Full wwPDB X-ray Structure Validation Report (i)

Aug 16, 2023 – 11:30 AM EDT

PDB ID	:	2ABR
Title	:	Structure of D280A arginine deiminase with L-arginine forming a S-alkylthiouronium reaction intermediate
Authors	:	Galkin, A.; Lu, X.; Dunaway-Mariano, D.; Herzberg, O.
Deposited on	:	2005-07-15
Resolution	:	2.90 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 (i) 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 (i)) were used in the production of this report:

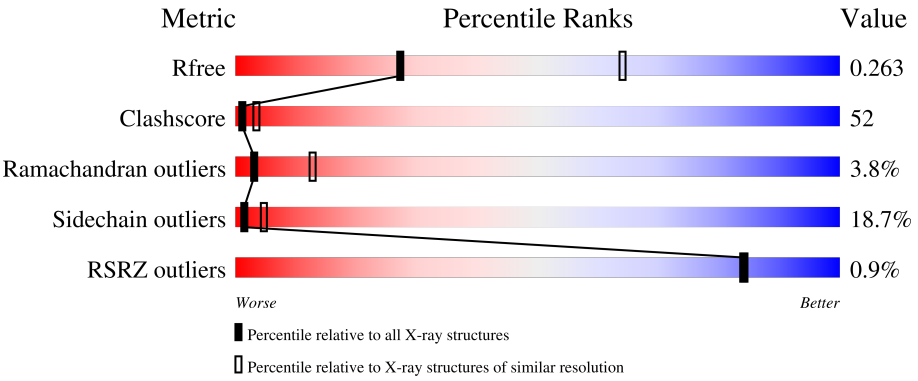
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

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 2.90 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))
R_{free}	130704	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	418	30% 52% 14%
1	B	418	32% 50% 15%
1	C	418	31% 50% 14%
1	D	418	33% 49% 15%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 12637 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 Arginine deiminase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	402	Total	C	N	O	S	0	0	0
			3151	1994	549	591	17			
1	B	406	Total	C	N	O	S	0	0	0
			3174	2008	553	596	17			
1	C	403	Total	C	N	O	S	0	0	0
			3158	1998	550	593	17			
1	D	402	Total	C	N	O	S	0	0	0
			3154	1996	552	589	17			

There are 8 discrepancies between the modelled and reference sequences:

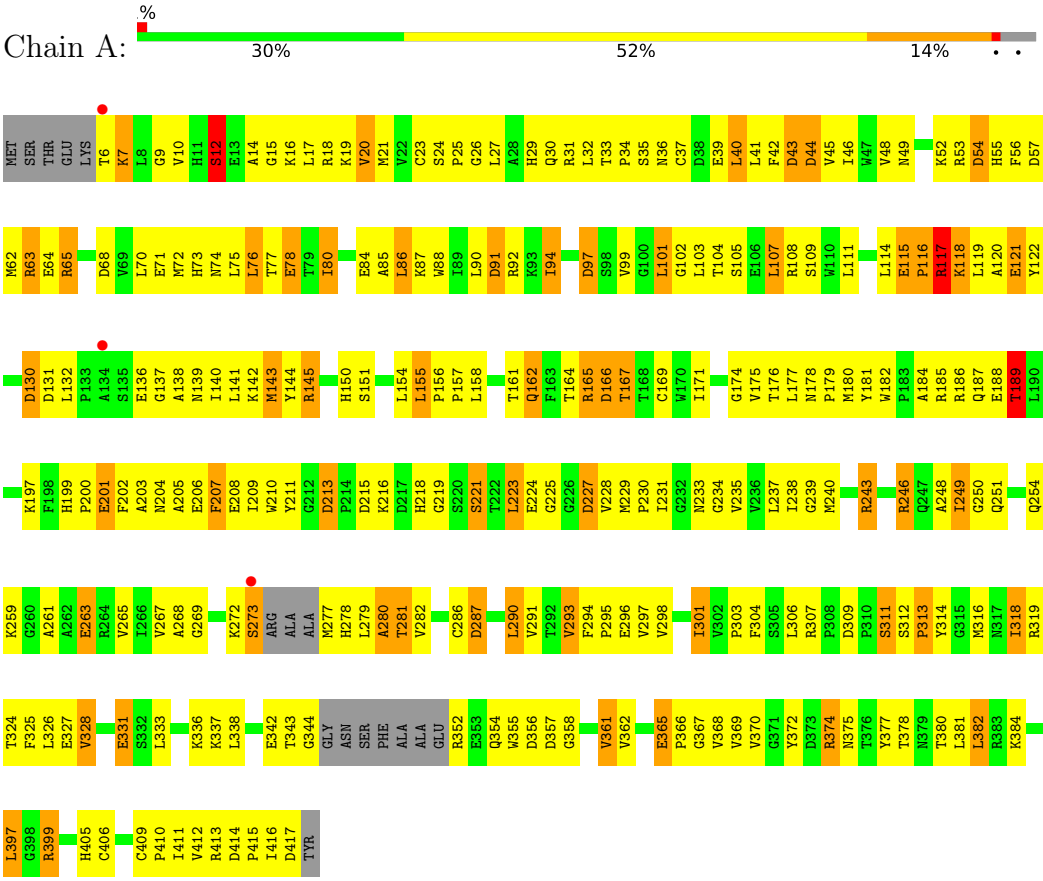
Chain	Residue	Modelled	Actual	Comment	Reference
A	280	ALA	ASP	engineered mutation	UNP P13981
A	406	CYR	CYS	modified residue	UNP P13981
B	280	ALA	ASP	engineered mutation	UNP P13981
B	406	CYR	CYS	modified residue	UNP P13981
C	280	ALA	ASP	engineered mutation	UNP P13981
C	406	CYR	CYS	modified residue	UNP P13981
D	280	ALA	ASP	engineered mutation	UNP P13981
D	406	CYR	CYS	modified residue	UNP P13981

3 Residue-property plots (i)

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

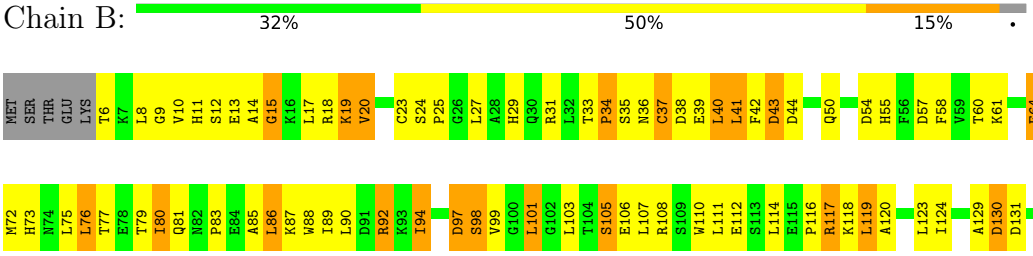
• Molecule 1: Arginine deiminase

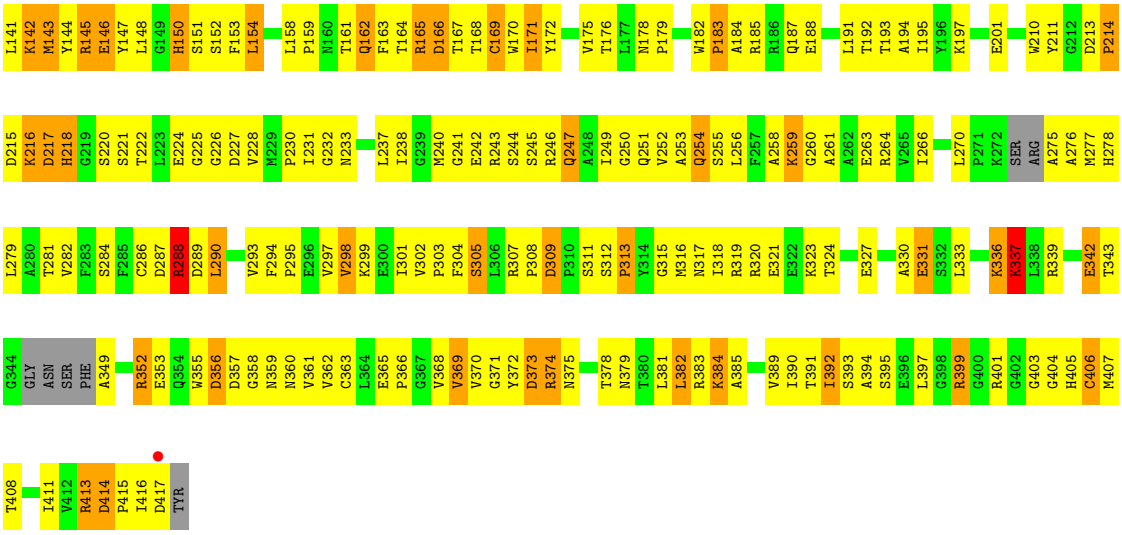
Chain A:



• Molecule 1: Arginine deiminase

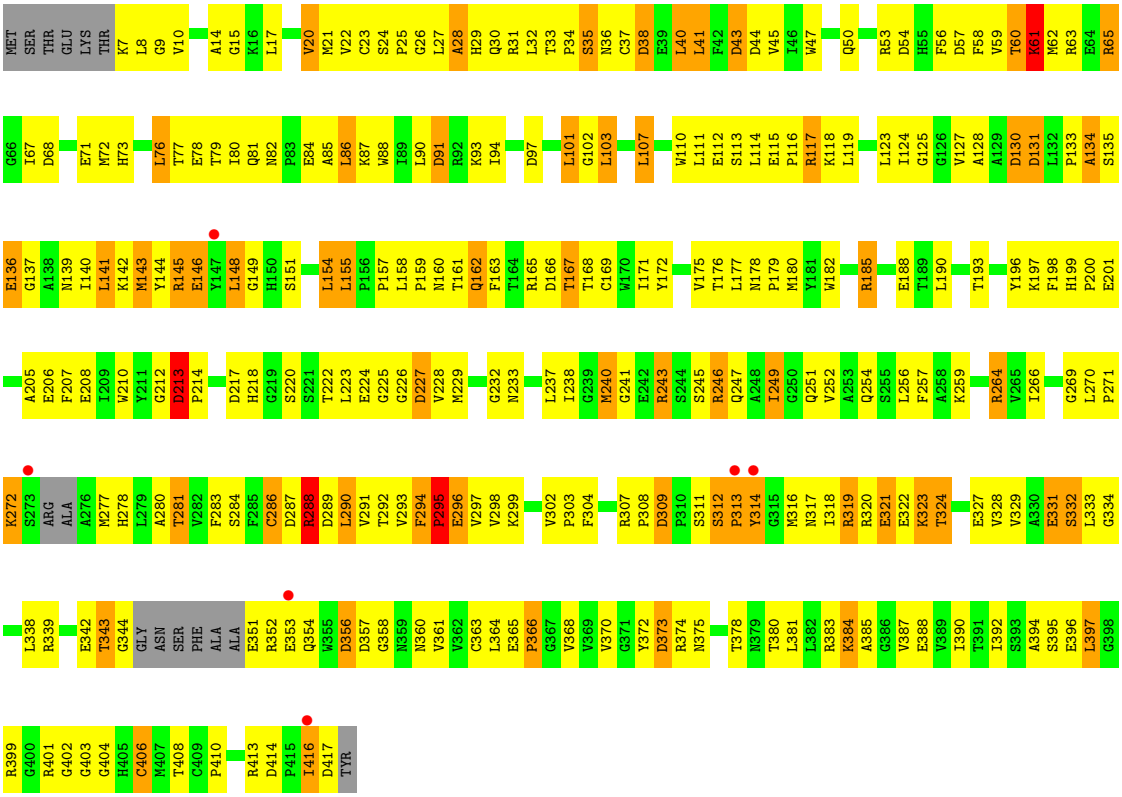
Chain B:





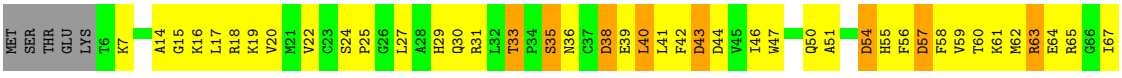
• Molecule 1: Arginine deiminase

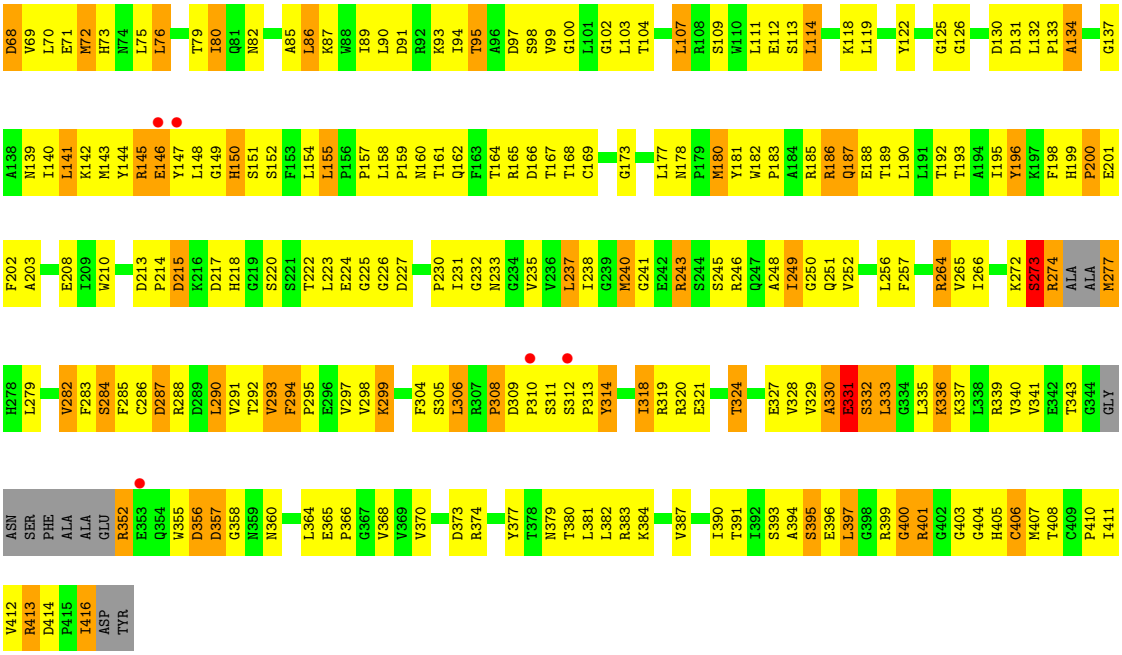
Chain C:



• Molecule 1: Arginine deiminase

Chain D:




D68 V69 L70 E71 M72 H73 N74 L75 L76 T79 I80 Q81 N82 A85 L86 K87 W88 I89 L90 D91 R92 K93 I94 T95 A96 D97 S98 V99 G100 L101 G102 L103 T104 L107 R108 S109 W110 L111 E112 S113 L114 K118 L119 Y122 G125 G126 D130 D131 L132 P133 A134 G137
A138 N139 I140 L141 K142 M143 Y144 R145 E146 Y147 L148 G149 H150 S151 S152 F153 L154 L155 P156 P157 L158 P159 N160 T161 Q162 F163 T164 R165 D166 T167 T168 C169 G173 L177 N178 P179 M180 Y181 W182 P183 A184 R185 R186 Q187 E188 T189 L190 L191 T192 T193 A194 I195 Y196 K197 F198 H199 P200 E201
F202 A203 E208 I209 W210 D213 P214 D215 K216 D217 H218 G219 S220 S221 T222 L223 E224 G225 G226 D227 P230 I231 G232 N233 G234 V235 V236 L237 I238 G239 M240 G241 E242 R243 S244 S245 R246 Q247 A248 I249 G250 Q251 V252 L256 F257 R264 V265 I266 K272 S273 R274 ALA ALA M277
H278 L279 V282 F283 S284 F285 C286 D287 R288 D289 L290 V291 T292 V293 F294 P295 E296 V297 V298 K299 F304 S305 L306 R307 P308 D309 P310 S311 S312 P313 Y314 I318 R319 R320 E321 T324 E327 V328 V329 A330 E331 S332 L333 G334 L335 K336 K337 L338 R339 V340 V341 E342 T343 G344 GLY
ASN SER PHE ALA ALA GLU R352 E353 Q354 W355 D356 D357 G358 N359 N360 L364 E365 P366 G367 V368 V369 V370 D373 R374 Y377 T378 N379 T380 L381 L382 R383 K384 V387 I390 T391 I392 S393 A394 S395 E396 L397 G398 R399 G400 R401 G402 G403 G404 H405 C406 M407 T408 C409 P410 I411
V412 R413 D414 P415 I416 ASP TYR

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	90.60Å 120.60Å 147.20Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 2.90 19.92 – 2.90	Depositor EDS
% Data completeness (in resolution range)	(Not available) (20.00-2.90) 96.0 (19.92-2.90)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.76 (at 2.88Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.214 , 0.274 0.206 , 0.263	Depositor DCC
R_{free} test set	1715 reflections (4.91%)	wwPDB-VP
Wilson B-factor (Å^2)	48.7	Xtriage
Anisotropy	0.209	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 56.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.45$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	12637	wwPDB-VP
Average B, all atoms (Å^2)	44.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 28.67 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.7701e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

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

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	0.47	0/3199	0.76	13/4336 (0.3%)
1	B	0.47	0/3222	0.75	11/4368 (0.3%)
1	C	0.46	0/3206	0.78	17/4345 (0.4%)
1	D	0.47	0/3202	0.77	14/4339 (0.3%)
All	All	0.47	0/12829	0.77	55/17388 (0.3%)

There are no bond length outliers.

