Full wwPDB X-ray Structure Validation Report (i)

Jun 19, 2024 – 10:41 AM EDT

PDB ID	:	3WRW
Title	:	Crystal structure of the N-terminal domain of resistance protein
Authors	:	Katoh, E.; Kezuka, Y.
Deposited on	:	2014-02-27
Resolution	:	2.71 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:

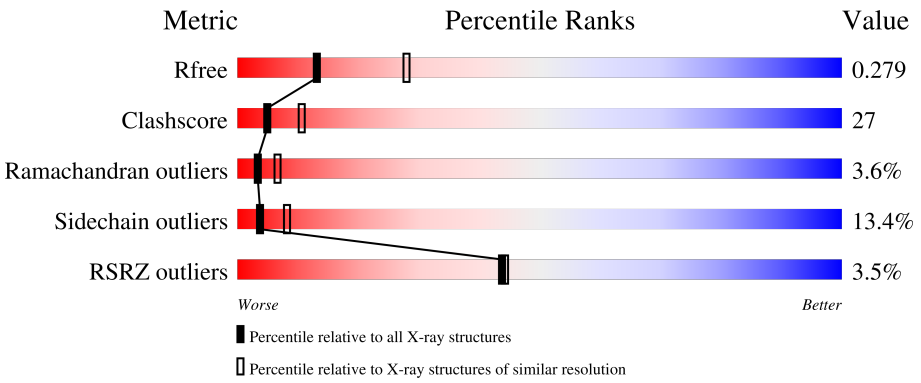
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 2.71 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	3359 (2.74-2.70)
Clashscore	141614	3686 (2.74-2.70)
Ramachandran outliers	138981	3622 (2.74-2.70)
Sidechain outliers	138945	3623 (2.74-2.70)
RSRZ outliers	127900	3276 (2.74-2.70)

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

Mol	Chain	Length	Quality of chain
1	A	431	2%; 53%; 35%; 6%; 6%
1	B	431	2%; 50%; 37%; 6%; 6%
1	C	431	2%; 44%; 39%; 9%; 7%
1	D	431	2%; 49%; 35%; 8%; 7%
1	E	431	8%; 52%; 31%; 7%; 10%

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Mol	Chain	Length	Quality of chain
1	F	431	4% 46% 34% 7% • 12%

2 Entry composition (i)

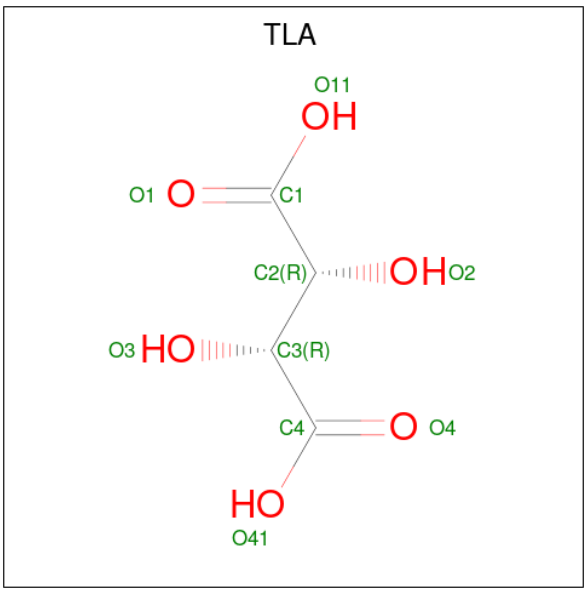
There are 3 unique types of molecules in this entry. The entry contains 17863 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Tm-1 protein.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	S	Se			
1	A	405	3045	1927	507	592	10	9	0	1	0
1	B	403	3027	1914	504	591	10	8	0	1	0
1	C	400	2996	1895	498	585	10	8	0	0	0
1	D	401	3015	1910	503	584	10	8	0	0	0
1	E	386	2881	1829	473	561	10	8	0	1	0
1	F	380	2835	1794	466	557	10	8	0	0	0

- Molecule 2 is L(+)-TARTARIC ACID (three-letter code: TLA) (formula: $C_4H_6O_6$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
2	A	1	10	4	6	0	0
			Total	C	O		
2	B	1	10	4	6	0	0

- Molecule 3 is water.

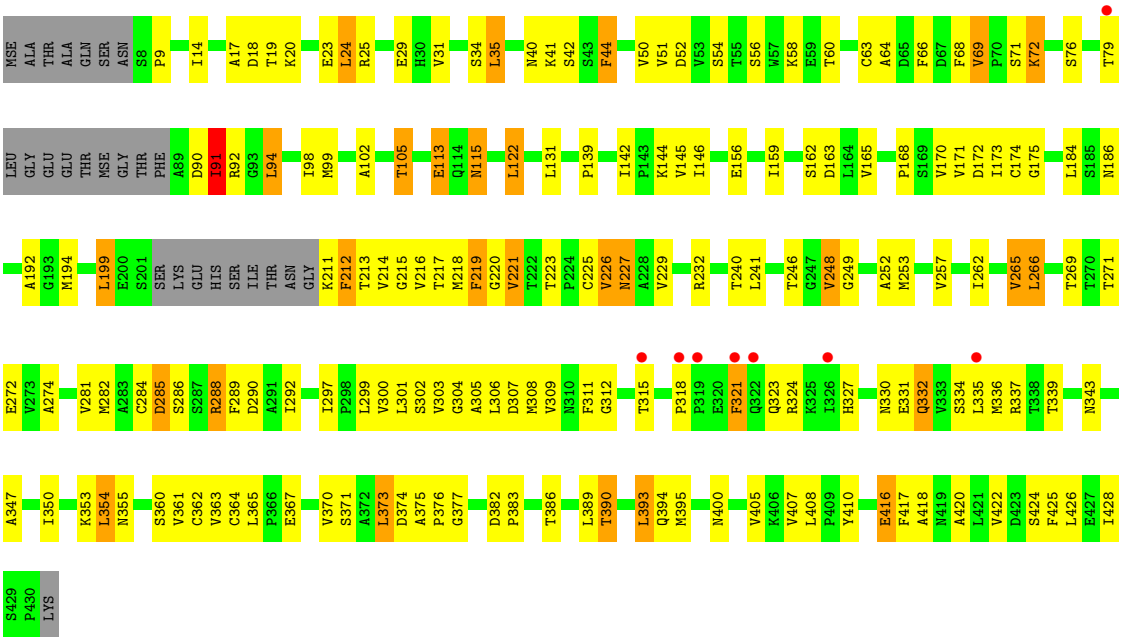
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
3	A	7	7	7	0	0
			Total	O		
3	B	5	5	5	0	0
			Total	O		
3	C	12	12	12	0	0
			Total	O		
3	D	7	7	7	0	0
			Total	O		
3	E	8	8	8	0	0
			Total	O		
3	F	5	5	5	0	0

