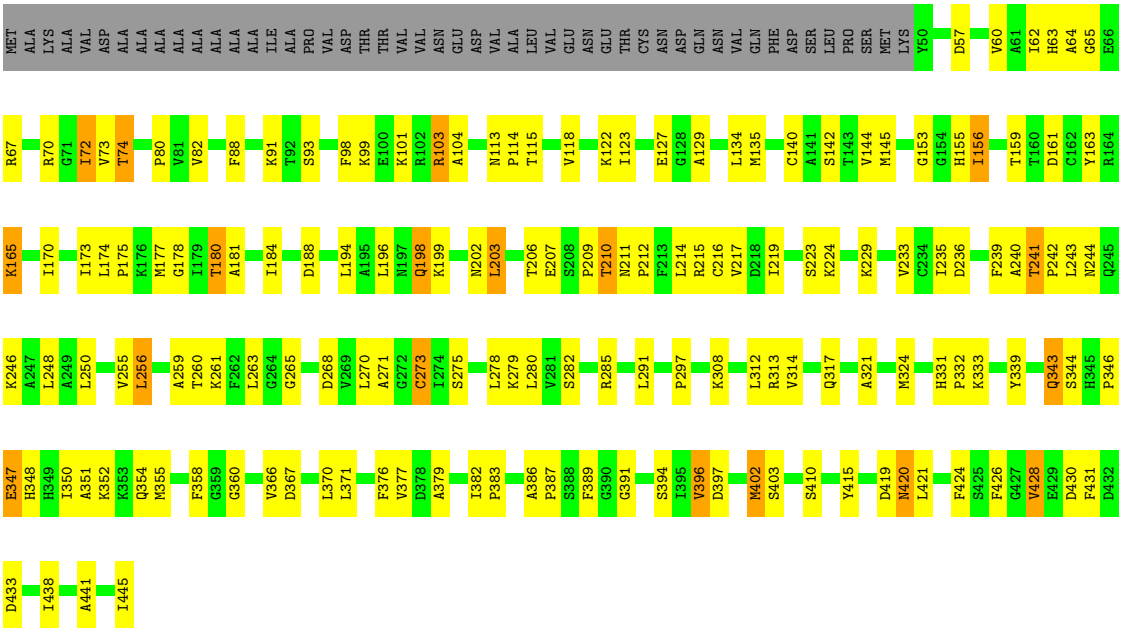
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain I:



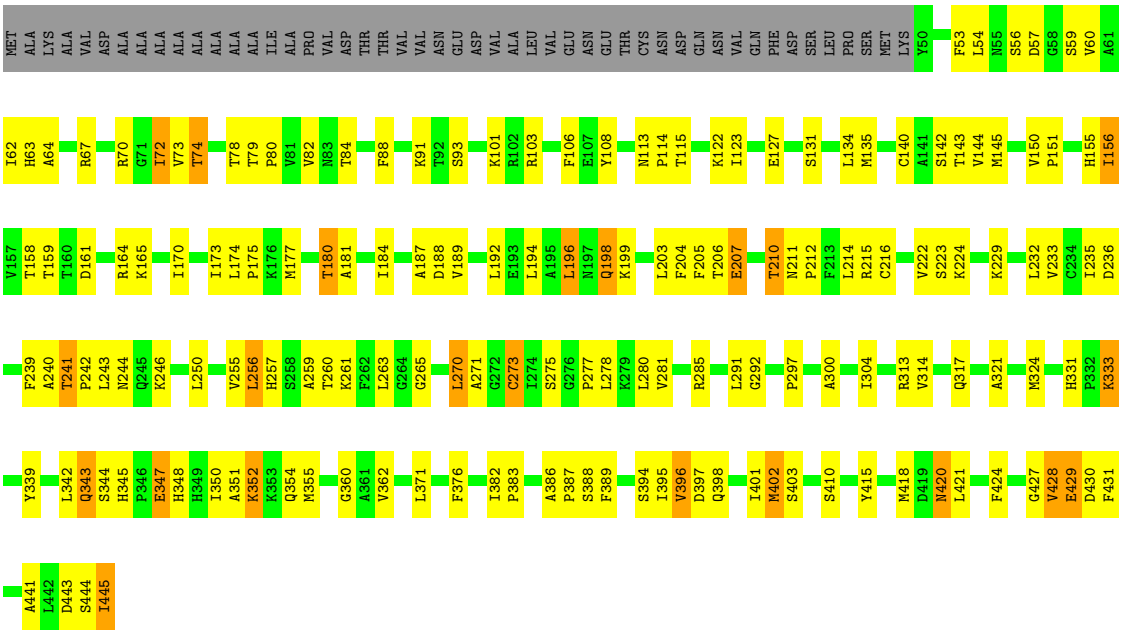
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain J:



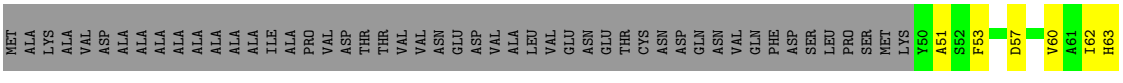
• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

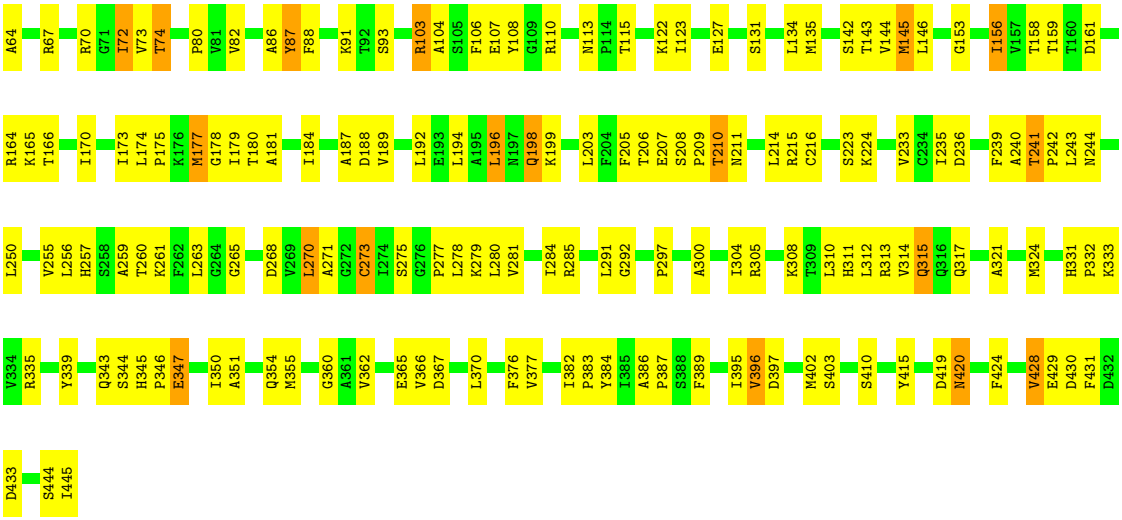
Chain K:



• Molecule 1: CYSTATHIONINE GAMMA-SYNTHASE

Chain L:




A64 R67 R70 G71 I72 V73 T74 P80 V81 V82 A86 Y87 F88 K91 T92 S93 R103 A104 S105 F106 E107 Y108 G109 R110 N113 P114 T115 K122 I123 E127 S131 L134 M135 S142 T143 V144 M145 L146 G153 I156 V157 T158 T159 T160 D161
R164 K165 T166 I170 I173 L174 P175 K176 M177 G178 I179 T180 A181 I184 A187 D188 V189 L192 E193 L194 A195 L196 N197 Q198 K199 L203 F204 F205 T206 E207 S208 P209 T210 N211 L214 R215 C216 S223 K224 V233 C234 I235 D236 F239 A240 T241 P242 L243 N244
L250 V255 L256 H257 S258 A259 T260 K261 F262 L263 G264 G265 D268 V269 L270 A271 G272 C273 I274 S275 G276 P277 L278 K279 L280 V281 I284 R285 L291 G292 P297 A300 I304 R305 K308 T309 L310 H311 L312 R313 V314 Q315 Q316 Q317 A321 M324 H331 P332 K333
V334 R335 Y339 Q343 S344 H345 P346 E347 I350 A351 Q354 M355 G360 A361 V362 E365 V366 D367 L370 F376 V377 I382 P383 Y384 I385 A386 P387 S388 F389 I395 V396 D397 M402 S403 S410 Y415 D419 N420 F424 V428 E429 D430 F431 D432
D433 S444 I445

4 Data and refinement statistics (i)

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	309.60Å 170.10Å 162.10Å 90.00° 90.03° 90.00°	Depositor
Resolution (Å)	20.00 – 3.10	Depositor
% Data completeness (in resolution range)	(Not available) (20.00-3.10)	Depositor
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	X-PLOR	Depositor
R, R_{free}	0.236 , 0.268	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	36624	wwPDB-VP
Average B, all atoms (Å^2)	22.0	wwPDB-VP

5 Model quality

5.1 Standard geometry

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

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	0.30	0/3082	0.51	0/4179
1	B	0.30	0/3082	0.51	0/4179
1	C	0.30	0/3082	0.51	0/4179
1	D	0.30	0/3082	0.51	0/4179
1	E	0.30	0/3082	0.51	0/4179
1	F	0.29	0/3082	0.50	0/4179
1	G	0.30	0/3082	0.50	0/4179
1	H	0.30	0/3082	0.50	0/4179
1	I	0.30	0/3082	0.51	0/4179
1	J	0.30	0/3082	0.51	0/4179
1	K	0.30	0/3082	0.51	0/4179
1	L	0.30	0/3082	0.50	0/4179
All	All	0.30	0/36984	0.51	0/50148

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	3023	0	3052	110	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	3023	0	3052	114	0
1	C	3023	0	3052	106	0
1	D	3023	0	3052	102	0
1	E	3023	0	3052	127	0
1	F	3023	0	3052	108	0
1	G	3023	0	3052	111	0
1	H	3023	0	3052	119	0
1	I	3023	0	3052	120	0
1	J	3023	0	3052	109	0
1	K	3023	0	3052	115	0
1	L	3023	0	3052	120	0
2	A	15	0	6	0	0
2	B	15	0	6	1	0
2	C	15	0	6	0	0
2	D	15	0	6	0	0
2	E	15	0	7	0	0
2	F	15	0	6	1	0
2	G	15	0	7	0	0
2	H	15	0	6	1	0
2	I	15	0	6	0	0
2	J	15	0	6	0	0
2	K	15	0	6	0	0
2	L	15	0	7	0	0
3	A	14	0	5	0	0
3	B	14	0	5	0	0
3	C	14	0	5	0	0
3	D	14	0	5	1	0
3	E	14	0	5	1	0
3	F	14	0	5	0	0
3	G	14	0	5	0	0
3	H	14	0	5	0	0
3	I	14	0	5	0	0
3	J	14	0	5	0	0
3	K	14	0	5	1	0
3	L	14	0	5	1	0
All	All	36624	0	36759	1268	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 17.