All (55) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	217	ASP	CB-CG-OD2	6.44	124.09	118.30
1	B	373	ASP	CB-CG-OD2	6.29	123.96	118.30
1	A	227	ASP	CB-CG-OD2	6.15	123.83	118.30
1	B	44	ASP	CB-CG-OD2	6.12	123.81	118.30
1	D	217	ASP	CB-CG-OD2	5.93	123.64	118.30
1	A	357	ASP	CB-CG-OD2	5.89	123.60	118.30
1	B	217	ASP	CB-CG-OD2	5.82	123.53	118.30
1	D	54	ASP	CB-CG-OD2	5.74	123.47	118.30
1	A	131	ASP	CB-CG-OD2	5.72	123.45	118.30
1	C	373	ASP	CB-CG-OD2	5.67	123.40	118.30
1	A	43	ASP	CB-CG-OD2	5.65	123.38	118.30
1	C	131	ASP	CB-CG-OD2	5.65	123.38	118.30
1	B	417	ASP	CB-CG-OD2	5.64	123.38	118.30
1	D	200	PRO	CA-N-CD	-5.62	103.64	111.50
1	D	130	ASP	CB-CG-OD2	5.61	123.35	118.30
1	D	215	ASP	CB-CG-OD2	5.60	123.34	118.30
1	C	414	ASP	CB-CG-OD2	5.59	123.33	118.30
1	C	44	ASP	CB-CG-OD2	5.57	123.32	118.30
1	A	287	ASP	CB-CG-OD2	5.55	123.29	118.30
1	B	356	ASP	CB-CG-OD2	5.54	123.29	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	68	ASP	CB-CG-OD2	5.54	123.28	118.30
1	A	213	ASP	CB-CG-OD2	5.53	123.28	118.30
1	C	130	ASP	CB-CG-OD2	5.51	123.26	118.30
1	D	356	ASP	CB-CG-OD2	5.49	123.24	118.30
1	D	38	ASP	CB-CG-OD2	5.44	123.20	118.30
1	C	166	ASP	CB-CG-OD2	5.44	123.20	118.30
1	C	68	ASP	CB-CG-OD2	5.43	123.18	118.30
1	C	356	ASP	CB-CG-OD2	5.41	123.17	118.30
1	C	97	ASP	CB-CG-OD2	5.40	123.16	118.30
1	A	97	ASP	CB-CG-OD2	5.37	123.14	118.30
1	C	38	ASP	CB-CG-OD2	5.37	123.14	118.30
1	C	213	ASP	CB-CG-OD2	5.37	123.14	118.30
1	C	309	ASP	CB-CG-OD2	5.37	123.13	118.30
1	D	44	ASP	CB-CG-OD2	5.36	123.12	118.30
1	A	166	ASP	CB-CG-OD2	5.35	123.11	118.30
1	C	91	ASP	CB-CG-OD2	5.34	123.11	118.30
1	A	44	ASP	CB-CG-OD2	5.31	123.08	118.30
1	C	357	ASP	CB-CG-OD2	5.30	123.07	118.30
1	B	43	ASP	CB-CG-OD2	5.30	123.07	118.30
1	B	38	ASP	CB-CG-OD2	5.30	123.07	118.30
1	A	68	ASP	CB-CG-OD2	5.30	123.07	118.30
1	A	417	ASP	CB-CG-OD2	5.25	123.03	118.30
1	B	97	ASP	CB-CG-OD2	5.22	123.00	118.30
1	B	414	ASP	CB-CG-OD2	5.19	122.97	118.30
1	D	131	ASP	CB-CG-OD2	5.18	122.96	118.30
1	D	57	ASP	CB-CG-OD2	5.17	122.95	118.30
1	D	43	ASP	CB-CG-OD2	5.13	122.92	118.30
1	B	309	ASP	CB-CG-OD2	5.10	122.89	118.30
1	C	227	ASP	CB-CG-OD2	5.08	122.88	118.30
1	B	357	ASP	CB-CG-OD2	5.08	122.87	118.30
1	C	43	ASP	CB-CG-OD2	5.04	122.83	118.30
1	D	357	ASP	CB-CG-OD2	5.03	122.83	118.30
1	A	91	ASP	CB-CG-OD2	5.03	122.83	118.30
1	D	414	ASP	CB-CG-OD2	5.03	122.82	118.30
1	A	54	ASP	CB-CG-OD2	5.01	122.81	118.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3151	0	3139	345	0
1	B	3174	0	3160	298	0
1	C	3158	0	3143	347	0
1	D	3154	0	3148	388	0
All	All	12637	0	12590	1319	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 52.