3 Residue-property plots (i)

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

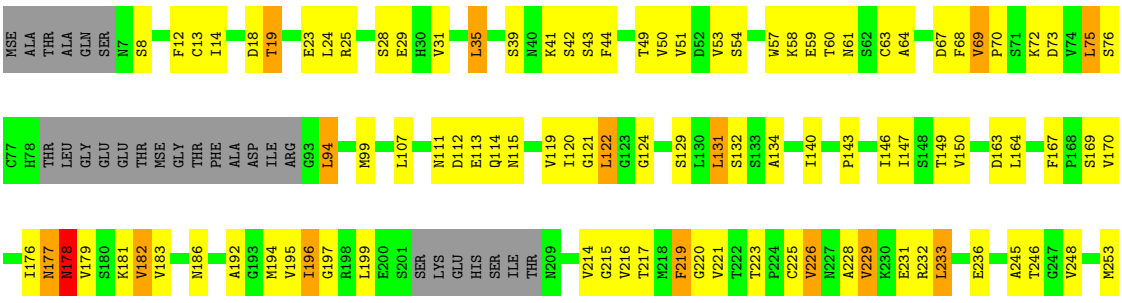
• Molecule 1: Tm-1 protein

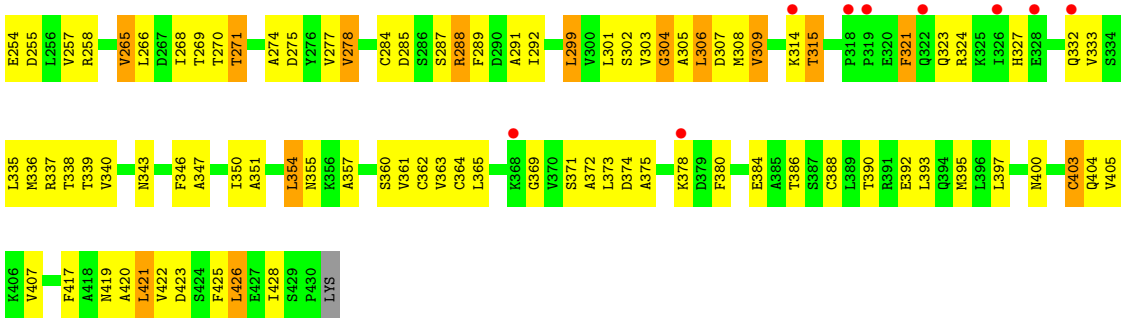
Chain A: 2% 53% 35% 6% 6%



• Molecule 1: Tm-1 protein

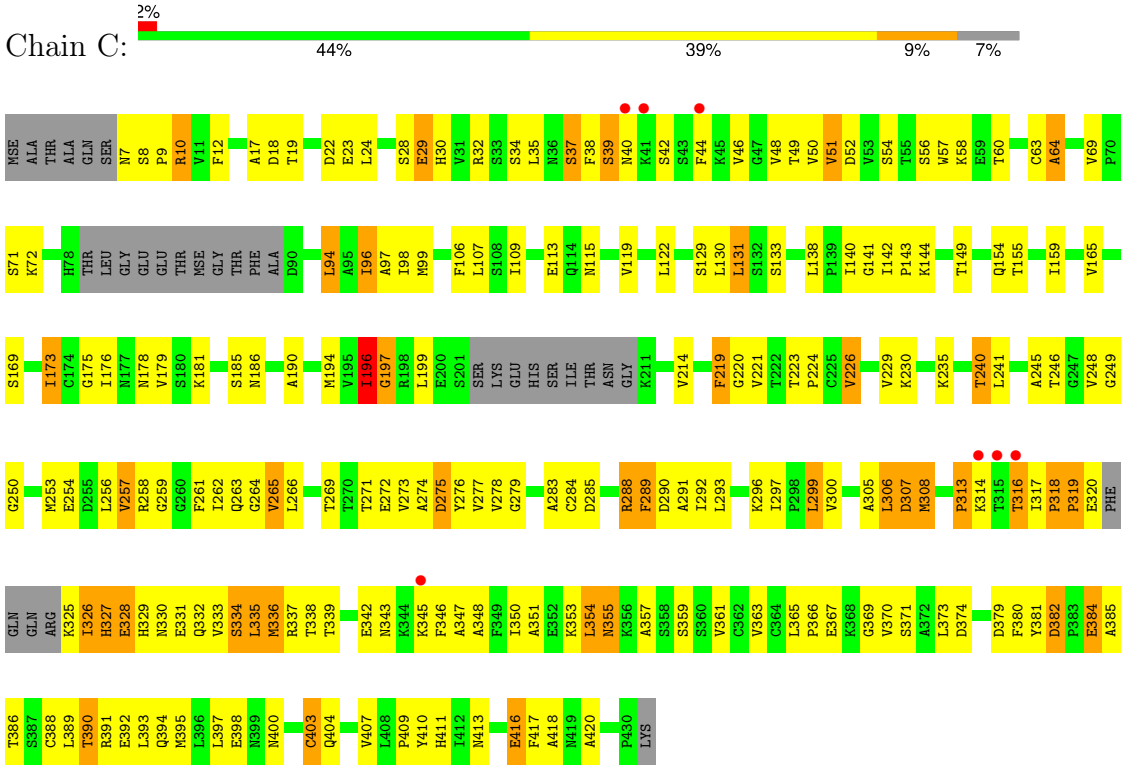
Chain B: 2% 50% 37% 6% 6%





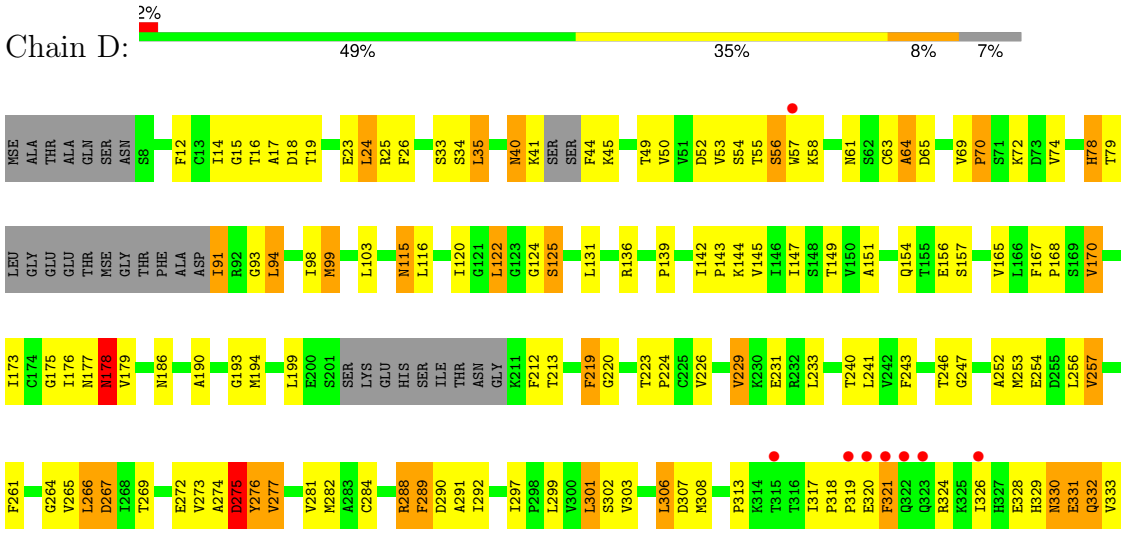
- Molecule 1: Tm-1 protein

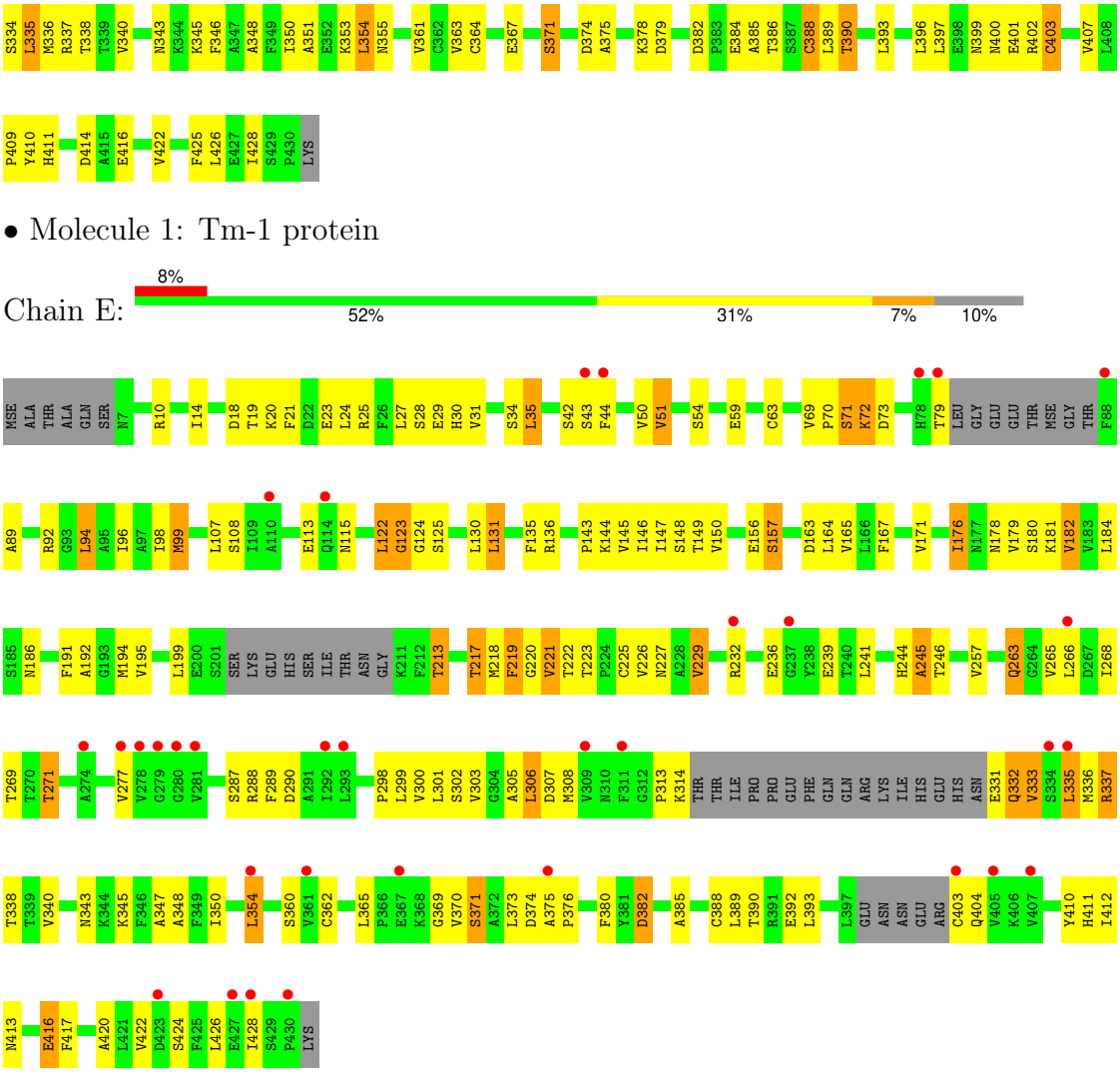
Chain C:

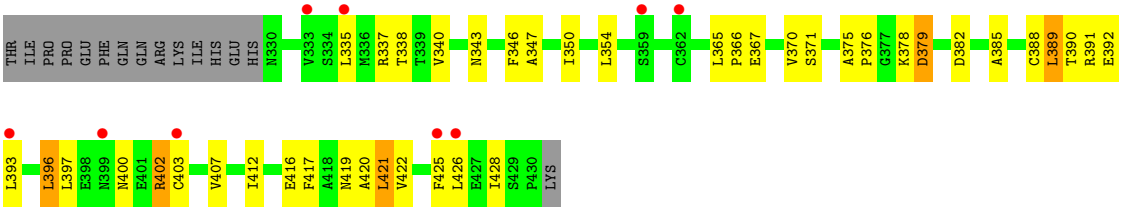


- Molecule 1: Tm-1 protein

Chain D:




S334 L335 M336 R337 T338 T339 V340 N343 K344 K345 F346 A347 A348 F349 I350 A351 E352 K353 L354 N355 V361 G362 V363 C364 E367 S371 D374 A375 K378 D379 D382 P383 E384 A385 T386 S387 C388 L389 T390 L393 L396 L397 E398 N399 N400 E401 R402 C403 V407 L408
P409 Y410 H411 D414 A415 E416 V422 F425 L426 E427 I428 S429 P430 LYS
• Molecule 1: Tm-1 protein
Chain E:
8%
52%
31%
7%
10%
MSE ALA THR ALA GLN SER N7 R10 I14 D18 T19 K20 F21 D22 E23 L24 R25 F26 L27 S28 E29 H30 V31 S34 L35 S42 S43 F44 V50 V51 S54 E59 C63 V69 P70 S71 K72 D73 H78 T79 LEU GLY GLU GLU THR MSE GLY THR F88
A89 R92 G93 L94 A95 I96 A97 I98 N99 L107 S108 I109 A110 E113 Q114 N115 L122 G123 G124 S125 L130 L131 F135 R136 P143 K144 V145 I146 I147 S148 T149 V150 E156 S157 D163 L164 V165 L166 F167 V171 I176 N177 N178 V179 S180 K181 V182 V183 L184
S185 N186 F191 A192 G193 M194 V195 L199 E200 S201 SER LYS GLU HIS SER ILE THR ASN GLY K211 F212 T213 T217 M218 F219 G220 V221 T222 T223 P224 C225 V226 N227 A228 V229 R232 E236 G237 Y238 E239 T240 L241 H244 A245 T246 V257 Q263 G264 V265 L266 D267 I268