All (1268) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:376:PHE:HB2	1:I:445:ILE:HD11	1.21	1.12
1:C:376:PHE:HB2	1:C:445:ILE:HD11	1.40	1.03
1:F:241:THR:HG22	1:F:243:LEU:H	1.32	0.95
1:A:241:THR:HG22	1:A:243:LEU:H	1.32	0.94
1:K:241:THR:HG22	1:K:243:LEU:H	1.30	0.93
1:I:241:THR:HG22	1:I:243:LEU:H	1.31	0.93
1:I:428:VAL:HG12	1:L:62:ILE:HD11	1.50	0.93
1:D:241:THR:HG22	1:D:243:LEU:H	1.34	0.93
1:G:241:THR:HG22	1:G:243:LEU:H	1.34	0.92
1:B:376:PHE:HB2	1:B:445:ILE:HD11	1.50	0.91
1:E:241:THR:HG22	1:E:243:LEU:H	1.35	0.91
1:C:241:THR:HG22	1:C:243:LEU:H	1.31	0.91
1:H:241:THR:HG22	1:H:243:LEU:H	1.36	0.91
1:F:376:PHE:HB2	1:F:445:ILE:HD11	1.53	0.90
1:J:241:THR:HG22	1:J:243:LEU:H	1.37	0.90
1:J:376:PHE:HB2	1:J:445:ILE:HD11	1.52	0.89
1:C:240:ALA:O	1:C:241:THR:HB	1.71	0.88
1:B:241:THR:HG22	1:B:243:LEU:H	1.40	0.86
1:J:62:ILE:HD11	1:K:428:VAL:HG12	1.56	0.86
1:J:428:VAL:HG12	1:K:62:ILE:HD11	1.56	0.86
1:D:240:ALA:O	1:D:241:THR:HB	1.76	0.86
1:A:240:ALA:O	1:A:241:THR:HB	1.74	0.86
1:E:240:ALA:O	1:E:241:THR:HB	1.74	0.86
1:B:240:ALA:O	1:B:241:THR:HB	1.75	0.84
1:L:241:THR:HG22	1:L:243:LEU:H	1.41	0.84
1:L:240:ALA:O	1:L:241:THR:HB	1.78	0.84
1:F:62:ILE:HD11	1:G:428:VAL:HG12	1.58	0.83
1:H:240:ALA:O	1:H:241:THR:HB	1.77	0.83
1:I:62:ILE:HD11	1:L:428:VAL:HG12	1.58	0.83
1:J:240:ALA:O	1:J:241:THR:HB	1.77	0.81
1:A:431:PHE:HE1	1:A:435:LYS:HB2	1.44	0.81
1:I:376:PHE:HB2	1:I:445:ILE:CD1	2.10	0.81
1:F:240:ALA:O	1:F:241:THR:HB	1.81	0.81
1:H:313:ARG:O	1:H:317:GLN:HG3	1.79	0.80
1:K:240:ALA:O	1:K:241:THR:HB	1.79	0.80
1:E:259:ALA:HA	1:E:263:LEU:HB2	1.64	0.80
1:H:54:LEU:HD22	1:H:59:SER:HB3	1.63	0.80
1:A:113:ASN:OD1	1:A:115:THR:HG22	1.80	0.79
1:D:259:ALA:HB3	1:D:271:ALA:HB3	1.64	0.79
1:E:428:VAL:HG12	1:H:62:ILE:HD11	1.64	0.79
1:H:113:ASN:OD1	1:H:115:THR:HG22	1.83	0.79
1:A:216:CYS:H	1:A:347:GLU:HG3	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:240:ALA:O	1:G:241:THR:HB	1.84	0.78
1:E:259:ALA:HB3	1:E:271:ALA:HB3	1.65	0.78
1:K:313:ARG:O	1:K:317:GLN:HG3	1.83	0.77
1:A:259:ALA:HB3	1:A:271:ALA:HB3	1.65	0.77
1:H:259:ALA:HB3	1:H:271:ALA:HB3	1.67	0.77
1:E:207:GLU:HB3	1:E:236:ASP:HB3	1.67	0.77
1:I:113:ASN:OD1	1:I:115:THR:HG22	1.85	0.77
1:H:207:GLU:HB3	1:H:236:ASP:HB3	1.66	0.76
1:G:207:GLU:HB3	1:G:236:ASP:HB3	1.67	0.75
1:E:62:ILE:HD11	1:H:428:VAL:HG12	1.67	0.75
1:L:113:ASN:OD1	1:L:115:THR:HG22	1.85	0.75
1:F:428:VAL:HG12	1:G:62:ILE:HD11	1.69	0.75
1:B:62:ILE:HD11	1:C:428:VAL:HG12	1.69	0.75
1:J:207:GLU:HB3	1:J:236:ASP:HB3	1.68	0.74
1:A:62:ILE:HD11	1:D:428:VAL:HG12	1.70	0.74
1:E:431:PHE:HE1	1:E:435:LYS:HB2	1.52	0.74
1:L:347:GLU:HB3	1:L:350:ILE:HD12	1.68	0.74
1:J:216:CYS:H	1:J:347:GLU:HG3	1.53	0.74
1:L:170:ILE:HG23	1:L:174:LEU:HD12	1.69	0.74
1:D:63:HIS:HB3	1:D:67:ARG:HB2	1.70	0.74
1:G:376:PHE:HB2	1:G:445:ILE:HD11	1.68	0.74
1:J:259:ALA:HA	1:J:263:LEU:HB2	1.70	0.74
1:I:240:ALA:O	1:I:241:THR:HB	1.88	0.73
1:B:259:ALA:HA	1:B:263:LEU:HB2	1.71	0.73
1:H:72:ILE:HD12	1:H:80:PRO:HG2	1.70	0.73
1:K:216:CYS:H	1:K:347:GLU:HG3	1.52	0.73
1:I:207:GLU:HB3	1:I:236:ASP:HB3	1.71	0.72
1:C:72:ILE:HG23	1:C:72:ILE:O	1.89	0.72
1:L:259:ALA:HA	1:L:263:LEU:HB2	1.71	0.72
1:A:428:VAL:HG12	1:D:62:ILE:HD11	1.71	0.72
1:H:216:CYS:H	1:H:347:GLU:HG3	1.53	0.72
1:A:207:GLU:HB3	1:A:236:ASP:HB3	1.70	0.71
1:C:207:GLU:HB3	1:C:236:ASP:HB3	1.70	0.71
1:D:216:CYS:H	1:D:347:GLU:HG3	1.52	0.71
1:F:207:GLU:HB3	1:F:236:ASP:HB3	1.71	0.71
1:C:383:PRO:HB2	1:C:396:VAL:HG22	1.71	0.71
1:H:63:HIS:HB3	1:H:67:ARG:HB2	1.73	0.71
1:K:259:ALA:HA	1:K:263:LEU:HB2	1.72	0.71
1:K:260:THR:HG23	1:K:270:LEU:HD22	1.72	0.71
1:E:63:HIS:HB3	1:E:67:ARG:HB2	1.73	0.71
1:I:259:ALA:HA	1:I:263:LEU:HB2	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:259:ALA:HA	1:D:263:LEU:HB2	1.73	0.71
1:B:313:ARG:O	1:B:317:GLN:HG3	1.91	0.70
1:B:72:ILE:HG23	1:B:72:ILE:O	1.90	0.70
1:C:63:HIS:HB3	1:C:67:ARG:HB2	1.72	0.70
1:E:431:PHE:CE1	1:E:435:LYS:HB2	2.26	0.70
1:F:72:ILE:O	1:F:72:ILE:HG23	1.91	0.70
1:L:259:ALA:HB3	1:L:271:ALA:HB3	1.73	0.70
1:I:72:ILE:HG23	1:I:72:ILE:O	1.91	0.70
1:D:72:ILE:HD12	1:D:80:PRO:HG2	1.71	0.70
1:A:431:PHE:CE1	1:A:435:LYS:HB2	2.25	0.70
1:B:156:ILE:HG22	1:B:181:ALA:CB	2.22	0.70
1:J:347:GLU:HB3	1:J:350:ILE:HD12	1.72	0.70
1:G:313:ARG:O	1:G:317:GLN:HG3	1.91	0.70
1:G:383:PRO:HB2	1:G:396:VAL:HG22	1.72	0.70
1:J:313:ARG:O	1:J:317:GLN:HG3	1.91	0.70
1:C:259:ALA:HB3	1:C:271:ALA:HB3	1.73	0.69
1:K:72:ILE:HD12	1:K:80:PRO:HG2	1.72	0.69
1:G:170:ILE:HG23	1:G:174:LEU:HD12	1.74	0.69
1:C:259:ALA:HA	1:C:263:LEU:HB2	1.74	0.69
1:G:216:CYS:H	1:G:347:GLU:HG3	1.57	0.69
1:K:207:GLU:HB3	1:K:236:ASP:HB3	1.74	0.69
1:E:72:ILE:HG23	1:E:72:ILE:O	1.91	0.69
1:G:72:ILE:HG23	1:G:72:ILE:O	1.91	0.69
1:H:72:ILE:HG23	1:H:72:ILE:O	1.93	0.69
1:L:174:LEU:N	1:L:175:PRO:HD2	2.07	0.69
1:A:72:ILE:O	1:A:72:ILE:HG23	1.92	0.69
1:H:115:THR:HG21	1:H:297:PRO:HB3	1.74	0.69
1:A:63:HIS:HB3	1:A:67:ARG:HB2	1.75	0.69
1:A:313:ARG:O	1:A:317:GLN:HG3	1.92	0.69
1:B:216:CYS:H	1:B:347:GLU:HG3	1.58	0.68
1:J:72:ILE:HG23	1:J:72:ILE:O	1.92	0.68
1:I:72:ILE:HD12	1:I:80:PRO:HG2	1.74	0.68
1:E:113:ASN:OD1	1:E:115:THR:HG22	1.94	0.68
1:B:428:VAL:HG12	1:C:62:ILE:HD11	1.74	0.68
1:I:259:ALA:HB3	1:I:271:ALA:HB3	1.75	0.68
1:J:88:PHE:HA	1:L:386:ALA:HB2	1.76	0.68
1:F:259:ALA:HA	1:F:263:LEU:HB2	1.75	0.68
1:A:72:ILE:HD12	1:A:80:PRO:HG2	1.74	0.67
1:C:243:LEU:HD12	1:C:314:VAL:HG21	1.77	0.67
1:A:123:ILE:HD13	1:A:273:CYS:SG	2.34	0.67
1:D:113:ASN:OD1	1:D:115:THR:HG22	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:216:CYS:H	1:E:347:GLU:HG3	1.59	0.67
1:G:242:PRO:O	1:G:246:LYS:HE2	1.95	0.67
1:K:72:ILE:O	1:K:72:ILE:HG23	1.92	0.67
1:H:53:PHE:CD1	1:H:54:LEU:HG	2.29	0.67
1:L:177:MET:HB2	1:L:179:ILE:HD12	1.75	0.67
1:I:63:HIS:HB3	1:I:67:ARG:HB2	1.77	0.66
1:L:72:ILE:HG23	1:L:72:ILE:O	1.94	0.66
1:K:347:GLU:HB3	1:K:350:ILE:HD12	1.76	0.66
1:C:113:ASN:OD1	1:C:115:THR:HG22	1.95	0.66
1:E:431:PHE:C	1:E:431:PHE:HD1	1.98	0.66
1:K:174:LEU:N	1:K:175:PRO:HD2	2.10	0.66
1:C:174:LEU:N	1:C:175:PRO:HD2	2.11	0.66
1:C:250:LEU:HD11	1:C:354:GLN:HB2	1.76	0.66
1:F:216:CYS:H	1:F:347:GLU:HG3	1.60	0.66
1:J:174:LEU:N	1:J:175:PRO:HD2	2.11	0.66
1:B:54:LEU:HD22	1:B:59:SER:HB3	1.76	0.66
1:D:313:ARG:O	1:D:317:GLN:HG3	1.96	0.66
1:H:259:ALA:HA	1:H:263:LEU:HB2	1.77	0.66
1:K:63:HIS:HB3	1:K:67:ARG:HB2	1.78	0.66
1:I:351:ALA:O	1:I:355:MET:HB2	1.96	0.66
1:C:210:THR:HG22	1:C:215:ARG:H	1.60	0.66
1:F:259:ALA:HB3	1:F:271:ALA:HB3	1.77	0.66
1:H:123:ILE:HD13	1:H:273:CYS:SG	2.36	0.66
1:H:383:PRO:HB2	1:H:396:VAL:HG22	1.77	0.66
1:I:260:THR:HG23	1:I:270:LEU:HD22	1.76	0.66
1:B:207:GLU:HB3	1:B:236:ASP:HB3	1.78	0.66
1:E:376:PHE:HB2	1:E:445:ILE:HD11	1.77	0.66
1:D:72:ILE:HG23	1:D:72:ILE:O	1.95	0.65
1:G:259:ALA:HA	1:G:263:LEU:HB2	1.78	0.65
1:J:63:HIS:HB3	1:J:67:ARG:HB2	1.78	0.65
1:J:159:THR:HA	1:J:184:ILE:O	1.97	0.65
1:L:216:CYS:H	1:L:347:GLU:HG3	1.62	0.65
1:D:156:ILE:HG22	1:D:181:ALA:CB	2.26	0.65
1:D:174:LEU:N	1:D:175:PRO:HD2	2.11	0.65
1:L:383:PRO:HB2	1:L:396:VAL:HG22	1.78	0.65
1:H:250:LEU:HD11	1:H:354:GLN:HB2	1.78	0.65
1:A:115:THR:HG21	1:A:297:PRO:HB3	1.79	0.65
1:E:383:PRO:HB2	1:E:396:VAL:HG22	1.77	0.65
1:E:431:PHE:HD1	1:E:431:PHE:O	1.79	0.65
1:F:63:HIS:HB3	1:F:67:ARG:HB2	1.77	0.65
1:L:123:ILE:HD13	1:L:273:CYS:SG	2.37	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:174:LEU:N	1:B:175:PRO:HD2	2.12	0.65
1:D:207:GLU:HB3	1:D:236:ASP:HB3	1.78	0.65
1:J:170:ILE:HG23	1:J:174:LEU:HD12	1.79	0.65
1:K:242:PRO:O	1:K:246:LYS:HE2	1.96	0.65
1:A:383:PRO:HB2	1:A:396:VAL:HG22	1.78	0.65
1:B:277:PRO:HG2	1:B:280:LEU:HB2	1.79	0.65
1:F:113:ASN:OD1	1:F:115:THR:HG22	1.96	0.64
1:D:383:PRO:HB2	1:D:396:VAL:HG22	1.78	0.64
1:D:211:ASN:HB2	1:D:239:PHE:HE2	1.62	0.64
1:D:250:LEU:HD11	1:D:354:GLN:HB2	1.79	0.64
1:C:370:LEU:HD23	1:C:419:ASP:HB3	1.80	0.64
1:I:216:CYS:H	1:I:347:GLU:HG3	1.62	0.64
1:G:123:ILE:HD13	1:G:273:CYS:SG	2.38	0.64
1:A:170:ILE:HG23	1:A:174:LEU:HD12	1.80	0.64
1:D:324:MET:HG2	1:D:431:PHE:HE1	1.63	0.63
1:E:431:PHE:C	1:E:431:PHE:CD1	2.69	0.63
1:J:72:ILE:HD12	1:J:80:PRO:HG2	1.80	0.63
1:J:383:PRO:HB2	1:J:396:VAL:HG22	1.80	0.63
1:C:210:THR:O	1:C:214:LEU:HA	1.98	0.63
1:D:123:ILE:HD13	1:D:273:CYS:SG	2.38	0.63
1:H:60:VAL:HG13	1:H:64:ALA:HB2	1.81	0.63
1:H:156:ILE:HG22	1:H:181:ALA:CB	2.29	0.63
1:I:386:ALA:HB2	1:K:88:PHE:HA	1.80	0.63
1:L:115:THR:CG2	1:L:297:PRO:HB3	2.27	0.63
1:H:159:THR:HA	1:H:184:ILE:O	1.98	0.63
1:H:174:LEU:N	1:H:175:PRO:HD2	2.13	0.63
1:F:88:PHE:HA	1:H:386:ALA:HB2	1.80	0.63
1:H:144:VAL:HG22	1:H:291:LEU:HD12	1.80	0.63
1:C:216:CYS:H	1:C:347:GLU:HG3	1.64	0.63
1:G:113:ASN:OD1	1:G:115:THR:HG22	1.99	0.63
1:F:51:ALA:HB1	1:F:53:PHE:CE2	2.34	0.63
1:H:260:THR:HG23	1:H:270:LEU:HD22	1.80	0.63
1:A:323:ARG:HD2	1:A:431:PHE:HE2	1.64	0.63
1:B:88:PHE:HA	1:D:386:ALA:HB2	1.79	0.63
1:D:194:LEU:O	1:D:198:GLN:HG3	1.98	0.62
1:K:243:LEU:HD12	1:K:314:VAL:HG21	1.79	0.62
1:F:292:GLY:O	1:H:140:CYS:HB2	1.99	0.62
1:F:170:ILE:HG23	1:F:174:LEU:HD12	1.81	0.62
1:C:54:LEU:HD22	1:C:59:SER:HB3	1.82	0.62
1:F:243:LEU:HD12	1:F:314:VAL:HG21	1.80	0.62
1:A:259:ALA:HA	1:A:263:LEU:HB2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:156:ILE:HG22	1:C:181:ALA:CB	2.29	0.62
1:I:383:PRO:HB2	1:I:396:VAL:HG22	1.81	0.62
1:J:211:ASN:HB2	1:J:239:PHE:HE2	1.62	0.62
1:E:60:VAL:HG13	1:E:64:ALA:HB2	1.80	0.62
1:A:431:PHE:CD1	1:A:431:PHE:C	2.73	0.62
1:A:431:PHE:C	1:A:431:PHE:HD1	2.02	0.62
1:D:87:TYR:CE2	1:D:106:PHE:HB2	2.34	0.62
1:E:260:THR:HG23	1:E:270:LEU:HD22	1.79	0.62
1:H:211:ASN:HB2	1:H:239:PHE:HE2	1.65	0.62
1:A:174:LEU:N	1:A:175:PRO:HD2	2.14	0.62
1:B:63:HIS:HB3	1:B:67:ARG:HB2	1.82	0.62
1:L:207:GLU:HB3	1:L:236:ASP:HB3	1.82	0.62
1:A:211:ASN:HB2	1:A:239:PHE:HE2	1.65	0.62
1:F:115:THR:HG21	1:F:297:PRO:HB3	1.82	0.62
1:I:431:PHE:CE1	1:I:435:LYS:HB2	2.35	0.62
1:A:156:ILE:HG22	1:A:181:ALA:CB	2.29	0.61
1:K:113:ASN:OD1	1:K:115:THR:HG22	2.00	0.61
1:C:313:ARG:O	1:C:317:GLN:HG3	2.00	0.61
1:F:156:ILE:HG22	1:F:181:ALA:CB	2.31	0.61
1:F:442:LEU:HD23	1:F:445:ILE:HD12	1.82	0.61
1:I:209:PRO:HG3	1:I:355:MET:HE1	1.81	0.61
1:I:174:LEU:N	1:I:175:PRO:HD2	2.15	0.61
1:L:115:THR:HG21	1:L:297:PRO:HB3	1.81	0.61
1:B:143:THR:HG21	1:D:291:LEU:HD22	1.82	0.61
1:D:310:LEU:O	1:D:314:VAL:HG23	1.99	0.61
1:G:156:ILE:HG22	1:G:181:ALA:CB	2.30	0.61
1:G:60:VAL:HG13	1:G:64:ALA:HB2	1.82	0.61
1:I:431:PHE:HE1	1:I:435:LYS:HB2	1.66	0.61
1:F:156:ILE:HG22	1:F:181:ALA:HB2	1.83	0.61
1:J:113:ASN:OD1	1:J:115:THR:HG22	2.00	0.61
1:K:54:LEU:HD22	1:K:59:SER:HB3	1.82	0.61
1:G:250:LEU:HD11	1:G:354:GLN:HB2	1.81	0.61
1:L:158:THR:HG22	1:L:205:PHE:O	2.00	0.61
1:J:243:LEU:HD12	1:J:314:VAL:HG21	1.83	0.61
1:E:88:PHE:HA	1:G:386:ALA:HB2	1.83	0.60
1:E:170:ILE:HG23	1:E:174:LEU:HD12	1.82	0.60
1:L:72:ILE:HD12	1:L:80:PRO:HG2	1.83	0.60
1:A:347:GLU:HB3	1:A:350:ILE:HD12	1.83	0.60
1:B:386:ALA:HB2	1:D:88:PHE:HA	1.82	0.60
1:J:156:ILE:HG22	1:J:181:ALA:CB	2.31	0.60
1:K:159:THR:HA	1:K:184:ILE:O	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:256:LEU:HB2	1:I:273:CYS:O	2.00	0.60
1:A:260:THR:HG23	1:A:270:LEU:HD22	1.81	0.60
1:I:347:GLU:HB3	1:I:350:ILE:HD12	1.83	0.60
1:B:260:THR:HG23	1:B:270:LEU:HD22	1.84	0.60
1:G:54:LEU:HD22	1:G:59:SER:HB3	1.84	0.60
1:J:140:CYS:HB2	1:L:292:GLY:O	2.00	0.60
1:I:60:VAL:HG13	1:I:64:ALA:HB2	1.84	0.60
1:E:174:LEU:N	1:E:175:PRO:HD2	2.17	0.60
1:J:62:ILE:CD1	1:K:428:VAL:HG12	2.30	0.60
1:G:210:THR:HG22	1:G:215:ARG:H	1.66	0.60
1:F:115:THR:CG2	1:F:297:PRO:HB3	2.32	0.60
1:F:260:THR:HG23	1:F:270:LEU:HD22	1.84	0.60
1:K:156:ILE:HG22	1:K:181:ALA:CB	2.32	0.60
1:G:240:ALA:O	1:G:244:ASN:HB2	2.02	0.59
1:H:243:LEU:HD12	1:H:314:VAL:HG21	1.84	0.59
1:K:60:VAL:HG13	1:K:64:ALA:HB2	1.83	0.59
1:D:158:THR:HG22	1:D:205:PHE:O	2.02	0.59
1:I:242:PRO:O	1:I:246:LYS:HE2	2.01	0.59
1:L:387:PRO:HB3	3:L:611:PMC:HCA2	1.85	0.59
1:D:211:ASN:HB2	1:D:239:PHE:CE2	2.37	0.59
1:E:156:ILE:HG22	1:E:181:ALA:CB	2.32	0.59
1:C:194:LEU:O	1:C:198:GLN:HG3	2.03	0.59
1:J:386:ALA:HB2	1:L:88:PHE:HA	1.84	0.59
1:K:339:TYR:CD1	1:K:362:VAL:HG22	2.37	0.59
1:F:250:LEU:HD11	1:F:354:GLN:HB2	1.83	0.59
1:H:345:HIS:CE1	1:H:347:GLU:HG2	2.37	0.59
1:I:260:THR:CG2	1:I:270:LEU:HD22	2.32	0.59
1:F:277:PRO:HG2	1:F:280:LEU:HB2	1.85	0.59
1:G:53:PHE:CD1	1:G:54:LEU:HG	2.37	0.59
1:F:260:THR:CG2	1:F:270:LEU:HD22	2.33	0.59
1:G:63:HIS:HB3	1:G:67:ARG:HB2	1.85	0.59
1:G:174:LEU:N	1:G:175:PRO:HD2	2.18	0.59
1:J:173:ILE:C	1:J:175:PRO:HD2	2.22	0.59
1:B:259:ALA:HB3	1:B:271:ALA:HB3	1.84	0.58
1:F:174:LEU:N	1:F:175:PRO:HD2	2.18	0.58
1:I:210:THR:HG23	1:I:211:ASN:N	2.18	0.58
1:J:250:LEU:HD11	1:J:354:GLN:HB2	1.85	0.58
1:A:397:ASP:HB2	1:A:402:MET:HG3	1.85	0.58
1:G:331:HIS:CE1	1:G:333:LYS:HB2	2.38	0.58
1:B:158:THR:HG22	1:B:205:PHE:O	2.02	0.58
1:C:260:THR:HG23	1:C:270:LEU:HD22	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:259:ALA:HB3	1:J:271:ALA:HB3	1.85	0.58
1:K:260:THR:CG2	1:K:270:LEU:HD22	2.32	0.58
1:A:345:HIS:CE1	1:A:347:GLU:HG2	2.38	0.58
1:D:260:THR:HG23	1:D:270:LEU:HD22	1.85	0.58
1:E:211:ASN:HB2	1:E:239:PHE:HE2	1.67	0.58
1:L:156:ILE:HG22	1:L:181:ALA:CB	2.33	0.58
1:A:158:THR:HG22	1:A:205:PHE:O	2.04	0.58
1:I:428:VAL:HG12	1:L:62:ILE:CD1	2.28	0.58
1:K:259:ALA:HB3	1:K:271:ALA:HB3	1.84	0.58
1:E:64:ALA:O	1:E:122:LYS:HE2	2.03	0.58
1:J:115:THR:CG2	1:J:297:PRO:HB3	2.34	0.58
1:A:211:ASN:HB2	1:A:239:PHE:CE2	2.39	0.58
1:B:383:PRO:HB2	1:B:396:VAL:HG22	1.85	0.58
1:F:82:VAL:HG21	1:F:114:PRO:HG2	1.86	0.58
1:F:383:PRO:HB2	1:F:396:VAL:HG22	1.84	0.58
1:I:211:ASN:HB2	1:I:239:PHE:HE2	1.69	0.58
1:B:170:ILE:HG23	1:B:174:LEU:HD12	1.85	0.58
1:B:211:ASN:HB2	1:B:239:PHE:HE2	1.69	0.58
1:B:113:ASN:OD1	1:B:115:THR:HG22	2.04	0.57
1:H:376:PHE:HB2	1:H:445:ILE:HD11	1.85	0.57
1:F:60:VAL:HG13	1:F:64:ALA:HB2	1.86	0.57
1:F:62:ILE:CD1	1:G:428:VAL:HG12	2.31	0.57
1:G:115:THR:HG21	1:G:297:PRO:HB3	1.85	0.57
1:J:433:ASP:OD2	1:K:56:SER:HB3	2.04	0.57
1:C:347:GLU:HB3	1:C:350:ILE:HD12	1.85	0.57
1:E:313:ARG:O	1:E:317:GLN:HG3	2.03	0.57
1:H:260:THR:CG2	1:H:270:LEU:HD22	2.34	0.57
1:I:131:SER:HB3	1:I:281:VAL:HG11	1.86	0.57
1:D:64:ALA:O	1:D:122:LYS:HE2	2.04	0.57
1:E:428:VAL:HG13	1:E:428:VAL:O	2.03	0.57
1:G:210:THR:O	1:G:214:LEU:HA	2.05	0.57
1:I:211:ASN:HB2	1:I:239:PHE:CE2	2.39	0.57
1:C:60:VAL:HG13	1:C:64:ALA:HB2	1.86	0.57
1:E:347:GLU:HB3	1:E:350:ILE:HD12	1.85	0.57
1:I:115:THR:HG21	1:I:297:PRO:HB3	1.86	0.57
1:K:324:MET:HG2	1:K:431:PHE:HE1	1.70	0.57
1:G:256:LEU:HB2	1:G:273:CYS:O	2.05	0.57
1:H:115:THR:CG2	1:H:297:PRO:HB3	2.34	0.57
1:H:207:GLU:CB	1:H:236:ASP:HB3	2.33	0.57
1:J:260:THR:HG23	1:J:270:LEU:HD22	1.85	0.57
1:L:159:THR:HA	1:L:184:ILE:O	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:207:GLU:CB	1:E:236:ASP:HB3	2.33	0.57
1:E:345:HIS:CE1	1:E:347:GLU:HG2	2.40	0.57
1:L:63:HIS:HB3	1:L:67:ARG:HB2	1.87	0.57
1:D:397:ASP:HB2	1:D:402:MET:HG3	1.86	0.57
1:F:242:PRO:HD3	1:F:257:HIS:CE1	2.40	0.57
1:A:210:THR:HG23	1:A:211:ASN:N	2.19	0.57
1:B:60:VAL:HG13	1:B:64:ALA:HB2	1.87	0.57
1:H:210:THR:O	1:H:214:LEU:HA	2.05	0.57
1:A:323:ARG:CZ	1:A:431:PHE:HD2	2.17	0.56
1:F:73:VAL:O	1:F:74:THR:HG23	2.05	0.56
1:K:194:LEU:O	1:K:198:GLN:HG3	2.05	0.56
1:K:383:PRO:HB2	1:K:396:VAL:HG22	1.87	0.56
1:A:207:GLU:CB	1:A:236:ASP:HB3	2.34	0.56
1:C:73:VAL:O	1:C:74:THR:HG23	2.05	0.56
1:D:113:ASN:ND2	1:D:297:PRO:HG3	2.20	0.56
1:J:207:GLU:CB	1:J:236:ASP:HB3	2.33	0.56
1:K:64:ALA:O	1:K:122:LYS:HE2	2.05	0.56
1:B:242:PRO:O	1:B:246:LYS:HE2	2.05	0.56
1:F:386:ALA:HB2	1:H:88:PHE:HA	1.87	0.56
1:J:428:VAL:O	1:J:428:VAL:HG13	2.04	0.56
1:D:156:ILE:HG22	1:D:181:ALA:HB2	1.88	0.56
1:I:88:PHE:HA	1:K:386:ALA:HB2	1.88	0.56
1:B:194:LEU:O	1:B:198:GLN:HG3	2.06	0.56
1:G:260:THR:HG23	1:G:270:LEU:HD22	1.87	0.56
1:I:428:VAL:O	1:I:428:VAL:HG13	2.06	0.56
1:E:250:LEU:HD11	1:E:354:GLN:HB2	1.86	0.56
1:G:370:LEU:HD23	1:G:419:ASP:HB3	1.87	0.56
1:H:96:ILE:O	1:H:100:GLU:HG3	2.06	0.56
1:I:210:THR:O	1:I:214:LEU:HA	2.04	0.56
1:B:291:LEU:HD22	1:D:143:THR:HG21	1.88	0.56
1:E:82:VAL:HG21	1:E:114:PRO:HG2	1.86	0.56
1:E:194:LEU:O	1:E:198:GLN:HG3	2.05	0.56
1:K:300:ALA:O	1:K:304:ILE:HG13	2.06	0.56
1:E:51:ALA:HB1	1:E:53:PHE:CE2	2.41	0.56
1:F:324:MET:HG2	1:F:431:PHE:HE1	1.71	0.56
1:J:351:ALA:O	1:J:355:MET:HB2	2.06	0.56
1:L:376:PHE:HB2	1:L:445:ILE:HD11	1.87	0.56
1:A:143:THR:HG21	1:C:291:LEU:HD22	1.88	0.56
1:A:323:ARG:CZ	1:A:431:PHE:CD2	2.89	0.56
1:E:386:ALA:HB2	1:G:88:PHE:HA	1.88	0.56
1:L:207:GLU:HG3	1:L:210:THR:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:313:ARG:O	1:L:317:GLN:HG3	2.06	0.56
1:A:115:THR:CG2	1:A:297:PRO:HB3	2.36	0.55
1:C:242:PRO:O	1:C:246:LYS:HE2	2.05	0.55
1:G:156:ILE:HG22	1:G:181:ALA:HB2	1.87	0.55
1:C:260:THR:CG2	1:C:270:LEU:HD22	2.36	0.55
1:I:170:ILE:HG23	1:I:174:LEU:HD12	1.88	0.55
1:J:210:THR:O	1:J:214:LEU:HA	2.07	0.55
1:C:383:PRO:HB2	1:C:396:VAL:CG2	2.35	0.55
1:D:347:GLU:HB3	1:D:350:ILE:HD12	1.89	0.55
1:J:156:ILE:HG22	1:J:181:ALA:HB2	1.87	0.55
1:F:50:TYR:CE2	1:F:64:ALA:HA	2.41	0.55
1:I:429:GLU:OE2	1:L:63:HIS:HE1	1.90	0.55
1:K:351:ALA:O	1:K:355:MET:HB2	2.05	0.55
1:L:194:LEU:O	1:L:198:GLN:HG3	2.07	0.55
1:E:260:THR:CG2	1:E:270:LEU:HD22	2.37	0.55
1:I:215:ARG:HD2	1:I:347:GLU:OE2	2.06	0.55
1:J:211:ASN:HB2	1:J:239:PHE:CE2	2.41	0.55
1:J:428:VAL:HG12	1:K:62:ILE:CD1	2.33	0.55
1:K:204:PHE:CE2	1:K:222:VAL:HG11	2.40	0.55
1:D:170:ILE:HG23	1:D:174:LEU:HD12	1.89	0.55
1:J:123:ILE:HD13	1:J:273:CYS:SG	2.47	0.55
1:L:260:THR:HG23	1:L:270:LEU:HD22	1.87	0.55
1:K:376:PHE:HB2	1:K:445:ILE:HD11	1.88	0.55
1:E:296:ASN:ND2	1:E:297:PRO:HD2	2.22	0.55
1:A:156:ILE:HG22	1:A:181:ALA:HB2	1.89	0.55
1:A:310:LEU:O	1:A:314:VAL:HG23	2.07	0.55
1:G:339:TYR:CD1	1:G:362:VAL:HG22	2.41	0.55
1:A:223:SER:HA	1:A:233:VAL:HG21	1.89	0.54
1:A:382:ILE:HG12	1:D:54:LEU:HD21	1.89	0.54
1:D:96:ILE:O	1:D:100:GLU:HG3	2.07	0.54
1:D:115:THR:HG21	1:D:297:PRO:HB3	1.89	0.54
1:J:155:HIS:O	1:J:202:ASN:HB2	2.07	0.54
1:A:428:VAL:O	1:A:428:VAL:HG13	2.07	0.54
1:E:159:THR:HA	1:E:184:ILE:O	2.07	0.54
1:G:115:THR:CG2	1:G:297:PRO:HB3	2.37	0.54
1:J:241:THR:HG23	1:J:242:PRO:HD2	1.89	0.54
1:K:207:GLU:CB	1:K:236:ASP:HB3	2.37	0.54
1:A:241:THR:HG22	1:A:243:LEU:N	2.14	0.54
1:L:87:TYR:N	1:L:87:TYR:CD2	2.76	0.54
1:L:256:LEU:HB2	1:L:273:CYS:O	2.07	0.54
1:F:143:THR:HG21	1:H:291:LEU:HD22	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:242:PRO:HD3	1:I:257:HIS:CE1	2.43	0.54
1:C:262:PHE:CE1	1:C:390:GLY:HA2	2.43	0.54
1:E:158:THR:HG22	1:E:205:PHE:O	2.07	0.54
1:F:211:ASN:HB2	1:F:239:PHE:CE2	2.42	0.54
1:F:346:PRO:HB2	1:F:347:GLU:OE2	2.08	0.54
1:J:260:THR:CG2	1:J:270:LEU:HD22	2.37	0.54
1:D:379:ALA:HB3	1:D:441:ALA:HB1	1.89	0.54
1:E:166:THR:O	1:E:170:ILE:HG13	2.08	0.54
1:C:428:VAL:O	1:C:428:VAL:HG13	2.07	0.54
1:D:243:LEU:HD12	1:D:314:VAL:HG21	1.89	0.54
1:F:158:THR:HG22	1:F:205:PHE:O	2.07	0.54
1:B:156:ILE:HG22	1:B:181:ALA:HB2	1.90	0.54
1:E:428:VAL:HG12	1:H:62:ILE:CD1	2.36	0.54
1:H:166:THR:O	1:H:170:ILE:HG13	2.07	0.54