All (1319) 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:D:43:ASP:CB	1:D:401:ARG:HH12	1.37	1.36
1:D:43:ASP:HB2	1:D:401:ARG:NH1	1.55	1.20
1:D:14:ALA:O	1:D:366:PRO:HD3	1.39	1.19
1:D:352:ARG:HB3	1:D:352:ARG:NH1	1.59	1.17
1:A:306:LEU:HD13	1:A:318:ILE:HG23	1.21	1.17
1:C:199:HIS:CD2	1:C:200:PRO:HD2	1.80	1.17
1:D:413:ARG:HG3	1:D:413:ARG:HH11	1.10	1.13
1:D:186:ARG:HH11	1:D:186:ARG:CG	1.61	1.13
1:B:242:GLU:HB2	1:B:275:ALA:HA	1.26	1.13
1:B:293:VAL:HG13	1:B:298:VAL:CG2	1.78	1.12
1:C:319:ARG:HG2	1:C:319:ARG:NH1	1.46	1.12
1:A:115:GLU:N	1:A:115:GLU:OE1	1.81	1.12
1:D:76:LEU:O	1:D:80:ILE:HG12	1.50	1.12
1:B:64:GLU:OE2	1:B:64:GLU:HA	1.40	1.11
1:B:17:LEU:HD13	1:B:413:ARG:NH1	1.66	1.11
1:C:319:ARG:HH11	1:C:319:ARG:CG	1.61	1.11
1:A:229:MET:HE3	1:A:279:LEU:HD23	1.28	1.10
1:A:65:ARG:HH11	1:A:65:ARG:HB3	1.14	1.10
1:B:90:LEU:HD22	1:B:94:ILE:HD11	1.34	1.10
1:D:186:ARG:HH11	1:D:186:ARG:HG2	1.08	1.10
1:A:180:MET:HE3	1:A:224:GLU:HG3	1.25	1.08
1:A:180:MET:CE	1:A:224:GLU:HG3	1.83	1.08
1:D:352:ARG:HB3	1:D:352:ARG:HH11	0.93	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:293:VAL:HG13	1:B:298:VAL:HG21	1.10	1.06
1:D:76:LEU:HD22	1:D:80:ILE:HD11	1.05	1.05
1:A:272:LYS:O	1:A:273:SER:HB3	1.51	1.05
1:D:401:ARG:HG2	1:D:401:ARG:HH11	1.24	1.02
1:B:242:GLU:HB2	1:B:275:ALA:CA	1.89	1.02
1:A:180:MET:HE1	1:A:224:GLU:CG	1.89	1.02
1:D:273:SER:O	1:D:274:ARG:HB2	1.55	1.02
1:D:76:LEU:CD2	1:D:80:ILE:HD11	1.88	1.01
1:B:70:LEU:HB3	1:B:75:LEU:HD11	1.42	1.01
1:D:352:ARG:NH1	1:D:352:ARG:CB	2.22	1.00
1:A:229:MET:CE	1:A:279:LEU:HD23	1.91	1.00
1:B:142:LYS:HD2	1:B:145:ARG:NH2	1.75	1.00
1:D:274:ARG:HA	1:D:274:ARG:HE	1.27	1.00
1:B:167:THR:O	1:B:168:THR:CG2	2.09	0.99
1:A:180:MET:CE	1:A:224:GLU:CG	2.40	0.99
1:D:43:ASP:HB2	1:D:401:ARG:HH12	0.84	0.99
1:D:183:PRO:HA	1:D:186:ARG:HD2	1.42	0.98
1:B:399:ARG:HG2	1:B:399:ARG:HH11	1.28	0.97
1:A:272:LYS:CE	1:D:149:GLY:HA3	1.94	0.97
1:D:111:LEU:O	1:D:114:LEU:HB2	1.64	0.97
1:A:293:VAL:HB	1:A:298:VAL:HG21	1.43	0.97
1:D:352:ARG:HH11	1:D:352:ARG:CB	1.77	0.97
1:A:25:PRO:HA	1:A:29:HIS:CE1	1.98	0.97
1:D:401:ARG:HH11	1:D:401:ARG:CG	1.78	0.96
1:C:140:ILE:HA	1:C:143:MET:HE2	1.44	0.96
1:A:224:GLU:OE1	1:A:243:ARG:HD3	1.65	0.96
1:D:76:LEU:HD22	1:D:80:ILE:CD1	1.95	0.96
1:A:272:LYS:HE2	1:D:149:GLY:HA3	1.48	0.96
1:D:293:VAL:CG1	1:D:298:VAL:HG21	1.94	0.96
1:B:17:LEU:HD13	1:B:413:ARG:HH12	1.28	0.95
1:C:107:LEU:HD21	1:C:127:VAL:HG11	1.48	0.95
1:A:103:LEU:HD13	1:A:154:LEU:CD1	1.96	0.95
1:D:169:CYS:SG	1:D:225:GLY:HA2	2.06	0.95
1:C:295:PRO:HD2	1:C:343:THR:O	1.66	0.95
1:A:101:LEU:HD13	1:A:102:GLY:H	1.32	0.95
1:A:115:GLU:CD	1:A:115:GLU:H	1.68	0.95
1:C:137:GLY:HA2	1:C:140:ILE:HD12	1.47	0.94
1:C:167:THR:C	1:C:178:ASN:HD22	1.70	0.94
1:C:101:LEU:HD12	1:C:102:GLY:N	1.83	0.94
1:A:86:LEU:CD1	1:A:90:LEU:HG	1.98	0.94
1:A:228:VAL:HG22	1:A:238:ILE:HG12	1.45	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:360:ASN:ND2	1:C:406:CYR:SG	2.40	0.93
1:D:114:LEU:HD12	1:D:119:LEU:HA	1.50	0.93
1:C:199:HIS:CD2	1:C:200:PRO:CD	2.52	0.93
1:D:399:ARG:O	1:D:400:GLY:O	1.87	0.93
1:B:101:LEU:HD11	1:C:316:MET:CE	1.99	0.93
1:C:102:GLY:C	1:C:103:LEU:HD12	1.89	0.93
1:A:32:LEU:HD23	1:A:40:LEU:HD23	1.49	0.92
1:B:293:VAL:CG1	1:B:298:VAL:HG21	1.99	0.92
1:D:292:THR:O	1:D:293:VAL:HG22	1.69	0.92
1:B:167:THR:O	1:B:168:THR:HG22	1.68	0.92
1:D:17:LEU:HD21	1:D:20:VAL:HG11	1.52	0.91
1:A:229:MET:CE	1:A:279:LEU:CD2	2.49	0.91
1:D:328:VAL:O	1:D:332:SER:HB3	1.69	0.91
1:A:240:MET:HB2	1:A:249:ILE:CD1	2.00	0.91
1:B:360:ASN:OD1	1:B:406:CYR:SG	2.28	0.91
1:C:32:LEU:HD23	1:C:40:LEU:HD23	1.53	0.91
1:A:174:GLY:HA3	1:A:210:TRP:CE2	2.06	0.90
1:D:231:ILE:HD13	1:D:237:LEU:HD21	1.49	0.90
1:D:43:ASP:CB	1:D:401:ARG:NH1	2.21	0.90
1:D:413:ARG:HG3	1:D:413:ARG:NH1	1.74	0.90
1:C:117:ARG:HD2	1:C:117:ARG:O	1.72	0.89
1:C:240:MET:HE1	1:C:246:ARG:HB3	1.53	0.89
1:A:399:ARG:HG2	1:B:399:ARG:HE	1.35	0.89
1:C:76:LEU:O	1:C:80:ILE:HG12	1.73	0.89
1:C:154:LEU:N	1:C:154:LEU:HD23	1.87	0.89
1:D:292:THR:O	1:D:293:VAL:CG2	2.21	0.89
1:D:293:VAL:O	1:D:295:PRO:HD3	1.73	0.88
1:D:257:PHE:CE2	1:D:308:PRO:HD3	2.08	0.88
1:D:186:ARG:HG2	1:D:186:ARG:NH1	1.82	0.88
1:D:274:ARG:HA	1:D:274:ARG:NE	1.84	0.88
1:B:217:ASP:O	1:B:218:HIS:HB2	1.70	0.88
1:C:14:ALA:O	1:C:366:PRO:HD3	1.72	0.88
1:D:343:THR:HG22	1:D:357:ASP:HA	1.55	0.87
1:A:171:ILE:HG23	1:A:230:PRO:HB3	1.54	0.87
1:C:107:LEU:HD11	1:C:155:LEU:HD22	1.55	0.87
1:B:294:PHE:CD2	1:B:297:VAL:HG23	2.08	0.87
1:C:77:THR:HG23	1:C:116:PRO:O	1.73	0.87
1:A:31:ARG:HG2	1:A:31:ARG:HH11	1.38	0.86
1:B:309:ASP:O	1:B:315:GLY:HA2	1.76	0.86
1:D:43:ASP:HB3	1:D:401:ARG:HH12	1.40	0.86
1:C:294:PHE:CE1	1:C:297:VAL:HG23	2.10	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:231:ILE:HD11	1:D:235:VAL:CG1	2.06	0.85
1:D:43:ASP:HA	1:D:401:ARG:HH22	1.41	0.85
1:C:28:ALA:CA	1:C:125:GLY:HA2	2.06	0.85
1:D:292:THR:C	1:D:293:VAL:HG23	1.97	0.85
1:B:242:GLU:CB	1:B:275:ALA:HA	2.05	0.85
1:A:269:GLY:HA3	1:D:148:LEU:CD1	2.07	0.85
1:D:306:LEU:HD12	1:D:318:ILE:HB	1.58	0.85
1:A:86:LEU:HD12	1:A:90:LEU:HG	1.57	0.84
1:D:41:LEU:HD11	1:D:182:TRP:CD1	2.12	0.84
1:B:124:ILE:HG23	1:B:161:THR:HG21	1.59	0.84
1:C:294:PHE:HE1	1:C:296:GLU:HG2	1.42	0.84
1:D:413:ARG:HH11	1:D:413:ARG:CG	1.90	0.84
1:D:343:THR:HG21	1:D:358:GLY:H	1.39	0.84
1:D:17:LEU:HD11	1:D:20:VAL:CG1	2.08	0.84
1:D:199:HIS:CE1	1:D:201:GLU:HB2	2.13	0.84
1:B:17:LEU:CD1	1:B:413:ARG:NH1	2.41	0.83
1:C:295:PRO:HG3	1:C:342:GLU:HB2	1.60	0.83
1:D:293:VAL:HG13	1:D:298:VAL:HG21	1.59	0.83
1:D:237:LEU:N	1:D:237:LEU:HD23	1.94	0.82
1:D:14:ALA:O	1:D:366:PRO:CD	2.27	0.82
1:D:401:ARG:HB2	1:D:406:CYR:H32	1.59	0.82
1:C:28:ALA:HA	1:C:125:GLY:HA2	1.60	0.82
1:C:294:PHE:CE1	1:C:296:GLU:HG2	2.15	0.82
1:B:294:PHE:HD2	1:B:297:VAL:CG2	1.93	0.81
1:C:364:LEU:HD12	1:C:368:VAL:CG1	2.09	0.81
1:C:229:MET:HB2	1:C:237:LEU:HB2	1.62	0.81
1:C:313:PRO:HB2	1:C:314:TYR:CE1	2.15	0.81
1:B:295:PRO:HG3	1:B:342:GLU:HB3	1.59	0.81
1:D:292:THR:C	1:D:293:VAL:CG2	2.49	0.81
1:A:240:MET:HB2	1:A:249:ILE:HD12	1.62	0.81
1:B:336:LYS:O	1:B:337:LYS:HB3	1.79	0.81
1:C:137:GLY:O	1:C:141:LEU:HD23	1.80	0.81
1:C:312:SER:CB	1:C:316:MET:O	2.29	0.80
1:A:180:MET:HE1	1:A:224:GLU:HG2	1.62	0.80
1:C:101:LEU:C	1:C:101:LEU:CD1	2.50	0.80
1:B:142:LYS:CD	1:B:145:ARG:HH22	1.94	0.80
1:C:85:ALA:HB2	1:C:198:PHE:CD1	2.17	0.80
1:D:343:THR:CG2	1:D:357:ASP:HA	2.11	0.80
1:A:103:LEU:HD13	1:A:154:LEU:HD11	1.65	0.79
1:D:186:ARG:CG	1:D:186:ARG:NH1	2.33	0.79
1:A:269:GLY:HA3	1:D:148:LEU:HD11	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:169:CYS:O	1:A:175:VAL:HG23	1.82	0.79
1:C:257:PHE:CZ	1:C:308:PRO:HD3	2.18	0.79
1:A:290:LEU:HD22	1:A:291:VAL:N	1.96	0.79
1:C:85:ALA:HB2	1:C:198:PHE:CG	2.18	0.79
1:D:231:ILE:HD11	1:D:235:VAL:HG11	1.65	0.79
1:B:167:THR:O	1:B:168:THR:HG23	1.83	0.78
1:D:107:LEU:HD22	1:D:107:LEU:O	1.82	0.78
1:B:245:SER:O	1:B:249:ILE:HG13	1.83	0.78
1:C:312:SER:HB2	1:C:316:MET:O	1.84	0.78
1:D:257:PHE:CZ	1:D:308:PRO:HD3	2.19	0.78
1:A:80:ILE:HD11	1:A:120:ALA:HB2	1.64	0.78
1:D:80:ILE:HG22	1:D:86:LEU:HG	1.64	0.78
1:A:213:ASP:OD1	1:A:215:ASP:HB2	1.84	0.78
1:B:142:LYS:CD	1:B:145:ARG:NH2	2.47	0.78
1:A:272:LYS:HG2	1:D:149:GLY:O	1.83	0.78
1:A:381:LEU:HA	1:A:384:LYS:HG3	1.65	0.78
1:B:101:LEU:HD11	1:C:316:MET:HE3	1.65	0.78
1:D:43:ASP:CA	1:D:401:ARG:HH22	1.97	0.78
1:D:103:LEU:HD11	1:D:141:LEU:HD22	1.66	0.78
1:D:309:ASP:OD1	1:D:312:SER:HB2	1.84	0.78
1:A:65:ARG:HB3	1:A:65:ARG:NH1	1.97	0.78
1:D:273:SER:OG	1:D:274:ARG:N	2.15	0.78
1:D:343:THR:HG21	1:D:358:GLY:N	1.99	0.78
1:B:185:ARG:O	1:B:188:GLU:HB2	1.84	0.77
1:B:169:CYS:O	1:B:175:VAL:HG23	1.83	0.77
1:D:293:VAL:HG12	1:D:298:VAL:HG21	1.66	0.77
1:D:231:ILE:CD1	1:D:237:LEU:HD21	2.13	0.77
1:B:70:LEU:HD22	1:B:75:LEU:HD21	1.65	0.77
1:C:290:LEU:CD2	1:C:291:VAL:N	2.47	0.77
1:B:294:PHE:CD2	1:B:297:VAL:CG2	2.67	0.77
1:B:365:GLU:HG2	1:B:368:VAL:HB	1.66	0.77
1:C:199:HIS:CG	1:C:200:PRO:CD	2.67	0.77
1:C:168:THR:HA	1:C:178:ASN:ND2	2.00	0.77
1:D:306:LEU:CD1	1:D:318:ILE:HB	2.13	0.77
1:C:288:ARG:NH1	1:C:416:ILE:HG22	1.98	0.76
1:D:286:CYS:HB2	1:D:290:LEU:HD13	1.66	0.76
1:B:166:ASP:HB3	1:B:226:GLY:H	1.50	0.76
1:B:242:GLU:HB2	1:B:275:ALA:C	2.04	0.76
1:C:290:LEU:HD23	1:C:291:VAL:H	1.50	0.76
1:D:294:PHE:CD2	1:D:297:VAL:HG23	2.20	0.76
1:A:76:LEU:HD22	1:A:80:ILE:HD13	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:193:THR:HG21	1:D:214:PRO:HG2	1.65	0.76
1:A:231:ILE:HD12	1:A:333:LEU:HD13	1.68	0.76
1:A:356:ASP:OD1	1:A:356:ASP:O	2.03	0.76
1:D:286:CYS:HB2	1:D:290:LEU:CD1	2.16	0.76
1:C:286:CYS:SG	1:C:292:THR:HG23	2.26	0.76
1:A:32:LEU:CD2	1:A:40:LEU:HD23	2.16	0.75
1:C:240:MET:CE	1:C:246:ARG:HB3	2.16	0.75
1:A:411:ILE:HG22	1:A:412:VAL:HG23	1.68	0.75
1:C:158:LEU:O	1:C:161:THR:HG23	1.85	0.75
1:C:353:GLU:OE2	1:C:353:GLU:HA	1.87	0.75
1:C:356:ASP:HB2	1:C:375:ASN:OD1	1.86	0.75
1:A:107:LEU:HD11	1:A:155:LEU:HD21	1.69	0.75
1:A:365:GLU:HB2	1:A:366:PRO:HD2	1.68	0.75
1:C:23:CYS:HB3	1:C:162:GLN:HA	1.70	0.74
1:D:72:MET:CE	1:D:192:THR:OG1	2.36	0.74
1:A:24:SER:HA	1:A:55:HIS:CE1	2.21	0.74
1:C:8:LEU:HD12	1:C:205:ALA:HB1	1.68	0.74
1:D:94:ILE:CD1	1:D:107:LEU:HD13	2.18	0.74
1:D:76:LEU:O	1:D:80:ILE:CG1	2.32	0.74
1:A:272:LYS:HE3	1:D:149:GLY:HA3	1.68	0.74
1:A:355:TRP:CZ2	1:B:34:PRO:HG2	2.23	0.74
1:D:18:ARG:HG3	1:D:18:ARG:HH11	1.52	0.73
1:B:349:ALA:N	1:B:352:ARG:HH21	1.85	0.73
1:D:240:MET:HB2	1:D:249:ILE:HD12	1.69	0.73
1:C:293:VAL:O	1:C:295:PRO:HD3	1.88	0.73
1:C:117:ARG:HD2	1:C:117:ARG:C	2.06	0.73
1:A:71:GLU:HG3	1:A:73:HIS:H	1.53	0.73
1:B:167:THR:C	1:B:168:THR:HG23	2.09	0.73
1:D:16:LYS:HD2	1:D:18:ARG:HH12	1.53	0.73
1:A:229:MET:HE1	1:A:279:LEU:CD2	2.19	0.73
1:A:202:PHE:O	1:A:204:ASN:N	2.22	0.73
1:D:178:ASN:HB3	1:D:223:LEU:O	1.88	0.73
1:A:343:THR:HG21	1:A:378:THR:OG1	1.88	0.72
1:B:97:ASP:HB3	1:C:218:HIS:O	1.89	0.72
1:D:157:PRO:O	1:D:159:PRO:HD2	1.89	0.72
1:C:321:GLU:HA	1:C:321:GLU:OE1	1.88	0.72
1:A:99:VAL:HG21	1:A:107:LEU:HD12	1.69	0.72
1:B:14:ALA:O	1:B:366:PRO:HD3	1.89	0.72
1:B:264:ARG:NH1	1:B:305:SER:OG	2.22	0.72
1:A:86:LEU:HD11	1:A:90:LEU:HG	1.70	0.72
1:D:257:PHE:CG	1:D:308:PRO:HG3	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:101:LEU:CD1	1:A:101:LEU:N	2.52	0.72
1:B:17:LEU:CD1	1:B:413:ARG:HH12	2.02	0.72
1:C:365:GLU:HG2	1:C:368:VAL:HB	1.70	0.72
1:A:101:LEU:HD13	1:A:102:GLY:N	2.03	0.72
1:A:158:LEU:HD21	1:A:187:GLN:HB2	1.72	0.72
1:A:206:GLU:O	1:A:207:PHE:HB3	1.89	0.72
1:A:365:GLU:HB2	1:A:366:PRO:CD	2.19	0.72
1:D:27:LEU:HD21	1:D:31:ARG:HH21	1.55	0.71
1:D:273:SER:O	1:D:274:ARG:CB	2.37	0.71
1:B:41:LEU:HD23	1:B:184:ALA:CB	2.19	0.71
1:B:231:ILE:CD1	1:B:333:LEU:HD21	2.19	0.71
1:B:57:ASP:OD1	1:B:61:LYS:HE3	1.89	0.71
1:D:55:HIS:O	1:D:58:PHE:HB3	1.90	0.71
1:D:257:PHE:CD2	1:D:308:PRO:HD3	2.25	0.71
1:A:27:LEU:HD12	1:A:27:LEU:O	1.89	0.71
1:B:64:GLU:OE2	1:B:64:GLU:CA	2.29	0.71
1:B:302:VAL:HB	1:C:148:LEU:HD21	1.73	0.71
1:C:167:THR:C	1:C:178:ASN:ND2	2.44	0.71
1:A:169:CYS:SG	1:A:225:GLY:HA2	2.30	0.70
1:A:312:SER:OG	1:A:313:PRO:HD2	1.91	0.70
1:C:178:ASN:HB2	1:C:180:MET:HE3	1.72	0.70
1:D:54:ASP:HB3	1:D:397:LEU:HD22	1.73	0.70
1:D:139:ASN:O	1:D:143:MET:N	2.24	0.70
1:B:318:ILE:HG23	1:B:318:ILE:O	1.90	0.70
1:C:125:GLY:O	1:C:157:PRO:HB3	1.91	0.70
1:D:57:ASP:OD1	1:D:61:LYS:HE3	1.91	0.70
1:D:59:VAL:HG12	1:D:60:THR:N	2.05	0.70
1:C:185:ARG:O	1:C:188:GLU:HB2	1.91	0.70
1:B:247:GLN:N	1:B:247:GLN:OE1	2.25	0.70
1:B:282:VAL:HB	1:B:294:PHE:HB3	1.73	0.70
1:C:199:HIS:HD2	1:C:201:GLU:H	1.38	0.70
1:A:97:ASP:HB3	1:D:218:HIS:O	1.90	0.69
1:A:223:LEU:HD22	1:A:224:GLU:N	2.06	0.69
1:A:248:ALA:O	1:A:250:GLY:N	2.24	0.69
1:C:290:LEU:HD22	1:C:291:VAL:N	2.08	0.69
1:A:94:ILE:HD13	1:A:107:LEU:HD13	1.74	0.69
1:C:31:ARG:HD2	1:C:157:PRO:HG3	1.73	0.69
1:C:320:ARG:HG2	1:C:320:ARG:HH11	1.57	0.69
1:C:178:ASN:OD1	1:C:223:LEU:HD12	1.91	0.69
1:C:199:HIS:NE2	1:C:200:PRO:HD2	2.08	0.69
1:D:277:MET:O	1:D:277:MET:CG	2.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:101:LEU:HD12	1:C:101:LEU:C	2.09	0.69
1:D:330:ALA:O	1:D:332:SER:N	2.25	0.69
1:D:336:LYS:HD2	1:D:336:LYS:O	1.93	0.69
1:A:314:TYR:HE1	1:A:316:MET:O	1.76	0.69
1:B:94:ILE:HG21	1:B:107:LEU:HD12	1.75	0.69
1:D:139:ASN:O	1:D:143:MET:HB2	1.92	0.69
1:C:295:PRO:CG	1:C:342:GLU:HB2	2.22	0.69
1:B:72:MET:CE	1:B:164:THR:HG22	2.23	0.69
1:D:24:SER:HB3	1:D:55:HIS:ND1	2.08	0.69
1:D:318:ILE:O	1:D:319:ARG:HD3	1.91	0.69
1:A:25:PRO:HA	1:A:29:HIS:HE1	1.56	0.68
1:C:343:THR:OG1	1:C:344:GLY:N	2.23	0.68
1:D:186:ARG:HH11	1:D:186:ARG:HG3	1.57	0.68
1:B:61:LYS:O	1:B:65:ARG:HG3	1.92	0.68
1:C:331:GLU:O	1:C:333:LEU:N	2.26	0.68
1:C:257:PHE:CG	1:C:308:PRO:HG3	2.29	0.68
1:D:70:LEU:HB3	1:D:75:LEU:HD11	1.75	0.68
1:A:65:ARG:HH11	1:A:65:ARG:CB	1.99	0.68
1:A:101:LEU:N	1:A:101:LEU:HD12	2.07	0.68
1:B:86:LEU:CD2	1:B:90:LEU:HG	2.24	0.68
1:C:107:LEU:HD11	1:C:155:LEU:CD2	2.21	0.68
1:B:79:THR:O	1:B:81:GLN:N	2.26	0.68
1:D:365:GLU:CD	1:D:368:VAL:HG21	2.14	0.68
1:B:80:ILE:O	1:B:80:ILE:HG22	1.94	0.68
1:D:43:ASP:HB2	1:D:401:ARG:CZ	2.24	0.67
1:C:85:ALA:O	1:C:88:TRP:HB3	1.94	0.67
1:B:33:THR:HG23	1:B:36:ASN:ND2	2.09	0.67
1:B:73:HIS:CD2	1:B:124:ILE:HD12	2.29	0.67
1:B:370:VAL:HG22	1:B:390:ILE:HB	1.75	0.67
1:C:21:MET:O	1:C:22:VAL:CG1	2.43	0.67
1:C:240:MET:HB2	1:C:249:ILE:HD12	1.75	0.67
1:B:182:TRP:O	1:B:184:ALA:N	2.27	0.67
1:B:182:TRP:C	1:B:184:ALA:H	1.98	0.67
1:C:23:CYS:HA	1:C:71:GLU:OE2	1.94	0.67
1:C:85:ALA:HA	1:C:198:PHE:CZ	2.30	0.67
1:A:178:ASN:HB3	1:A:223:LEU:O	1.94	0.67
1:B:399:ARG:HG2	1:B:399:ARG:NH1	2.06	0.67
1:C:141:LEU:HD22	1:C:141:LEU:N	2.10	0.67
1:C:154:LEU:N	1:C:154:LEU:CD2	2.57	0.67
1:A:74:ASN:O	1:A:77:THR:HB	1.95	0.67
1:D:394:ALA:O	1:D:396:GLU:N	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:114:LEU:HD13	1:D:118:LYS:HG2	1.77	0.67
1:D:294:PHE:CE2	1:D:297:VAL:HG23	2.30	0.67
1:A:86:LEU:HD12	1:A:86:LEU:O	1.95	0.66
1:B:90:LEU:HD22	1:B:94:ILE:CD1	2.19	0.66
1:B:360:ASN:ND2	1:B:405:HIS:HB3	2.10	0.66
1:C:163:PHE:CE2	1:C:406:CYR:HC2	2.29	0.66
1:D:27:LEU:HA	1:D:30:GLN:HE21	1.59	0.66
1:D:264:ARG:NH1	1:D:305:SER:OG	2.28	0.66
1:A:54:ASP:HB2	1:A:397:LEU:HD22	1.77	0.66
1:B:246:ARG:HG2	1:B:247:GLN:OE1	1.95	0.66
1:B:323:LYS:HB3	1:B:327:GLU:OE1	1.95	0.66
1:D:227:ASP:O	1:D:238:ILE:HA	1.95	0.66
1:D:401:ARG:NH1	1:D:401:ARG:CG	2.46	0.66
1:A:54:ASP:HB2	1:A:397:LEU:CD2	2.26	0.66
1:C:331:GLU:O	1:C:334:GLY:N	2.26	0.66
1:A:107:LEU:O	1:A:107:LEU:HD22	1.96	0.66