T269 T270 T271 A274 V277 V278 G279 G280 V281 S287 R288 F289 D290 A291 T292 L293 P298 L299 V300 L301 S302 V303 G304 A305 L306 D307 M308 V309 N310 F311 G312 P313 K314 THR THR ILE PRO PRO GLU PHE GLN GLN ARG LYS ILE HIS GLU HIS ASN E331 Q332 V333 S334 L335 M336 R337
T338 T339 V340 N343 K344 K345 F346 A347 A348 F349 I350 L354 S360 V361 C362 L365 P366 E367 K368 G369 V370 S371 A372 L373 D374 A375 P376 F380 Y381 D382 A385 C388 L389 T390 R391 E392 L393 L397 GLU ASN ASN GLU ARG C403 Q404 V405 K406 V407 Y410 H411 I412
N413 E416 F417 A420 L421 V422 D423 S424 F425 L426 E427 I428 S429 P430 LYS
• Molecule 1: Tm-1 protein
Chain F:
4%
46%
34%
7%
12%
MSE ALA THR ALA GLN SER N7 S8 P9 R10 I14 D18 T19 K20 E23 L24 R25 V31 R32 L35 N40 K41 S42 S43 F44 V48 T49 V50 V51 S54 T55 S56 T60 C63 A64 D65 F66 D67 F68 V69 P70 S71 K72 D73 V74 L75 S76 C77 HIS THR
LEU GLY GLU GLU THR MSE GLY THR PHE ALA ASP ILE ARG GLY L94 A95 I96 A97 I98 M99 A102 T105 S108 N111 D112 E113 Q114 N115 L116 L122 G123 G124 G127 L130 L131 R136 P143 I146 I147 S148 T149 V150 Q154 T155 E156 S157 Y158 L164
F167 P168 S169 V170 I173 C174 G175 I176 N177 N178 V179 S180 L184 S185 N186 A187 G188 A189 A190 F191 A192 G193 M194 V195 L199 E200 S201 SER LYS GLU HIS SER ILE THR ASN GLY LYS F212 T213 M218 F219 G220 V221 T222 T223 P224 C225 V226 N227 A228 V229 R232 T240
T246 G247 V248 E254 V257 R258 G259 G260 F261 I262 Q263 G264 V265 L266 T269 T270 T271 E272 V273 A274 D275 Y276 V277 V278 G279 G280 V281 M282 A283 C284 D285 S286 S287 R288 F289 I292 I297 P298 L299 V300 L301 S302 V303 L306 D307 M308 V309 N310 F311 GLY PRO LYS THR