1:J:291:LEU:HD22	1:L:143:THR:HG21	1.90	0.54
1:K:170:ILE:HG23	1:K:174:LEU:HD12	1.89	0.54
1:L:144:VAL:HG22	1:L:291:LEU:HD12	1.89	0.54
1:D:242:PRO:HD3	1:D:257:HIS:CE1	2.42	0.53
1:F:365:GLU:HB3	1:F:420:ASN:HB3	1.90	0.53
1:H:156:ILE:HG22	1:H:181:ALA:HB2	1.88	0.53
1:K:73:VAL:O	1:K:74:THR:HG23	2.08	0.53
1:B:156:ILE:HG22	1:B:181:ALA:HB1	1.90	0.53
1:I:323:ARG:HD2	1:I:431:PHE:HE2	1.74	0.53
1:L:51:ALA:HB1	1:L:53:PHE:CE2	2.43	0.53
1:B:260:THR:HG21	1:D:108:TYR:OH	2.08	0.53
1:C:241:THR:HG22	1:C:243:LEU:N	2.14	0.53
1:H:347:GLU:HB3	1:H:350:ILE:HD12	1.89	0.53
1:C:156:ILE:HG22	1:C:181:ALA:HB2	1.89	0.53
1:D:260:THR:CG2	1:D:270:LEU:HD22	2.38	0.53
1:K:123:ILE:HD13	1:K:273:CYS:SG	2.48	0.53
1:B:345:HIS:CE1	1:B:347:GLU:HG2	2.43	0.53
1:C:115:THR:HG21	1:C:297:PRO:HB3	1.90	0.53
1:D:215:ARG:NH1	1:D:347:GLU:OE2	2.41	0.53
1:F:313:ARG:O	1:F:317:GLN:HG3	2.08	0.53
1:I:345:HIS:CE1	1:I:347:GLU:HG2	2.43	0.53
1:K:158:THR:HG22	1:K:205:PHE:O	2.08	0.53
1:E:310:LEU:O	1:E:314:VAL:HG23	2.08	0.53
1:G:73:VAL:O	1:G:74:THR:HG23	2.07	0.53
1:B:210:THR:O	1:B:214:LEU:HA	2.08	0.53
1:B:370:LEU:HD23	1:B:419:ASP:HB3	1.91	0.53
1:D:242:PRO:O	1:D:246:LYS:HE2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:428:VAL:O	1:D:428:VAL:HG13	2.07	0.53
1:I:78:THR:HG21	1:L:268:ASP:HB3	1.89	0.53
1:K:321:ALA:HB2	1:K:360:GLY:HA2	1.90	0.53
1:B:428:VAL:HG13	1:B:428:VAL:O	2.09	0.53
1:C:207:GLU:CB	1:C:236:ASP:HB3	2.39	0.53
1:B:155:HIS:HD1	1:B:180:THR:HG23	1.74	0.53
1:G:243:LEU:HD12	1:G:314:VAL:HG21	1.91	0.53
1:L:215:ARG:HD2	1:L:347:GLU:OE2	2.09	0.53
1:F:397:ASP:HB2	1:F:402:MET:HG3	1.91	0.52
1:H:64:ALA:O	1:H:122:LYS:HE2	2.09	0.52
1:I:194:LEU:O	1:I:198:GLN:HG3	2.09	0.52
1:C:211:ASN:HB2	1:C:239:PHE:HE2	1.73	0.52
1:I:158:THR:HG22	1:I:205:PHE:O	2.09	0.52
1:K:250:LEU:HD11	1:K:354:GLN:HB2	1.92	0.52
1:A:62:ILE:CD1	1:D:428:VAL:HG12	2.40	0.52
1:G:310:LEU:O	1:G:314:VAL:HG23	2.10	0.52
1:C:211:ASN:HB2	1:C:239:PHE:CE2	2.45	0.52
1:I:431:PHE:CD1	1:I:431:PHE:C	2.82	0.52
1:J:115:THR:HG21	1:J:297:PRO:HB3	1.90	0.52
1:L:156:ILE:HG22	1:L:181:ALA:HB2	1.91	0.52
1:B:242:PRO:HD3	1:B:257:HIS:CE1	2.43	0.52
1:K:80:PRO:HB3	1:L:82:VAL:HG22	1.91	0.52
1:G:207:GLU:CB	1:G:236:ASP:HB3	2.36	0.52
1:A:60:VAL:HG13	1:A:64:ALA:HB2	1.92	0.52
1:D:166:THR:O	1:D:170:ILE:HG13	2.10	0.52
1:K:211:ASN:HB2	1:K:239:PHE:HE2	1.75	0.52
1:L:153:GLY:HA2	1:L:178:GLY:O	2.09	0.52
1:B:115:THR:HG21	1:B:297:PRO:HB3	1.91	0.52
1:B:347:GLU:HB3	1:B:350:ILE:HD12	1.92	0.52
1:L:210:THR:HG22	1:L:215:ARG:H	1.75	0.52
1:L:261:LYS:HD2	1:L:389:PHE:CZ	2.44	0.52
1:A:428:VAL:CG2	1:D:312:LEU:HD11	2.40	0.52
1:B:386:ALA:HB1	1:B:387:PRO:CD	2.40	0.52
1:E:63:HIS:CD2	1:E:67:ARG:HD3	2.45	0.52
1:F:64:ALA:O	1:F:122:LYS:HE2	2.10	0.52
1:H:345:HIS:HE1	1:H:347:GLU:HG2	1.75	0.52
1:K:256:LEU:HB2	1:K:273:CYS:O	2.10	0.52
1:J:163:TYR:CE2	1:J:165:LYS:HB2	2.45	0.51
1:B:250:LEU:HD11	1:B:354:GLN:HB2	1.92	0.51
1:F:210:THR:O	1:F:214:LEU:HA	2.10	0.51
1:G:351:ALA:O	1:G:355:MET:HB2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:313:ARG:O	1:I:317:GLN:HG3	2.10	0.51
1:J:60:VAL:HG13	1:J:64:ALA:HB2	1.92	0.51
1:J:144:VAL:HG22	1:J:291:LEU:HD12	1.92	0.51
1:K:240:ALA:O	1:K:244:ASN:HB2	2.09	0.51
1:L:428:VAL:O	1:L:428:VAL:HG13	2.09	0.51
1:A:131:SER:HB3	1:A:281:VAL:HG11	1.93	0.51
1:F:386:ALA:HB1	1:F:387:PRO:CD	2.41	0.51
1:H:250:LEU:CD1	1:H:354:GLN:HB2	2.39	0.51
1:A:260:THR:CG2	1:A:270:LEU:HD22	2.39	0.51
1:C:115:THR:CG2	1:C:297:PRO:HB3	2.39	0.51
1:H:158:THR:HG22	1:H:205:PHE:O	2.10	0.51
1:L:250:LEU:HD11	1:L:354:GLN:HB2	1.93	0.51
1:A:323:ARG:NH1	1:A:431:PHE:CD2	2.79	0.51
1:F:241:THR:HG23	1:F:242:PRO:HD2	1.92	0.51
1:G:63:HIS:CD2	1:G:67:ARG:HD3	2.45	0.51
1:L:210:THR:O	1:L:214:LEU:HA	2.10	0.51
1:E:123:ILE:HD13	1:E:273:CYS:SG	2.51	0.51
1:F:194:LEU:O	1:F:198:GLN:HG3	2.11	0.51
1:G:277:PRO:HG2	1:G:280:LEU:HB2	1.93	0.51
1:E:211:ASN:HB2	1:E:239:PHE:CE2	2.45	0.51
1:E:323:ARG:HD2	1:E:431:PHE:HE2	1.76	0.51
1:F:291:LEU:HD22	1:H:143:THR:HG21	1.93	0.51
1:H:324:MET:HG2	1:H:431:PHE:HE1	1.76	0.51
1:I:250:LEU:HD11	1:I:354:GLN:HB2	1.91	0.51
1:I:365:GLU:HB3	1:I:420:ASN:HB3	1.93	0.51
1:L:310:LEU:O	1:L:314:VAL:HG23	2.11	0.51
1:C:339:TYR:CD1	1:C:362:VAL:HG22	2.46	0.51
1:I:96:ILE:O	1:I:100:GLU:HG3	2.11	0.51
1:B:51:ALA:HB3	1:B:54:LEU:HB2	1.92	0.51
1:D:339:TYR:CD1	1:D:362:VAL:HG22	2.45	0.51
1:G:260:THR:CG2	1:G:270:LEU:HD22	2.40	0.51
1:I:310:LEU:O	1:I:314:VAL:HG23	2.11	0.51
1:J:170:ILE:HA	1:J:174:LEU:HD12	1.93	0.51
1:A:351:ALA:O	1:A:355:MET:HB2	2.11	0.50
1:A:365:GLU:HB3	1:A:420:ASN:HB3	1.92	0.50
1:E:131:SER:OG	1:E:281:VAL:HG11	2.11	0.50
1:G:64:ALA:O	1:G:122:LYS:HE2	2.10	0.50
1:L:173:ILE:C	1:L:175:PRO:HD2	2.31	0.50
1:A:166:THR:O	1:A:170:ILE:HG13	2.10	0.50
1:B:386:ALA:HB1	1:B:387:PRO:HD2	1.93	0.50
1:K:331:HIS:CE1	1:K:333:LYS:HB2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:369:ASP:H	1:B:372:THR:HB	1.75	0.50
1:E:143:THR:HG21	1:G:291:LEU:HD22	1.92	0.50
1:H:261:LYS:HD2	1:H:389:PHE:CZ	2.46	0.50
1:B:397:ASP:HB2	1:B:402:MET:HG3	1.94	0.50
1:D:60:VAL:HG13	1:D:64:ALA:HB2	1.93	0.50
1:H:397:ASP:HB2	1:H:402:MET:HG3	1.92	0.50
1:B:210:THR:HG23	1:B:211:ASN:N	2.26	0.50
1:D:331:HIS:CE1	1:D:333:LYS:HB2	2.46	0.50
1:E:323:ARG:CZ	1:E:431:PHE:HD2	2.25	0.50
1:A:88:PHE:HA	1:C:386:ALA:HB2	1.94	0.50
1:B:170:ILE:HA	1:B:174:LEU:HD12	1.94	0.50
1:D:210:THR:O	1:D:214:LEU:HA	2.11	0.50
1:E:387:PRO:HB3	3:E:604:PMC:HCA2	1.93	0.50
1:H:131:SER:HB3	1:H:281:VAL:HG11	1.94	0.50
1:F:207:GLU:CB	1:F:236:ASP:HB3	2.38	0.50
1:G:324:MET:HG2	1:G:431:PHE:HE1	1.76	0.50
1:J:324:MET:HG2	1:J:431:PHE:HE1	1.76	0.50
1:L:211:ASN:HB2	1:L:239:PHE:CE2	2.46	0.50
1:C:277:PRO:HG2	1:C:280:LEU:HB2	1.93	0.50
1:B:173:ILE:C	1:B:175:PRO:HD2	2.32	0.50
1:C:72:ILE:O	1:C:72:ILE:CG2	2.58	0.50
1:D:115:THR:CG2	1:D:297:PRO:HB3	2.41	0.50
1:E:243:LEU:HD12	1:E:314:VAL:HG21	1.94	0.50
1:F:123:ILE:HD13	1:F:273:CYS:SG	2.52	0.50
1:G:441:ALA:C	1:G:443:ASP:H	2.15	0.50
1:H:256:LEU:HB2	1:H:273:CYS:O	2.12	0.50
1:B:241:THR:CG2	1:B:243:LEU:H	2.18	0.49
1:E:242:PRO:HD3	1:E:257:HIS:CE1	2.47	0.49
1:F:138:GLY:N	2:F:500:PLP:O2P	2.46	0.49
1:K:127:GLU:OE2	1:K:257:HIS:NE2	2.42	0.49
1:B:260:THR:CG2	1:B:270:LEU:HD22	2.42	0.49
1:J:194:LEU:O	1:J:198:GLN:HG3	2.12	0.49
1:B:379:ALA:HB3	1:B:441:ALA:HB1	1.92	0.49
1:F:428:VAL:HG13	1:F:428:VAL:O	2.12	0.49
1:G:397:ASP:HB2	1:G:402:MET:HG3	1.94	0.49
1:I:311:HIS:HE2	1:L:428:VAL:HG13	1.77	0.49
1:A:277:PRO:HG2	1:A:280:LEU:HB2	1.94	0.49
1:B:72:ILE:O	1:B:72:ILE:CG2	2.59	0.49
1:H:215:ARG:HD2	1:H:347:GLU:OE2	2.13	0.49
1:J:321:ALA:HB2	1:J:360:GLY:HA2	1.95	0.49
1:A:345:HIS:HE1	1:A:347:GLU:HG2	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:256:LEU:HB2	1:B:273:CYS:O	2.11	0.49
1:C:223:SER:HA	1:C:233:VAL:HG21	1.94	0.49
1:G:345:HIS:CE1	1:G:347:GLU:HG2	2.48	0.49
1:H:54:LEU:HD22	1:H:59:SER:CB	2.40	0.49
1:J:174:LEU:N	1:J:175:PRO:CD	2.76	0.49
1:J:397:ASP:HB2	1:J:402:MET:HG3	1.93	0.49
1:B:82:VAL:HG21	1:B:114:PRO:HG2	1.95	0.49
1:B:115:THR:CG2	1:B:297:PRO:HB3	2.43	0.49
1:F:210:THR:HG23	1:F:211:ASN:N	2.27	0.49
1:G:140:CYS:O	1:G:144:VAL:HG23	2.13	0.49
1:H:351:ALA:O	1:H:355:MET:HB2	2.13	0.49
1:I:204:PHE:CE2	1:I:222:VAL:HG11	2.48	0.49
1:K:82:VAL:HG21	1:K:114:PRO:HG2	1.94	0.49
1:L:60:VAL:HG13	1:L:64:ALA:HB2	1.94	0.49
1:D:278:LEU:HA	1:D:281:VAL:HG12	1.95	0.49
1:F:331:HIS:CE1	1:F:333:LYS:HB2	2.47	0.49
1:K:210:THR:HG23	1:K:211:ASN:N	2.27	0.49
1:F:63:HIS:HE1	1:G:429:GLU:OE2	1.95	0.49
1:G:80:PRO:HB3	1:H:82:VAL:HG22	1.95	0.49
1:H:331:HIS:CE1	1:H:333:LYS:HB2	2.48	0.49
1:H:365:GLU:HB3	1:H:420:ASN:HB3	1.95	0.49
1:C:386:ALA:HB1	1:C:387:PRO:CD	2.41	0.49
1:D:386:ALA:HB1	1:D:387:PRO:CD	2.43	0.49
1:E:210:THR:HG23	1:E:211:ASN:N	2.27	0.49
1:J:223:SER:HA	1:J:233:VAL:HG21	1.95	0.49
1:J:250:LEU:CD1	1:J:354:GLN:HB2	2.42	0.49
1:C:158:THR:HG22	1:C:205:PHE:O	2.13	0.49
1:E:386:ALA:HB1	1:E:387:PRO:CD	2.43	0.49
1:F:163:TYR:CE2	1:F:165:LYS:HB2	2.47	0.49
1:G:131:SER:HB3	1:G:281:VAL:HG11	1.94	0.49
1:G:194:LEU:O	1:G:198:GLN:HG3	2.13	0.49
1:H:255:VAL:O	1:H:255:VAL:HG13	2.13	0.49
1:K:174:LEU:N	1:K:175:PRO:CD	2.75	0.49
1:F:296:ASN:OD1	1:F:298:ASN:HB2	2.13	0.48
1:G:242:PRO:HD3	1:G:257:HIS:CE1	2.48	0.48
1:I:73:VAL:O	1:I:74:THR:HG23	2.13	0.48
1:I:223:SER:HA	1:I:233:VAL:HG21	1.94	0.48
1:K:210:THR:O	1:K:214:LEU:HA	2.13	0.48
1:D:210:THR:HG23	1:D:211:ASN:N	2.27	0.48
1:I:386:ALA:HB1	1:I:387:PRO:CD	2.43	0.48
1:I:386:ALA:HB1	1:I:387:PRO:HD2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:211:ASN:HB2	1:K:239:PHE:CE2	2.48	0.48
1:K:242:PRO:HD3	1:K:257:HIS:CE1	2.47	0.48
1:B:96:ILE:O	1:B:100:GLU:HG3	2.13	0.48
1:E:323:ARG:CZ	1:E:431:PHE:CD2	2.96	0.48
1:F:300:ALA:O	1:F:304:ILE:HG13	2.13	0.48
1:K:343:GLN:HA	1:K:348:HIS:CD2	2.48	0.48
1:C:241:THR:HG23	1:C:242:PRO:HD2	1.95	0.48
1:C:310:LEU:O	1:C:314:VAL:HG23	2.11	0.48
1:D:87:TYR:CD2	1:D:106:PHE:HB2	2.47	0.48
1:E:206:THR:O	1:E:235:ILE:HA	2.13	0.48
1:G:113:ASN:ND2	1:G:297:PRO:HG3	2.29	0.48
1:J:73:VAL:O	1:J:74:THR:HG23	2.13	0.48
1:A:321:ALA:HB2	1:A:360:GLY:HA2	1.95	0.48
1:C:324:MET:HG2	1:C:431:PHE:HE1	1.78	0.48
1:G:170:ILE:HA	1:G:174:LEU:HD12	1.96	0.48
1:I:156:ILE:HG22	1:I:181:ALA:CB	2.43	0.48
1:I:215:ARG:NH1	1:I:347:GLU:OE2	2.44	0.48
1:K:156:ILE:HG22	1:K:181:ALA:HB2	1.94	0.48
1:K:261:LYS:HD2	1:K:389:PHE:CZ	2.49	0.48
1:K:387:PRO:HB3	3:K:610:PMC:HCA2	1.94	0.48
1:A:370:LEU:HD23	1:A:419:ASP:HB3	1.94	0.48
1:E:72:ILE:O	1:E:72:ILE:CG2	2.59	0.48
1:H:211:ASN:HB2	1:H:239:PHE:CE2	2.46	0.48
1:I:62:ILE:CD1	1:L:428:VAL:HG12	2.36	0.48
1:K:113:ASN:ND2	1:K:297:PRO:HG3	2.29	0.48
1:K:382:ILE:HB	1:K:383:PRO:HD3	1.94	0.48
1:F:347:GLU:HB3	1:F:350:ILE:HD12	1.95	0.48
1:G:158:THR:HG22	1:G:205:PHE:O	2.14	0.48
1:A:140:CYS:O	1:A:144:VAL:HG23	2.14	0.48
1:B:382:ILE:HB	1:B:383:PRO:HD3	1.96	0.48
1:E:173:ILE:O	1:E:176:LYS:HB2	2.14	0.48
1:F:428:VAL:CG2	1:G:312:LEU:HD11	2.44	0.48
1:I:140:CYS:HB2	1:K:292:GLY:O	2.14	0.48
1:J:261:LYS:HD2	1:J:389:PHE:CZ	2.49	0.48
1:K:70:ARG:HD3	1:K:79:THR:OG1	2.14	0.48
1:K:265:GLY:HA3	1:K:313:ARG:NH1	2.28	0.48
1:D:159:THR:HA	1:D:184:ILE:O	2.14	0.48
1:D:387:PRO:HB3	3:D:603:PMC:HCA2	1.95	0.48
1:E:292:GLY:O	1:G:140:CYS:HB2	2.14	0.48
1:F:339:TYR:CD1	1:F:362:VAL:HG22	2.49	0.48
1:I:115:THR:CG2	1:I:297:PRO:HB3	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:206:THR:O	1:C:235:ILE:HA	2.14	0.48
1:D:54:LEU:HD22	1:D:59:SER:HB3	1.96	0.48
1:F:351:ALA:O	1:F:355:MET:HB2	2.13	0.48
1:G:82:VAL:HG21	1:G:114:PRO:HG2	1.96	0.48
1:H:194:LEU:O	1:H:198:GLN:HG3	2.14	0.48
1:I:54:LEU:HD22	1:I:59:SER:HB3	1.95	0.48
1:I:143:THR:HG21	1:K:291:LEU:HD22	1.95	0.48
1:L:346:PRO:HB2	1:L:347:GLU:OE2	2.14	0.48
1:A:113:ASN:ND2	1:A:297:PRO:HG3	2.28	0.47
1:B:159:THR:HA	1:B:184:ILE:O	2.14	0.47
1:I:156:ILE:HG22	1:I:181:ALA:HB2	1.96	0.47
1:L:365:GLU:HB3	1:L:420:ASN:HB3	1.96	0.47
1:A:155:HIS:HA	1:A:180:THR:O	2.14	0.47
1:B:337:VAL:HG22	1:B:364:PHE:HB3	1.95	0.47
1:B:348:HIS:O	1:B:352:LYS:HB2	2.15	0.47
1:D:98:PHE:HE2	1:D:99:LYS:HE2	1.79	0.47
1:F:113:ASN:OD1	1:F:115:THR:CG2	2.61	0.47
1:F:166:THR:O	1:F:170:ILE:HG13	2.14	0.47
1:I:56:SER:HB3	1:L:433:ASP:OD2	2.13	0.47
1:K:204:PHE:HE2	1:K:222:VAL:HG11	1.78	0.47
1:A:291:LEU:HD22	1:C:143:THR:HG21	1.96	0.47
1:B:211:ASN:HB2	1:B:239:PHE:CE2	2.50	0.47
1:C:296:ASN:OD1	1:C:298:ASN:HB2	2.15	0.47
1:D:103:ARG:HG2	1:D:104:ALA:N	2.30	0.47
1:E:256:LEU:HB2	1:E:273:CYS:O	2.13	0.47
1:A:242:PRO:O	1:A:246:LYS:HE2	2.14	0.47
1:B:145:MET:HE2	1:B:146:LEU:HD23	1.96	0.47
1:F:72:ILE:O	1:F:72:ILE:CG2	2.62	0.47
1:F:374:ALA:O	1:F:377:VAL:HG22	2.15	0.47
1:G:106:PHE:O	1:G:108:TYR:N	2.47	0.47
1:J:382:ILE:HB	1:J:383:PRO:HD3	1.97	0.47
1:A:159:THR:HA	1:A:184:ILE:O	2.15	0.47
1:B:166:THR:O	1:B:170:ILE:HG13	2.13	0.47
1:B:212:PRO:HG2	1:B:421:LEU:HD21	1.96	0.47
1:B:278:LEU:O	1:B:282:SER:HB3	2.14	0.47
1:C:256:LEU:HB2	1:C:273:CYS:O	2.14	0.47
1:C:374:ALA:O	1:C:377:VAL:HG22	2.15	0.47
1:E:127:GLU:OE2	1:E:257:HIS:NE2	2.45	0.47
1:F:57:ASP:HB3	1:F:243:LEU:CD2	2.44	0.47
1:H:343:GLN:HA	1:H:348:HIS:CD2	2.49	0.47
1:C:173:ILE:C	1:C:175:PRO:HD2	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:115:THR:HG21	1:E:297:PRO:HB3	1.97	0.47
1:E:339:TYR:CD1	1:E:362:VAL:HG22	2.49	0.47
1:F:382:ILE:HB	1:F:383:PRO:HD3	1.97	0.47
1:K:82:VAL:HG12	1:K:84:THR:HG22	1.97	0.47
1:K:428:VAL:O	1:K:428:VAL:HG13	2.15	0.47
1:A:131:SER:CB	1:A:281:VAL:HG11	2.45	0.47
1:B:174:LEU:N	1:B:175:PRO:CD	2.77	0.47
1:B:428:VAL:CG2	1:C:312:LEU:HD11	2.45	0.47
1:E:210:THR:O	1:E:214:LEU:HA	2.15	0.47
1:E:265:GLY:HA3	1:E:313:ARG:NH1	2.29	0.47
1:F:98:PHE:HE2	1:F:99:LYS:HE2	1.79	0.47
1:G:166:THR:O	1:G:170:ILE:HG13	2.14	0.47
1:G:300:ALA:O	1:G:304:ILE:HG13	2.15	0.47
1:I:266:HIS:CD2	1:L:305:ARG:HG2	2.49	0.47
1:K:115:THR:HG21	1:K:297:PRO:HB3	1.95	0.47
1:K:345:HIS:CE1	1:K:347:GLU:HG2	2.49	0.47
1:L:127:GLU:OE2	1:L:242:PRO:HB3	2.15	0.47
1:L:211:ASN:HB2	1:L:239:PHE:HE2	1.80	0.47
1:L:223:SER:HA	1:L:233:VAL:HG21	1.97	0.47
1:L:366:VAL:HG12	1:L:367:ASP:N	2.30	0.47
1:L:386:ALA:HB1	1:L:387:PRO:CD	2.44	0.47
1:A:103:ARG:HG2	1:A:104:ALA:N	2.30	0.47
1:E:57:ASP:HB3	1:E:243:LEU:CD2	2.45	0.47
1:F:75:ASP:OD1	1:F:75:ASP:N	2.47	0.47
1:H:373:THR:O	1:H:377:VAL:HG13	2.15	0.47
1:I:240:ALA:O	1:I:244:ASN:HB2	2.15	0.47
1:I:387:PRO:O	1:I:388:SER:HB3	2.14	0.47
1:B:428:VAL:HG12	1:C:62:ILE:CD1	2.45	0.47
1:E:78:THR:HG21	1:H:268:ASP:HB3	1.96	0.47
1:B:72:ILE:HD12	1:B:80:PRO:HG2	1.97	0.47
1:B:215:ARG:HD2	1:B:347:GLU:OE2	2.15	0.47
1:B:240:ALA:O	1:B:244:ASN:HB2	2.15	0.47
1:C:210:THR:HG23	1:C:211:ASN:N	2.29	0.47
1:J:396:VAL:HG13	1:J:424:PHE:CD2	2.50	0.47
1:K:223:SER:HA	1:K:233:VAL:HG21	1.96	0.47
1:F:242:PRO:O	1:F:246:LYS:HE2	2.15	0.46
1:F:369:ASP:H	1:F:372:THR:HB	1.79	0.46
1:F:418:MET:C	1:F:420:ASN:H	2.17	0.46
1:G:159:THR:HA	1:G:184:ILE:O	2.15	0.46
1:H:428:VAL:HG13	1:H:428:VAL:O	2.14	0.46
1:J:343:GLN:HA	1:J:348:HIS:CD2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:310:LEU:O	1:F:314:VAL:HG23	2.15	0.46
1:I:72:ILE:O	1:I:72:ILE:CG2	2.62	0.46
1:I:207:GLU:CB	1:I:236:ASP:HB3	2.43	0.46
1:J:261:LYS:HD2	1:J:389:PHE:CE2	2.51	0.46
1:K:277:PRO:HG2	1:K:280:LEU:HB2	1.97	0.46
1:L:300:ALA:O	1:L:304:ILE:HG13	2.15	0.46
1:A:386:ALA:HB2	1:C:88:PHE:HA	1.97	0.46
1:B:98:PHE:HE2	1:B:99:LYS:HE2	1.79	0.46
1:B:127:GLU:OE2	1:B:257:HIS:NE2	2.46	0.46
1:C:153:GLY:HA2	1:C:178:GLY:O	2.15	0.46
1:D:345:HIS:CE1	1:D:347:GLU:HG2	2.50	0.46
1:E:255:VAL:O	1:E:255:VAL:HG13	2.15	0.46
1:I:82:VAL:HG22	1:J:80:PRO:HB3	1.96	0.46
1:I:291:LEU:HD22	1:K:143:THR:HG21	1.97	0.46
1:D:210:THR:HG22	1:D:215:ARG:H	1.80	0.46
1:E:96:ILE:O	1:E:100:GLU:HG3	2.16	0.46
1:E:428:VAL:O	1:E:428:VAL:CG1	2.64	0.46
1:G:383:PRO:HA	1:G:394:SER:O	2.16	0.46
1:K:63:HIS:HB3	1:K:67:ARG:CB	2.45	0.46
1:L:72:ILE:O	1:L:72:ILE:CG2	2.64	0.46
1:L:240:ALA:O	1:L:244:ASN:HB2	2.16	0.46
1:A:215:ARG:HD2	1:A:347:GLU:OE2	2.16	0.46
1:C:103:ARG:HG2	1:C:104:ALA:N	2.30	0.46
1:C:174:LEU:N	1:C:175:PRO:CD	2.77	0.46
1:E:156:ILE:HG22	1:E:181:ALA:HB2	1.96	0.46
1:F:211:ASN:HB2	1:F:239:PHE:HE2	1.80	0.46
1:H:210:THR:HG23	1:H:211:ASN:N	2.30	0.46
1:L:174:LEU:N	1:L:175:PRO:CD	2.75	0.46
1:E:397:ASP:HB2	1:E:402:MET:HG3	1.98	0.46
1:H:223:SER:HA	1:H:233:VAL:HG21	1.97	0.46
1:E:370:LEU:HD23	1:E:419:ASP:HB3	1.98	0.46
1:G:428:VAL:HG13	1:G:428:VAL:O	2.15	0.46
1:H:53:PHE:CE1	1:H:54:LEU:HG	2.50	0.46
1:I:166:THR:O	1:I:170:ILE:HG13	2.16	0.46
1:K:72:ILE:O	1:K:72:ILE:CG2	2.63	0.46
1:B:396:VAL:HG13	1:B:424:PHE:CD2	2.50	0.46
1:G:72:ILE:O	1:G:72:ILE:CG2	2.61	0.46
1:G:261:LYS:HD2	1:G:389:PHE:CZ	2.50	0.46
1:I:321:ALA:HB2	1:I:360:GLY:HA2	1.98	0.46
1:J:63:HIS:HE1	1:K:429:GLU:OE2	1.99	0.46
1:J:255:VAL:HG13	1:J:255:VAL:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:277:PRO:HG2	1:L:280:LEU:HB2	1.98	0.46
1:A:431:PHE:HD1	1:A:431:PHE:O	1.99	0.46
1:B:54:LEU:HD22	1:B:59:SER:CB	2.44	0.46
1:B:418:MET:C	1:B:420:ASN:H	2.18	0.46
1:C:215:ARG:HD2	1:C:347:GLU:OE2	2.15	0.46
1:E:240:ALA:O	1:E:244:ASN:HB2	2.16	0.46
1:F:370:LEU:HD23	1:F:419:ASP:HB3	1.97	0.46
1:H:53:PHE:HD1	1:H:54:LEU:HG	1.80	0.46
1:H:386:ALA:HB1	1:H:387:PRO:CD	2.46	0.46
1:J:331:HIS:ND1	1:J:332:PRO:HD2	2.31	0.46
1:K:250:LEU:CD1	1:K:354:GLN:HB2	2.46	0.46
1:L:166:THR:O	1:L:170:ILE:HG13	2.15	0.46
1:C:345:HIS:CE1	1:C:347:GLU:HG2	2.51	0.46
1:D:131:SER:OG	1:D:281:VAL:HG11	2.16	0.46
1:D:174:LEU:N	1:D:175:PRO:CD	2.78	0.46
1:F:250:LEU:CD1	1:F:354:GLN:HB2	2.46	0.46
1:F:343:GLN:HA	1:F:348:HIS:CD2	2.50	0.46
1:H:192:LEU:HD22	1:H:222:VAL:HG22	1.98	0.46
1:K:386:ALA:HB1	1:K:387:PRO:CD	2.46	0.46
1:A:337:VAL:HG22	1:A:364:PHE:HB3	1.98	0.45
1:F:383:PRO:HB3	1:F:394:SER:HB3	1.97	0.45
1:G:206:THR:O	1:G:235:ILE:HA	2.16	0.45
1:G:212:PRO:HG2	1:G:421:LEU:HD21	1.98	0.45
1:G:250:LEU:CD1	1:G:354:GLN:HB2	2.45	0.45
1:J:64:ALA:O	1:J:122:LYS:HE2	2.16	0.45
1:K:53:PHE:CD1	1:K:54:LEU:HG	2.51	0.45
1:E:72:ILE:HD12	1:E:80:PRO:HG2	1.97	0.45
1:E:170:ILE:HA	1:E:174:LEU:HD12	1.98	0.45
1:E:312:LEU:HD11	1:H:428:VAL:CG2	2.46	0.45
1:F:82:VAL:HG21	1:F:114:PRO:CG	2.46	0.45
1:F:206:THR:O	1:F:235:ILE:HA	2.16	0.45
1:F:321:ALA:HB2	1:F:360:GLY:HA2	1.97	0.45
1:G:53:PHE:CE1	1:G:54:LEU:HG	2.51	0.45
1:L:57:ASP:HB3	1:L:243:LEU:CD2	2.46	0.45
1:B:207:GLU:CB	1:B:236:ASP:HB3	2.45	0.45
1:K:215:ARG:HD2	1:K:347:GLU:OE2	2.16	0.45
1:L:192:LEU:HG	1:L:196:LEU:HD23	1.97	0.45
1:C:98:PHE:HE2	1:C:99:LYS:HE2	1.81	0.45
1:C:241:THR:CG2	1:C:243:LEU:H	2.16	0.45
1:F:335:ARG:HH21	1:F:367:ASP:HA	1.81	0.45
1:H:206:THR:O	1:H:235:ILE:HA	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:212:PRO:HG2	1:H:421:LEU:HD21	1.99	0.45
1:I:72:ILE:HD11	1:J:72:ILE:HD11	1.97	0.45
1:I:131:SER:CB	1:I:281:VAL:HG11	2.46	0.45
1:J:346:PRO:HB2	1:J:347:GLU:OE2	2.17	0.45
1:J:370:LEU:HD23	1:J:419:ASP:HB3	1.98	0.45
1:J:379:ALA:HB3	1:J:441:ALA:HB1	1.98	0.45
1:J:386:ALA:HB1	1:J:387:PRO:CD	2.46	0.45
1:K:206:THR:O	1:K:235:ILE:HA	2.15	0.45
1:K:241:THR:HG22	1:K:243:LEU:N	2.14	0.45
1:L:351:ALA:O	1:L:355:MET:HB2	2.16	0.45
1:L:428:VAL:O	1:L:428:VAL:CG1	2.63	0.45
1:E:241:THR:HG23	1:E:242:PRO:HD2	1.98	0.45
1:I:63:HIS:HE1	1:L:429:GLU:OE2	1.99	0.45
1:I:243:LEU:HD12	1:I:314:VAL:HG21	1.98	0.45
1:I:343:GLN:HA	1:I:348:HIS:CD2	2.51	0.45
1:J:242:PRO:O	1:J:246:LYS:HE2	2.17	0.45
1:L:241:THR:HG23	1:L:242:PRO:HD2	1.99	0.45
1:A:383:PRO:HB2	1:A:396:VAL:CG2	2.45	0.45
1:B:187:ALA:O	1:B:189:VAL:HG23	2.16	0.45
1:A:215:ARG:NH1	1:A:347:GLU:OE2	2.50	0.45
1:B:163:TYR:CE2	1:B:165:LYS:HB2	2.52	0.45
1:D:256:LEU:HB2	1:D:273:CYS:O	2.17	0.45
1:D:365:GLU:HB3	1:D:420:ASN:HB3	1.97	0.45
1:F:210:THR:HG22	1:F:215:ARG:H	1.81	0.45
1:I:323:ARG:CZ	1:I:431:PHE:HD2	2.30	0.45
1:C:428:VAL:O	1:C:428:VAL:CG1	2.64	0.45
1:D:192:LEU:HG	1:D:196:LEU:HD23	1.99	0.45
1:E:250:LEU:CD1	1:E:354:GLN:HB2	2.46	0.45
1:E:261:LYS:HD2	1:E:389:PHE:CZ	2.52	0.45
1:G:259:ALA:HB3	1:G:271:ALA:HB3	1.98	0.45
1:H:310:LEU:O	1:H:314:VAL:HG23	2.16	0.45
1:J:98:PHE:HE2	1:J:99:LYS:HE2	1.81	0.45
1:J:240:ALA:O	1:J:244:ASN:HB2	2.16	0.45