1:C:141:LEU:N	1:C:141:LEU:CD2	2.59	0.66
1:C:290:LEU:HD23	1:C:291:VAL:N	2.08	0.66
1:D:360:ASN:ND2	1:D:405:HIS:HB3	2.10	0.66
1:C:154:LEU:O	1:C:155:LEU:HD13	1.96	0.65
1:D:309:ASP:OD1	1:D:312:SER:CB	2.43	0.65
1:A:314:TYR:CD2	1:D:102:GLY:HA2	2.32	0.65
1:D:365:GLU:CD	1:D:368:VAL:CG2	2.65	0.65
1:A:88:TRP:HZ3	1:A:194:ALA:HB2	1.60	0.65
1:D:18:ARG:HH11	1:D:18:ARG:CG	2.08	0.65
1:A:303:PRO:HG3	1:A:328:VAL:HG21	1.78	0.65
1:B:94:ILE:CG2	1:B:107:LEU:HD12	2.26	0.65
1:C:140:ILE:HG22	1:C:144:TYR:CE2	2.32	0.65
1:C:162:GLN:O	1:C:162:GLN:HG2	1.96	0.65
1:C:85:ALA:O	1:C:88:TRP:N	2.29	0.65
1:C:302:VAL:HG12	1:C:304:PHE:CE2	2.31	0.65
1:A:174:GLY:HA3	1:A:210:TRP:CZ2	2.32	0.65
1:C:9:GLY:HA2	1:C:172:TYR:O	1.97	0.65
1:D:94:ILE:CD1	1:D:107:LEU:CD1	2.75	0.65
1:D:240:MET:HB2	1:D:249:ILE:CD1	2.26	0.65
1:A:229:MET:CE	1:A:279:LEU:HG	2.27	0.65
1:B:282:VAL:O	1:B:293:VAL:HA	1.97	0.65
1:D:306:LEU:HD12	1:D:318:ILE:CB	2.27	0.65
1:D:379:ASN:O	1:D:383:ARG:HD2	1.96	0.65
1:A:293:VAL:HG23	1:A:294:PHE:N	2.10	0.65
1:D:89:ILE:HG22	1:D:90:LEU:HD23	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:31:ARG:HG2	1:A:31:ARG:NH1	2.12	0.64
1:B:107:LEU:HD13	1:B:107:LEU:C	2.17	0.64
1:D:331:GLU:O	1:D:331:GLU:HG2	1.97	0.64
1:A:33:THR:HG22	1:A:36:ASN:CG	2.18	0.64
1:A:59:VAL:HG12	1:A:63:ARG:NH1	2.11	0.64
1:B:142:LYS:HD3	1:B:145:ARG:HH22	1.62	0.64
1:B:140:ILE:HD11	1:C:318:ILE:HG21	1.79	0.64
1:B:211:TYR:HB3	1:B:252:VAL:HG22	1.78	0.64
1:B:231:ILE:HD12	1:B:333:LEU:HD21	1.79	0.64
1:C:168:THR:CA	1:C:178:ASN:ND2	2.61	0.64
1:C:182:TRP:HE1	1:C:243:ARG:HH11	1.46	0.64
1:C:399:ARG:NH2	1:D:396:GLU:OE1	2.29	0.64
1:A:278:HIS:O	1:A:281:THR:HB	1.96	0.64
1:C:135:SER:O	1:C:139:ASN:HB2	1.97	0.64
1:B:290:LEU:HD23	1:B:339:ARG:O	1.98	0.64
1:D:365:GLU:OE1	1:D:368:VAL:HG21	1.98	0.64
1:C:101:LEU:CD1	1:C:102:GLY:N	2.61	0.64
1:D:80:ILE:CG2	1:D:86:LEU:HG	2.27	0.64
1:A:174:GLY:HA3	1:A:210:TRP:NE1	2.13	0.63
1:C:21:MET:O	1:C:22:VAL:HG12	1.98	0.63
1:D:383:ARG:HA	1:D:387:VAL:O	1.96	0.63
1:D:17:LEU:HD11	1:D:20:VAL:HG13	1.80	0.63
1:A:88:TRP:CZ3	1:A:194:ALA:HB2	2.33	0.63
1:A:169:CYS:O	1:A:175:VAL:CG2	2.46	0.63
1:A:72:MET:CE	1:A:192:THR:OG1	2.46	0.63
1:A:356:ASP:HB2	1:A:375:ASN:OD1	1.98	0.63
1:B:238:ILE:HG22	1:B:249:ILE:HD13	1.80	0.63
1:B:349:ALA:N	1:B:352:ARG:NH2	2.47	0.63
1:C:27:LEU:O	1:C:30:GLN:N	2.29	0.63
1:C:272:LYS:C	1:C:272:LYS:HD2	2.17	0.63
1:C:314:TYR:N	1:C:314:TYR:CD1	2.65	0.63
1:C:380:THR:O	1:C:384:LYS:HB2	1.99	0.63
1:D:80:ILE:HG21	1:D:119:LEU:HD23	1.80	0.63
1:A:248:ALA:O	1:A:249:ILE:C	2.36	0.63
1:B:294:PHE:CE2	1:B:297:VAL:HG23	2.33	0.63
1:C:399:ARG:HH21	1:D:396:GLU:CD	2.02	0.63
1:C:17:LEU:HD21	1:C:20:VAL:HG11	1.80	0.63
1:B:80:ILE:O	1:B:80:ILE:CG2	2.47	0.63
1:C:90:LEU:HD22	1:C:94:ILE:HD11	1.81	0.63
1:C:140:ILE:HA	1:C:143:MET:CE	2.25	0.63
1:A:362:VAL:C	1:A:369:VAL:HG23	2.19	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:56:PHE:O	1:D:57:ASP:C	2.35	0.62
1:D:72:MET:HE1	1:D:192:THR:OG1	1.98	0.62
1:B:166:ASP:HA	1:B:225:GLY:HA3	1.80	0.62
1:C:399:ARG:NH2	1:D:396:GLU:CD	2.52	0.62
1:D:82:ASN:OD1	1:D:82:ASN:C	2.37	0.62
1:A:102:GLY:HA2	1:D:314:TYR:CE2	2.33	0.62
1:A:180:MET:HE3	1:A:180:MET:HA	1.81	0.62
1:A:101:LEU:HD12	1:A:101:LEU:H	1.64	0.62
1:B:9:GLY:HA2	1:B:172:TYR:O	1.98	0.62
1:B:211:TYR:CB	1:B:252:VAL:HG22	2.30	0.62
1:A:142:LYS:HB3	1:A:145:ARG:HH21	1.65	0.62
1:A:116:PRO:O	1:A:118:LYS:N	2.33	0.62
1:A:124:ILE:HG23	1:A:161:THR:HG21	1.82	0.62
1:A:399:ARG:CG	1:B:399:ARG:HE	2.11	0.62
1:A:304:PHE:CE1	1:D:144:TYR:CE1	2.87	0.62
1:B:161:THR:O	1:B:163:PHE:N	2.33	0.62
1:B:222:THR:O	1:B:244:SER:HA	1.99	0.62
1:C:34:PRO:HD3	1:C:45:VAL:HG21	1.81	0.62
1:C:168:THR:HA	1:C:178:ASN:HD21	1.64	0.62
1:C:179:PRO:O	1:C:222:THR:HA	2.00	0.62
1:D:187:GLN:OE1	1:D:187:GLN:HA	2.00	0.61
1:A:303:PRO:CG	1:A:328:VAL:HG21	2.30	0.61
1:B:403:GLY:O	1:B:407:MET:HG3	1.99	0.61
1:C:245:SER:O	1:C:249:ILE:HG13	2.00	0.61
1:D:223:LEU:HD23	1:D:224:GLU:N	2.15	0.61
1:D:352:ARG:NH1	1:D:352:ARG:HB2	2.12	0.61
1:C:323:LYS:HB3	1:C:327:GLU:CB	2.30	0.61
1:C:381:LEU:HD23	1:C:381:LEU:N	2.16	0.61
1:A:180:MET:CE	1:A:180:MET:HA	2.30	0.61
1:C:293:VAL:HG13	1:C:298:VAL:HG21	1.83	0.61
1:D:20:VAL:HG12	1:D:410:PRO:HA	1.81	0.61
1:A:229:MET:CE	1:A:279:LEU:CG	2.78	0.61
1:C:364:LEU:HD12	1:C:368:VAL:HG12	1.83	0.61
1:A:55:HIS:O	1:A:59:VAL:HG23	1.99	0.61
1:D:22:VAL:HA	1:D:164:THR:HG21	1.83	0.61
1:A:279:LEU:C	1:A:281:THR:H	2.02	0.61
1:C:178:ASN:HB3	1:C:223:LEU:O	2.01	0.61
1:A:231:ILE:HD11	1:A:235:VAL:HG11	1.83	0.61
1:A:72:MET:HE2	1:A:192:THR:OG1	2.01	0.60
1:A:304:PHE:CZ	1:D:144:TYR:CE1	2.89	0.60
1:D:352:ARG:CB	1:D:352:ARG:CZ	2.78	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:145:ARG:HG2	1:B:146:GLU:N	2.14	0.60
1:C:245:SER:O	1:C:249:ILE:CG1	2.49	0.60
1:D:19:LYS:HD3	1:D:70:LEU:HD11	1.84	0.60
1:D:25:PRO:HA	1:D:29:HIS:CE1	2.36	0.60
1:D:304:PHE:CE1	1:D:320:ARG:HG3	2.36	0.60
1:A:356:ASP:OD1	1:A:356:ASP:C	2.39	0.60
1:B:98:SER:OG	1:B:99:VAL:HG23	2.02	0.60
1:C:27:LEU:O	1:C:29:HIS:N	2.34	0.60
1:D:63:ARG:O	1:D:65:ARG:N	2.34	0.60
1:D:141:LEU:HD23	1:D:154:LEU:HD21	1.83	0.60
1:D:27:LEU:HA	1:D:30:GLN:NE2	2.17	0.60
1:A:362:VAL:O	1:A:369:VAL:HG23	2.00	0.60
1:D:223:LEU:HD23	1:D:223:LEU:C	2.22	0.60
1:A:40:LEU:O	1:A:41:LEU:HB2	2.00	0.60
1:A:91:ASP:OD1	1:A:108:ARG:NH1	2.34	0.60
1:B:73:HIS:NE2	1:B:124:ILE:HD12	2.17	0.60
1:B:99:VAL:HG12	1:B:103:LEU:HB2	1.84	0.60
1:B:231:ILE:HG21	1:B:237:LEU:CD1	2.30	0.60
1:C:111:LEU:O	1:C:113:SER:N	2.35	0.60
1:A:17:LEU:HD21	1:A:20:VAL:CG1	2.32	0.60
1:C:169:CYS:SG	1:C:225:GLY:HA2	2.42	0.60
1:C:33:THR:O	1:C:36:ASN:N	2.35	0.59
1:C:168:THR:CA	1:C:178:ASN:HD21	2.15	0.59
1:D:223:LEU:HD12	1:D:252:VAL:HG21	1.84	0.59
1:A:286:CYS:HB2	1:A:290:LEU:CD1	2.32	0.59
1:C:17:LEU:HD21	1:C:20:VAL:CG1	2.32	0.59
1:C:264:ARG:HD3	1:C:307:ARG:NH2	2.16	0.59
1:D:63:ARG:C	1:D:65:ARG:H	2.06	0.59
1:B:242:GLU:OE1	1:B:276:ALA:HA	2.02	0.59
1:A:41:LEU:HD11	1:A:182:TRP:CG	2.38	0.59
1:C:319:ARG:HG2	1:C:319:ARG:HH11	0.67	0.59
1:D:103:LEU:CD1	1:D:141:LEU:CD2	2.81	0.59
1:D:158:LEU:O	1:D:160:ASN:N	2.35	0.59
1:B:304:PHE:CE1	1:B:320:ARG:HG3	2.37	0.59
1:C:303:PRO:HB2	1:C:321:GLU:HB2	1.85	0.59
1:C:312:SER:O	1:C:314:TYR:N	2.36	0.59
1:D:17:LEU:HD21	1:D:20:VAL:CG1	2.31	0.59
1:A:137:GLY:O	1:A:140:ILE:HG12	2.03	0.59
1:A:227:ASP:O	1:A:238:ILE:HA	2.03	0.59
1:D:145:ARG:HA	1:D:150:HIS:H	1.66	0.59
1:A:75:LEU:HA	1:A:78:GLU:HG3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:223:LEU:HD22	1:A:224:GLU:H	1.68	0.59
1:A:280:ALA:HB1	1:A:405:HIS:ND1	2.17	0.59
1:B:17:LEU:HB2	1:B:413:ARG:HH12	1.68	0.59
1:B:312:SER:OG	1:B:313:PRO:HD2	2.02	0.59
1:C:54:ASP:O	1:C:57:ASP:HB3	2.02	0.59
1:A:36:ASN:C	1:A:36:ASN:OD1	2.39	0.59
1:D:199:HIS:ND1	1:D:201:GLU:HB2	2.17	0.59
1:D:287:ASP:HB2	1:D:290:LEU:CB	2.33	0.59
1:A:240:MET:HE1	1:A:246:ARG:HB2	1.85	0.58
1:B:33:THR:HG23	1:B:36:ASN:HD21	1.66	0.58
1:C:128:ALA:HB3	1:C:131:ASP:OD2	2.03	0.58
1:A:304:PHE:CE1	1:D:144:TYR:HE1	2.21	0.58
1:B:72:MET:HE3	1:B:164:THR:HG22	1.84	0.58
1:D:43:ASP:C	1:D:43:ASP:OD1	2.40	0.58
1:D:103:LEU:CD1	1:D:141:LEU:HD22	2.32	0.58
1:D:243:ARG:NH2	1:D:406:CYR:O1	2.36	0.58
1:B:15:GLY:HA3	1:B:414:ASP:O	2.03	0.58
1:C:27:LEU:HA	1:C:30:GLN:OE1	2.03	0.58
1:C:290:LEU:HD23	1:C:339:ARG:O	2.03	0.58
1:C:331:GLU:HG3	1:C:332:SER:N	2.18	0.58
1:D:111:LEU:O	1:D:119:LEU:HD13	2.03	0.58
1:D:169:CYS:SG	1:D:225:GLY:CA	2.89	0.58
1:A:25:PRO:CA	1:A:29:HIS:CE1	2.83	0.58
1:A:70:LEU:HD13	1:A:75:LEU:HD11	1.85	0.58
1:B:238:ILE:CG2	1:B:249:ILE:HD13	2.34	0.58
1:B:399:ARG:HH11	1:B:399:ARG:CG	2.07	0.58
1:D:401:ARG:CB	1:D:406:CYR:H32	2.30	0.58
1:B:217:ASP:O	1:B:218:HIS:CB	2.45	0.58
1:C:77:THR:CG2	1:C:116:PRO:O	2.49	0.58
1:C:158:LEU:N	1:C:159:PRO:CD	2.67	0.58
1:D:76:LEU:CD2	1:D:80:ILE:CD1	2.67	0.58
1:B:23:CYS:HB2	1:B:72:MET:HE3	1.85	0.58
1:B:29:HIS:NE2	1:B:159:PRO:O	2.37	0.58
1:A:84:GLU:O	1:A:88:TRP:HB2	2.04	0.58
1:A:246:ARG:HA	1:A:249:ILE:HB	1.86	0.58
1:B:210:TRP:CH2	1:B:261:ALA:HB2	2.39	0.58
1:B:216:LYS:HD3	1:B:218:HIS:CD2	2.39	0.58
1:D:95:THR:HG23	1:D:98:SER:OG	2.04	0.58
1:D:284:SER:O	1:D:291:VAL:HG12	2.04	0.58
1:D:22:VAL:CA	1:D:164:THR:HG21	2.33	0.57
1:C:199:HIS:CG	1:C:200:PRO:HD2	2.29	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:372:TYR:CG	1:C:394:ALA:HB2	2.39	0.57
1:D:43:ASP:CA	1:D:401:ARG:NH2	2.67	0.57
1:D:294:PHE:CD2	1:D:297:VAL:CG2	2.87	0.57
1:D:160:ASN:HB3	1:D:185:ARG:NE	2.18	0.57
1:D:336:LYS:HD2	1:D:336:LYS:C	2.22	0.57
1:A:86:LEU:HD12	1:A:86:LEU:C	2.24	0.57
1:C:154:LEU:HD23	1:C:154:LEU:H	1.70	0.57
1:C:199:HIS:CD2	1:C:201:GLU:H	2.21	0.57
1:B:171:ILE:HG23	1:B:230:PRO:HG3	1.86	0.57
1:C:331:GLU:CG	1:C:332:SER:N	2.67	0.57
1:A:248:ALA:O	1:A:251:GLN:N	2.38	0.57
1:A:358:GLY:HA3	1:A:378:THR:HG21	1.87	0.57
1:C:27:LEU:HB3	1:C:125:GLY:HA3	1.86	0.57
1:A:290:LEU:HD22	1:A:290:LEU:C	2.25	0.57
1:C:111:LEU:C	1:C:113:SER:N	2.58	0.57
1:D:16:LYS:CD	1:D:18:ARG:HH12	2.17	0.57
1:D:17:LEU:HB2	1:D:413:ARG:HH12	1.70	0.57
1:D:285:PHE:HA	1:D:291:VAL:HG12	1.86	0.57
1:A:31:ARG:HH11	1:A:31:ARG:CG	2.15	0.57
1:B:77:THR:HG23	1:B:117:ARG:HA	1.87	0.57
1:B:221:SER:OG	1:B:247:GLN:HB2	2.05	0.57
1:C:158:LEU:HB3	1:C:161:THR:HG23	1.86	0.57
1:A:167:THR:HG21	1:A:188:GLU:HB2	1.85	0.57
1:C:278:HIS:O	1:C:281:THR:HG22	2.05	0.57
1:D:167:THR:C	1:D:168:THR:HG23	2.25	0.56
1:D:330:ALA:C	1:D:332:SER:H	2.07	0.56
1:C:323:LYS:HB3	1:C:327:GLU:HB3	1.86	0.56
1:D:293:VAL:O	1:D:295:PRO:CD	2.50	0.56
1:A:355:TRP:CH2	1:B:34:PRO:HG2	2.41	0.56
1:B:88:TRP:NE1	1:B:92:ARG:NH2	2.53	0.56
1:C:27:LEU:HD21	1:C:31:ARG:NH2	2.20	0.56
1:C:43:ASP:HB2	1:C:401:ARG:HH21	1.68	0.56
1:D:63:ARG:NH1	1:D:63:ARG:HG2	2.20	0.56
1:B:171:ILE:HA	1:B:230:PRO:HG3	1.87	0.56
1:A:25:PRO:HG3	1:A:162:GLN:OE1	2.04	0.56
1:A:237:LEU:O	1:A:238:ILE:HG13	2.05	0.56
1:B:33:THR:O	1:B:37:CYS:HB3	2.05	0.56
1:C:240:MET:HB2	1:C:249:ILE:CD1	2.36	0.56
1:D:181:TYR:HA	1:D:222:THR:HG21	1.87	0.56
1:D:401:ARG:NH1	1:D:401:ARG:HG2	2.07	0.56
1:A:202:PHE:C	1:A:204:ASN:H	2.09	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:137:GLY:O	1:D:140:ILE:HG13	2.06	0.56
1:B:241:GLY:HA3	1:B:270:LEU:HD12	1.88	0.56
1:C:329:VAL:HG12	1:C:338:LEU:HD11	1.88	0.56
1:A:331:GLU:O	1:A:331:GLU:HG2	2.06	0.56
1:D:158:LEU:O	1:D:161:THR:HG23	2.07	0.56
1:A:267:VAL:HB	1:A:304:PHE:HB2	1.88	0.55
1:B:298:VAL:O	1:B:301:ILE:HG13	2.06	0.55
1:B:358:GLY:HA3	1:B:378:THR:HG21	1.86	0.55
1:A:297:VAL:O	1:A:301:ILE:HG22	2.06	0.55
1:B:318:ILE:HG21	1:C:140:ILE:HD13	1.88	0.55
1:C:145:ARG:O	1:C:145:ARG:HG2	2.04	0.55
1:D:252:VAL:O	1:D:256:LEU:HG	2.07	0.55
1:D:287:ASP:HB2	1:D:290:LEU:HB2	1.88	0.55
1:D:366:PRO:CG	1:D:416:ILE:HD11	2.35	0.55
1:B:36:ASN:O	1:B:40:LEU:HB2	2.07	0.55
1:C:111:LEU:C	1:C:113:SER:H	2.08	0.55
1:D:94:ILE:HD12	1:D:107:LEU:HD13	1.88	0.55
1:D:160:ASN:HB2	1:D:188:GLU:OE2	2.06	0.55
1:D:286:CYS:SG	1:D:292:THR:HG23	2.46	0.55
1:A:75:LEU:HD22	1:A:199:HIS:CD2	2.42	0.55
1:B:94:ILE:HD13	1:B:107:LEU:CD1	2.37	0.55
1:C:103:LEU:HD12	1:C:103:LEU:N	2.20	0.55
1:C:302:VAL:HG12	1:C:304:PHE:HE2	1.71	0.55
1:C:320:ARG:HG2	1:C:320:ARG:NH1	2.18	0.55
1:A:18:ARG:HB2	1:A:412:VAL:O	2.07	0.55
1:A:59:VAL:CG1	1:A:63:ARG:NH1	2.70	0.55
1:B:110:TRP:O	1:B:111:LEU:C	2.45	0.55
1:C:140:ILE:HG22	1:C:144:TYR:CZ	2.41	0.55
1:C:395:SER:HB3	1:D:395:SER:HB3	1.89	0.55
1:A:33:THR:OG1	1:A:34:PRO:HD2	2.07	0.55
1:A:268:ALA:HB1	1:A:301:ILE:CD1	2.36	0.55
1:C:364:LEU:HD12	1:C:368:VAL:HG11	1.88	0.55
1:D:27:LEU:HB3	1:D:125:GLY:HA3	1.89	0.55
1:D:140:ILE:HA	1:D:143:MET:CB	2.36	0.55
1:A:269:GLY:CA	1:D:148:LEU:HD13	2.36	0.55
1:B:12:SER:HA	1:B:230:PRO:O	2.07	0.55
1:D:277:MET:O	1:D:277:MET:HG2	2.07	0.55
1:A:62:MET:O	1:A:64:GLU:N	2.40	0.55
1:B:79:THR:C	1:B:81:GLN:H	2.10	0.55
1:B:358:GLY:O	1:B:361:VAL:HG13	2.07	0.55
1:C:110:TRP:O	1:C:113:SER:OG	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:57:ASP:OD1	1:D:61:LYS:CE	2.54	0.55
1:A:19:LYS:HD2	1:A:411:ILE:CG2	2.38	0.54
1:A:116:PRO:O	1:A:117:ARG:C	2.46	0.54
1:D:330:ALA:C	1:D:332:SER:N	2.58	0.54
1:B:77:THR:HG21	1:B:117:ARG:HG2	1.88	0.54
1:A:9:GLY:O	1:A:412:VAL:HA	2.08	0.54
1:A:34:PRO:HD3	1:A:45:VAL:HG21	1.88	0.54
1:B:148:LEU:HD11	1:C:269:GLY:HA3	1.88	0.54
1:B:231:ILE:HG21	1:B:237:LEU:HD12	1.89	0.54
1:D:240:MET:HG3	1:D:241:GLY:N	2.22	0.54
1:A:86:LEU:HD11	1:A:90:LEU:CG	2.37	0.54
1:B:70:LEU:CB	1:B:75:LEU:HD11	2.29	0.54
1:B:167:THR:C	1:B:168:THR:CG2	2.62	0.54
1:C:33:THR:O	1:C:34:PRO:C	2.45	0.54
1:C:33:THR:N	1:C:36:ASN:OD1	2.40	0.54
1:C:127:VAL:HG12	1:C:127:VAL:O	2.06	0.54
1:C:240:MET:HG2	1:C:241:GLY:N	2.21	0.54
1:C:284:SER:HB2	1:C:292:THR:OG1	2.07	0.54
1:C:396:GLU:OE2	1:D:399:ARG:NH2	2.41	0.54
1:D:17:LEU:HD11	1:D:20:VAL:HG12	1.86	0.54
1:D:63:ARG:HG2	1:D:63:ARG:HH11	1.72	0.54
1:A:192:THR:O	1:A:193:THR:C	2.46	0.54
1:A:246:ARG:NE	1:D:141:LEU:HD11	2.22	0.54
1:A:370:VAL:HA	1:A:390:ILE:O	2.07	0.54
1:B:293:VAL:HG13	1:B:298:VAL:CB	2.36	0.54
1:B:356:ASP:OD1	1:B:356:ASP:O	2.24	0.54
1:C:383:ARG:HG2	1:C:387:VAL:O	2.07	0.54
1:D:168:THR:HG21	1:D:192:THR:HG21	1.88	0.54
1:B:70:LEU:HB3	1:B:75:LEU:CD1	2.29	0.54
1:B:352:ARG:HD2	1:B:355:TRP:HA	1.89	0.54
1:D:43:ASP:OD1	1:D:43:ASP:O	2.26	0.54
1:B:72:MET:HE1	1:B:164:THR:HG22	1.90	0.54
1:B:101:LEU:CD1	1:C:316:MET:HE3	2.36	0.54
1:C:404:GLY:O	1:C:408:THR:HG23	2.07	0.54
1:C:111:LEU:HA	1:C:114:LEU:HD12	1.89	0.54
1:A:240:MET:CE	1:A:246:ARG:HB2	2.38	0.54
1:A:361:VAL:HB	1:A:369:VAL:HG21	1.90	0.54
1:C:78:GLU:CD	1:C:199:HIS:HE1	2.11	0.54
1:C:158:LEU:CB	1:C:161:THR:HG23	2.39	0.54
1:D:133:PRO:O	1:D:134:ALA:C	2.44	0.54
1:D:225:GLY:C	1:D:227:ASP:H	2.12	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:246:ARG:CZ	1:C:141:LEU:HD11	2.38	0.53
1:A:24:SER:CA	1:A:55:HIS:CE1	2.90	0.53
1:A:55:HIS:O	1:A:58:PHE:HB3	2.06	0.53
1:A:73:HIS:CD2	1:A:124:ILE:HD12	2.42	0.53
1:A:324:THR:O	1:A:327:GLU:N	2.42	0.53
1:C:257:PHE:CE2	1:C:308:PRO:HD3	2.43	0.53
1:D:140:ILE:HA	1:D:143:MET:HB2	1.91	0.53
1:A:21:MET:HB3	1:A:409:CYS:HB3	1.89	0.53
1:A:306:LEU:CD1	1:A:318:ILE:HG23	2.15	0.53
1:C:85:ALA:HA	1:C:198:PHE:CE1	2.43	0.53
1:C:287:ASP:O	1:C:288:ARG:C	2.46	0.53
1:C:294:PHE:HD1	1:C:294:PHE:O	1.91	0.53
1:D:141:LEU:C	1:D:143:MET:N	2.60	0.53
1:A:314:TYR:CE1	1:A:316:MET:O	2.61	0.53
1:B:182:TRP:C	1:B:184:ALA:N	2.59	0.53
1:C:252:VAL:HG12	1:C:256:LEU:HD11	1.90	0.53
1:D:397:LEU:HG	1:D:407:MET:SD	2.48	0.53
1:A:138:ALA:O	1:A:141:LEU:HB2	2.09	0.53