THR
ILE
PRO
PRO
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PHE
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ARG
LYS
ILE
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GLU
HIS
N330
V333
S334
L335
M336
R337
T338
T339
V340
N343
F346
A347
I350
L354
S359
C362
L365
P366
E367
V370
S371
A375
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C388
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T390
R391
E392
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L396
L397
E398
N399
N400
E401
R402
C403
V407
I412
E416
F417
A418
N419
A420
L421
V422
F425
L426
E427
I428
S429
P430
LYS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	77.97Å 105.28Å 110.62Å 94.56° 109.27° 107.99°	Depositor
Resolution (Å)	49.64 – 2.71 49.64 – 2.71	Depositor EDS
% Data completeness (in resolution range)	95.0 (49.64-2.71) 95.0 (49.64-2.71)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.55 (at 2.73Å)	Xtriage
Refinement program	REFMAC 5.6.0117	Depositor
R, R_{free}	0.207 , 0.278 0.213 , 0.279	Depositor DCC
R_{free} test set	3975 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	60.3	Xtriage
Anisotropy	0.109	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 56.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.015 for -h,-l,-k	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	17863	wwPDB-VP
Average B, all atoms (Å^2)	67.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.44% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: TLA

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	0.64	0/3088	0.76	0/4167
1	B	0.61	1/3070 (0.0%)	0.73	0/4143
1	C	0.64	1/3034 (0.0%)	0.75	0/4094
1	D	0.67	1/3054 (0.0%)	0.81	0/4120
1	E	0.63	0/2918	0.71	0/3934
1	F	0.57	0/2867	0.71	0/3868
All	All	0.63	3/18031 (0.0%)	0.75	0/24326

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	2
1	E	0	1
1	F	0	1
All	All	0	4

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	57	TRP	CD2-CE2	5.69	1.48	1.41
1	D	57	TRP	CD2-CE2	5.46	1.47	1.41
1	C	57	TRP	CD2-CE2	5.12	1.47	1.41

There are no bond angle outliers.

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	41	LYS	Peptide
1	B	44	PHE	Peptide
1	E	123	GLY	Peptide
1	F	41	LYS	Peptide

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	3045	0	3067	147	1
1	B	3027	0	3039	159	0
1	C	2996	0	3013	192	0
1	D	3015	0	3038	161	1
1	E	2881	0	2907	162	0
1	F	2835	0	2850	184	0
2	A	10	0	4	2	0
2	B	10	0	4	0	0
3	A	7	0	0	0	0
3	B	5	0	0	0	0
3	C	12	0	0	1	0
3	D	7	0	0	0	0
3	E	8	0	0	1	0
3	F	5	0	0	0	0
All	All	17863	0	17922	978	1

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 27.