1:A:386:ALA:HB1	1:A:387:PRO:CD	2.46	0.45
1:B:62:ILE:CD1	1:C:428:VAL:HG12	2.45	0.45
1:B:106:PHE:O	1:B:108:TYR:N	2.49	0.45
1:C:397:ASP:HB2	1:C:402:MET:HG3	1.99	0.45
1:E:345:HIS:HE1	1:E:347:GLU:HG2	1.81	0.45
1:E:382:ILE:HB	1:E:383:PRO:HD3	1.99	0.45
1:F:256:LEU:HB2	1:F:273:CYS:O	2.17	0.45
1:I:379:ALA:HB3	1:I:441:ALA:HB1	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:396:VAL:HG13	1:K:424:PHE:CD2	2.51	0.45
1:B:324:MET:HG2	1:B:431:PHE:HE1	1.82	0.45
1:E:140:CYS:O	1:E:144:VAL:HG23	2.16	0.45
1:E:428:VAL:CG2	1:H:312:LEU:HD11	2.47	0.45
1:H:63:HIS:HB3	1:H:67:ARG:CB	2.46	0.45
1:I:64:ALA:O	1:I:122:LYS:HE2	2.17	0.45
1:L:122:LYS:NZ	1:L:308:LYS:HE2	2.31	0.45
1:A:127:GLU:OE2	1:A:257:HIS:NE2	2.49	0.44
1:D:144:VAL:HG22	1:D:291:LEU:HD12	1.99	0.44
1:H:144:VAL:HG12	1:H:284:ILE:HG23	2.00	0.44
1:H:242:PRO:HD3	1:H:257:HIS:CE1	2.51	0.44
1:I:250:LEU:CD1	1:I:354:GLN:HB2	2.47	0.44
1:I:277:PRO:HG2	1:I:280:LEU:HB2	1.98	0.44
1:A:382:ILE:HB	1:A:383:PRO:HD3	1.99	0.44
1:C:258:SER:O	1:C:260:THR:N	2.51	0.44
1:H:174:LEU:N	1:H:175:PRO:CD	2.81	0.44
1:H:192:LEU:HG	1:H:196:LEU:HD23	1.99	0.44
1:H:196:LEU:HD12	1:H:229:LYS:HB2	1.97	0.44
1:H:369:ASP:H	1:H:372:THR:HB	1.82	0.44
1:I:192:LEU:HD22	1:I:222:VAL:HG22	1.98	0.44
1:K:106:PHE:O	1:K:108:TYR:N	2.50	0.44
1:L:106:PHE:O	1:L:108:TYR:N	2.50	0.44
1:C:122:LYS:NZ	1:C:308:LYS:HE2	2.32	0.44
1:I:255:VAL:HG13	1:I:255:VAL:O	2.18	0.44
1:I:382:ILE:HB	1:I:383:PRO:HD3	1.99	0.44
1:J:420:ASN:HD22	1:J:420:ASN:HA	1.58	0.44
1:H:331:HIS:ND1	1:H:332:PRO:HD2	2.32	0.44
1:K:418:MET:C	1:K:420:ASN:H	2.20	0.44
1:L:64:ALA:O	1:L:122:LYS:HE2	2.17	0.44
1:H:212:PRO:HD2	1:H:213:PHE:CD2	2.53	0.44
1:L:207:GLU:CB	1:L:236:ASP:HB3	2.46	0.44
1:L:324:MET:HG2	1:L:431:PHE:HE1	1.83	0.44
1:L:345:HIS:CE1	1:L:347:GLU:HG2	2.53	0.44
1:A:428:VAL:O	1:A:428:VAL:CG1	2.65	0.44
1:C:170:ILE:HG23	1:C:174:LEU:HD12	2.00	0.44
1:C:196:LEU:HD13	1:C:196:LEU:HA	1.87	0.44
1:C:395:ILE:HG22	1:C:396:VAL:N	2.33	0.44
1:E:208:SER:HA	1:E:209:PRO:C	2.37	0.44
1:E:215:ARG:NH1	1:E:347:GLU:OE2	2.50	0.44
1:E:242:PRO:O	1:E:246:LYS:HE2	2.18	0.44
1:F:82:VAL:CG2	1:F:114:PRO:HG2	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:428:VAL:HG22	1:L:312:LEU:HD11	2.00	0.44
1:A:127:GLU:CD	1:A:242:PRO:HB3	2.37	0.44
1:A:420:ASN:HD22	1:A:420:ASN:HA	1.56	0.44
1:C:376:PHE:CB	1:C:445:ILE:HD11	2.29	0.44
1:D:348:HIS:O	1:D:352:LYS:HB2	2.18	0.44
1:E:277:PRO:HG2	1:E:280:LEU:HB2	1.99	0.44
1:F:428:VAL:HG12	1:G:62:ILE:CD1	2.40	0.44
1:G:217:VAL:O	1:G:219:ILE:N	2.51	0.44
1:I:143:THR:HG22	1:I:144:VAL:N	2.33	0.44
1:I:331:HIS:CE1	1:I:333:LYS:HB2	2.52	0.44
1:K:155:HIS:ND1	1:K:180:THR:HG23	2.33	0.44
1:A:376:PHE:HB2	1:A:445:ILE:HD11	2.00	0.44
1:D:82:VAL:HG21	1:D:114:PRO:HG2	2.00	0.44
1:D:383:PRO:HB2	1:D:396:VAL:CG2	2.48	0.44
1:G:241:THR:HG23	1:G:242:PRO:HD2	2.00	0.44
1:G:296:ASN:OD1	1:G:298:ASN:HB2	2.18	0.44
1:I:339:TYR:CD1	1:I:362:VAL:HG22	2.52	0.44
1:J:129:ALA:HB2	1:J:248:LEU:CD1	2.48	0.44
1:J:210:THR:HG22	1:J:215:ARG:H	1.82	0.44
1:J:383:PRO:HB3	1:J:394:SER:HB3	1.99	0.44
1:K:131:SER:OG	1:K:281:VAL:HG11	2.17	0.44
1:B:262:PHE:CE1	1:B:390:GLY:HA2	2.52	0.44
1:E:346:PRO:HB2	1:E:347:GLU:OE2	2.18	0.44
1:G:382:ILE:HB	1:G:383:PRO:HD3	1.99	0.44
1:H:192:LEU:O	1:H:196:LEU:HB2	2.17	0.44
1:I:261:LYS:HD2	1:I:389:PHE:CZ	2.53	0.44
1:J:212:PRO:HG2	1:J:421:LEU:HD21	1.99	0.44
1:C:138:GLY:O	1:C:141:ALA:HB3	2.18	0.43
1:D:255:VAL:HG13	1:D:255:VAL:O	2.18	0.43
1:D:396:VAL:HG13	1:D:424:PHE:CD2	2.53	0.43
1:E:207:GLU:HG3	1:E:210:THR:HA	1.99	0.43
1:G:174:LEU:N	1:G:175:PRO:CD	2.81	0.43
1:J:268:ASP:HB3	1:K:78:THR:HG21	1.99	0.43
1:K:115:THR:CG2	1:K:297:PRO:HB3	2.48	0.43
1:L:321:ALA:HB2	1:L:360:GLY:HA2	1.99	0.43
1:L:347:GLU:CB	1:L:350:ILE:HD12	2.41	0.43
1:C:255:VAL:HG13	1:C:255:VAL:O	2.17	0.43
1:E:65:GLY:O	1:E:118:VAL:HG13	2.18	0.43
1:I:134:LEU:HD22	1:I:295:LEU:HD22	1.99	0.43
1:L:86:ALA:C	1:L:87:TYR:CD2	2.92	0.43
1:L:144:VAL:HG12	1:L:284:ILE:HG23	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:369:ASP:H	1:C:372:THR:HB	1.82	0.43
1:J:82:VAL:HG21	1:J:114:PRO:HG2	1.99	0.43
1:K:63:HIS:CD2	1:K:67:ARG:HD3	2.54	0.43
1:K:140:CYS:O	1:K:144:VAL:HG23	2.19	0.43
1:L:131:SER:HB3	1:L:281:VAL:HG11	2.00	0.43
1:A:241:THR:HG23	1:A:242:PRO:HD2	2.00	0.43
1:B:223:SER:HA	1:B:233:VAL:HG21	2.00	0.43
1:B:323:ARG:NH1	1:B:431:PHE:CD2	2.86	0.43
1:D:383:PRO:HA	1:D:394:SER:O	2.18	0.43
1:E:331:HIS:CE1	1:E:333:LYS:HB2	2.54	0.43
1:E:339:TYR:HB3	1:E:342:LEU:HG	2.00	0.43
1:F:428:VAL:HG21	1:G:312:LEU:HD11	2.00	0.43
1:G:347:GLU:HB3	1:G:350:ILE:HD12	1.99	0.43
1:H:383:PRO:HA	1:H:394:SER:O	2.18	0.43
1:I:428:VAL:CG2	1:L:312:LEU:HD11	2.47	0.43
1:J:339:TYR:CZ	1:J:358:PHE:HB2	2.53	0.43
1:K:232:LEU:HD23	1:K:232:LEU:HA	1.89	0.43
1:L:127:GLU:CD	1:L:242:PRO:HB3	2.39	0.43
1:L:383:PRO:HB2	1:L:396:VAL:CG2	2.48	0.43
1:A:143:THR:HG22	1:A:144:VAL:N	2.33	0.43
1:A:428:VAL:HG21	1:D:312:LEU:HD11	2.00	0.43
1:E:396:VAL:O	1:E:397:ASP:HB3	2.19	0.43
1:E:431:PHE:CE1	1:E:435:LYS:HD3	2.53	0.43
1:G:210:THR:HG23	1:G:211:ASN:N	2.33	0.43
1:J:206:THR:O	1:J:235:ILE:HA	2.19	0.43
1:K:150:VAL:HA	1:K:151:PRO:HD3	1.87	0.43
1:B:63:HIS:CD2	1:B:67:ARG:HD3	2.54	0.43
1:E:196:LEU:HD13	1:E:196:LEU:HA	1.86	0.43
1:G:215:ARG:NH1	1:G:347:GLU:OE2	2.52	0.43
1:G:383:PRO:HB3	1:G:394:SER:HB3	1.99	0.43
1:H:370:LEU:HD23	1:H:419:ASP:HB3	2.01	0.43
1:H:382:ILE:HB	1:H:383:PRO:HD3	1.99	0.43
1:K:441:ALA:C	1:K:443:ASP:H	2.22	0.43
1:A:86:ALA:HB1	1:C:387:PRO:HD2	1.99	0.43
1:B:243:LEU:HD12	1:B:314:VAL:HG21	1.99	0.43
1:C:70:ARG:C	1:C:72:ILE:H	2.21	0.43
1:E:343:GLN:HA	1:E:348:HIS:CD2	2.53	0.43
1:G:113:ASN:OD1	1:G:115:THR:CG2	2.67	0.43
1:I:145:MET:HE2	1:I:146:LEU:HA	2.01	0.43
1:I:174:LEU:N	1:I:175:PRO:CD	2.80	0.43
1:K:57:ASP:HB3	1:K:243:LEU:CD2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:187:ALA:O	1:K:189:VAL:HG23	2.19	0.43
1:L:208:SER:HA	1:L:209:PRO:C	2.39	0.43
1:L:242:PRO:HD3	1:L:257:HIS:CE1	2.54	0.43
1:A:174:LEU:N	1:A:175:PRO:CD	2.80	0.43
1:A:212:PRO:HG2	1:A:421:LEU:HD21	2.01	0.43
1:D:428:VAL:O	1:D:428:VAL:CG1	2.67	0.43
1:F:240:ALA:O	1:F:244:ASN:HB2	2.18	0.43
1:F:345:HIS:CE1	1:F:347:GLU:HG2	2.54	0.43
1:J:122:LYS:NZ	1:J:308:LYS:HE2	2.33	0.43
1:J:127:GLU:OE2	1:J:242:PRO:HB3	2.18	0.43
1:A:438:ILE:O	1:A:442:LEU:HD12	2.18	0.43
1:B:296:ASN:OD1	1:B:298:ASN:HB2	2.18	0.43
1:C:310:LEU:HA	1:C:313:ARG:NH2	2.34	0.43
1:F:232:LEU:HD23	1:F:232:LEU:HA	1.92	0.43
1:H:150:VAL:HA	1:H:151:PRO:HD3	1.89	0.43
1:I:129:ALA:HB2	1:I:248:LEU:CD1	2.49	0.43
1:J:339:TYR:OH	1:J:358:PHE:HB2	2.19	0.43
1:B:418:MET:C	1:B:420:ASN:N	2.71	0.43
1:D:258:SER:O	1:D:260:THR:N	2.52	0.43
1:L:73:VAL:O	1:L:74:THR:HG23	2.19	0.43
1:B:215:ARG:NH1	1:B:347:GLU:OE2	2.52	0.42
1:B:380:LEU:HD13	1:B:396:VAL:HG21	2.00	0.42
1:B:428:VAL:HG22	1:C:312:LEU:HD11	2.01	0.42
1:C:144:VAL:HG22	1:C:291:LEU:HD12	2.00	0.42
1:E:331:HIS:CG	1:E:332:PRO:HD2	2.54	0.42
1:F:164:ARG:HD2	1:F:404:TYR:CE2	2.53	0.42
1:H:73:VAL:O	1:H:74:THR:HG23	2.18	0.42
1:H:79:THR:HA	1:H:80:PRO:HD3	1.88	0.42
1:J:103:ARG:HG2	1:J:104:ALA:N	2.34	0.42
1:J:155:HIS:HA	1:J:180:THR:O	2.19	0.42
1:L:265:GLY:HA3	1:L:313:ARG:NH1	2.34	0.42
1:A:240:ALA:O	1:A:244:ASN:HB2	2.19	0.42
1:B:123:ILE:HD13	1:B:273:CYS:SG	2.59	0.42
1:C:131:SER:HB3	1:C:281:VAL:HG11	2.00	0.42
1:C:215:ARG:NH1	1:C:347:GLU:OE2	2.49	0.42
1:D:250:LEU:CD1	1:D:354:GLN:HB2	2.45	0.42
1:E:79:THR:HA	1:E:80:PRO:HD3	1.90	0.42
1:E:312:LEU:HD11	1:H:428:VAL:HG22	2.01	0.42
1:H:70:ARG:HD3	1:H:79:THR:OG1	2.19	0.42
1:I:106:PHE:O	1:I:108:TYR:N	2.50	0.42
1:I:113:ASN:ND2	1:I:297:PRO:HG3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:383:PRO:HA	1:J:394:SER:O	2.19	0.42
1:A:64:ALA:O	1:A:122:LYS:HE2	2.18	0.42
1:A:339:TYR:CZ	1:A:358:PHE:HB2	2.54	0.42
1:A:428:VAL:HG22	1:D:312:LEU:HD11	2.01	0.42
1:B:339:TYR:CD1	1:B:362:VAL:HG22	2.54	0.42
1:C:372:THR:CG2	1:C:445:ILE:HG23	2.49	0.42
1:C:376:PHE:HB2	1:C:445:ILE:CD1	2.29	0.42
1:E:82:VAL:CG2	1:E:114:PRO:HG2	2.50	0.42
1:E:215:ARG:HD2	1:E:347:GLU:OE2	2.20	0.42
1:J:428:VAL:O	1:J:428:VAL:CG1	2.68	0.42
1:K:173:ILE:C	1:K:175:PRO:HD2	2.40	0.42
1:L:206:THR:O	1:L:235:ILE:HA	2.19	0.42
1:A:374:ALA:O	1:A:377:VAL:HG22	2.19	0.42
1:C:258:SER:C	1:C:260:THR:N	2.71	0.42
1:D:173:ILE:C	1:D:175:PRO:HD2	2.39	0.42
1:E:57:ASP:HB3	1:E:243:LEU:HD22	2.01	0.42
1:E:339:TYR:OH	1:E:358:PHE:HB2	2.20	0.42
1:G:255:VAL:O	1:G:255:VAL:HG13	2.19	0.42
1:G:366:VAL:HG11	1:G:445:ILE:HD13	2.02	0.42
1:H:232:LEU:HD23	1:H:232:LEU:HA	1.92	0.42
1:J:209:PRO:HD3	1:J:240:ALA:HB2	2.01	0.42
1:L:63:HIS:CD2	1:L:67:ARG:HD3	2.54	0.42
1:L:331:HIS:CG	1:L:332:PRO:HD2	2.54	0.42
1:L:384:TYR:O	1:L:395:ILE:HG23	2.19	0.42
1:A:292:GLY:O	1:C:140:CYS:HB2	2.18	0.42
1:C:420:ASN:HD22	1:C:420:ASN:HA	1.56	0.42
1:D:150:VAL:HA	1:D:151:PRO:HD3	1.86	0.42
1:E:322:LEU:O	1:E:325:ALA:HB3	2.19	0.42
1:F:261:LYS:HD2	1:F:389:PHE:CZ	2.55	0.42
1:G:72:ILE:HD12	1:G:80:PRO:HG2	2.00	0.42
1:G:173:ILE:C	1:G:175:PRO:HD2	2.39	0.42
1:I:58:GLY:O	1:I:62:ILE:HG13	2.19	0.42
1:J:256:LEU:HB2	1:J:273:CYS:O	2.18	0.42
1:K:72:ILE:HD11	1:L:72:ILE:HD11	2.01	0.42
1:L:57:ASP:HB3	1:L:243:LEU:HD22	2.01	0.42
1:L:210:THR:HG23	1:L:211:ASN:N	2.34	0.42
1:A:210:THR:O	1:A:214:LEU:HA	2.19	0.42
1:E:80:PRO:O	1:E:115:THR:HB	2.20	0.42
1:H:113:ASN:ND2	1:H:297:PRO:HG3	2.33	0.42
1:H:339:TYR:CD1	1:H:362:VAL:HG22	2.54	0.42
1:I:396:VAL:HG13	1:I:424:PHE:CD2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:57:ASP:HB3	1:J:243:LEU:CD2	2.50	0.42
1:J:265:GLY:O	1:J:391:GLY:HA2	2.20	0.42
1:K:196:LEU:HD13	1:K:196:LEU:HA	1.93	0.42
1:D:82:VAL:HG12	1:D:84:THR:HG22	2.02	0.42
1:D:211:ASN:HA	1:D:212:PRO:HA	1.86	0.42
1:E:155:HIS:HA	1:E:180:THR:O	2.20	0.42
1:G:366:VAL:HG12	1:G:367:ASP:N	2.34	0.42
1:I:280:LEU:O	1:I:283:GLU:HB2	2.20	0.42
1:J:312:LEU:HD11	1:K:428:VAL:CG2	2.49	0.42
1:J:331:HIS:CE1	1:J:333:LYS:HB2	2.55	0.42
1:A:323:ARG:NH1	1:A:431:PHE:CE2	2.88	0.42
1:D:398:GLN:O	1:D:401:ILE:N	2.53	0.42
1:E:374:ALA:HB1	1:G:92:THR:HG21	2.02	0.42
1:F:223:SER:HA	1:F:233:VAL:HG21	2.01	0.42
1:G:383:PRO:HB2	1:G:396:VAL:CG2	2.46	0.42
1:I:383:PRO:HA	1:I:394:SER:O	2.19	0.42
1:E:53:PHE:CE1	1:E:54:LEU:HG	2.55	0.42
1:H:155:HIS:HA	1:H:180:THR:O	2.20	0.42
1:I:429:GLU:OE2	1:L:63:HIS:CE1	2.72	0.42
1:K:212:PRO:HG2	1:K:421:LEU:HD21	2.01	0.42
1:A:57:ASP:HB3	1:A:243:LEU:CD2	2.50	0.42
1:A:312:LEU:HD11	1:D:428:VAL:CG2	2.50	0.42
1:C:159:THR:HA	1:C:184:ILE:O	2.20	0.42
1:C:321:ALA:HB2	1:C:360:GLY:HA2	2.01	0.42
1:E:291:LEU:HD22	1:G:143:THR:HG21	2.01	0.42
1:I:206:THR:O	1:I:235:ILE:HA	2.20	0.42
1:I:210:THR:HG22	1:I:215:ARG:H	1.85	0.42
1:K:192:LEU:HG	1:K:196:LEU:HD23	2.02	0.42
1:A:194:LEU:O	1:A:198:GLN:HG3	2.19	0.41
1:A:339:TYR:CD1	1:A:362:VAL:HG22	2.55	0.41
1:B:145:MET:CE	1:B:146:LEU:HD23	2.50	0.41
1:C:383:PRO:CB	1:C:396:VAL:HG22	2.46	0.41
1:F:265:GLY:HA3	1:F:313:ARG:NH1	2.35	0.41
1:H:296:ASN:HA	1:H:297:PRO:HD3	1.94	0.41
1:J:331:HIS:CG	1:J:332:PRO:HD2	2.54	0.41
1:K:395:ILE:HG22	1:K:396:VAL:N	2.34	0.41
1:K:398:GLN:O	1:K:401:ILE:N	2.53	0.41
1:L:255:VAL:O	1:L:255:VAL:HG13	2.20	0.41
1:L:331:HIS:ND1	1:L:332:PRO:HD2	2.35	0.41
1:B:138:GLY:N	2:B:500:PLP:O2P	2.53	0.41
1:B:310:LEU:O	1:B:314:VAL:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:419:ASP:OD1	1:B:419:ASP:N	2.52	0.41
1:D:418:MET:C	1:D:420:ASN:H	2.22	0.41
1:E:115:THR:CG2	1:E:297:PRO:HB3	2.50	0.41
1:F:366:VAL:HG12	1:F:367:ASP:N	2.34	0.41
1:G:211:ASN:HB2	1:G:239:PHE:HE2	1.85	0.41
1:J:211:ASN:HA	1:J:212:PRO:HA	1.91	0.41
1:K:418:MET:C	1:K:420:ASN:N	2.73	0.41
1:B:373:THR:O	1:B:377:VAL:HG13	2.20	0.41
1:E:82:VAL:HG21	1:E:114:PRO:CG	2.50	0.41
1:E:270:LEU:HD23	1:E:270:LEU:N	2.36	0.41
1:E:280:LEU:O	1:E:283:GLU:HB2	2.20	0.41
1:H:126:LEU:HD23	1:H:126:LEU:HA	1.86	0.41
1:H:127:GLU:OE2	1:H:257:HIS:NE2	2.52	0.41
1:H:394:SER:OG	1:H:427:GLY:N	2.43	0.41
1:I:173:ILE:C	1:I:175:PRO:HD2	2.39	0.41
1:I:312:LEU:HD11	1:L:428:VAL:CG2	2.51	0.41
1:I:404:TYR:O	1:I:412:ARG:HD3	2.20	0.41
1:A:250:LEU:HD11	1:A:354:GLN:HB2	2.03	0.41
1:A:256:LEU:HB2	1:A:273:CYS:O	2.20	0.41
1:B:160:THR:HG23	1:B:183:VAL:HG12	2.03	0.41
1:C:418:MET:C	1:C:420:ASN:H	2.23	0.41
1:E:187:ALA:O	1:E:189:VAL:HG23	2.20	0.41
1:G:57:ASP:HB3	1:G:243:LEU:CD2	2.51	0.41
1:G:79:THR:HA	1:G:80:PRO:HD3	1.90	0.41
1:G:127:GLU:OE2	1:G:257:HIS:NE2	2.53	0.41
1:G:337:VAL:HG22	1:G:364:PHE:HB3	2.02	0.41
1:G:386:ALA:HB1	1:G:387:PRO:CD	2.50	0.41
1:H:131:SER:CB	1:H:281:VAL:HG11	2.51	0.41
1:I:418:MET:C	1:I:420:ASN:H	2.23	0.41
1:K:270:LEU:N	1:K:270:LEU:HD23	2.35	0.41
1:L:87:TYR:N	1:L:87:TYR:HD2	2.16	0.41
1:L:339:TYR:CD1	1:L:362:VAL:HG22	2.55	0.41
1:L:370:LEU:HD23	1:L:419:ASP:HB3	2.01	0.41
1:L:382:ILE:HB	1:L:383:PRO:HD3	2.03	0.41
1:B:331:HIS:CE1	1:B:333:LYS:HB2	2.55	0.41
1:C:150:VAL:HA	1:C:151:PRO:HD3	1.90	0.41
1:D:72:ILE:O	1:D:72:ILE:CG2	2.66	0.41
1:D:382:ILE:HB	1:D:383:PRO:HD3	2.01	0.41
1:G:207:GLU:H	1:G:207:GLU:HG2	1.75	0.41
1:H:240:ALA:O	1:H:241:THR:CB	2.57	0.41
1:H:280:LEU:O	1:H:283:GLU:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:241:THR:HG22	1:I:243:LEU:N	2.15	0.41
1:L:260:THR:CG2	1:L:270:LEU:HD22	2.49	0.41
1:C:212:PRO:HG2	1:C:421:LEU:HD21	2.02	0.41
1:E:56:SER:HB3	1:H:433:ASP:OD2	2.20	0.41
1:E:129:ALA:HB2	1:E:248:LEU:CD1	2.50	0.41
1:G:196:LEU:HD13	1:G:196:LEU:HA	1.85	0.41
1:H:241:THR:HG23	1:H:242:PRO:HD2	2.01	0.41
1:H:262:PHE:CE1	1:H:390:GLY:HA2	2.56	0.41
1:H:324:MET:HG3	1:H:426:PHE:CE1	2.56	0.41
1:J:217:VAL:O	1:J:219:ILE:N	2.54	0.41
1:K:339:TYR:HB3	1:K:342:LEU:HG	2.02	0.41
1:A:63:HIS:HE1	1:D:429:GLU:OE2	2.04	0.41
1:A:123:ILE:HG21	1:A:273:CYS:SG	2.61	0.41
1:A:278:LEU:HA	1:A:281:VAL:HG12	2.02	0.41
1:B:64:ALA:O	1:B:122:LYS:HE2	2.20	0.41
1:C:377:VAL:HA	1:C:380:LEU:HD12	2.02	0.41
1:C:398:GLN:O	1:C:399:PRO:C	2.58	0.41
1:D:258:SER:C	1:D:260:THR:N	2.74	0.41
1:E:420:ASN:HD22	1:E:420:ASN:HA	1.58	0.41
1:F:215:ARG:NH1	1:F:347:GLU:OE2	2.54	0.41
1:F:419:ASP:OD1	1:F:419:ASP:N	2.54	0.41
1:I:265:GLY:HA3	1:I:313:ARG:NH1	2.36	0.41
1:J:156:ILE:CG1	1:J:203:LEU:HD23	2.51	0.41
1:J:210:THR:HG23	1:J:211:ASN:N	2.35	0.41
1:J:347:GLU:CB	1:J:350:ILE:HD12	2.46	0.41
1:K:240:ALA:O	1:K:241:THR:CB	2.59	0.41
1:L:187:ALA:O	1:L:189:VAL:HG23	2.21	0.41
1:A:72:ILE:O	1:A:72:ILE:CG2	2.63	0.41
1:A:220:GLU:HA	1:A:250:LEU:O	2.20	0.41
1:B:192:LEU:HG	1:B:196:LEU:HD23	2.02	0.41
1:D:135:MET:SD	1:D:141:ALA:HA	2.61	0.41
1:E:212:PRO:HG2	1:E:421:LEU:HD21	2.03	0.41
1:F:140:CYS:O	1:F:144:VAL:HG23	2.20	0.41
1:G:96:ILE:O	1:G:100:GLU:HG3	2.21	0.41
1:G:265:GLY:HA3	1:G:313:ARG:NH1	2.36	0.41
1:J:426:PHE:HE1	1:J:438:ILE:HD11	1.86	0.41
1:L:311:HIS:O	1:L:315:GLN:HB2	2.20	0.41
1:A:243:LEU:HD12	1:A:314:VAL:HG21	2.03	0.41
1:A:331:HIS:CE1	1:A:333:LYS:HB2	2.55	0.41
1:A:387:PRO:HD2	1:C:86:ALA:HB1	2.02	0.41
1:B:119:LEU:HG	1:B:134:LEU:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:196:LEU:HD13	1:B:196:LEU:HA	1.85	0.41
1:C:56:SER:O	1:C:60:VAL:HG23	2.20	0.41
1:D:207:GLU:H	1:D:207:GLU:HG2	1.77	0.41
1:D:232:LEU:HD23	1:D:232:LEU:HA	1.94	0.41
1:D:234:CYS:SG	1:D:256:LEU:HD23	2.61	0.41
1:E:75:ASP:O	1:F:87:TYR:HA	2.20	0.41
1:E:196:LEU:HD12	1:E:229:LYS:HB2	2.03	0.41
1:G:366:VAL:CG1	1:G:445:ILE:HD13	2.50	0.41
1:H:420:ASN:HD22	1:H:420:ASN:HA	1.55	0.41
1:I:241:THR:HG23	1:I:242:PRO:HD2	2.03	0.41
1:I:248:LEU:HD23	1:I:248:LEU:HA	1.87	0.41
1:J:65:GLY:O	1:J:118:VAL:HG13	2.21	0.41
1:K:255:VAL:O	1:K:255:VAL:HG13	2.21	0.41
1:L:243:LEU:CD1	1:L:311:HIS:HA	2.51	0.41
1:C:117:VAL:HA	1:C:120:GLU:HB2	2.03	0.41
1:C:123:ILE:HD13	1:C:273:CYS:SG	2.60	0.41
1:E:164:ARG:O	1:E:167:ARG:HB3	2.20	0.41
1:E:192:LEU:HG	1:E:196:LEU:HD23	2.03	0.41
1:F:418:MET:C	1:F:420:ASN:N	2.75	0.41
1:G:155:HIS:O	1:G:202:ASN:HB2	2.20	0.41
1:G:163:TYR:CE2	1:G:165:LYS:HB2	2.56	0.41
1:I:54:LEU:HD22	1:I:59:SER:CB	2.51	0.41
1:L:127:GLU:OE2	1:L:257:HIS:NE2	2.53	0.41
1:L:335:ARG:HH21	1:L:367:ASP:HA	1.85	0.41
1:A:131:SER:OG	1:A:281:VAL:HG11	2.21	0.40
1:B:145:MET:HE2	1:B:146:LEU:HA	2.03	0.40
1:B:321:ALA:HB2	1:B:360:GLY:HA2	2.03	0.40
1:D:296:ASN:OD1	1:D:298:ASN:HB2	2.22	0.40
1:F:196:LEU:HD13	1:F:196:LEU:HA	1.87	0.40
1:F:336:HIS:ND1	1:F:337:VAL:N	2.70	0.40
1:H:94:GLU:O	1:H:97:ASP:HB2	2.21	0.40
1:H:355:MET:HB3	1:H:357:GLY:O	2.21	0.40
1:I:51:ALA:HB1	1:I:53:PHE:CE2	2.56	0.40
1:J:270:LEU:HD23	1:J:270:LEU:N	2.36	0.40
1:J:366:VAL:HG12	1:J:367:ASP:N	2.35	0.40
1:K:155:HIS:HA	1:K:180:THR:O	2.21	0.40
1:K:241:THR:HG23	1:K:242:PRO:HD2	2.04	0.40
1:D:212:PRO:HG2	1:D:421:LEU:HD21	2.03	0.40
1:F:96:ILE:O	1:F:100:GLU:HG3	2.21	0.40
1:G:204:PHE:CE2	1:G:222:VAL:HG11	2.56	0.40
1:G:223:SER:HA	1:G:233:VAL:HG21	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:63:HIS:CD2	1:H:67:ARG:HD3	2.57	0.40
1:J:140:CYS:O	1:J:144:VAL:HG23	2.22	0.40
1:K:394:SER:OG	1:K:427:GLY:N	2.40	0.40
1:A:140:CYS:HA	1:C:291:LEU:O	2.21	0.40
1:B:164:ARG:O	1:B:167:ARG:HB3	2.22	0.40
1:B:208:SER:HA	1:B:209:PRO:C	2.41	0.40
1:C:50:TYR:CE2	1:C:64:ALA:HA	2.56	0.40
1:F:204:PHE:CE2	1:F:222:VAL:HG11	2.57	0.40
1:H:138:GLY:N	2:H:500:PLP:O2P	2.54	0.40
1:H:242:PRO:O	1:H:246:LYS:HE2	2.21	0.40
1:K:348:HIS:O	1:K:352:LYS:HB2	2.22	0.40
1:L:103:ARG:HG2	1:L:104:ALA:N	2.36	0.40
1:A:324:MET:HE2	1:A:438:ILE:HD12	2.02	0.40
1:B:153:GLY:HA2	1:B:178:GLY:O	2.22	0.40
1:B:334:VAL:HG11	1:B:337:VAL:HG23	2.04	0.40
1:C:204:PHE:CE2	1:C:222:VAL:HG11	2.57	0.40
1:D:155:HIS:HA	1:D:180:THR:O	2.21	0.40
1:E:339:TYR:CZ	1:E:358:PHE:HB2	2.57	0.40
1:F:192:LEU:HG	1:F:196:LEU:HD23	2.04	0.40
1:H:60:VAL:O	1:H:62:ILE:N	2.54	0.40
1:H:143:THR:HG22	1:H:144:VAL:N	2.37	0.40
1:I:164:ARG:HD2	1:I:404:TYR:CE2	2.56	0.40
1:I:428:VAL:O	1:I:428:VAL:CG1	2.67	0.40
1:J:153:GLY:HA2	1:J:178:GLY:O	2.21	0.40
1:J:280:LEU:HD23	1:J:280:LEU:HA	1.92	0.40
1:K:387:PRO:HD3	1:K:402:MET:HE1	2.03	0.40
1:L:108:TYR:CD2	1:L:110:ARG:HB2	2.55	0.40
1:L:145:MET:HE2	1:L:146:LEU:HD23	2.04	0.40
1:L:396:VAL:HG13	1:L:424:PHE:CD2	2.57	0.40
1:B:204:PHE:CE2	1:B:222:VAL:HG11	2.56	0.40
1:B:420:ASN:HD22	1:B:420:ASN:HA	1.53	0.40
1:D:366:VAL:HG12	1:D:367:ASP:N	2.36	0.40
1:E:62:ILE:CD1	1:H:428:VAL:HG12	2.45	0.40
1:E:194:LEU:HG	1:E:198:GLN:CD	2.42	0.40
1:F:268:ASP:HB3	1:G:78:THR:HG21	2.04	0.40
1:H:170:ILE:HG23	1:H:174:LEU:HD12	2.03	0.40
1:I:98:PHE:HE2	1:I:99:LYS:HE2	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	394/445 (88%)	355 (90%)	37 (9%)	2 (0%)	29	64
1	B	394/445 (88%)	364 (92%)	25 (6%)	5 (1%)	12	42
1	C	394/445 (88%)	353 (90%)	37 (9%)	4 (1%)	15	49
1	D	394/445 (88%)	363 (92%)	27 (7%)	4 (1%)	15	49
1	E	394/445 (88%)	354 (90%)	35 (9%)	5 (1%)	12	42
1	F	394/445 (88%)	356 (90%)	35 (9%)	3 (1%)	19	54
1	G	394/445 (88%)	357 (91%)	33 (8%)	4 (1%)	15	49
1	H	394/445 (88%)	363 (92%)	28 (7%)	3 (1%)	19	54
1	I	394/445 (88%)	354 (90%)	37 (9%)	3 (1%)	19	54
1	J	394/445 (88%)	354 (90%)	37 (9%)	3 (1%)	19	54
1	K	394/445 (88%)	359 (91%)	30 (8%)	5 (1%)	12	42
1	L	394/445 (88%)	356 (90%)	34 (9%)	4 (1%)	15	49
All	All	4728/5340 (88%)	4288 (91%)	395 (8%)	45 (1%)	15	49