1:A:268:ALA:HB1	1:A:301:ILE:HD11	1.91	0.53
1:D:33:THR:O	1:D:35:SER:N	2.41	0.53
1:D:312:SER:OG	1:D:313:PRO:HD2	2.08	0.53
1:D:401:ARG:HB2	1:D:406:CYR:C3	2.34	0.53
1:C:28:ALA:CB	1:C:125:GLY:HA2	2.39	0.53
1:A:122:TYR:O	1:A:126:GLY:N	2.39	0.53
1:C:93:LYS:HE3	1:C:155:LEU:HG	1.91	0.53
1:C:101:LEU:C	1:C:101:LEU:HD13	2.27	0.53
1:C:160:ASN:HB3	1:C:185:ARG:CZ	2.38	0.53
1:C:197:LYS:HE3	1:C:198:PHE:CZ	2.43	0.53
1:D:294:PHE:HD2	1:D:297:VAL:CG2	2.22	0.53
1:A:188:GLU:O	1:A:191:LEU:N	2.42	0.53
1:A:269:GLY:HA3	1:D:148:LEU:HD13	1.88	0.53
1:A:279:LEU:O	1:A:281:THR:N	2.42	0.53
1:B:251:GLN:C	1:B:253:ALA:N	2.60	0.53
1:A:61:LYS:HA	1:A:64:GLU:OE2	2.08	0.53
1:C:213:ASP:OD1	1:C:213:ASP:C	2.47	0.53
1:C:180:MET:CE	1:C:224:GLU:HG2	2.39	0.53
1:A:61:LYS:O	1:A:64:GLU:HG2	2.09	0.52
1:A:229:MET:HE2	1:A:279:LEU:HG	1.90	0.52
1:B:58:PHE:HB2	1:B:392:ILE:HG21	1.91	0.52
1:B:343:THR:OG1	1:B:359:ASN:ND2	2.39	0.52
1:A:213:ASP:OD1	1:A:215:ASP:CB	2.56	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:158:LEU:O	1:B:161:THR:HG23	2.09	0.52
1:C:169:CYS:O	1:C:175:VAL:HA	2.09	0.52
1:C:399:ARG:NH2	1:D:396:GLU:OE2	2.42	0.52
1:D:257:PHE:CE1	1:D:308:PRO:HD3	2.43	0.52
1:D:286:CYS:HB2	1:D:290:LEU:HD12	1.91	0.52
1:D:287:ASP:CB	1:D:290:LEU:HB2	2.39	0.52
1:A:295:PRO:HG3	1:A:342:GLU:CD	2.29	0.52
1:C:71:GLU:HG3	1:C:73:HIS:H	1.75	0.52
1:C:90:LEU:HD22	1:C:94:ILE:CD1	2.39	0.52
1:C:107:LEU:CD2	1:C:127:VAL:HG11	2.30	0.52
1:B:17:LEU:CD1	1:B:413:ARG:HH11	2.22	0.52
1:A:10:VAL:HG12	1:A:10:VAL:O	2.09	0.52
1:B:237:LEU:HD23	1:B:266:ILE:HB	1.91	0.52
1:B:254:GLN:HB3	1:B:316:MET:HE1	1.92	0.52
1:B:371:GLY:O	1:B:391:THR:HA	2.10	0.52
1:C:264:ARG:HD3	1:C:307:ARG:CZ	2.40	0.52
1:D:114:LEU:CD1	1:D:118:LYS:HG2	2.38	0.52
1:C:85:ALA:CB	1:C:198:PHE:CG	2.90	0.52
1:A:374:ARG:HG2	1:A:375:ASN:N	2.24	0.52
1:B:279:LEU:C	1:B:281:THR:H	2.11	0.52
1:B:324:THR:O	1:B:327:GLU:HB2	2.10	0.52
1:C:177:LEU:CD1	1:C:193:THR:HG23	2.40	0.52
1:A:17:LEU:HD21	1:A:20:VAL:HG11	1.92	0.52
1:A:202:PHE:C	1:A:204:ASN:N	2.62	0.52
1:B:101:LEU:HD11	1:C:316:MET:HE1	1.85	0.52
1:A:36:ASN:OD1	1:A:37:CYS:N	2.43	0.52
1:A:87:LYS:HG2	1:A:91:ASP:OD2	2.09	0.52
1:B:242:GLU:CA	1:B:275:ALA:HA	2.40	0.52
1:C:199:HIS:CG	1:C:200:PRO:HD3	2.45	0.52
1:B:166:ASP:CG	1:B:278:HIS:HE1	2.13	0.51
1:C:57:ASP:OD1	1:C:61:LYS:HE3	2.10	0.51
1:C:238:ILE:HG21	1:C:249:ILE:HG23	1.92	0.51
1:D:377:TYR:O	1:D:380:THR:HB	2.09	0.51
1:C:27:LEU:O	1:C:28:ALA:C	2.48	0.51
1:C:167:THR:O	1:C:178:ASN:ND2	2.44	0.51
1:C:264:ARG:CZ	1:C:266:ILE:HD11	2.41	0.51
1:A:312:SER:OG	1:A:313:PRO:CD	2.57	0.51
1:B:148:LEU:HD22	1:C:271:PRO:HD3	1.93	0.51
1:B:166:ASP:HA	1:B:225:GLY:CA	2.41	0.51
1:B:231:ILE:HD13	1:B:237:LEU:HD11	1.92	0.51
1:C:47:TRP:CZ3	1:D:373:ASP:OD2	2.63	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:218:HIS:O	1:A:219:GLY:C	2.48	0.51
1:A:304:PHE:CZ	1:D:144:TYR:CD1	2.98	0.51
1:D:199:HIS:O	1:D:203:ALA:HB2	2.11	0.51
1:A:19:LYS:HD2	1:A:411:ILE:HG21	1.92	0.51
1:B:143:MET:O	1:B:147:TYR:HB2	2.11	0.51
1:D:72:MET:O	1:D:73:HIS:C	2.48	0.51
1:B:17:LEU:HD13	1:B:413:ARG:HH11	1.68	0.51
1:B:86:LEU:HD22	1:B:90:LEU:HG	1.93	0.51
1:A:56:PHE:O	1:A:57:ASP:C	2.49	0.51
1:A:352:ARG:N	1:A:377:TYR:CD1	2.79	0.51
1:C:133:PRO:O	1:C:134:ALA:O	2.28	0.51
1:C:313:PRO:C	1:C:314:TYR:CD1	2.84	0.51
1:A:180:MET:HE1	1:A:224:GLU:CD	2.31	0.51
1:A:372:TYR:HB2	1:A:375:ASN:ND2	2.26	0.51
1:B:140:ILE:HD11	1:C:318:ILE:CG2	2.40	0.51
1:B:50:GLN:NE2	1:B:54:ASP:OD1	2.43	0.51
1:C:79:THR:HG23	1:C:198:PHE:HB2	1.93	0.51
1:D:181:TYR:HA	1:D:222:THR:CG2	2.41	0.51
1:C:10:VAL:HG13	1:C:413:ARG:HB3	1.93	0.50
1:C:370:VAL:HG22	1:C:390:ILE:HB	1.93	0.50
1:C:10:VAL:HG21	1:C:410:PRO:HB2	1.93	0.50
1:C:168:THR:N	1:C:178:ASN:ND2	2.59	0.50
1:D:199:HIS:HE1	1:D:201:GLU:HB2	1.71	0.50
1:D:366:PRO:HG2	1:D:416:ILE:HD11	1.92	0.50
1:A:304:PHE:CZ	1:D:144:TYR:HE1	2.28	0.50
1:B:356:ASP:OD1	1:B:356:ASP:C	2.49	0.50
1:D:233:ASN:CG	1:D:233:ASN:O	2.50	0.50
1:A:17:LEU:HD12	1:A:18:ARG:H	1.77	0.50
1:A:279:LEU:C	1:A:281:THR:N	2.65	0.50
1:B:360:ASN:CG	1:B:406:CYR:SG	2.88	0.50
1:A:29:HIS:CD2	1:A:46:ILE:HD11	2.46	0.50
1:A:158:LEU:O	1:A:161:THR:HG23	2.12	0.50
1:B:404:GLY:O	1:B:408:THR:HG23	2.12	0.50
1:D:72:MET:HE2	1:D:192:THR:OG1	2.08	0.50
1:D:140:ILE:O	1:D:144:TYR:N	2.38	0.50
1:D:257:PHE:HB3	1:D:308:PRO:HG3	1.92	0.50
1:D:321:GLU:HA	1:D:321:GLU:OE2	2.12	0.50
1:B:140:ILE:CD1	1:C:318:ILE:HG21	2.42	0.50
1:B:148:LEU:CD1	1:C:269:GLY:HA3	2.42	0.50
1:C:26:GLY:O	1:C:27:LEU:C	2.50	0.50
1:C:290:LEU:CD2	1:C:291:VAL:H	2.15	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:141:LEU:O	1:D:142:LYS:C	2.49	0.50
1:D:167:THR:CG2	1:D:188:GLU:OE1	2.60	0.50
1:D:290:LEU:HD23	1:D:339:ARG:HB2	1.93	0.50
1:A:49:ASN:HB3	1:A:53:ARG:HH12	1.77	0.50
1:D:158:LEU:HB3	1:D:161:THR:HG23	1.94	0.50
1:D:343:THR:HG22	1:D:356:ASP:O	2.11	0.50
1:A:6:THR:O	1:A:205:ALA:HB1	2.12	0.50
1:A:72:MET:O	1:A:76:LEU:HB2	2.11	0.50
1:B:85:ALA:O	1:B:89:ILE:HG13	2.11	0.50
1:B:167:THR:O	1:B:167:THR:HG22	2.12	0.50
1:D:19:LYS:HE2	1:D:68:ASP:OD2	2.12	0.50
1:D:85:ALA:HB2	1:D:198:PHE:CG	2.47	0.50
1:A:234:GLY:HA3	1:A:263:GLU:HG3	1.93	0.49
1:C:212:GLY:O	1:C:213:ASP:HB2	2.12	0.49
1:D:57:ASP:CG	1:D:61:LYS:HE3	2.32	0.49
1:D:165:ARG:HB2	1:D:408:THR:O	2.11	0.49
1:C:185:ARG:NH2	1:C:188:GLU:OE1	2.41	0.49
1:D:140:ILE:O	1:D:143:MET:HB3	2.11	0.49
1:A:176:THR:HA	1:A:211:TYR:O	2.13	0.49
1:A:256:LEU:HD22	1:A:261:ALA:CB	2.41	0.49
1:D:213:ASP:OD1	1:D:215:ASP:HB2	2.13	0.49
1:B:144:TYR:HE1	1:C:304:PHE:CE1	2.31	0.49
1:C:56:PHE:HA	1:C:59:VAL:HB	1.94	0.49
1:C:145:ARG:O	1:C:149:GLY:HA2	2.12	0.49
1:D:225:GLY:O	1:D:227:ASP:N	2.45	0.49
1:B:161:THR:C	1:B:163:PHE:N	2.66	0.49
1:D:279:LEU:O	1:D:282:VAL:HG23	2.12	0.49
1:A:231:ILE:HD11	1:A:235:VAL:CG1	2.43	0.49
1:B:19:LYS:HE3	1:B:201:GLU:OE2	2.12	0.49
1:C:71:GLU:HG3	1:C:73:HIS:HB2	1.95	0.49
1:C:161:THR:HG22	1:C:188:GLU:HG2	1.95	0.49
1:A:34:PRO:HG2	1:B:355:TRP:CZ2	2.48	0.49
1:C:133:PRO:O	1:C:134:ALA:C	2.51	0.49
1:C:163:PHE:CE1	1:C:402:GLY:HA3	2.48	0.49
1:D:41:LEU:CD1	1:D:182:TRP:CD1	2.92	0.49
1:D:71:GLU:OE1	1:D:73:HIS:HB2	2.12	0.49
1:D:321:GLU:HB3	1:D:328:VAL:HG21	1.93	0.49
1:C:33:THR:HB	1:C:36:ASN:CG	2.32	0.49
1:C:232:GLY:O	1:C:233:ASN:CB	2.60	0.49
1:D:167:THR:C	1:D:168:THR:CG2	2.81	0.49
1:D:352:ARG:HB2	1:D:352:ARG:CZ	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:24:SER:HB2	1:B:55:HIS:ND1	2.28	0.49
1:B:211:TYR:CD2	1:B:252:VAL:HG23	2.47	0.49
1:C:312:SER:C	1:C:314:TYR:H	2.17	0.49
1:B:41:LEU:HD23	1:B:184:ALA:HB2	1.92	0.49
1:B:231:ILE:HG13	1:B:333:LEU:HD21	1.94	0.49
1:B:309:ASP:OD2	1:B:311:SER:CB	2.61	0.49
1:A:76:LEU:O	1:A:80:ILE:HG12	2.12	0.48
1:A:286:CYS:HB2	1:A:290:LEU:HD12	1.95	0.48
1:B:81:GLN:O	1:B:83:PRO:HD3	2.13	0.48
1:B:141:LEU:CD1	1:B:154:LEU:HD21	2.42	0.48
1:B:318:ILE:HG21	1:C:140:ILE:CD1	2.43	0.48
1:D:14:ALA:C	1:D:366:PRO:HD3	2.24	0.48
1:D:401:ARG:CB	1:D:406:CYR:C3	2.91	0.48
1:A:92:ARG:HG3	1:A:92:ARG:HH11	1.78	0.48
1:A:294:PHE:HE1	1:A:344:GLY:C	2.16	0.48
1:A:415:PRO:O	1:A:416:ILE:HG13	2.13	0.48
1:B:107:LEU:CD1	1:B:111:LEU:HD12	2.44	0.48
1:C:76:LEU:HD11	1:C:123:LEU:HD12	1.94	0.48
1:C:257:PHE:CE1	1:C:308:PRO:HD3	2.48	0.48
1:C:353:GLU:OE2	1:C:353:GLU:CA	2.58	0.48
1:C:373:ASP:N	1:C:392:ILE:O	2.45	0.48
1:D:240:MET:CB	1:D:249:ILE:HD12	2.40	0.48
1:D:318:ILE:HG12	1:D:319:ARG:N	2.28	0.48
1:A:238:ILE:HG21	1:A:249:ILE:HG12	1.94	0.48
1:B:161:THR:O	1:B:162:GLN:C	2.51	0.48
1:B:163:PHE:HE2	1:B:406:CYR:HN22	1.60	0.48
1:B:220:SER:HB2	1:B:247:GLN:HE21	1.78	0.48
1:B:231:ILE:CG1	1:B:333:LEU:HD21	2.42	0.48
1:C:38:ASP:O	1:C:41:LEU:HD23	2.12	0.48
1:C:287:ASP:O	1:C:289:ASP:N	2.47	0.48
1:D:266:ILE:HD13	1:D:328:VAL:HG12	1.94	0.48
1:A:352:ARG:N	1:A:377:TYR:CE1	2.82	0.48
1:B:107:LEU:HD13	1:B:108:ARG:N	2.27	0.48
1:B:238:ILE:HG22	1:B:249:ILE:CD1	2.41	0.48
1:A:103:LEU:O	1:A:104:THR:C	2.51	0.48
1:B:41:LEU:HD23	1:B:184:ALA:HB3	1.93	0.48
1:B:303:PRO:HG2	1:B:321:GLU:HB2	1.95	0.48
1:D:18:ARG:CG	1:D:18:ARG:NH1	2.69	0.48
1:D:173:GLY:O	1:D:210:TRP:CZ2	2.67	0.48
1:D:195:ILE:HG22	1:D:196:TYR:N	2.28	0.48
1:A:18:ARG:HH11	1:A:18:ARG:HG2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:188:GLU:O	1:A:189:THR:C	2.51	0.48
1:A:343:THR:CG2	1:A:378:THR:OG1	2.59	0.48
1:B:13:GLU:C	1:B:413:ARG:HE	2.16	0.48
1:C:85:ALA:O	1:C:88:TRP:CB	2.60	0.48
1:C:280:ALA:HA	1:C:283:PHE:O	2.14	0.48
1:D:118:LYS:HG3	1:D:122:TYR:HE2	1.78	0.48
1:D:125:GLY:O	1:D:157:PRO:HB3	2.14	0.48
1:D:401:ARG:NH1	1:D:401:ARG:HG3	2.28	0.48
1:A:70:LEU:HB3	1:A:75:LEU:HD11	1.95	0.48
1:A:372:TYR:HB2	1:A:375:ASN:HD22	1.78	0.48
1:B:40:LEU:HD12	1:B:40:LEU:HA	1.48	0.48
1:B:129:ALA:O	1:B:130:ASP:C	2.52	0.48
1:C:286:CYS:O	1:C:363:CYS:SG	2.72	0.48
1:C:288:ARG:CZ	1:C:416:ILE:HG22	2.44	0.48
1:C:358:GLY:HA3	1:C:378:THR:HG21	1.96	0.48
1:D:309:ASP:O	1:D:310:PRO:C	2.49	0.48
1:B:120:ALA:HA	1:B:123:LEU:HB2	1.95	0.48
1:C:28:ALA:HA	1:C:125:GLY:CA	2.37	0.48
1:C:406:CYR:O1	1:C:406:CYR:C4	2.61	0.48
1:D:199:HIS:O	1:D:203:ALA:CB	2.61	0.48
1:B:111:LEU:HD22	1:B:119:LEU:CD2	2.44	0.48
1:B:148:LEU:CD2	1:C:271:PRO:HD3	2.44	0.48
1:B:150:HIS:NE2	1:C:241:GLY:HA2	2.29	0.48
1:C:158:LEU:O	1:C:160:ASN:N	2.46	0.48
1:D:257:PHE:CB	1:D:308:PRO:HG3	2.43	0.48
1:A:17:LEU:HB2	1:A:413:ARG:HH21	1.79	0.48
1:A:269:GLY:CA	1:D:148:LEU:CD1	2.84	0.48
1:B:373:ASP:OD1	1:B:393:SER:HA	2.14	0.48
1:A:120:ALA:O	1:A:123:LEU:N	2.47	0.47
1:B:356:ASP:HB2	1:B:375:ASN:OD1	2.13	0.47
1:D:20:VAL:HG21	1:D:62:MET:HE1	1.96	0.47
1:D:65:ARG:NH1	1:D:390:ILE:CD1	2.78	0.47
1:D:167:THR:HG21	1:D:188:GLU:HB3	1.96	0.47
1:D:306:LEU:HD11	1:D:318:ILE:HB	1.96	0.47
1:B:279:LEU:HD12	1:B:279:LEU:O	2.13	0.47
1:C:115:GLU:HB2	1:C:118:LYS:NZ	2.29	0.47
1:C:312:SER:OG	1:C:316:MET:O	2.29	0.47
1:D:122:TYR:O	1:D:126:GLY:N	2.43	0.47
1:D:225:GLY:C	1:D:227:ASP:N	2.67	0.47
1:A:33:THR:H	1:A:36:ASN:CG	2.17	0.47
1:A:74:ASN:O	1:A:78:GLU:HG2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:108:ARG:O	1:B:112:GLU:HG3	2.13	0.47
1:B:135:SER:O	1:B:136:GLU:C	2.49	0.47
1:C:142:LYS:O	1:C:146:GLU:HB3	2.14	0.47
1:C:294:PHE:C	1:C:294:PHE:CD1	2.87	0.47
1:D:394:ALA:O	1:D:395:SER:C	2.51	0.47
1:A:75:LEU:CD2	1:A:199:HIS:CD2	2.97	0.47
1:B:99:VAL:CG1	1:B:103:LEU:HB2	2.44	0.47
1:B:192:THR:O	1:B:195:ILE:N	2.47	0.47
1:B:232:GLY:O	1:B:233:ASN:CB	2.61	0.47
1:C:252:VAL:HG12	1:C:256:LEU:CD1	2.44	0.47
1:D:198:PHE:O	1:D:199:HIS:C	2.53	0.47
1:D:340:VAL:HG23	1:D:340:VAL:O	2.13	0.47
1:B:414:ASP:HB3	1:B:415:PRO:HD2	1.96	0.47
1:C:141:LEU:CD2	1:C:141:LEU:H	2.27	0.47
1:A:33:THR:HG22	1:A:36:ASN:CB	2.45	0.47
1:A:118:LYS:O	1:A:121:GLU:HB3	2.15	0.47
1:A:150:HIS:NE2	1:D:241:GLY:HA3	2.29	0.47
1:C:28:ALA:HB2	1:C:125:GLY:HA2	1.97	0.47
1:C:71:GLU:O	1:C:72:MET:C	2.53	0.47
1:C:84:GLU:HG2	1:C:198:PHE:HE1	1.80	0.47
1:C:324:THR:O	1:C:328:VAL:HG23	2.15	0.47
1:C:339:ARG:NH1	1:C:385:ALA:HB1	2.30	0.47
1:D:56:PHE:O	1:D:59:VAL:HB	2.15	0.47
1:D:186:ARG:NH1	1:D:186:ARG:HG3	2.22	0.47
1:D:223:LEU:C	1:D:223:LEU:CD2	2.83	0.47
1:D:290:LEU:HG	1:D:339:ARG:NH2	2.29	0.47
1:A:180:MET:CE	1:A:224:GLU:OE2	2.63	0.47
1:B:88:TRP:O	1:B:92:ARG:NH1	2.42	0.47
1:C:303:PRO:C	1:C:304:PHE:CD2	2.88	0.47
1:D:61:LYS:NZ	1:D:391:THR:O	2.46	0.47
1:B:72:MET:HE3	1:B:164:THR:CG2	2.44	0.47
1:B:213:ASP:C	1:B:215:ASP:H	2.18	0.47
1:A:144:TYR:CZ	1:D:240:MET:CE	2.98	0.47
1:D:39:GLU:C	1:D:40:LEU:HD13	2.35	0.47
1:A:367:GLY:O	1:A:387:VAL:HG13	2.15	0.46
1:B:76:LEU:O	1:B:80:ILE:HG12	2.15	0.46
1:B:79:THR:C	1:B:81:GLN:N	2.68	0.46
1:B:250:GLY:O	1:B:253:ALA:HB3	2.15	0.46
1:C:288:ARG:CZ	1:C:416:ILE:CG2	2.93	0.46
1:A:31:ARG:HD2	1:A:125:GLY:O	2.15	0.46
1:A:107:LEU:HD11	1:A:155:LEU:CD2	2.40	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:144:TYR:CZ	1:D:240:MET:HE1	2.49	0.46
1:A:171:ILE:CG2	1:A:230:PRO:HB3	2.38	0.46
1:D:343:THR:HG21	1:D:357:ASP:HA	1.94	0.46
1:A:115:GLU:N	1:A:115:GLU:CD	2.46	0.46
1:A:381:LEU:O	1:A:384:LYS:HB2	2.14	0.46
1:B:251:GLN:C	1:B:253:ALA:H	2.18	0.46
1:D:65:ARG:NH1	1:D:390:ILE:HD11	2.30	0.46
1:A:213:ASP:OD1	1:A:215:ASP:N	2.42	0.46
1:A:278:HIS:H	1:A:281:THR:HB	1.80	0.46
1:A:362:VAL:O	1:A:369:VAL:CG2	2.63	0.46
1:B:301:ILE:HG22	1:B:302:VAL:N	2.30	0.46
1:C:21:MET:C	1:C:22:VAL:HG13	2.36	0.46
1:C:58:PHE:HB2	1:C:392:ILE:HG21	1.96	0.46
1:C:331:GLU:O	1:C:332:SER:C	2.54	0.46
1:D:112:GLU:C	1:D:114:LEU:H	2.19	0.46
1:A:10:VAL:HG21	1:A:410:PRO:HB2	1.97	0.46
1:A:111:LEU:HA	1:A:114:LEU:HG	1.97	0.46
1:B:287:ASP:O	1:B:288:ARG:C	2.54	0.46
1:C:60:THR:C	1:C:62:MET:N	2.68	0.46
1:C:60:THR:O	1:C:62:MET:N	2.49	0.46
1:C:331:GLU:C	1:C:333:LEU:N	2.68	0.46
1:D:257:PHE:CG	1:D:308:PRO:HD3	2.50	0.46
1:B:50:GLN:HE21	1:B:54:ASP:CG	2.19	0.46
1:C:25:PRO:HA	1:C:29:HIS:CE1	2.51	0.46
1:D:20:VAL:HG21	1:D:62:MET:CE	2.46	0.46
1:B:11:HIS:HA	1:B:172:TYR:CD2	2.50	0.46
1:B:307:ARG:HB3	1:B:308:PRO:CD	2.46	0.46
1:C:62:MET:O	1:C:67:ILE:HB	2.15	0.46
1:D:364:LEU:HD11	1:D:370:VAL:HG23	1.97	0.46
1:A:142:LYS:HG2	1:A:145:ARG:HH22	1.81	0.46
1:A:281:THR:HG22	1:A:282:VAL:HG13	1.97	0.46
1:A:325:PHE:O	1:A:326:LEU:C	2.54	0.46
1:A:343:THR:HG21	1:A:378:THR:HG23	1.97	0.46
1:B:191:LEU:O	1:B:194:ALA:HB3	2.16	0.46
1:B:363:CYS:O	1:B:413:ARG:NH2	2.38	0.46
1:C:270:LEU:HA	1:C:271:PRO:HD2	1.82	0.46
1:A:199:HIS:ND1	1:A:200:PRO:HD2	2.31	0.46
1:A:246:ARG:HE	1:D:141:LEU:HD11	1.81	0.46
1:B:330:ALA:O	1:B:331:GLU:C	2.53	0.46
1:C:155:LEU:HD12	1:C:155:LEU:HA	1.84	0.46
1:C:182:TRP:HE1	1:C:243:ARG:NH1	2.12	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:290:LEU:CD2	1:C:290:LEU:C	2.84	0.46
1:C:319:ARG:NH1	1:C:319:ARG:CG	2.34	0.46
1:D:56:PHE:O	1:D:59:VAL:N	2.50	0.46
1:D:248:ALA:O	1:D:251:GLN:N	2.47	0.46
1:B:10:VAL:HB	1:B:170:TRP:O	2.15	0.45
1:B:111:LEU:HA	1:B:114:LEU:HD12	1.99	0.45
1:D:95:THR:OG1	1:D:97:ASP:N	2.45	0.45
1:A:158:LEU:HD21	1:A:187:GLN:CB	2.45	0.45
1:B:413:ARG:NH1	1:B:413:ARG:HG3	2.31	0.45
1:C:102:GLY:CA	1:C:103:LEU:HD12	2.47	0.45
1:D:90:LEU:O	1:D:94:ILE:HB	2.16	0.45
1:A:280:ALA:HB1	1:A:405:HIS:CE1	2.52	0.45
1:A:309:ASP:OD2	1:A:311:SER:N	2.47	0.45
1:B:154:LEU:HD23	1:B:154:LEU:N	2.32	0.45
1:B:399:ARG:NH1	1:B:399:ARG:CG	2.71	0.45
1:C:158:LEU:HB3	1:C:161:THR:CG2	2.46	0.45
1:D:160:ASN:HB3	1:D:185:ARG:CZ	2.46	0.45
1:D:324:THR:OG1	1:D:327:GLU:HB2	2.17	0.45
1:A:33:THR:HG22	1:A:36:ASN:HB3	1.97	0.45
1:A:72:MET:HE1	1:A:192:THR:OG1	2.16	0.45
1:B:116:PRO:O	1:B:117:ARG:C	2.55	0.45
1:B:360:ASN:CG	1:B:405:HIS:HB3	2.36	0.45