All (978) 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:F:180:SER:O	1:F:184:LEU:HD23	1.42	1.18
1:D:246:THR:HG23	1:D:282:MSE:HE2	1.19	1.11
1:E:143:PRO:HB3	1:E:194:MSE:HE2	1.38	1.02
1:E:191:PHE:O	1:E:195:VAL:HG23	1.62	1.00
1:B:221:VAL:HG21	1:B:308:MSE:HE1	1.43	0.97
1:A:225:CYS:O	1:A:229:VAL:HG23	1.65	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:221:VAL:HG21	1:A:308:MSE:HE1	1.47	0.95
1:B:18:ASP:OD1	1:B:19:THR:HG22	1.66	0.95
1:E:269:THR:HG22	1:E:271:THR:HG22	1.47	0.94
1:C:343:ASN:HB3	1:C:389:LEU:HD13	1.49	0.94
1:A:321:PHE:CD1	1:A:336:MSE:HE1	2.03	0.93
1:C:355:ASN:ND2	1:C:400:ASN:HD22	1.67	0.93
1:E:307:ASP:OD2	1:E:370:VAL:HG23	1.69	0.93
1:D:18:ASP:OD1	1:D:19:THR:OG1	1.85	0.92
1:C:355:ASN:HD22	1:C:400:ASN:ND2	1.67	0.91
1:E:147:ILE:HD12	1:E:147:ILE:N	1.83	0.91
1:A:18:ASP:OD2	1:A:54:SER:OG	1.90	0.90
1:A:308:MSE:SE	1:A:335:LEU:HD13	2.22	0.90
1:A:14:ILE:HG23	1:A:51:VAL:HG22	1.53	0.89
1:E:94:LEU:HD23	1:E:98:ILE:HD11	1.55	0.88
1:E:225:CYS:O	1:E:229:VAL:HG12	1.72	0.88
1:D:24:LEU:HD11	1:D:50:VAL:HG13	1.56	0.87
1:D:340:VAL:HG13	1:D:388:CYS:SG	2.14	0.87
1:A:292:ILE:HG23	1:A:297:ILE:HD11	1.55	0.86
1:E:350:ILE:HG22	1:E:354:LEU:HD22	1.58	0.86
1:A:23:GLU:OE2	1:A:175:GLY:N	2.08	0.85
1:F:35:LEU:HD11	1:F:195:VAL:HG21	1.56	0.85
1:A:305:ALA:HB1	1:A:308:MSE:HE3	1.56	0.85
1:E:24:LEU:HD23	1:E:122:LEU:HD11	1.59	0.85
1:E:229:VAL:HG11	1:E:268:ILE:HD11	1.59	0.85
1:D:24:LEU:HD11	1:D:50:VAL:CG1	2.06	0.85
1:C:155:THR:CG2	1:C:159:ILE:HD12	2.06	0.85
1:E:221:VAL:HG23	1:E:222:THR:HG23	1.57	0.84
1:C:339:THR:HG23	1:C:342:GLU:OE1	1.77	0.84
1:D:124:GLY:HA2	1:D:149:THR:OG1	1.78	0.83
1:F:74:VAL:HG23	1:F:99:MSE:HE1	1.58	0.83
1:C:382:ASP:OD2	1:C:385:ALA:HB2	1.78	0.83
1:E:130:LEU:HD23	1:E:131:LEU:HD13	1.59	0.83
1:D:74:VAL:HG11	1:D:99:MSE:SE	2.29	0.82
1:F:246:THR:HG23	1:F:282:MSE:HE2	1.61	0.82
1:F:74:VAL:CG2	1:F:99:MSE:HE1	2.08	0.82
1:A:115:ASN:H	1:A:115:ASN:HD22	1.28	0.82
1:D:329:HIS:HB3	1:D:333:VAL:HG23	1.60	0.82
1:A:307:ASP:OD1	1:A:370:VAL:HG23	1.79	0.82
1:D:384:GLU:O	1:D:388:CYS:SG	2.38	0.82
1:C:330:ASN:O	1:C:333:VAL:HG12	1.80	0.81
1:F:392:GLU:OE2	1:F:396:LEU:HD12	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:347:ALA:HB1	1:E:393:LEU:HD22	1.63	0.81
1:F:307:ASP:OD1	1:F:308:MSE:HE3	1.80	0.81
1:E:333:VAL:O	1:E:335:LEU:HD23	1.79	0.81
1:C:265:VAL:HG11	1:C:292:ILE:HD13	1.63	0.81
1:B:350:ILE:HG22	1:B:354:LEU:HD23	1.63	0.81
1:D:335:LEU:N	1:D:335:LEU:HD23	1.94	0.81
1:B:229:VAL:HG23	1:B:233:LEU:HD23	1.62	0.80
1:F:18:ASP:OD2	1:F:54:SER:OG	1.99	0.80
1:C:363:VAL:HG12	1:C:365:LEU:CD2	2.12	0.80
1:B:177:ASN:HD22	1:B:179:VAL:H	1.29	0.80
1:D:397:LEU:HD22	1:D:403:CYS:SG	2.22	0.79
1:E:24:LEU:HD11	1:E:50:VAL:HG13	1.65	0.79
1:F:192:ALA:O	1:F:195:VAL:HG22	1.82	0.79
1:D:91:ILE:HD12	1:D:91:ILE:N	1.98	0.79
1:E:347:ALA:CB	1:E:393:LEU:HD22	2.13	0.79
1:C:355:ASN:HA	1:C:400:ASN:ND2	1.98	0.78
1:A:35:LEU:HD13	1:A:192:ALA:CB	2.13	0.78
1:F:23:GLU:HA	1:F:176:ILE:HD11	1.65	0.78
1:F:308:MSE:SE	1:F:335:LEU:CD2	2.81	0.78
1:C:326:ILE:CG2	1:C:327:HIS:N	2.47	0.78
1:C:330:ASN:O	1:C:333:VAL:CG1	2.32	0.78
1:E:147:ILE:HD12	1:E:147:ILE:H	1.47	0.77
1:A:91:ILE:HD13	1:A:91:ILE:N	1.98	0.77
1:B:269:THR:HG22	1:B:271:THR:HG22	1.67	0.77
1:B:422:VAL:HG12	1:B:426:LEU:HD23	1.67	0.76
1:C:326:ILE:HG23	1:C:327:HIS:H	1.50	0.76
1:F:265:VAL:HG22	1:F:299:LEU:HD23	1.67	0.76
1:F:269:THR:HG22	1:F:271:THR:HG22	1.67	0.76
1:D:350:ILE:HG22	1:D:354:LEU:HD22	1.68	0.76
1:B:216:VAL:HG13	1:B:268:ILE:HD13	1.67	0.76
1:D:23:GLU:OE2	1:D:175:GLY:CA	2.34	0.76
1:B:223:THR:HA	1:B:226:VAL:HG13	1.67	0.76
1:F:49:THR:HG22	1:F:49:THR:O	1.84	0.76
1:C:363:VAL:HG12	1:C:365:LEU:HD21	1.66	0.75
1:E:213:THR:HG23	1:E:263:GLN:HE22	1.49	0.75
1:B:324:ARG:NH2	1:B:339:THR:HG23	2.01	0.75
1:A:386:THR:O	1:A:390:THR:OG1	2.05	0.75
1:E:99:MSE:HG3	1:E:130:LEU:HD11	1.69	0.75
1:B:51:VAL:HG22	1:B:69:VAL:HG13	1.68	0.75
1:B:18:ASP:OD1	1:B:19:THR:CG2	2.34	0.74
1:F:223:THR:HA	1:F:226:VAL:HG13	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:308:MSE:SE	1:F:335:LEU:HD23	2.36	0.74
1:C:246:THR:HG22	1:C:248:VAL:HG22	1.68	0.74
1:C:155:THR:HG21	1:C:159:ILE:HD12	1.69	0.74
1:F:143:PRO:HB3	1:F:194:MSE:HE2	1.69	0.74