All (45) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	188	ASP
1	C	188	ASP
1	D	188	ASP
1	E	188	ASP
1	F	188	ASP
1	G	188	ASP
1	J	188	ASP
1	J	198	GLN
1	K	188	ASP
1	L	188	ASP
1	A	188	ASP
1	C	259	ALA

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Mol	Chain	Res	Type
1	D	198	GLN
1	D	259	ALA
1	H	198	GLN
1	I	198	GLN
1	K	198	GLN
1	L	198	GLN
1	C	198	GLN
1	E	198	GLN
1	F	198	GLN
1	G	107	GLU
1	H	61	ALA
1	I	188	ASP
1	K	429	GLU
1	A	241	THR
1	B	107	GLU
1	B	259	ALA
1	B	427	GLY
1	C	241	THR
1	E	164	ARG
1	E	259	ALA
1	G	218	ASP
1	L	107	GLU
1	B	241	THR
1	D	241	THR
1	E	241	THR
1	H	241	THR
1	K	241	THR
1	K	388	SER
1	I	241	THR
1	L	241	THR
1	F	241	THR
1	J	241	THR
1	G	241	THR

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	327/364 (90%)	278 (85%)	49 (15%)	3	12
1	B	327/364 (90%)	278 (85%)	49 (15%)	3	12
1	C	327/364 (90%)	284 (87%)	43 (13%)	4	17
1	D	327/364 (90%)	282 (86%)	45 (14%)	3	16
1	E	327/364 (90%)	281 (86%)	46 (14%)	3	15
1	F	327/364 (90%)	279 (85%)	48 (15%)	3	13
1	G	327/364 (90%)	281 (86%)	46 (14%)	3	15
1	H	327/364 (90%)	279 (85%)	48 (15%)	3	13
1	I	327/364 (90%)	281 (86%)	46 (14%)	3	15
1	J	327/364 (90%)	284 (87%)	43 (13%)	4	17
1	K	327/364 (90%)	281 (86%)	46 (14%)	3	15
1	L	327/364 (90%)	283 (86%)	44 (14%)	4	16
All	All	3924/4368 (90%)	3371 (86%)	553 (14%)	3	15