1:C:197:LYS:HG2	1:C:198:PHE:CE2	2.51	0.45
1:C:278:HIS:H	1:C:281:THR:CG2	2.30	0.45
1:D:43:ASP:N	1:D:401:ARG:NH2	2.64	0.45
1:D:168:THR:HG21	1:D:192:THR:CG2	2.46	0.45
1:D:249:ILE:O	1:D:250:GLY:C	2.55	0.45
1:D:355:TRP:CZ2	1:D:357:ASP:HB2	2.52	0.45
1:A:286:CYS:O	1:A:287:ASP:HB2	2.17	0.45
1:A:311:SER:O	1:A:311:SER:OG	2.28	0.45
1:A:380:THR:O	1:A:384:LYS:CG	2.65	0.45
1:B:264:ARG:HD3	1:B:307:ARG:CZ	2.47	0.45
1:C:245:SER:O	1:C:249:ILE:HG12	2.15	0.45
1:D:403:GLY:O	1:D:404:GLY:C	2.53	0.45
1:A:48:VAL:O	1:A:49:ASN:C	2.55	0.45
1:B:379:ASN:O	1:B:383:ARG:HG3	2.17	0.45
1:D:213:ASP:OD1	1:D:213:ASP:C	2.55	0.45
1:A:58:PHE:O	1:A:59:VAL:C	2.53	0.45
1:A:218:HIS:O	1:A:221:SER:HB2	2.17	0.45
1:C:227:ASP:O	1:C:238:ILE:HA	2.16	0.45
1:D:309:ASP:HB3	1:D:312:SER:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:229:MET:HE1	1:A:279:LEU:HD21	1.98	0.45
1:D:70:LEU:CB	1:D:75:LEU:HD11	2.46	0.45
1:D:158:LEU:C	1:D:160:ASN:H	2.20	0.45
1:D:366:PRO:HG3	1:D:416:ILE:HD11	1.99	0.45
1:B:224:GLU:O	1:B:227:ASP:HB2	2.17	0.45
1:C:137:GLY:C	1:C:139:ASN:N	2.68	0.45
1:C:165:ARG:O	1:C:225:GLY:HA3	2.17	0.45
1:A:14:ALA:HB3	1:A:416:ILE:CD1	2.47	0.45
1:A:294:PHE:CD1	1:A:344:GLY:HA3	2.52	0.45
1:C:254:GLN:HB2	1:C:316:MET:HE2	1.99	0.45
1:B:166:ASP:CG	1:B:278:HIS:CE1	2.90	0.44
1:C:338:LEU:HD23	1:C:338:LEU:HA	1.89	0.44
1:D:230:PRO:C	1:D:232:GLY:H	2.21	0.44
1:A:142:LYS:CB	1:A:145:ARG:HH21	2.30	0.44
1:B:90:LEU:HD13	1:B:108:ARG:HG3	2.00	0.44
1:C:102:GLY:C	1:C:103:LEU:CD1	2.75	0.44
1:D:290:LEU:HD23	1:D:339:ARG:O	2.16	0.44
1:D:292:THR:HA	1:D:341:VAL:O	2.17	0.44
1:D:399:ARG:O	1:D:400:GLY:C	2.53	0.44
1:A:21:MET:HE3	1:A:192:THR:HG23	1.99	0.44
1:A:272:LYS:O	1:A:273:SER:CB	2.38	0.44
1:B:17:LEU:HD21	1:B:20:VAL:HG13	1.98	0.44
1:B:111:LEU:HD22	1:B:119:LEU:HD21	1.99	0.44
1:B:287:ASP:O	1:B:289:ASP:N	2.50	0.44
1:B:394:ALA:O	1:B:395:SER:C	2.56	0.44
1:C:294:PHE:O	1:C:294:PHE:CD1	2.70	0.44
1:C:323:LYS:HB3	1:C:327:GLU:HB2	1.98	0.44
1:D:29:HIS:CD2	1:D:46:ILE:HD11	2.53	0.44
1:B:295:PRO:CG	1:B:342:GLU:HB3	2.39	0.44
1:C:206:GLU:O	1:C:207:PHE:HB3	2.17	0.44
1:D:86:LEU:HD22	1:D:90:LEU:HG	1.98	0.44
1:A:117:ARG:HE	1:A:117:ARG:HB2	1.56	0.44
1:A:415:PRO:C	1:A:416:ILE:HG13	2.38	0.44
1:B:213:ASP:HA	1:B:214:PRO:HD2	1.90	0.44
1:C:158:LEU:C	1:C:160:ASN:N	2.71	0.44
1:D:79:THR:OG1	1:D:199:HIS:HB2	2.18	0.44
1:D:93:LYS:HE3	1:D:155:LEU:HG	1.99	0.44
1:D:118:LYS:HG3	1:D:122:TYR:CE2	2.53	0.44
1:D:282:VAL:HG11	1:D:297:VAL:HG11	1.99	0.44
1:A:18:ARG:NH2	1:A:414:ASP:OD1	2.51	0.44
1:A:233:ASN:OD1	1:A:233:ASN:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:17:LEU:HB2	1:B:413:ARG:NH1	2.30	0.44
1:B:25:PRO:HA	1:B:29:HIS:CE1	2.53	0.44
1:B:294:PHE:CD2	1:B:297:VAL:HG21	2.50	0.44
1:D:94:ILE:HD11	1:D:107:LEU:HD13	1.95	0.44
1:A:71:GLU:HG3	1:A:73:HIS:N	2.26	0.44
1:B:33:THR:O	1:B:35:SER:N	2.50	0.44
1:B:211:TYR:CG	1:B:252:VAL:HG23	2.53	0.44
1:B:263:GLU:O	1:B:308:PRO:HD3	2.18	0.44
1:B:413:ARG:HH11	1:B:413:ARG:CG	2.31	0.44
1:C:352:ARG:HD3	1:C:354:GLN:O	2.18	0.44
1:D:277:MET:O	1:D:277:MET:HG3	2.16	0.44
1:D:282:VAL:HG12	1:D:294:PHE:HB3	2.00	0.44
1:A:265:VAL:HB	1:A:306:LEU:HB3	2.00	0.44
1:B:178:ASN:HA	1:B:179:PRO:HD3	1.82	0.44
1:C:8:LEU:HD12	1:C:205:ALA:CB	2.42	0.44
1:C:58:PHE:CD1	1:C:370:VAL:HG11	2.53	0.44
1:C:178:ASN:HA	1:C:179:PRO:HD3	1.77	0.44
1:C:185:ARG:HE	1:C:185:ARG:HB3	1.21	0.44
1:D:141:LEU:CD2	1:D:154:LEU:HD21	2.45	0.44
1:D:158:LEU:C	1:D:160:ASN:N	2.70	0.44
1:D:166:ASP:HB3	1:D:180:MET:HE1	2.00	0.44
1:A:91:ASP:OD1	1:A:108:ARG:NH2	2.48	0.44
1:A:164:THR:O	1:A:165:ARG:C	2.54	0.44
1:A:326:LEU:HD22	1:A:338:LEU:HD12	2.00	0.44
1:B:105:SER:O	1:B:106:GLU:C	2.56	0.44
1:C:127:VAL:HG12	1:C:154:LEU:HB2	2.00	0.44
1:C:238:ILE:HD12	1:C:249:ILE:HG23	1.98	0.44
1:D:290:LEU:CD2	1:D:339:ARG:O	2.66	0.44
1:D:290:LEU:HD22	1:D:291:VAL:N	2.33	0.44
1:A:286:CYS:HB2	1:A:290:LEU:HD13	1.98	0.43
1:B:362:VAL:O	1:B:369:VAL:HG22	2.18	0.43
1:C:416:ILE:O	1:C:417:ASP:C	2.57	0.43
1:D:15:GLY:HA2	1:D:416:ILE:HD13	2.00	0.43
1:D:167:THR:O	1:D:168:THR:CG2	2.66	0.43
1:D:333:LEU:HB2	1:D:335:LEU:HD13	1.98	0.43
1:A:181:TYR:O	1:A:186:ARG:NH2	2.51	0.43
1:B:286:CYS:HB2	1:B:290:LEU:HB3	1.99	0.43
1:C:21:MET:C	1:C:22:VAL:CG1	2.85	0.43
1:C:312:SER:C	1:C:314:TYR:N	2.71	0.43
1:D:16:LYS:HD2	1:D:18:ARG:NH1	2.28	0.43
1:D:82:ASN:OD1	1:D:82:ASN:O	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:86:LEU:HD23	1:D:86:LEU:HA	1.72	0.43
1:D:139:ASN:HA	1:D:142:LYS:HB2	1.99	0.43
1:A:280:ALA:CB	1:A:405:HIS:CE1	3.01	0.43
1:A:378:THR:HG22	1:A:382:LEU:HD22	2.00	0.43
1:B:374:ARG:HG2	1:B:394:ALA:CB	2.49	0.43
1:C:160:ASN:HB2	1:C:188:GLU:OE2	2.17	0.43
1:C:356:ASP:OD2	1:C:375:ASN:HB3	2.18	0.43
1:A:15:GLY:HA3	1:A:414:ASP:O	2.17	0.43
1:A:65:ARG:NH2	1:A:368:VAL:HG11	2.33	0.43
1:A:178:ASN:HA	1:A:179:PRO:HD3	1.92	0.43
1:A:361:VAL:HB	1:A:369:VAL:CG2	2.48	0.43
1:B:175:VAL:HG22	1:B:176:THR:N	2.34	0.43
1:C:135:SER:O	1:C:136:GLU:C	2.56	0.43
1:C:177:LEU:HD13	1:C:193:THR:HG23	1.99	0.43
1:D:19:LYS:HG3	1:D:68:ASP:HB3	2.00	0.43
1:D:160:ASN:CB	1:D:188:GLU:OE2	2.67	0.43
1:A:294:PHE:CE1	1:A:344:GLY:C	2.92	0.43
1:B:228:VAL:HG22	1:B:238:ILE:HG12	2.01	0.43
1:C:78:GLU:OE1	1:C:199:HIS:HE1	2.02	0.43
1:C:197:LYS:HG2	1:C:198:PHE:CD2	2.54	0.43
1:C:289:ASP:N	1:C:289:ASP:OD2	2.51	0.43
1:D:103:LEU:HD13	1:D:141:LEU:CD2	2.48	0.43
1:D:114:LEU:HB3	1:D:119:LEU:HB2	2.00	0.43
1:A:227:ASP:OD2	1:A:278:HIS:HA	2.18	0.43
1:B:170:TRP:CD2	1:B:175:VAL:HB	2.53	0.43
1:B:252:VAL:O	1:B:256:LEU:HG	2.18	0.43
1:C:143:MET:HE2	1:C:143:MET:HB2	1.73	0.43
1:C:175:VAL:HG21	1:C:196:TYR:HE2	1.84	0.43
1:B:14:ALA:O	1:B:15:GLY:O	2.36	0.43
1:B:33:THR:C	1:B:35:SER:H	2.21	0.43
1:D:63:ARG:HH11	1:D:63:ARG:CG	2.32	0.43
1:A:156:PRO:HG2	1:A:187:GLN:HG3	1.99	0.43
1:A:199:HIS:CE1	1:A:201:GLU:HB2	2.54	0.43
1:A:237:LEU:C	1:A:238:ILE:HG13	2.39	0.43
1:B:171:ILE:HA	1:B:230:PRO:CG	2.49	0.43
1:C:225:GLY:O	1:C:226:GLY:C	2.57	0.43
1:D:47:TRP:CD2	1:D:50:GLN:HB2	2.54	0.43
1:D:196:TYR:CD1	1:D:202:PHE:CD1	3.07	0.43
1:D:287:ASP:HB2	1:D:290:LEU:HB3	2.00	0.43
1:B:231:ILE:HG21	1:B:237:LEU:HD11	2.00	0.43
1:B:282:VAL:HG11	1:B:297:VAL:HG11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:73:HIS:O	1:C:77:THR:OG1	2.33	0.43
1:C:127:VAL:HB	1:C:155:LEU:HB2	2.01	0.43
1:A:31:ARG:HD3	1:A:157:PRO:HG3	2.01	0.43
1:B:107:LEU:HD11	1:B:111:LEU:HD12	2.00	0.43
1:C:21:MET:O	1:C:22:VAL:HG13	2.18	0.43
1:D:43:ASP:HA	1:D:401:ARG:NH2	2.22	0.43
1:D:100:GLY:O	1:D:104:THR:HG23	2.18	0.43
1:A:120:ALA:O	1:A:121:GLU:C	2.57	0.42
1:B:317:ASN:OD1	1:B:318:ILE:N	2.52	0.42
1:C:87:LYS:HD3	1:C:91:ASP:OD2	2.19	0.42
1:C:88:TRP:NE1	1:C:197:LYS:HE2	2.34	0.42
1:C:294:PHE:CD1	1:C:297:VAL:HB	2.54	0.42
1:A:355:TRP:CH2	1:B:34:PRO:CG	3.02	0.42
1:B:14:ALA:O	1:B:366:PRO:CD	2.65	0.42
1:B:309:ASP:OD2	1:B:311:SER:HB3	2.18	0.42
1:C:93:LYS:C	1:C:94:ILE:HG13	2.40	0.42
1:D:63:ARG:C	1:D:65:ARG:N	2.69	0.42
1:D:87:LYS:HG2	1:D:91:ASP:OD2	2.18	0.42
1:D:330:ALA:O	1:D:331:GLU:C	2.58	0.42
1:A:26:GLY:N	1:A:29:HIS:ND1	2.67	0.42
1:A:43:ASP:O	1:A:44:ASP:HB2	2.18	0.42
1:A:164:THR:C	1:A:166:ASP:N	2.72	0.42
1:A:282:VAL:HB	1:A:294:PHE:HB3	2.01	0.42
1:B:240:MET:HE1	1:C:144:TYR:CE1	2.54	0.42
1:B:297:VAL:O	1:B:298:VAL:C	2.55	0.42
1:C:71:GLU:O	1:C:73:HIS:N	2.52	0.42
1:D:146:GLU:HG3	1:D:147:TYR:N	2.34	0.42
1:D:157:PRO:O	1:D:159:PRO:CD	2.64	0.42
1:D:245:SER:O	1:D:249:ILE:HG13	2.19	0.42
1:A:303:PRO:HG2	1:A:321:GLU:HB2	2.00	0.42
1:B:18:ARG:NH1	1:B:414:ASP:OD2	2.50	0.42
1:B:216:LYS:HG2	1:B:217:ASP:N	2.33	0.42
1:D:25:PRO:HG2	1:D:51:ALA:HB1	2.01	0.42
1:D:80:ILE:HG12	1:D:80:ILE:H	1.36	0.42
1:D:94:ILE:HD11	1:D:107:LEU:CD1	2.50	0.42
1:D:165:ARG:NH1	1:D:405:HIS:O	2.48	0.42
1:D:312:SER:OG	1:D:313:PRO:CD	2.67	0.42
1:A:31:ARG:NH1	1:A:31:ARG:CG	2.75	0.42
1:A:54:ASP:CB	1:A:397:LEU:CD2	2.98	0.42
1:A:169:CYS:O	1:A:175:VAL:HA	2.20	0.42
1:B:43:ASP:OD2	1:B:401:ARG:HB2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:73:HIS:HB3	1:B:117:ARG:NH2	2.35	0.42
1:A:27:LEU:O	1:A:30:GLN:HB2	2.20	0.42
1:A:80:ILE:CD1	1:A:120:ALA:HB2	2.42	0.42
1:C:28:ALA:N	1:C:125:GLY:HA2	2.34	0.42
1:C:190:LEU:HD12	1:C:214:PRO:HB2	2.01	0.42
1:C:397:LEU:HA	1:C:397:LEU:HD12	1.81	0.42
1:D:36:ASN:C	1:D:38:ASP:N	2.72	0.42
1:D:39:GLU:HG3	1:D:40:LEU:HD13	2.01	0.42
1:D:223:LEU:CD1	1:D:252:VAL:HG21	2.48	0.42
1:D:257:PHE:CZ	1:D:265:VAL:HG23	2.54	0.42
1:A:140:ILE:HA	1:A:143:MET:HB2	2.01	0.42
1:A:144:TYR:CE1	1:D:240:MET:HE1	2.54	0.42
1:A:224:GLU:CD	1:A:243:ARG:HD3	2.38	0.42
1:A:296:GLU:OE2	1:A:296:GLU:N	2.47	0.42
1:C:60:THR:C	1:C:62:MET:H	2.22	0.42
1:D:56:PHE:O	1:D:57:ASP:O	2.37	0.42
1:D:243:ARG:HH11	1:D:274:ARG:HH12	1.68	0.42
1:A:86:LEU:O	1:A:87:LYS:C	2.58	0.42
1:C:78:GLU:O	1:C:81:GLN:HB2	2.20	0.42
1:D:365:GLU:CD	1:D:368:VAL:HG23	2.37	0.42
1:A:24:SER:HB2	1:A:55:HIS:ND1	2.35	0.42
1:A:180:MET:CE	1:A:224:GLU:CD	2.88	0.42
1:A:256:LEU:HD22	1:A:261:ALA:HB3	2.02	0.42
1:A:343:THR:HG21	1:A:378:THR:CG2	2.50	0.42
1:C:160:ASN:HB3	1:C:185:ARG:NH1	2.35	0.42
1:C:286:CYS:SG	1:C:292:THR:CG2	3.05	0.42
1:D:158:LEU:O	1:D:159:PRO:C	2.58	0.42
1:A:272:LYS:HE2	1:D:149:GLY:CA	2.34	0.42
1:A:326:LEU:HD23	1:A:326:LEU:HA	1.84	0.42
1:C:50:GLN:HA	1:C:53:ARG:HG3	2.02	0.42
1:C:223:LEU:HD13	1:C:223:LEU:C	2.41	0.42
1:C:247:GLN:O	1:C:251:GLN:HG3	2.20	0.42
1:D:67:ILE:HG22	1:D:69:VAL:HG22	2.02	0.42
1:D:189:THR:O	1:D:190:LEU:C	2.58	0.42
1:A:18:ARG:HH11	1:A:18:ARG:CG	2.33	0.41
1:C:77:THR:HG23	1:C:117:ARG:HA	2.02	0.41
1:C:177:LEU:HD11	1:C:193:THR:HG23	2.02	0.41
1:C:178:ASN:OD1	1:C:223:LEU:CD1	2.64	0.41
1:C:302:VAL:HA	1:C:303:PRO:HD3	1.67	0.41
1:C:329:VAL:CG1	1:C:338:LEU:HD11	2.49	0.41
1:C:383:ARG:CG	1:C:387:VAL:O	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:160:ASN:C	1:D:162:GLN:N	2.73	0.41
1:A:33:THR:O	1:A:36:ASN:OD1	2.37	0.41
1:A:85:ALA:O	1:A:88:TRP:HB3	2.20	0.41
1:B:227:ASP:O	1:B:238:ILE:HA	2.20	0.41
1:B:259:LYS:O	1:B:260:GLY:C	2.57	0.41
1:B:379:ASN:CG	1:B:389:VAL:HG11	2.40	0.41
1:C:33:THR:HG22	1:C:35:SER:N	2.35	0.41
1:C:177:LEU:O	1:C:212:GLY:HA3	2.20	0.41
1:D:59:VAL:O	1:D:60:THR:C	2.59	0.41
1:D:94:ILE:O	1:D:94:ILE:HG22	2.19	0.41
1:D:399:ARG:C	1:D:400:GLY:O	2.58	0.41
1:A:33:THR:HG22	1:A:36:ASN:ND2	2.35	0.41
1:A:80:ILE:HG12	1:A:80:ILE:H	1.62	0.41
1:B:88:TRP:CE2	1:B:92:ARG:CZ	3.04	0.41
1:B:254:GLN:HB3	1:B:316:MET:CE	2.50	0.41
1:D:22:VAL:HA	1:D:164:THR:CG2	2.49	0.41
1:A:199:HIS:ND1	1:A:200:PRO:N	2.68	0.41
1:B:141:LEU:HD21	1:C:246:ARG:CD	2.50	0.41
1:B:142:LYS:HD2	1:B:145:ARG:HH21	1.72	0.41
1:B:154:LEU:HD22	1:B:154:LEU:HA	1.90	0.41
1:B:216:LYS:HD2	1:B:218:HIS:NE2	2.35	0.41
1:A:19:LYS:CD	1:A:411:ILE:HG21	2.50	0.41
1:A:142:LYS:CB	1:A:145:ARG:NH2	2.84	0.41
1:A:158:LEU:HB3	1:A:161:THR:HG23	2.03	0.41
1:A:199:HIS:ND1	1:A:199:HIS:C	2.73	0.41
1:A:199:HIS:CE1	1:A:201:GLU:H	2.38	0.41
1:B:251:GLN:O	1:B:253:ALA:N	2.53	0.41
1:B:312:SER:O	1:B:313:PRO:C	2.59	0.41
1:B:381:LEU:O	1:B:382:LEU:C	2.56	0.41
1:C:63:ARG:C	1:C:65:ARG:H	2.23	0.41
1:C:171:ILE:HD11	1:C:228:VAL:HG11	2.02	0.41
1:C:383:ARG:HA	1:C:387:VAL:O	2.20	0.41
1:A:12:SER:OG	1:A:414:ASP:O	2.37	0.41
1:A:144:TYR:CE1	1:D:240:MET:CE	3.04	0.41
1:A:197:LYS:O	1:A:197:LYS:HG2	2.20	0.41
1:A:256:LEU:HD23	1:A:256:LEU:HA	1.91	0.41
1:B:372:TYR:HB2	1:B:375:ASN:HD22	1.85	0.41
1:C:9:GLY:CA	1:C:172:TYR:O	2.66	0.41
1:C:56:PHE:C	1:C:56:PHE:CD1	2.94	0.41
1:D:94:ILE:HD13	1:D:99:VAL:HG21	2.03	0.41
1:D:140:ILE:HA	1:D:143:MET:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:34:PRO:HG2	1:B:355:TRP:CH2	2.56	0.41
1:A:56:PHE:O	1:A:59:VAL:N	2.53	0.41
1:A:70:LEU:CD1	1:A:75:LEU:HD11	2.50	0.41
1:B:124:ILE:CG2	1:B:161:THR:HG21	2.39	0.41
1:B:193:THR:O	1:B:194:ALA:C	2.59	0.41
1:D:382:LEU:HD23	1:D:382:LEU:HA	1.83	0.41
1:A:10:VAL:HG12	1:A:230:PRO:HG2	2.01	0.41
1:A:41:LEU:HD12	1:A:184:ALA:HB3	2.03	0.41
1:A:187:GLN:HA	1:A:187:GLN:OE1	2.20	0.41
1:A:318:ILE:H	1:A:318:ILE:HG12	1.58	0.41
1:C:86:LEU:O	1:C:87:LYS:C	2.58	0.41
1:D:141:LEU:HD12	1:D:141:LEU:HA	1.65	0.41
1:A:7:LYS:HB2	1:A:7:LYS:HE3	1.50	0.41
1:A:40:LEU:HD12	1:A:40:LEU:HA	1.58	0.41
1:A:54:ASP:CB	1:A:397:LEU:HD22	2.49	0.41
1:A:139:ASN:HA	1:A:142:LYS:CD	2.51	0.41
1:A:254:GLN:O	1:A:254:GLN:HG2	2.21	0.41
1:A:282:VAL:O	1:A:293:VAL:HA	2.20	0.41
1:A:324:THR:OG1	1:A:327:GLU:HG3	2.20	0.41
1:B:83:PRO:O	1:B:87:LYS:HB2	2.20	0.41
1:B:165:ARG:HH11	1:B:165:ARG:HD2	1.77	0.41
1:B:255:SER:O	1:B:259:LYS:HD3	2.21	0.41
1:C:82:ASN:OD1	1:C:82:ASN:C	2.60	0.41
1:C:176:THR:HG22	1:C:210:TRP:HB2	2.02	0.41
1:C:294:PHE:HE1	1:C:297:VAL:HG23	1.78	0.41
1:D:16:LYS:CD	1:D:18:ARG:NH1	2.83	0.41
1:D:24:SER:HB2	1:D:25:PRO:HD2	2.03	0.41
1:D:365:GLU:CG	1:D:368:VAL:HG23	2.51	0.41
1:A:15:GLY:N	1:A:416:ILE:HD11	2.36	0.41
1:B:31:ARG:HH11	1:B:31:ARG:HG2	1.86	0.41
1:B:36:ASN:OD1	1:B:36:ASN:C	2.59	0.41
1:B:107:LEU:C	1:B:107:LEU:CD1	2.89	0.41
1:B:182:TRP:HA	1:B:183:PRO:HD3	1.86	0.41
1:B:374:ARG:HG2	1:B:394:ALA:HB3	2.02	0.41
1:B:381:LEU:O	1:B:384:LYS:N	2.54	0.41
1:C:71:GLU:CG	1:C:73:HIS:HB2	2.51	0.41
1:C:137:GLY:C	1:C:139:ASN:H	2.23	0.41
1:D:145:ARG:O	1:D:145:ARG:HG2	2.19	0.41
1:A:229:MET:HE1	1:A:279:LEU:HG	2.00	0.40
1:C:86:LEU:HD22	1:C:90:LEU:HG	2.03	0.40
1:D:19:LYS:HB3	1:D:412:VAL:HG23	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:165:ARG:O	1:D:225:GLY:HA3	2.21	0.40
1:D:373:ASP:OD1	1:D:393:SER:HA	2.21	0.40
1:A:119:LEU:O	1:A:123:LEU:HG	2.22	0.40
1:A:239:GLY:HA2	1:A:268:ALA:O	2.21	0.40
1:B:8:LEU:HD22	1:B:411:ILE:HG22	2.02	0.40
1:B:279:LEU:C	1:B:281:THR:N	2.75	0.40
1:B:382:LEU:HD12	1:B:382:LEU:HA	1.78	0.40
1:C:73:HIS:CD2	1:C:124:ILE:HD12	2.57	0.40
1:D:329:VAL:O	1:D:330:ALA:C	2.58	0.40
1:B:161:THR:C	1:B:163:PHE:H	2.25	0.40
1:C:360:ASN:OD1	1:C:403:GLY:HA3	2.21	0.40
1:D:380:THR:O	1:D:381:LEU:C	2.58	0.40
1:B:294:PHE:HA	1:B:295:PRO:HD3	1.81	0.40
1:C:41:LEU:HD11	1:C:182:TRP:CG	2.57	0.40
1:C:158:LEU:CB	1:C:161:THR:CG2	2.99	0.40
1:C:360:ASN:OD1	1:C:403:GLY:CA	2.69	0.40
1:D:43:ASP:HB2	1:D:401:ARG:NH2	2.36	0.40
1:D:299:LYS:O	1:D:299:LYS:HG3	2.21	0.40
1:D:397:LEU:HD12	1:D:397:LEU:HA	1.86	0.40
1:A:142:LYS:HG2	1:A:145:ARG:NH2	2.37	0.40
1:A:256:LEU:HD22	1:A:261:ALA:HB1	2.02	0.40
1:B:31:ARG:HD3	1:B:153:PHE:CE1	2.57	0.40
1:C:397:LEU:N	1:C:397:LEU:CD1	2.84	0.40
1:D:111:LEU:HD23	1:D:111:LEU:HA	1.96	0.40
1:D:193:THR:CG2	1:D:214:PRO:HG2	2.44	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	395/418 (94%)	313 (79%)	65 (16%)	17 (4%)	2 10