1:A:303:VAL:HG23	1:A:370:VAL:HG12	1.69	0.74
1:B:347:ALA:HA	1:B:393:LEU:HD21	1.70	0.74
1:C:241:LEU:HD12	1:C:262:ILE:HD11	1.68	0.74
1:F:266:LEU:HD13	1:F:300:VAL:HB	1.70	0.73
1:C:343:ASN:ND2	1:C:389:LEU:HD22	2.02	0.73
1:B:374:ASP:OD2	1:B:386:THR:HG21	1.89	0.73
1:B:397:LEU:HD13	1:B:403:CYS:SG	2.28	0.73
1:A:90:ASP:C	1:A:91:ILE:HD13	2.09	0.73
1:D:18:ASP:OD1	1:D:19:THR:N	2.22	0.73
1:E:221:VAL:HG23	1:E:222:THR:CG2	2.19	0.73
1:A:165:VAL:HG21	1:B:167:PHE:CE2	2.24	0.72
1:F:301:LEU:HD23	1:F:302:SER:N	2.03	0.72
1:F:350:ILE:HG22	1:F:354:LEU:HD22	1.70	0.72
1:C:307:ASP:OD1	1:C:370:VAL:HG23	1.90	0.72
1:C:130:LEU:HD23	1:C:130:LEU:C	2.10	0.72
1:A:305:ALA:CB	1:A:308:MSE:HE3	2.20	0.72
1:A:355:ASN:HA	1:A:400:ASN:HD22	1.55	0.72
1:A:371:SER:OG	1:A:373:LEU:N	2.23	0.72
1:A:350:ILE:HG22	1:A:354:LEU:HD23	1.71	0.71
1:C:313:PRO:C	1:C:317:ILE:HG21	2.10	0.71
1:F:51:VAL:HB	1:F:69:VAL:HG13	1.70	0.71
1:F:99:MSE:O	1:F:102:ALA:N	2.23	0.71
1:F:136:ARG:NH1	1:F:158:TYR:O	2.20	0.71
1:E:220:GLY:O	1:E:223:THR:HG23	1.91	0.71
1:F:180:SER:O	1:F:184:LEU:CD2	2.33	0.71
1:C:367:GLU:HG3	1:C:407:VAL:HG12	1.73	0.71
1:F:274:ALA:HB1	1:F:309:VAL:HG22	1.71	0.71
1:B:422:VAL:HG12	1:B:426:LEU:CD2	2.19	0.71
1:C:130:LEU:HD22	1:C:131:LEU:HD13	1.72	0.71
1:F:173:ILE:O	1:F:173:ILE:HG22	1.89	0.71
1:B:24:LEU:HD21	1:B:50:VAL:HG13	1.72	0.70
1:C:397:LEU:HD22	1:C:403:CYS:SG	2.31	0.70
1:B:122:LEU:HD12	1:B:122:LEU:O	1.92	0.70
1:D:23:GLU:OE2	1:D:175:GLY:N	2.24	0.70
1:B:422:VAL:O	1:B:426:LEU:HD23	1.92	0.70
1:E:70:PRO:HD2	1:E:73:ASP:OD2	1.90	0.70
1:A:35:LEU:HD13	1:A:192:ALA:HB1	1.72	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:24:LEU:O	1:B:24:LEU:HD23	1.91	0.69
1:F:75:LEU:CD2	1:F:99:MSE:HE3	2.22	0.69
1:D:17:ALA:HB3	1:D:52:ASP:OD2	1.92	0.69
1:F:41:LYS:N	1:F:42:SER:HB2	2.08	0.69
1:F:150:VAL:HG23	1:F:150:VAL:O	1.93	0.69
1:F:343:ASN:ND2	1:F:385:ALA:HB1	2.07	0.69
1:A:301:LEU:HD23	1:A:302:SER:N	2.07	0.69
1:A:301:LEU:HD13	1:A:354:LEU:HD21	1.75	0.69
1:F:113:GLU:O	1:F:115:ASN:N	2.26	0.68
1:A:350:ILE:CG2	1:A:354:LEU:HD23	2.24	0.68
1:B:305:ALA:HB1	1:B:308:MSE:HE3	1.73	0.68
1:A:422:VAL:O	1:A:426:LEU:HD23	1.94	0.68
1:E:180:SER:O	1:E:184:LEU:HD13	1.95	0.67
1:F:25:ARG:HD2	1:F:64:ALA:HB2	1.75	0.67
1:E:422:VAL:O	1:E:426:LEU:HD23	1.94	0.67
1:B:321:PHE:CD1	1:B:336:MSE:HE1	2.30	0.67
1:C:394:GLN:O	1:C:398:GLU:N	2.28	0.67
1:B:422:VAL:O	1:B:426:LEU:CD2	2.42	0.67
1:B:365:LEU:CD1	1:B:390:THR:HG23	2.24	0.67
1:D:220:GLY:O	1:D:223:THR:HG23	1.95	0.67
1:E:226:VAL:O	1:E:229:VAL:HG13	1.95	0.67
1:F:367:GLU:CG	1:F:407:VAL:HG12	2.25	0.67
1:C:246:THR:HG22	1:C:246:THR:O	1.94	0.66
1:C:258:ARG:NH2	1:C:291:ALA:HB2	2.10	0.66
1:F:347:ALA:HB1	1:F:393:LEU:CD2	2.26	0.66
1:C:308:MSE:SE	1:C:335:LEU:HD12	2.46	0.66
1:F:254:GLU:HA	1:F:257:VAL:HG13	1.78	0.66
1:C:274:ALA:O	1:C:275:ASP:C	2.34	0.66
1:E:266:LEU:HD13	1:E:300:VAL:HB	1.77	0.66
1:A:422:VAL:HG12	1:A:426:LEU:HD23	1.77	0.65
1:C:18:ASP:OD1	1:C:19:THR:N	2.30	0.65
1:C:179:VAL:HG21	1:D:256:LEU:HD13	1.78	0.65
1:E:360:SER:HB2	1:E:428:ILE:HG23	1.78	0.65
1:E:337:ARG:NH2	1:E:374:ASP:OD2	2.29	0.65
1:A:219:PHE:HB2	1:A:269:THR:HG21	1.79	0.65
1:C:320:GLU:OE1	1:C:320:GLU:N	2.30	0.65
1:E:362:CYS:HB2	1:E:428:ILE:HD11	1.78	0.65
1:C:240:THR:O	1:C:240:THR:HG22	1.97	0.65
1:E:371:SER:O	1:E:411:HIS:CE1	2.50	0.65
1:C:350:ILE:HG22	1:C:354:LEU:HD22	1.79	0.65
1:D:53:VAL:HA	1:D:99:MSE:HE3	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:226:VAL:HG23	1:E:227:ASN:HD22	1.62	0.65
1:D:308:MSE:SE	1:D:335:LEU:HD12	2.48	0.64
1:E:350:ILE:CG2	1:E:354:LEU:HD22	2.27	0.64
1:B:365:LEU:HD13	1:B:390:THR:HG23	1.78	0.64
1:E:124:GLY:HA2	1:E:149:THR:OG1	1.98	0.64
1:B:225:CYS:O	1:B:229:VAL:CG1	2.45	0.64
1:E:226:VAL:CG2	1:E:227:ASN:N	2.60	0.64
1:F:272:GLU:HB3	1:F:284:CYS:HB3	1.80	0.64
1:D:145:VAL:HG22	1:D:165:VAL:CG1	2.27	0.64
1:F:266:LEU:HD21	1:F:425:PHE:CD2	2.33	0.64
1:D:351:ALA:CB	1:D:396:LEU:HD13	2.27	0.64
1:D:422:VAL:O	1:D:426:LEU:HD23	1.98	0.64
1:E:194:MSE:HE3	1:F:186:ASN:HB3	1.80	0.64
1:B:266:LEU:HD11	1:B:425:PHE:CD2	2.32	0.63
1:B:284:CYS:HB2	1:B:288:ARG:HG2	1.80	0.63
1:D:24:LEU:CD1	1:D:50:VAL:CG1	2.75	0.63
1:B:28:SER:OG	1:B:50:VAL:HG22	1.99	0.63