All (553) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	70	ARG
1	A	72	ILE
1	A	74	THR
1	A	91	LYS
1	A	93	SER
1	A	101	LYS
1	A	134	LEU
1	A	135	MET
1	A	142	SER
1	A	143	THR
1	A	145	MET
1	A	151	PRO
1	A	156	ILE
1	A	161	ASP
1	A	164	ARG
1	A	165	LYS
1	A	177	MET
1	A	180	THR
1	A	196	LEU
1	A	199	LYS
1	A	203	LEU
1	A	210	THR

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Mol	Chain	Res	Type
1	A	224	LYS
1	A	229	LYS
1	A	245	GLN
1	A	256	LEU
1	A	270	LEU
1	A	273	CYS
1	A	275	SER
1	A	278	LEU
1	A	279	LYS
1	A	285	ARG
1	A	333	LYS
1	A	343	GLN
1	A	344	SER
1	A	347	GLU
1	A	352	LYS
1	A	371	LEU
1	A	396	VAL
1	A	397	ASP
1	A	402	MET
1	A	403	SER
1	A	410	SER
1	A	415	TYR
1	A	420	ASN
1	A	428	VAL
1	A	430	ASP
1	A	431	PHE
1	A	444	SER
1	B	52	SER
1	B	70	ARG
1	B	72	ILE
1	B	74	THR
1	B	91	LYS
1	B	93	SER
1	B	101	LYS
1	B	103	ARG
1	B	134	LEU
1	B	135	MET
1	B	142	SER
1	B	145	MET
1	B	156	ILE
1	B	161	ASP
1	B	164	ARG

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Mol	Chain	Res	Type
1	B	165	LYS
1	B	177	MET
1	B	180	THR
1	B	196	LEU
1	B	199	LYS
1	B	203	LEU
1	B	207	GLU
1	B	210	THR
1	B	224	LYS
1	B	229	LYS
1	B	241	THR
1	B	273	CYS
1	B	275	SER
1	B	278	LEU
1	B	279	LYS
1	B	285	ARG
1	B	315	GLN
1	B	343	GLN
1	B	344	SER
1	B	347	GLU
1	B	352	LYS
1	B	371	LEU
1	B	377	VAL
1	B	396	VAL
1	B	397	ASP
1	B	402	MET
1	B	403	SER
1	B	410	SER
1	B	415	TYR
1	B	420	ASN
1	B	423	ARG
1	B	428	VAL
1	B	430	ASP
1	B	444	SER
1	C	70	ARG
1	C	72	ILE
1	C	74	THR
1	C	91	LYS
1	C	93	SER
1	C	103	ARG
1	C	134	LEU
1	C	135	MET

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Mol	Chain	Res	Type
1	C	142	SER
1	C	145	MET
1	C	156	ILE
1	C	161	ASP
1	C	164	ARG
1	C	165	LYS
1	C	177	MET
1	C	180	THR
1	C	196	LEU
1	C	199	LYS
1	C	203	LEU
1	C	207	GLU
1	C	210	THR
1	C	224	LYS
1	C	229	LYS
1	C	241	THR
1	C	273	CYS
1	C	278	LEU
1	C	285	ARG
1	C	333	LYS
1	C	343	GLN
1	C	344	SER
1	C	347	GLU
1	C	352	LYS
1	C	377	VAL
1	C	396	VAL
1	C	397	ASP
1	C	402	MET
1	C	403	SER
1	C	410	SER
1	C	415	TYR
1	C	420	ASN
1	C	428	VAL
1	C	430	ASP
1	C	443	ASP
1	D	70	ARG
1	D	72	ILE
1	D	74	THR
1	D	91	LYS
1	D	93	SER
1	D	101	LYS
1	D	103	ARG

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Mol	Chain	Res	Type
1	D	131	SER
1	D	134	LEU
1	D	135	MET
1	D	142	SER
1	D	145	MET
1	D	156	ILE
1	D	161	ASP
1	D	164	ARG
1	D	165	LYS
1	D	177	MET
1	D	180	THR
1	D	196	LEU
1	D	199	LYS
1	D	203	LEU
1	D	207	GLU
1	D	210	THR
1	D	224	LYS
1	D	229	LYS
1	D	273	CYS
1	D	275	SER
1	D	278	LEU
1	D	285	ARG
1	D	343	GLN
1	D	344	SER
1	D	347	GLU
1	D	352	LYS
1	D	353	LYS
1	D	371	LEU
1	D	377	VAL
1	D	396	VAL
1	D	397	ASP
1	D	402	MET
1	D	403	SER
1	D	410	SER
1	D	415	TYR
1	D	420	ASN
1	D	428	VAL
1	D	430	ASP
1	E	70	ARG
1	E	72	ILE
1	E	74	THR
1	E	91	LYS