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	B	399/418 (96%)	332 (83%)	50 (12%)	17 (4%)	2 10
1	C	396/418 (95%)	323 (82%)	61 (15%)	12 (3%)	4 17
1	D	395/418 (94%)	327 (83%)	54 (14%)	14 (4%)	3 14
All	All	1585/1672 (95%)	1295 (82%)	230 (14%)	60 (4%)	3 13

All (60) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	63	ARG
1	A	117	ARG
1	A	203	ALA
1	A	221	SER
1	A	249	ILE
1	B	80	ILE
1	B	162	GLN
1	B	258	ALA
1	C	112	GLU
1	C	134	ALA
1	D	64	GLU
1	D	294	PHE
1	D	330	ALA
1	D	400	GLY
1	A	116	PRO
1	A	121	GLU
1	A	207	PHE
1	B	145	ARG
1	B	337	LYS
1	C	15	GLY
1	C	288	ARG
1	C	332	SER
1	D	196	TYR
1	D	273	SER
1	D	293	VAL
1	D	331	GLU
1	A	12	SER
1	A	162	GLN
1	B	130	ASP
1	B	218	HIS
1	C	136	GLU
1	D	180	MET
1	D	226	GLY

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Mol	Chain	Res	Type
1	D	324	THR
1	A	130	ASP
1	A	280	ALA
1	B	15	GLY
1	B	187	GLN
1	B	313	PRO
1	C	61	LYS
1	C	366	PRO
1	A	189	THR
1	A	258	ALA
1	A	313	PRO
1	C	28	ALA
1	C	295	PRO
1	D	134	ALA
1	D	308	PRO
1	A	185	ARG
1	B	27	LEU
1	B	288	ARG
1	B	385	ALA
1	D	395	SER
1	C	313	PRO
1	A	328	VAL
1	B	183	PRO
1	B	34	PRO
1	B	298	VAL
1	B	214	PRO
1	C	213	ASP