1:F:122:LEU:H	1:F:122:LEU:HD12	1.62	0.63
1:D:124:GLY:O	1:D:125:SER:C	2.37	0.63
1:B:365:LEU:HD13	1:B:390:THR:HA	1.79	0.63
1:F:23:GLU:HG3	1:F:176:ILE:HD13	1.81	0.63
1:D:74:VAL:CG1	1:D:99:MSE:SE	2.96	0.63
1:D:290:ASP:OD1	1:D:353:LYS:NZ	2.31	0.63
1:F:246:THR:HG22	1:F:246:THR:O	1.97	0.63
1:A:394:GLN:HB3	1:A:405:VAL:HG11	1.80	0.63
1:C:363:VAL:CG1	1:C:365:LEU:HD21	2.28	0.63
1:F:99:MSE:O	1:F:102:ALA:HB3	1.99	0.63
1:F:275:ASP:HA	1:F:309:VAL:HG13	1.80	0.63
1:A:246:THR:HG23	1:A:282:MSE:SE	2.49	0.63
1:C:343:ASN:HA	1:C:346:PHE:CD2	2.34	0.63
1:E:130:LEU:CD2	1:E:131:LEU:HD13	2.28	0.63
1:B:350:ILE:HG22	1:B:354:LEU:CD2	2.29	0.62
1:C:263:GLN:O	1:C:297:ILE:HB	1.99	0.62
1:F:94:LEU:HD22	1:F:97:ALA:HB3	1.79	0.62
1:A:94:LEU:CD2	1:A:98:ILE:HD11	2.29	0.62
1:D:25:ARG:HD2	1:D:64:ALA:HB2	1.81	0.62
1:B:143:PRO:HB3	1:B:194:MSE:HE2	1.79	0.62
1:D:317:ILE:HG23	1:D:318:PRO:HD2	1.80	0.62
1:E:219:PHE:HB3	1:E:221:VAL:HG22	1.80	0.62
1:E:222:THR:HA	1:E:413:ASN:HD21	1.65	0.62
1:D:63:CYS:O	1:D:64:ALA:C	2.38	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:354:LEU:O	1:C:357:ALA:HB2	1.99	0.62
1:E:94:LEU:CD2	1:E:98:ILE:HD11	2.28	0.62
1:E:360:SER:CB	1:E:428:ILE:HG23	2.28	0.62
1:F:35:LEU:HD11	1:F:195:VAL:CG2	2.29	0.62
1:D:144:LYS:O	1:D:165:VAL:HG12	1.98	0.62
1:D:264:GLY:HA2	1:D:297:ILE:HD12	1.82	0.62
1:F:63:CYS:O	1:F:64:ALA:C	2.38	0.62
1:B:266:LEU:O	1:B:268:ILE:HD12	2.00	0.62
1:A:31:VAL:HG12	1:A:35:LEU:HD22	1.81	0.61
1:A:332:GLN:HE21	1:A:332:GLN:HA	1.65	0.61
1:C:328:GLU:OE1	1:C:330:ASN:N	2.34	0.61
1:F:298:PRO:HB3	1:F:428:ILE:HG22	1.80	0.61
1:F:232:ARG:HG3	1:F:422:VAL:HG11	1.81	0.61
1:A:303:VAL:HG23	1:A:370:VAL:CG1	2.31	0.61
1:C:194:MSE:HE3	1:D:186:ASN:HB3	1.81	0.61
1:E:226:VAL:HG23	1:E:227:ASN:N	2.13	0.61
1:B:254:GLU:HA	1:B:257:VAL:HG13	1.83	0.61
1:D:18:ASP:OD2	1:D:54:SER:OG	2.18	0.61
1:E:333:VAL:O	1:E:335:LEU:CD2	2.49	0.61
1:E:225:CYS:O	1:E:229:VAL:CG1	2.47	0.60
1:B:257:VAL:HG22	1:B:258:ARG:N	2.16	0.60
1:C:325:LYS:O	1:C:326:ILE:HG13	2.02	0.60
1:B:225:CYS:O	1:B:229:VAL:HG12	2.01	0.60
1:B:301:LEU:HD23	1:B:302:SER:N	2.16	0.60
1:C:335:LEU:HD23	1:C:335:LEU:N	2.15	0.60
1:E:171:VAL:HG13	1:E:179:VAL:HG11	1.84	0.60
1:F:32:ARG:HB2	1:F:48:VAL:HG21	1.82	0.60
1:D:147:ILE:H	1:D:147:ILE:HD12	1.65	0.60
1:D:308:MSE:SE	1:D:335:LEU:CD1	2.99	0.60
1:E:375:ALA:HB2	1:E:411:HIS:NE2	2.17	0.60
1:E:143:PRO:HB3	1:E:194:MSE:CE	2.21	0.60
1:B:217:THR:CG2	1:B:253:MSE:HE1	2.32	0.60
1:B:371:SER:O	1:B:374:ASP:N	2.35	0.60
1:B:121:GLY:O	1:B:146:ILE:HA	2.02	0.60
1:B:308:MSE:SE	1:B:335:LEU:HD13	2.51	0.60
1:B:355:ASN:HA	1:B:400:ASN:HD22	1.66	0.59
1:B:176:ILE:HG23	1:B:181:LYS:HG3	1.83	0.59
1:D:335:LEU:N	1:D:335:LEU:CD2	2.65	0.59
1:E:213:THR:HG23	1:E:263:GLN:NE2	2.16	0.59
1:C:337:ARG:HG2	1:C:380:PHE:HB3	1.85	0.59
1:C:275:ASP:O	1:C:279:GLY:N	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:314:LYS:HA	1:C:317:ILE:HD13	1.83	0.59
1:D:266:LEU:HD21	1:D:425:PHE:CD1	2.38	0.59
1:F:262:ILE:HG22	1:F:262:ILE:O	2.02	0.59
1:F:275:ASP:O	1:F:280:GLY:N	2.31	0.59
1:E:18:ASP:OD2	1:E:54:SER:OG	2.20	0.59
1:F:246:THR:HB	1:F:248:VAL:HG22	1.85	0.59
1:B:269:THR:HA	1:B:304:GLY:HA3	1.85	0.59
1:F:226:VAL:O	1:F:229:VAL:HG22	2.03	0.59
1:E:218:MSE:HG3	1:E:226:VAL:HG11	1.84	0.59
1:E:229:VAL:HG11	1:E:268:ILE:CD1	2.33	0.59
1:A:272:GLU:HB3	1:A:284:CYS:HB3	1.85	0.58
1:F:340:VAL:HG13	1:F:385:ALA:HA	1.85	0.58
1:D:124:GLY:CA	1:D:149:THR:OG1	2.49	0.58
1:E:221:VAL:HG21	1:E:308:MSE:CE	2.33	0.58
1:D:23:GLU:OE2	1:D:175:GLY:HA2	2.03	0.58
1:F:154:GLN:OE1	1:F:156:GLU:HB3	2.02	0.58
1:A:113:GLU:HB2	1:A:115:ASN:ND2	2.19	0.58
1:B:232:ARG:HG2	1:B:422:VAL:HG11	1.85	0.58
1:E:144:LYS:HB3	1:E:164:LEU:HD12	1.85	0.58
1:E:221:VAL:HG21	1:E:308:MSE:HE1	1.86	0.58
1:E:365:LEU:HD13	1:E:390:THR:HG23	1.84	0.58
1:A:354:LEU:HD12	1:A:361:VAL:HG11	1.84	0.58
1:D:266:LEU:HD21	1:D:425:PHE:CG	2.39	0.58
1:F:195:VAL:O	1:F:199:LEU:HD22	2.03	0.58
1:D:375:ALA:HB3	1:D:378:LYS:HG3	1.86	0.58
1:A:211:LYS:O	1:A:212:PHE:C	2.41	0.58
1:E:347:ALA:CB	1:E:393:LEU:CD2	2.82	0.58
1:C:149:THR:CG2	1:C:173:ILE:HD12	2.34	0.58
1:F:232:ARG:CG	1:F:422:VAL:HG11	2.34	0.58
1:B:177:ASN:O	1:B:179:VAL:N	2.37	0.57
1:F:303:VAL:HG23	1:F:370:VAL:CG1	2.34	0.57