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Mol	Chain	Res	Type
1	E	93	SER
1	E	103	ARG
1	E	124	SER
1	E	134	LEU
1	E	135	MET
1	E	142	SER
1	E	145	MET
1	E	161	ASP
1	E	164	ARG
1	E	165	LYS
1	E	177	MET
1	E	180	THR
1	E	196	LEU
1	E	199	LYS
1	E	203	LEU
1	E	210	THR
1	E	224	LYS
1	E	229	LYS
1	E	245	GLN
1	E	270	LEU
1	E	273	CYS
1	E	275	SER
1	E	278	LEU
1	E	279	LYS
1	E	285	ARG
1	E	315	GLN
1	E	343	GLN
1	E	344	SER
1	E	347	GLU
1	E	377	VAL
1	E	396	VAL
1	E	397	ASP
1	E	402	MET
1	E	403	SER
1	E	410	SER
1	E	415	TYR
1	E	420	ASN
1	E	428	VAL
1	E	430	ASP
1	E	431	PHE
1	E	442	LEU
1	E	444	SER

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Mol	Chain	Res	Type
1	F	70	ARG
1	F	72	ILE
1	F	74	THR
1	F	91	LYS
1	F	93	SER
1	F	101	LYS
1	F	103	ARG
1	F	115	THR
1	F	134	LEU
1	F	135	MET
1	F	142	SER
1	F	145	MET
1	F	156	ILE
1	F	161	ASP
1	F	164	ARG
1	F	165	LYS
1	F	177	MET
1	F	180	THR
1	F	196	LEU
1	F	203	LEU
1	F	207	GLU
1	F	210	THR
1	F	224	LYS
1	F	229	LYS
1	F	241	THR
1	F	245	GLN
1	F	256	LEU
1	F	270	LEU
1	F	273	CYS
1	F	275	SER
1	F	278	LEU
1	F	285	ARG
1	F	333	LYS
1	F	343	GLN
1	F	344	SER
1	F	347	GLU
1	F	371	LEU
1	F	377	VAL
1	F	396	VAL
1	F	397	ASP
1	F	402	MET
1	F	403	SER

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Mol	Chain	Res	Type
1	F	410	SER
1	F	415	TYR
1	F	420	ASN
1	F	428	VAL
1	F	430	ASP
1	F	444	SER
1	G	72	ILE
1	G	91	LYS
1	G	93	SER
1	G	103	ARG
1	G	115	THR
1	G	124	SER
1	G	134	LEU
1	G	135	MET
1	G	142	SER
1	G	145	MET
1	G	156	ILE
1	G	161	ASP
1	G	162	CYS
1	G	164	ARG
1	G	165	LYS
1	G	177	MET
1	G	180	THR
1	G	196	LEU
1	G	199	LYS
1	G	203	LEU
1	G	207	GLU
1	G	210	THR
1	G	224	LYS
1	G	229	LYS
1	G	270	LEU
1	G	273	CYS
1	G	275	SER
1	G	278	LEU
1	G	279	LYS
1	G	285	ARG
1	G	333	LYS
1	G	343	GLN
1	G	347	GLU
1	G	352	LYS
1	G	371	LEU
1	G	377	VAL

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Mol	Chain	Res	Type
1	G	396	VAL
1	G	397	ASP
1	G	402	MET
1	G	403	SER
1	G	410	SER
1	G	415	TYR
1	G	420	ASN
1	G	423	ARG
1	G	428	VAL
1	G	430	ASP
1	H	70	ARG
1	H	72	ILE
1	H	74	THR
1	H	91	LYS
1	H	93	SER
1	H	103	ARG
1	H	134	LEU
1	H	135	MET
1	H	142	SER
1	H	145	MET
1	H	156	ILE
1	H	161	ASP
1	H	164	ARG
1	H	165	LYS
1	H	177	MET
1	H	180	THR
1	H	196	LEU
1	H	199	LYS
1	H	203	LEU
1	H	207	GLU
1	H	210	THR
1	H	222	VAL
1	H	224	LYS
1	H	229	LYS
1	H	256	LEU
1	H	273	CYS
1	H	275	SER
1	H	278	LEU
1	H	279	LYS
1	H	285	ARG
1	H	333	LYS
1	H	343	GLN

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Mol	Chain	Res	Type
1	H	344	SER
1	H	347	GLU
1	H	352	LYS
1	H	371	LEU
1	H	377	VAL
1	H	396	VAL
1	H	397	ASP
1	H	402	MET
1	H	403	SER
1	H	410	SER
1	H	414	LYS
1	H	415	TYR
1	H	420	ASN
1	H	428	VAL
1	H	430	ASP
1	H	444	SER
1	I	70	ARG
1	I	72	ILE
1	I	91	LYS
1	I	93	SER
1	I	101	LYS
1	I	103	ARG
1	I	134	LEU
1	I	135	MET
1	I	142	SER
1	I	145	MET
1	I	156	ILE
1	I	161	ASP
1	I	162	CYS
1	I	164	ARG
1	I	165	LYS
1	I	177	MET
1	I	180	THR
1	I	196	LEU
1	I	199	LYS
1	I	203	LEU
1	I	207	GLU
1	I	210	THR
1	I	224	LYS
1	I	229	LYS
1	I	256	LEU
1	I	273	CYS

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Mol	Chain	Res	Type
1	I	275	SER
1	I	278	LEU
1	I	279	LYS
1	I	285	ARG
1	I	333	LYS
1	I	343	GLN
1	I	347	GLU
1	I	353	LYS
1	I	371	LEU
1	I	377	VAL
1	I	396	VAL
1	I	397	ASP
1	I	402	MET
1	I	403	SER
1	I	410	SER
1	I	415	TYR
1	I	420	ASN
1	I	428	VAL
1	I	430	ASP
1	I	431	PHE
1	J	70	ARG
1	J	72	ILE
1	J	74	THR
1	J	91	LYS
1	J	93	SER
1	J	101	LYS
1	J	103	ARG
1	J	134	LEU
1	J	135	MET
1	J	142	SER
1	J	145	MET
1	J	156	ILE
1	J	161	ASP
1	J	165	LYS
1	J	177	MET
1	J	180	THR
1	J	196	LEU
1	J	199	LYS
1	J	203	LEU
1	J	210	THR
1	J	224	LYS
1	J	229	LYS

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Mol	Chain	Res	Type
1	J	256	LEU
1	J	273	CYS
1	J	275	SER
1	J	278	LEU
1	J	279	LYS
1	J	282	SER
1	J	285	ARG
1	J	343	GLN
1	J	344	SER
1	J	347	GLU
1	J	352	LYS
1	J	371	LEU
1	J	377	VAL
1	J	396	VAL
1	J	402	MET
1	J	403	SER
1	J	410	SER
1	J	415	TYR
1	J	420	ASN
1	J	428	VAL
1	J	430	ASP
1	K	72	ILE
1	K	74	THR
1	K	91	LYS
1	K	93	SER
1	K	101	LYS
1	K	103	ARG
1	K	134	LEU
1	K	135	MET
1	K	142	SER
1	K	145	MET
1	K	156	ILE
1	K	161	ASP
1	K	164	ARG
1	K	165	LYS
1	K	177	MET
1	K	180	THR
1	K	196	LEU
1	K	199	LYS
1	K	203	LEU
1	K	207	GLU
1	K	210	THR

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Mol	Chain	Res	Type
1	K	224	LYS
1	K	229	LYS
1	K	256	LEU
1	K	270	LEU
1	K	273	CYS
1	K	275	SER
1	K	278	LEU
1	K	285	ARG
1	K	333	LYS
1	K	343	GLN
1	K	344	SER
1	K	347	GLU
1	K	352	LYS
1	K	371	LEU
1	K	396	VAL
1	K	397	ASP
1	K	402	MET
1	K	403	SER
1	K	410	SER
1	K	415	TYR
1	K	420	ASN
1	K	428	VAL
1	K	430	ASP
1	K	444	SER
1	K	445	ILE
1	L	70	ARG
1	L	72	ILE
1	L	74	THR
1	L	87	TYR
1	L	91	LYS
1	L	93	SER
1	L	103	ARG
1	L	134	LEU
1	L	135	MET
1	L	142	SER
1	L	145	MET
1	L	156	ILE
1	L	161	ASP
1	L	164	ARG
1	L	165	LYS
1	L	177	MET
1	L	180	THR

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Mol	Chain	Res	Type
1	L	196	LEU
1	L	199	LYS
1	L	203	LEU
1	L	210	THR
1	L	224	LYS
1	L	270	LEU
1	L	273	CYS
1	L	275	SER
1	L	278	LEU
1	L	279	LYS
1	L	285	ARG
1	L	315	GLN
1	L	333	LYS
1	L	343	GLN
1	L	344	SER
1	L	347	GLU
1	L	377	VAL
1	L	396	VAL
1	L	397	ASP
1	L	402	MET
1	L	403	SER
1	L	410	SER
1	L	415	TYR
1	L	420	ASN
1	L	428	VAL
1	L	430	ASP
1	L	444	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (46) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	63	HIS
1	A	288	HIS
1	A	343	GLN
1	A	420	ASN
1	B	63	HIS
1	B	343	GLN
1	B	420	ASN
1	C	63	HIS
1	C	288	HIS
1	C	343	GLN
1	C	420	ASN

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Mol	Chain	Res	Type
1	D	63	HIS
1	D	343	GLN
1	D	420	ASN
1	E	63	HIS
1	E	83	ASN
1	E	288	HIS
1	E	298	ASN
1	E	343	GLN
1	E	420	ASN
1	F	63	HIS
1	F	343	GLN
1	F	420	ASN
1	G	63	HIS
1	G	288	HIS
1	G	343	GLN
1	G	420	ASN
1	H	63	HIS
1	H	343	GLN
1	H	420	ASN
1	I	63	HIS
1	I	288	HIS
1	I	343	GLN
1	I	420	ASN
1	J	63	HIS
1	J	83	ASN
1	J	288	HIS
1	J	298	ASN
1	J	343	GLN
1	J	420	ASN
1	K	63	HIS
1	K	343	GLN
1	K	420	ASN
1	L	63	HIS
1	L	343	GLN
1	L	420	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

24 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	PMC	I	608	-	14,14,14	2.49	7 (50%)	18,20,20	1.76	5 (27%)
3	PMC	E	604	-	14,14,14	2.72	6 (42%)	18,20,20	1.92	5 (27%)
2	PLP	K	500	1	15,15,16	4.24	4 (26%)	20,22,23	2.63	10 (50%)
2	PLP	G	500	1	15,15,16	3.74	6 (40%)	20,22,23	2.38	9 (45%)
2	PLP	L	500	1	15,15,16	3.36	5 (33%)	20,22,23	2.40	8 (40%)
3	PMC	D	603	-	14,14,14	2.41	7 (50%)	18,20,20	1.78	5 (27%)
2	PLP	F	500	1	15,15,16	4.27	5 (33%)	20,22,23	2.43	11 (55%)
3	PMC	H	607	-	14,14,14	2.55	8 (57%)	18,20,20	1.83	5 (27%)
3	PMC	G	606	-	14,14,14	2.45	7 (50%)	18,20,20	1.77	5 (27%)
2	PLP	A	500	1	15,15,16	3.98	5 (33%)	20,22,23	2.48	10 (50%)
2	PLP	H	500	1	15,15,16	4.35	7 (46%)	20,22,23	2.49	11 (55%)
3	PMC	C	602	-	14,14,14	2.74	7 (50%)	18,20,20	1.86	5 (27%)
2	PLP	J	500	1	15,15,16	3.71	5 (33%)	20,22,23	2.30	8 (40%)
3	PMC	L	611	-	14,14,14	2.51	7 (50%)	18,20,20	1.79	5 (27%)
3	PMC	A	600	-	14,14,14	2.65	7 (50%)	18,20,20	1.87	5 (27%)
2	PLP	D	500	1	15,15,16	4.51	5 (33%)	20,22,23	2.64	10 (50%)
3	PMC	B	601	-	14,14,14	2.59	8 (57%)	18,20,20	1.80	5 (27%)
3	PMC	K	610	-	14,14,14	2.59	7 (50%)	18,20,20	1.85	5 (27%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	PLP	E	500	1	15,15,16	3.65	5 (33%)	20,22,23	2.38	9 (45%)
2	PLP	B	500	1	15,15,16	4.37	4 (26%)	20,22,23	2.53	10 (50%)
3	PMC	J	609	-	14,14,14	2.46	7 (50%)	18,20,20	1.78	5 (27%)
2	PLP	C	500	1	15,15,16	3.73	5 (33%)	20,22,23	2.47	11 (55%)
3	PMC	F	605	-	14,14,14	2.57	7 (50%)	18,20,20	1.83	5 (27%)
2	PLP	I	500	1	15,15,16	4.00	5 (33%)	20,22,23	2.35	9 (45%)

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	PMC	I	608	-	-	3/9/9/9	0/1/1/1
3	PMC	E	604	-	-	4/9/9/9	0/1/1/1
2	PLP	K	500	1	-	2/6/6/8	0/1/1/1
2	PLP	G	500	1	-	2/6/6/8	0/1/1/1
2	PLP	L	500	1	-	2/6/6/8	0/1/1/1
3	PMC	D	603	-	-	4/9/9/9	0/1/1/1
2	PLP	F	500	1	-	2/6/6/8	0/1/1/1
3	PMC	H	607	-	-	3/9/9/9	0/1/1/1
3	PMC	G	606	-	-	3/9/9/9	0/1/1/1
2	PLP	A	500	1	-	2/6/6/8	0/1/1/1
2	PLP	H	500	1	-	2/6/6/8	0/1/1/1
3	PMC	C	602	-	-	3/9/9/9	0/1/1/1
2	PLP	J	500	1	-	2/6/6/8	0/1/1/1
3	PMC	L	611	-	-	3/9/9/9	0/1/1/1
3	PMC	A	600	-	-	3/9/9/9	0/1/1/1
2	PLP	D	500	1	-	2/6/6/8	0/1/1/1
3	PMC	B	601	-	-	3/9/9/9	0/1/1/1
3	PMC	K	610	-	-	3/9/9/9	0/1/1/1
2	PLP	E	500	1	-	2/6/6/8	0/1/1/1
2	PLP	B	500	1	-	2/6/6/8	0/1/1/1
3	PMC	J	609	-	-	3/9/9/9	0/1/1/1
2	PLP	C	500	1	-	2/6/6/8	0/1/1/1
3	PMC	F	605	-	-	3/9/9/9	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	PLP	I	500	1	-	2/6/6/8	0/1/1/1

All (146) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	500	PLP	C5-C4	13.96	1.55	1.40
2	D	500	PLP	C5-C4	13.59	1.55	1.40
2	F	500	PLP	C5-C4	13.49	1.55	1.40
2	I	500	PLP	C5-C4	13.45	1.55	1.40
2	H	500	PLP	C5-C4	13.31	1.55	1.40
2	A	500	PLP	C5-C4	12.82	1.54	1.40
2	K	500	PLP	C5-C4	12.42	1.54	1.40
2	C	500	PLP	C5-C4	12.23	1.54	1.40
2	J	500	PLP	C5-C4	12.08	1.53	1.40
2	G	500	PLP	C5-C4	11.98	1.53	1.40
2	E	500	PLP	C5-C4	11.36	1.53	1.40
2	L	500	PLP	C5-C4	11.13	1.52	1.40
2	D	500	PLP	C3-C2	9.35	1.50	1.40
2	K	500	PLP	C3-C2	9.30	1.50	1.40
2	H	500	PLP	C3-C2	7.91	1.48	1.40
2	B	500	PLP	C3-C2	7.56	1.48	1.40
2	F	500	PLP	C3-C2	7.42	1.48	1.40
2	A	500	PLP	C3-C2	6.60	1.47	1.40
2	E	500	PLP	C3-C2	6.44	1.47	1.40
2	G	500	PLP	C3-C2	6.00	1.46	1.40
3	E	604	PMC	C2-C3	5.97	1.46	1.40
3	C	602	PMC	C2-C3	5.85	1.46	1.40
3	L	611	PMC	C2-C3	5.53	1.46	1.40
2	J	500	PLP	C3-C2	5.31	1.46	1.40
3	A	600	PMC	C2-C3	5.22	1.45	1.40
2	C	500	PLP	C3-C2	5.22	1.46	1.40
2	I	500	PLP	C3-C2	5.14	1.46	1.40
3	H	607	PMC	C2-C3	4.98	1.45	1.40
3	B	601	PMC	C2-C3	4.94	1.45	1.40
3	K	610	PMC	C2-C3	4.91	1.45	1.40
3	J	609	PMC	C2-C3	4.85	1.45	1.40
3	G	606	PMC	C2-C3	4.80	1.45	1.40
3	D	603	PMC	C2-C3	4.80	1.45	1.40
3	F	605	PMC	C2-C3	4.68	1.45	1.40
3	I	608	PMC	C2-C3	4.56	1.45	1.40
3	I	608	PMC	OC1-C	4.05	1.34	1.22
3	F	605	PMC	OC1-C	4.05	1.34	1.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	601	PMC	OC1-C	4.03	1.34	1.22
3	H	607	PMC	OC1-C	4.01	1.34	1.22
3	K	610	PMC	OC1-C	4.00	1.34	1.22
2	H	500	PLP	C2-N1	3.99	1.41	1.33
2	L	500	PLP	C3-C2	3.98	1.44	1.40
3	G	606	PMC	OC1-C	3.98	1.34	1.22
3	C	602	PMC	OC1-C	3.97	1.34	1.22
2	I	500	PLP	C2-N1	3.89	1.41	1.33
2	F	500	PLP	C2-N1	3.87	1.41	1.33
3	E	604	PMC	OC1-C	3.86	1.34	1.22
3	J	609	PMC	OC1-C	3.84	1.34	1.22
3	L	611	PMC	OC1-C	3.75	1.33	1.22
3	A	600	PMC	OC1-C	3.74	1.33	1.22
3	A	600	PMC	P1-CA	3.74	1.85	1.79
3	C	602	PMC	CA-C3	3.73	1.56	1.51
3	E	604	PMC	CA-C3	3.68	1.56	1.51
2	B	500	PLP	C2-N1	3.61	1.40	1.33
3	F	605	PMC	P1-CA	3.61	1.85	1.79
3	D	603	PMC	OC1-C	3.61	1.33	1.22
3	K	610	PMC	CA-C3	3.56	1.56	1.51
3	C	602	PMC	P1-CA	3.54	1.85	1.79
3	A	600	PMC	CA-C3	3.51	1.56	1.51
3	K	610	PMC	P1-CA	3.51	1.85	1.79
3	F	605	PMC	CA-C3	3.49	1.56	1.51
3	E	604	PMC	P1-CA	3.49	1.85	1.79
2	C	500	PLP	C2-N1	3.46	1.40	1.33
2	J	500	PLP	C2-N1	3.46	1.40	1.33
3	B	601	PMC	P1-CA	3.44	1.85	1.79
3	I	608	PMC	P1-CA	3.39	1.85	1.79
2	D	500	PLP	C2-N1	3.37	1.40	1.33
2	A	500	PLP	C2-N1	3.27	1.40	1.33
3	B	601	PMC	CA-C3	3.27	1.55	1.51
3	H	607	PMC	P1-CA	3.27	1.84	1.79
3	H	607	PMC	CA-C3	3.19	1.55	1.51
3	J	609	PMC	P1-CA	3.17	1.84	1.79
2	K	500	PLP	C2-N1	3.13	1.39	1.33
3	D	603	PMC	CA-C3	3.12	1.55	1.51
2	G	500	PLP	C2-N1	3.07	1.39	1.33
3	L	611	PMC	CA-C3	3.05	1.55	1.51
3	D	603	PMC	P1-CA	3.04	1.84	1.79
3	G	606	PMC	P1-CA	3.02	1.84	1.79
3	I	608	PMC	CA-C3	3.00	1.55	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	500	PLP	C2-N1	2.99	1.39	1.33
2	L	500	PLP	C2-N1	2.98	1.39	1.33
3	G	606	PMC	CA-C3	2.91	1.55	1.51
3	L	611	PMC	P1-CA	2.81	1.84	1.79
3	J	609	PMC	CA-C3	2.81	1.55	1.51
3	F	605	PMC	OC2-C	-2.72	1.22	1.30
2	E	500	PLP	P-O2P	-2.59	1.44	1.54
3	B	601	PMC	OC2-C	-2.59	1.22	1.30
3	I	608	PMC	OC2-C	-2.58	1.22	1.30
2	F	500	PLP	P-O2P	-2.58	1.44	1.54
2	H	500	PLP	P-O2P	-2.56	1.45	1.54
2	B	500	PLP	P-O2P	-2.53	1.45	1.54
2	G	500	PLP	P-O2P	-2.53	1.45	1.54
3	E	604	PMC	OC2-C	-2.52	1.22	1.30
3	D	603	PMC	OC2-C	-2.52	1.22	1.30
3	L	611	PMC	P1-O3	-2.52	1.49	1.54
3	K	610	PMC	OC2-C	-2.51	1.22	1.30
3	H	607	PMC	OC2-C	-2.50	1.22	1.30
3	G	606	PMC	OC2-C	-2.49	1.23	1.30
2	J	500	PLP	P-O2P	-2.46	1.45	1.54
3	A	600	PMC	OC2-C	-2.45	1.23	1.30
2	C	500	PLP	P-O2P	-2.45	1.45	1.54
3	C	602	PMC	OC2-C	-2.44	1.23	1.30
3	J	609	PMC	OC2-C	-2.41	1.23	1.30
2	I	500	PLP	P-O2P	-2.40	1.45	1.54
2	H	500	PLP	C5A-C5	2.39	1.57	1.50
3	D	603	PMC	P1-O3	-2.36	1.49	1.54
2	L	500	PLP	P-O2P	-2.35	1.45	1.54
3	A	600	PMC	P1-O3	-2.33	1.49	1.54
3	L	611	PMC	OC2-C	-2.33	1.23	1.30
3	C	602	PMC	P1-O3	-2.31	1.49	1.54
2	A	500	PLP	P-O2P	-2.29	1.46	1.54
2	K	500	PLP	P-O2P	-2.28	1.46	1.54
3	J	609	PMC	P1-O3	-2.28	1.49	1.54
2	H	500	PLP	C2A-C2	2.25	1.54	1.50
2	L	500	PLP	P-O3P	-2.25	1.46	1.54
3	B	601	PMC	P1-O3	-2.24	1.49	1.54
3	I	608	PMC	P1-O3	-2.23	1.49	1.54
3	E	604	PMC	P1-O3	-2.23	1.49	1.54
3	H	607	PMC	P1-O3	-2.22	1.49	1.54
3	A	600	PMC	P1-O2	-2.22	1.49	1.54
3	F	605	PMC	P1-O3	-2.22	1.49	1.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	500	PLP	P-O2P	-2.21	1.46	1.54
3	D	603	PMC	P1-O2	-2.20	1.49	1.54
3	K	610	PMC	P1-O3	-2.17	1.49	1.54
2	F	500	PLP	P-O3P	-2.16	1.46	1.54
3	B	601	PMC	C4-C3	2.15	1.43	1.39
2	G	500	PLP	C2A-C2	2.15	1.54	1.50
3	K	610	PMC	P1-O2	-2.15	1.50	1.54
2	D	500	PLP	C2A-C2	2.14	1.54	1.50
3	B	601	PMC	P1-O2	-2.13	1.50	1.54
2	E	500	PLP	P-O3P	-2.12	1.46	1.54
3	G	606	PMC	P1-O2	-2.12	1.50	1.54
2	I	500	PLP	P-O3P	-2.11	1.46	1.54
2	C	500	PLP	C2A-C2	2.11	1.53	1.50
3	G	606	PMC	P1-O3	-2.10	1.50	1.54
3	C	602	PMC	P1-O2	-2.10	1.50	1.54
3	H	607	PMC	C4-C3	2.10	1.43	1.39
3	I	608	PMC	C4-C3	2.09	1.43	1.39
3	J	609	PMC	C4-C3	2.09	1.43	1.39
3	L	611	PMC	P1-O2	-2.07	1.50	1.54
2	A	500	PLP	P-O3P	-2.06	1.46	1.54
3	H	607	PMC	P1-O2	-2.06	1.50	1.54
2	J	500	PLP	P-O3P	-2.03	1.47	1.54
3	F	605	PMC	P1-O2	-2.03	1.50	1.54
2	G	500	PLP	P-O3P	-2.02	1.47	1.54
2	H	500	PLP	P-O3P	-2.02	1.47	1.54