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	342/353 (97%)	278 (81%)	64 (19%)	1 5
1	B	342/353 (97%)	279 (82%)	63 (18%)	1 5
1	C	342/353 (97%)	276 (81%)	66 (19%)	1 4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	D	342/353 (97%)	279 (82%)	63 (18%)	1 5
All	All	1368/1412 (97%)	1112 (81%)	256 (19%)	1 5

All (256) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	7	LYS
1	A	12	SER
1	A	16	LYS
1	A	20	VAL
1	A	23	CYS
1	A	35	SER
1	A	39	GLU
1	A	40	LEU
1	A	42	PHE
1	A	52	LYS
1	A	65	ARG
1	A	76	LEU
1	A	78	GLU
1	A	80	ILE
1	A	86	LEU
1	A	94	ILE
1	A	101	LEU
1	A	105	SER
1	A	107	LEU
1	A	109	SER
1	A	115	GLU
1	A	117	ARG
1	A	118	LYS
1	A	130	ASP
1	A	132	LEU
1	A	136	GLU
1	A	143	MET
1	A	145	ARG
1	A	151	SER
1	A	155	LEU
1	A	165	ARG
1	A	167	THR
1	A	177	LEU
1	A	189	THR
1	A	201	GLU
1	A	208	GLU

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Mol	Chain	Res	Type
1	A	209	ILE
1	A	216	LYS
1	A	223	LEU
1	A	243	ARG
1	A	246	ARG
1	A	259	LYS
1	A	263	GLU
1	A	273	SER
1	A	277	MET
1	A	281	THR
1	A	290	LEU
1	A	293	VAL
1	A	301	ILE
1	A	307	ARG
1	A	311	SER
1	A	318	ILE
1	A	319	ARG
1	A	323	LYS
1	A	331	GLU
1	A	336	LYS
1	A	337	LYS
1	A	354	GLN
1	A	361	VAL
1	A	365	GLU
1	A	374	ARG
1	A	382	LEU
1	A	397	LEU
1	A	399	ARG
1	B	6	THR
1	B	19	LYS
1	B	20	VAL
1	B	37	CYS
1	B	39	GLU
1	B	40	LEU
1	B	41	LEU
1	B	42	PHE
1	B	60	THR
1	B	64	GLU
1	B	65	ARG
1	B	76	LEU
1	B	86	LEU
1	B	92	ARG

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Mol	Chain	Res	Type
1	B	94	ILE
1	B	98	SER
1	B	101	LEU
1	B	105	SER
1	B	117	ARG
1	B	118	LYS
1	B	119	LEU
1	B	131	ASP
1	B	135	SER
1	B	136	GLU
1	B	142	LYS
1	B	143	MET
1	B	146	GLU
1	B	150	HIS
1	B	151	SER
1	B	152	SER
1	B	154	LEU
1	B	165	ARG
1	B	166	ASP
1	B	169	CYS
1	B	171	ILE
1	B	197	LYS
1	B	216	LYS
1	B	243	ARG
1	B	247	GLN
1	B	254	GLN
1	B	259	LYS
1	B	277	MET
1	B	284	SER
1	B	288	ARG
1	B	290	LEU
1	B	299	LYS
1	B	305	SER
1	B	319	ARG
1	B	331	GLU
1	B	336	LYS
1	B	337	LYS
1	B	342	GLU
1	B	352	ARG
1	B	353	GLU
1	B	369	VAL
1	B	374	ARG

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Mol	Chain	Res	Type
1	B	382	LEU
1	B	384	LYS
1	B	392	ILE
1	B	397	LEU
1	B	399	ARG
1	B	413	ARG
1	B	416	ILE
1	C	7	LYS
1	C	20	VAL
1	C	24	SER
1	C	35	SER
1	C	37	CYS
1	C	40	LEU
1	C	41	LEU
1	C	60	THR
1	C	61	LYS
1	C	65	ARG
1	C	76	LEU
1	C	86	LEU
1	C	101	LEU
1	C	103	LEU
1	C	107	LEU
1	C	117	ARG
1	C	119	LEU
1	C	130	ASP
1	C	141	LEU
1	C	143	MET
1	C	145	ARG
1	C	146	GLU
1	C	148	LEU
1	C	151	SER
1	C	154	LEU
1	C	155	LEU
1	C	162	GLN
1	C	167	THR
1	C	185	ARG
1	C	208	GLU
1	C	220	SER
1	C	240	MET
1	C	243	ARG
1	C	246	ARG
1	C	249	ILE

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Mol	Chain	Res	Type
1	C	259	LYS
1	C	264	ARG
1	C	272	LYS
1	C	277	MET
1	C	281	THR
1	C	286	CYS
1	C	288	ARG
1	C	290	LEU
1	C	294	PHE
1	C	295	PRO
1	C	296	GLU
1	C	299	LYS
1	C	309	ASP
1	C	311	SER
1	C	312	SER
1	C	314	TYR
1	C	317	ASN
1	C	319	ARG
1	C	321	GLU
1	C	322	GLU
1	C	323	LYS
1	C	324	THR
1	C	331	GLU
1	C	343	THR
1	C	351	GLU
1	C	361	VAL
1	C	374	ARG
1	C	384	LYS
1	C	388	GLU
1	C	397	LEU
1	C	416	ILE
1	D	7	LYS
1	D	33	THR
1	D	35	SER
1	D	40	LEU
1	D	42	PHE
1	D	63	ARG
1	D	72	MET
1	D	76	LEU
1	D	80	ILE
1	D	86	LEU
1	D	95	THR

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Mol	Chain	Res	Type
1	D	107	LEU
1	D	109	SER
1	D	113	SER
1	D	114	LEU
1	D	132	LEU
1	D	141	LEU
1	D	145	ARG
1	D	146	GLU
1	D	150	HIS
1	D	151	SER
1	D	152	SER
1	D	155	LEU
1	D	177	LEU
1	D	186	ARG
1	D	187	GLN
1	D	200	PRO
1	D	208	GLU
1	D	220	SER
1	D	237	LEU
1	D	240	MET
1	D	243	ARG
1	D	246	ARG
1	D	249	ILE
1	D	264	ARG
1	D	272	LYS
1	D	273	SER
1	D	274	ARG
1	D	277	MET
1	D	282	VAL
1	D	283	PHE
1	D	284	SER
1	D	287	ASP
1	D	288	ARG
1	D	290	LEU
1	D	299	LYS
1	D	306	LEU
1	D	311	SER
1	D	314	TYR
1	D	318	ILE
1	D	331	GLU
1	D	332	SER
1	D	333	LEU

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Mol	Chain	Res	Type
1	D	336	LYS
1	D	337	LYS
1	D	352	ARG
1	D	374	ARG
1	D	384	LYS
1	D	397	LEU
1	D	401	ARG
1	D	411	ILE
1	D	413	ARG
1	D	416	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	73	HIS
1	C	74	ASN
1	C	162	GLN
1	C	178	ASN
1	C	199	HIS
1	C	218	HIS
1	C	354	GLN
1	D	30	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues 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	$\#\|Z\|>2$
1	CYR	A	406	1	14,16,17	2.11	2 (14%)	11,19,21	1.59	2 (18%)
1	CYR	B	406	1	14,16,17	2.08	4 (28%)	11,19,21	1.61	1 (9%)
1	CYR	C	406	1	14,16,17	2.10	2 (14%)	11,19,21	1.82	3 (27%)
1	CYR	D	406	1	14,16,17	2.11	3 (21%)	11,19,21	1.61	3 (27%)

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
1	CYR	A	406	1	-	4/14/18/20	-
1	CYR	B	406	1	-	5/14/18/20	-
1	CYR	C	406	1	-	2/14/18/20	-
1	CYR	D	406	1	-	2/14/18/20	-

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	406	CYR	C7-N6	5.45	1.46	1.35
1	D	406	CYR	C7-N6	5.04	1.45	1.35
1	C	406	CYR	C7-N7	4.94	1.46	1.28
1	D	406	CYR	C7-N7	4.88	1.46	1.28
1	C	406	CYR	C7-N6	4.85	1.45	1.35
1	B	406	CYR	C7-N6	4.80	1.45	1.35
1	A	406	CYR	C7-N7	4.73	1.45	1.28
1	B	406	CYR	C7-N7	4.68	1.45	1.28
1	D	406	CYR	CB-SG	-2.45	1.75	1.81
1	B	406	CYR	CB-SG	-2.38	1.75	1.81
1	B	406	CYR	C7-SG	2.21	1.78	1.76

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	406	CYR	CB-SG-C7	4.03	107.38	102.58
1	B	406	CYR	N6-C7-N7	-3.69	109.51	120.33
1	C	406	CYR	N6-C7-N7	-3.27	110.76	120.33
1	A	406	CYR	CB-SG-C7	2.94	106.09	102.58
1	D	406	CYR	N6-C7-N7	-2.86	111.96	120.33
1	A	406	CYR	N6-C7-N7	-2.81	112.09	120.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	406	CYR	C5-N6-C7	-2.67	118.90	123.55
1	C	406	CYR	C5-N6-C7	-2.56	119.09	123.55
1	D	406	CYR	CB-SG-C7	2.45	105.50	102.58

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	406	CYR	SG-C7-N6-C5
1	A	406	CYR	N6-C7-SG-CB
1	B	406	CYR	C1-C2-C3-C4
1	B	406	CYR	N2-C2-C3-C4
1	B	406	CYR	SG-C7-N6-C5
1	C	406	CYR	SG-C7-N6-C5
1	D	406	CYR	SG-C7-N6-C5
1	D	406	CYR	N6-C7-SG-CB
1	A	406	CYR	C2-C3-C4-C5
1	B	406	CYR	N6-C7-SG-CB
1	C	406	CYR	C4-C5-N6-C7
1	B	406	CYR	O1-C1-C2-N2
1	A	406	CYR	C4-C5-N6-C7

There are no ring outliers.

3 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	B	406	CYR	3	0
1	C	406	CYR	3	0
1	D	406	CYR	5	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	401/418 (95%)	-0.49	3 (0%)	87	87	12, 40, 72, 99	0
1	B	405/418 (96%)	-0.55	1 (0%)	95	95	12, 37, 73, 99	0
1	C	402/418 (96%)	-0.44	6 (1%)	73	73	14, 45, 79, 98	0
1	D	401/418 (95%)	-0.43	5 (1%)	79	79	17, 43, 79, 98	0
All	All	1609/1672 (96%)	-0.48	15 (0%)	84	84	12, 41, 77, 99	0

All (15) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	273	SER	4.1
1	D	147	TYR	3.5
1	A	134	ALA	3.3
1	D	353	GLU	3.1
1	C	313	PRO	2.7
1	A	6	THR	2.7
1	C	416	ILE	2.4
1	D	310	PRO	2.4
1	A	273	SER	2.3
1	B	417	ASP	2.3
1	D	312	SER	2.3
1	D	146	GLU	2.2
1	C	353	GLU	2.2
1	C	147	TYR	2.1
1	C	314	TYR	2.1

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column

labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	CYR	B	406	17/18	0.93	0.15	22,42,60,63	0
1	CYR	C	406	17/18	0.95	0.12	21,34,46,50	0
1	CYR	A	406	17/18	0.96	0.14	14,45,58,60	0
1	CYR	D	406	17/18	0.97	0.10	15,40,60,62	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.