All (176) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	K	500	PLP	C2A-C2-C3	5.93	128.22	120.89
2	L	500	PLP	C2A-C2-C3	5.84	128.10	120.89
2	E	500	PLP	C2A-C2-C3	5.82	128.08	120.89
2	F	500	PLP	C2A-C2-C3	5.81	128.07	120.89
2	A	500	PLP	C2A-C2-C3	5.81	128.06	120.89
2	B	500	PLP	C2A-C2-C3	5.63	127.84	120.89
2	D	500	PLP	C2A-C2-C3	5.56	127.75	120.89
2	C	500	PLP	C2A-C2-C3	5.50	127.68	120.89
2	H	500	PLP	C2A-C2-C3	5.48	127.66	120.89
2	I	500	PLP	C2A-C2-C3	5.47	127.65	120.89
2	G	500	PLP	C2A-C2-C3	5.39	127.54	120.89
2	J	500	PLP	C2A-C2-C3	5.14	127.24	120.89
2	D	500	PLP	C4A-C4-C5	4.26	125.32	120.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	604	PMC	P1-CA-C3	4.20	121.04	113.85
2	L	500	PLP	C6-N1-C2	4.12	126.80	119.17
2	A	500	PLP	O4P-C5A-C5	4.03	117.03	109.35
3	C	602	PMC	P1-CA-C3	3.95	120.61	113.85
2	D	500	PLP	C6-C5-C4	3.93	121.25	118.16
2	K	500	PLP	C4A-C4-C5	3.91	124.97	120.94
2	I	500	PLP	C6-N1-C2	3.86	126.33	119.17
2	C	500	PLP	C6-N1-C2	3.86	126.32	119.17
2	J	500	PLP	O4P-C5A-C5	3.79	116.58	109.35
2	K	500	PLP	C6-C5-C4	3.74	121.10	118.16
2	L	500	PLP	O4P-C5A-C5	3.73	116.45	109.35
2	C	500	PLP	O3-C3-C4	3.72	127.90	118.10
2	A	500	PLP	C6-N1-C2	3.70	126.02	119.17
3	K	610	PMC	P1-CA-C3	3.69	120.18	113.85
2	F	500	PLP	C6-N1-C2	3.69	126.00	119.17
2	H	500	PLP	O3-C3-C4	3.68	127.80	118.10
3	A	600	PMC	P1-CA-C3	3.68	120.16	113.85
2	D	500	PLP	C3-C4-C5	-3.68	114.77	118.74
2	G	500	PLP	O3-C3-C4	3.65	127.72	118.10
2	E	500	PLP	O3-C3-C4	3.65	127.71	118.10
2	J	500	PLP	C6-N1-C2	3.64	125.91	119.17
2	B	500	PLP	C6-N1-C2	3.63	125.90	119.17
2	E	500	PLP	C6-N1-C2	3.63	125.89	119.17
2	L	500	PLP	O3-C3-C4	3.61	127.61	118.10
2	G	500	PLP	C6-N1-C2	3.58	125.81	119.17
2	B	500	PLP	C4A-C4-C5	3.57	124.62	120.94
2	J	500	PLP	O3-C3-C4	3.57	127.50	118.10
2	E	500	PLP	O4P-C5A-C5	3.57	116.16	109.35
3	F	605	PMC	P1-CA-C3	3.53	119.91	113.85
2	K	500	PLP	O3-C3-C4	3.53	127.40	118.10
2	A	500	PLP	O3-C3-C4	3.48	127.25	118.10
3	H	607	PMC	P1-CA-C3	3.47	119.80	113.85
2	F	500	PLP	O3-C3-C4	3.47	127.24	118.10
2	H	500	PLP	C6-N1-C2	3.44	125.54	119.17
2	H	500	PLP	O4P-C5A-C5	3.43	115.88	109.35
3	L	611	PMC	P1-CA-C3	3.39	119.66	113.85
3	F	605	PMC	C6-N1-C2	3.39	123.24	116.83
2	B	500	PLP	O3-C3-C4	3.38	127.01	118.10
2	K	500	PLP	C3-C4-C5	-3.34	115.13	118.74
3	K	610	PMC	C6-N1-C2	3.34	123.14	116.83
2	I	500	PLP	O3-C3-C4	3.31	126.83	118.10
3	H	607	PMC	C6-N1-C2	3.31	123.10	116.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	D	500	PLP	O3-C3-C4	3.30	126.80	118.10
3	G	606	PMC	C6-N1-C2	3.30	123.07	116.83
3	A	600	PMC	C6-N1-C2	3.29	123.06	116.83
3	E	604	PMC	C6-N1-C2	3.29	123.06	116.83
3	C	602	PMC	C6-N1-C2	3.29	123.06	116.83
3	B	601	PMC	C6-N1-C2	3.28	123.04	116.83
3	J	609	PMC	C6-N1-C2	3.28	123.03	116.83
3	D	603	PMC	C6-N1-C2	3.28	123.03	116.83
3	I	608	PMC	C6-N1-C2	3.27	123.01	116.83
2	K	500	PLP	C6-N1-C2	3.24	125.17	119.17
3	B	601	PMC	P1-CA-C3	3.23	119.38	113.85
3	L	611	PMC	C6-N1-C2	3.20	122.88	116.83
3	G	606	PMC	C3-C2-N1	-3.18	119.23	122.35
2	C	500	PLP	O4P-C5A-C5	3.14	115.34	109.35
3	H	607	PMC	C3-C2-N1	-3.14	119.27	122.35
3	D	603	PMC	C3-C2-N1	-3.12	119.28	122.35
3	J	609	PMC	C3-C2-N1	-3.12	119.29	122.35
3	E	604	PMC	C3-C2-N1	-3.12	119.29	122.35
2	D	500	PLP	C6-N1-C2	3.11	124.92	119.17
3	B	601	PMC	C3-C2-N1	-3.09	119.31	122.35
3	I	608	PMC	P1-CA-C3	3.09	119.14	113.85
2	D	500	PLP	O4P-C5A-C5	3.08	115.22	109.35
2	B	500	PLP	O4P-C5A-C5	3.08	115.21	109.35
2	F	500	PLP	C3-C2-N1	-3.07	116.81	120.77
3	K	610	PMC	C3-C2-N1	-3.06	119.34	122.35
3	C	602	PMC	C3-C2-N1	-3.05	119.36	122.35
3	A	600	PMC	C3-C2-N1	-3.05	119.36	122.35
2	L	500	PLP	C5-C6-N1	-3.05	118.74	123.82
2	I	500	PLP	C5-C6-N1	-3.02	118.79	123.82
3	F	605	PMC	C3-C2-N1	-3.00	119.40	122.35
2	B	500	PLP	C6-C5-C4	2.96	120.49	118.16
3	D	603	PMC	P1-CA-C3	2.96	118.92	113.85
2	B	500	PLP	C3-C2-N1	-2.95	116.95	120.77
2	H	500	PLP	O3-C3-C2	-2.94	111.09	117.49
3	I	608	PMC	C3-C2-N1	-2.94	119.47	122.35
2	F	500	PLP	C6-C5-C4	2.93	120.47	118.16
3	L	611	PMC	OC2-C-C2	2.93	123.96	114.46
3	J	609	PMC	P1-CA-C3	2.92	118.86	113.85
3	A	600	PMC	OC2-C-C2	2.92	123.92	114.46
3	D	603	PMC	OC2-C-C2	2.91	123.89	114.46
3	L	611	PMC	C3-C2-N1	-2.91	119.50	122.35
2	I	500	PLP	O4P-C5A-C5	2.90	114.88	109.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	604	PMC	OC2-C-C2	2.89	123.83	114.46
2	G	500	PLP	C4A-C4-C5	2.89	123.91	120.94
2	L	500	PLP	C3-C2-N1	-2.87	117.06	120.77
2	H	500	PLP	C3-C2-N1	-2.84	117.09	120.77
2	I	500	PLP	C3-C2-N1	-2.84	117.10	120.77
2	C	500	PLP	C5-C6-N1	-2.84	119.09	123.82
2	G	500	PLP	O4P-C5A-C5	2.84	114.76	109.35
3	J	609	PMC	OC2-C-C2	2.84	123.65	114.46
2	A	500	PLP	C3-C2-N1	-2.83	117.11	120.77
2	C	500	PLP	C3-C2-N1	-2.80	117.15	120.77
2	C	500	PLP	O3P-P-O2P	2.79	118.29	107.64
3	G	606	PMC	P1-CA-C3	2.78	118.62	113.85
2	B	500	PLP	C3-C4-C5	-2.77	115.74	118.74
3	K	610	PMC	OC2-C-C2	2.75	123.38	114.46
3	C	602	PMC	OC2-C-C2	2.75	123.37	114.46
2	K	500	PLP	O3-C3-C2	-2.74	111.51	117.49
3	F	605	PMC	OC2-C-C2	2.72	123.27	114.46
2	B	500	PLP	O3-C3-C2	-2.71	111.59	117.49
2	E	500	PLP	C3-C2-N1	-2.70	117.27	120.77
3	G	606	PMC	OC2-C-C2	2.69	123.19	114.46
2	K	500	PLP	C3-C2-N1	-2.69	117.29	120.77
2	H	500	PLP	C6-C5-C4	2.69	120.27	118.16
2	J	500	PLP	C3-C2-N1	-2.67	117.31	120.77
2	K	500	PLP	O4P-C5A-C5	2.67	114.44	109.35
2	J	500	PLP	C5-C6-N1	-2.66	119.38	123.82
3	B	601	PMC	OC2-C-C2	2.66	123.08	114.46
2	G	500	PLP	O3-C3-C2	-2.65	111.72	117.49
3	H	607	PMC	OC2-C-C2	2.65	123.04	114.46
2	D	500	PLP	O3-C3-C2	-2.65	111.73	117.49
2	H	500	PLP	C4A-C4-C5	2.64	123.66	120.94
2	G	500	PLP	C3-C2-N1	-2.64	117.35	120.77
2	C	500	PLP	O3-C3-C2	-2.62	111.78	117.49
2	F	500	PLP	O3-C3-C2	-2.62	111.79	117.49
2	F	500	PLP	C4A-C4-C5	2.60	123.61	120.94
3	I	608	PMC	OC2-C-C2	2.60	122.89	114.46
2	E	500	PLP	C5-C6-N1	-2.57	119.54	123.82
2	C	500	PLP	C6-C5-C4	2.57	120.18	118.16
2	F	500	PLP	C5-C6-N1	-2.56	119.55	123.82
2	G	500	PLP	C5-C6-N1	-2.55	119.57	123.82
2	H	500	PLP	O4P-P-O1P	-2.53	99.38	106.47
2	I	500	PLP	C4A-C4-C5	2.50	123.51	120.94
2	D	500	PLP	C3-C2-N1	-2.49	117.55	120.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	J	500	PLP	O3-C3-C2	-2.49	112.07	117.49
2	B	500	PLP	C5-C6-N1	-2.46	119.72	123.82
3	J	609	PMC	OC2-C-OC1	-2.45	117.92	123.35
2	E	500	PLP	C6-C5-C4	2.44	120.08	118.16
2	H	500	PLP	C5-C6-N1	-2.43	119.76	123.82
3	B	601	PMC	OC2-C-OC1	-2.43	117.96	123.35
3	E	604	PMC	OC2-C-OC1	-2.40	118.01	123.35
2	G	500	PLP	C6-C5-C4	2.40	120.05	118.16
2	A	500	PLP	C5-C6-N1	-2.40	119.83	123.82
3	H	607	PMC	OC2-C-OC1	-2.39	118.04	123.35
2	C	500	PLP	O3P-P-O4P	-2.39	100.38	106.73
3	G	606	PMC	OC2-C-OC1	-2.39	118.05	123.35
3	F	605	PMC	OC2-C-OC1	-2.39	118.05	123.35
3	A	600	PMC	OC2-C-OC1	-2.38	118.06	123.35
2	E	500	PLP	O3-C3-C2	-2.38	112.31	117.49
3	D	603	PMC	OC2-C-OC1	-2.38	118.07	123.35
2	A	500	PLP	O3-C3-C2	-2.38	112.31	117.49
3	C	602	PMC	OC2-C-OC1	-2.37	118.10	123.35
3	I	608	PMC	OC2-C-OC1	-2.35	118.14	123.35
2	H	500	PLP	C3-C4-C5	-2.34	116.21	118.74
3	L	611	PMC	OC2-C-OC1	-2.33	118.17	123.35
2	F	500	PLP	C3-C4-C5	-2.30	116.26	118.74
2	F	500	PLP	O4P-C5A-C5	2.30	113.72	109.35
2	F	500	PLP	O3P-P-O2P	2.29	116.39	107.64
3	K	610	PMC	OC2-C-OC1	-2.27	118.31	123.35
2	I	500	PLP	O3-C3-C2	-2.26	112.57	117.49
2	D	500	PLP	C5-C6-N1	-2.25	120.07	123.82
2	A	500	PLP	C4A-C4-C5	2.22	123.22	120.94
2	A	500	PLP	O2P-P-O4P	2.21	112.63	106.73
2	C	500	PLP	C4A-C4-C5	2.20	123.20	120.94
2	L	500	PLP	O3P-P-O2P	2.18	115.97	107.64
2	E	500	PLP	O3P-P-O2P	2.17	115.94	107.64
2	K	500	PLP	C5-C6-N1	-2.14	120.25	123.82
2	A	500	PLP	O3P-P-O2P	2.12	115.75	107.64
2	I	500	PLP	C6-C5-C4	2.11	119.81	118.16
2	L	500	PLP	O3-C3-C2	-2.10	112.92	117.49
2	J	500	PLP	C6-C5-C4	2.07	119.79	118.16

There are no chirality outliers.

All (62) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	500	PLP	C4-C5-C5A-O4P
2	A	500	PLP	C6-C5-C5A-O4P
2	B	500	PLP	C4-C5-C5A-O4P
2	B	500	PLP	C6-C5-C5A-O4P
2	C	500	PLP	C4-C5-C5A-O4P
2	C	500	PLP	C6-C5-C5A-O4P
2	D	500	PLP	C4-C5-C5A-O4P
2	D	500	PLP	C6-C5-C5A-O4P
2	E	500	PLP	C4-C5-C5A-O4P
2	E	500	PLP	C6-C5-C5A-O4P
2	F	500	PLP	C4-C5-C5A-O4P
2	F	500	PLP	C6-C5-C5A-O4P
2	G	500	PLP	C4-C5-C5A-O4P
2	G	500	PLP	C6-C5-C5A-O4P
2	H	500	PLP	C4-C5-C5A-O4P
2	H	500	PLP	C6-C5-C5A-O4P
2	I	500	PLP	C4-C5-C5A-O4P
2	I	500	PLP	C6-C5-C5A-O4P
2	J	500	PLP	C4-C5-C5A-O4P
2	J	500	PLP	C6-C5-C5A-O4P
2	K	500	PLP	C4-C5-C5A-O4P
2	K	500	PLP	C6-C5-C5A-O4P
2	L	500	PLP	C4-C5-C5A-O4P
2	L	500	PLP	C6-C5-C5A-O4P
3	A	600	PMC	C3-CA-P1-O3
3	A	600	PMC	C3-CA-P1-O2
3	A	600	PMC	C3-CA-P1-O1
3	B	601	PMC	C3-CA-P1-O3
3	B	601	PMC	C3-CA-P1-O2
3	B	601	PMC	C3-CA-P1-O1
3	C	602	PMC	C3-CA-P1-O3
3	C	602	PMC	C3-CA-P1-O2
3	C	602	PMC	C3-CA-P1-O1
3	D	603	PMC	C3-CA-P1-O3
3	D	603	PMC	C3-CA-P1-O2
3	D	603	PMC	C3-CA-P1-O1
3	E	604	PMC	C3-CA-P1-O3
3	E	604	PMC	C3-CA-P1-O1
3	F	605	PMC	C3-CA-P1-O3
3	F	605	PMC	C3-CA-P1-O2
3	F	605	PMC	C3-CA-P1-O1
3	G	606	PMC	C3-CA-P1-O3
3	G	606	PMC	C3-CA-P1-O2

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Mol	Chain	Res	Type	Atoms
3	G	606	PMC	C3-CA-P1-O1
3	H	607	PMC	C3-CA-P1-O3
3	H	607	PMC	C3-CA-P1-O2
3	H	607	PMC	C3-CA-P1-O1
3	I	608	PMC	C3-CA-P1-O3
3	I	608	PMC	C3-CA-P1-O2
3	I	608	PMC	C3-CA-P1-O1
3	J	609	PMC	C3-CA-P1-O3
3	J	609	PMC	C3-CA-P1-O2
3	J	609	PMC	C3-CA-P1-O1
3	K	610	PMC	C3-CA-P1-O3
3	K	610	PMC	C3-CA-P1-O2
3	K	610	PMC	C3-CA-P1-O1
3	L	611	PMC	C3-CA-P1-O3
3	L	611	PMC	C3-CA-P1-O2
3	L	611	PMC	C3-CA-P1-O1
3	E	604	PMC	C3-CA-P1-O2
3	D	603	PMC	C2-C3-CA-P1
3	E	604	PMC	OC2-C-C2-C3

There are no ring outliers.

7 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	E	604	PMC	1	0
3	D	603	PMC	1	0
2	F	500	PLP	1	0
2	H	500	PLP	1	0
3	L	611	PMC	1	0
3	K	610	PMC	1	0
2	B	500	PLP	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.