1:B:177:ASN:ND2	1:B:179:VAL:H	2.00	0.57
1:B:229:VAL:HG23	1:B:233:LEU:CD2	2.34	0.57
1:D:139:PRO:HD2	1:D:142:ILE:HD12	1.86	0.57
1:A:292:ILE:HG23	1:A:297:ILE:CD1	2.30	0.57
1:C:219:PHE:HB2	1:C:269:THR:HG21	1.86	0.57
1:C:343:ASN:CB	1:C:389:LEU:HD13	2.30	0.57
1:B:122:LEU:HD12	1:B:122:LEU:C	2.25	0.57
1:E:219:PHE:O	1:E:220:GLY:C	2.43	0.57
1:F:366:PRO:HG2	1:F:370:VAL:HG12	1.86	0.57
1:C:326:ILE:HG22	1:C:327:HIS:N	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:302:SER:OG	1:B:303:VAL:N	2.37	0.57
1:B:321:PHE:HB2	1:B:324:ARG:HG3	1.86	0.57
1:D:301:LEU:HD23	1:D:301:LEU:C	2.24	0.57
1:E:298:PRO:HB3	1:E:428:ILE:HG22	1.86	0.57
1:F:40:ASN:C	1:F:42:SER:HB2	2.25	0.57
1:F:143:PRO:CB	1:F:194:MSE:HE2	2.35	0.57
1:A:363:VAL:HG12	1:A:364:CYS:N	2.19	0.57
1:B:143:PRO:HG2	1:B:195:VAL:HG22	1.87	0.57
1:E:71:SER:O	1:E:72:LYS:C	2.41	0.57
1:B:275:ASP:HA	1:B:309:VAL:HG22	1.86	0.57
1:C:186:ASN:HB3	1:D:194:MSE:HE3	1.87	0.57
1:F:343:ASN:HA	1:F:346:PHE:CD2	2.40	0.57
1:C:259:GLY:O	1:C:261:PHE:CD1	2.58	0.56
1:C:271:THR:HB	1:C:305:ALA:HB3	1.87	0.56
1:E:18:ASP:OD1	1:E:19:THR:N	2.38	0.56
1:A:303:VAL:CG2	1:A:370:VAL:HG12	2.34	0.56
1:A:330:ASN:O	1:A:332:GLN:N	2.37	0.56
1:E:34:SER:O	1:E:35:LEU:C	2.43	0.56
1:F:55:THR:HG21	1:F:95:ALA:HB1	1.86	0.56
1:F:350:ILE:O	1:F:354:LEU:HD13	2.05	0.56
1:C:179:VAL:HG22	1:D:261:PHE:CD2	2.41	0.56
1:C:240:THR:O	1:C:240:THR:CG2	2.53	0.56
1:C:264:GLY:HA2	1:C:297:ILE:HD12	1.87	0.56
1:C:273:VAL:CG1	1:C:273:VAL:O	2.53	0.56
1:E:147:ILE:N	1:E:147:ILE:CD1	2.59	0.56
1:F:277:VAL:HG21	1:F:346:PHE:HE1	1.70	0.56
1:B:122:LEU:C	1:B:122:LEU:CD1	2.73	0.56
1:B:31:VAL:HG12	1:B:35:LEU:HD22	1.87	0.56
1:D:53:VAL:HG11	1:D:103:LEU:HD22	1.88	0.56
1:F:8:SER:HB2	1:F:44:PHE:CD1	2.40	0.56
1:C:246:THR:O	1:C:246:THR:CG2	2.54	0.56
1:C:355:ASN:HA	1:C:400:ASN:HD21	1.67	0.56
1:E:289:PHE:CE1	1:E:301:LEU:HD11	2.41	0.56
1:D:91:ILE:N	1:D:91:ILE:CD1	2.67	0.56
1:D:302:SER:OG	1:D:303:VAL:N	2.39	0.56
1:F:347:ALA:HB1	1:F:393:LEU:HD23	1.87	0.56
1:C:363:VAL:HG12	1:C:365:LEU:HD22	1.87	0.56
1:D:343:ASN:HB3	1:D:389:LEU:HD13	1.88	0.56
1:E:14:ILE:HG12	1:E:51:VAL:HG13	1.86	0.56
1:C:32:ARG:HB2	1:C:48:VAL:HG21	1.88	0.56
1:C:38:PHE:O	1:C:40:ASN:N	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:218:MSE:HB2	1:A:226:VAL:HG11	1.88	0.55
1:A:360:SER:HB2	1:A:428:ILE:HG23	1.88	0.55
1:B:150:VAL:HG23	1:B:150:VAL:O	2.06	0.55
1:C:386:THR:O	1:C:390:THR:OG1	2.19	0.55
1:B:216:VAL:CG1	1:B:268:ILE:HD13	2.36	0.55
1:A:94:LEU:HD21	1:A:98:ILE:HD11	1.87	0.55
1:A:165:VAL:HG21	1:B:167:PHE:CD2	2.40	0.55
1:C:381:TYR:O	1:C:382:ASP:CB	2.55	0.55
1:A:327:HIS:CD2	1:A:373:LEU:HD11	2.42	0.55
1:D:343:ASN:HA	1:D:346:PHE:CD2	2.42	0.55
1:F:23:GLU:OE2	1:F:175:GLY:N	2.30	0.55
1:F:96:ILE:HG22	1:F:97:ALA:N	2.21	0.55
1:B:303:VAL:CB	1:B:306:LEU:HD23	2.36	0.55
1:C:389:LEU:O	1:C:393:LEU:HD23	2.06	0.55
1:A:343:ASN:HD22	1:A:389:LEU:HD22	1.71	0.55
1:B:42:SER:OG	1:B:43:SER:N	2.38	0.55
1:C:23:GLU:OE2	1:C:175:GLY:N	2.36	0.55
1:C:327:HIS:CD2	1:C:327:HIS:O	2.59	0.55
1:E:371:SER:O	1:E:411:HIS:NE2	2.39	0.55
1:A:90:ASP:O	1:A:92:ARG:N	2.39	0.55
1:D:14:ILE:HG22	1:D:15:GLY:N	2.21	0.55
1:E:217:THR:HG22	1:E:245:ALA:HB2	1.88	0.55
1:D:411:HIS:HB3	1:D:414:ASP:OD2	2.07	0.55
1:C:307:ASP:O	1:C:308:MSE:HE2	2.06	0.55
1:F:402:ARG:NE	1:F:402:ARG:HA	2.22	0.55
1:A:221:VAL:CG2	1:A:308:MSE:HE1	2.30	0.54
1:D:25:ARG:HG3	1:D:63:CYS:SG	2.47	0.54
1:E:18:ASP:CG	1:E:54:SER:OG	2.45	0.54
1:E:232:ARG:HG3	1:E:422:VAL:HG11	1.89	0.54
1:F:31:VAL:O	1:F:35:LEU:HD22	2.07	0.54
1:C:266:LEU:HD13	1:C:300:VAL:HB	1.88	0.54
1:C:273:VAL:O	1:C:273:VAL:HG12	2.08	0.54
1:C:337:ARG:CG	1:C:380:PHE:HB3	2.37	0.54
1:C:347:ALA:CB	1:C:393:LEU:HD22	2.38	0.54
1:D:49:THR:HG22	1:D:50:VAL:N	2.22	0.54
1:F:74:VAL:HG23	1:F:99:MSE:CE	2.33	0.54
1:C:374:ASP:OD2	1:C:386:THR:HG21	2.07	0.54
1:D:40:ASN:O	1:D:40:ASN:ND2	2.39	0.54
1:E:308:MSE:SE	1:E:335:LEU:HD12	2.57	0.54
1:E:362:CYS:CB	1:E:428:ILE:HD11	2.36	0.54
1:F:343:ASN:HB3	1:F:389:LEU:HD22	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:303:VAL:HA	1:B:306:LEU:CD2	2.37	0.54
1:B:417:PHE:CE2	1:B:421:LEU:HD11	2.43	0.54
1:C:367:GLU:CG	1:C:407:VAL:HG12	2.37	0.54
1:E:145:VAL:HG13	1:E:167:PHE:CD1	2.43	0.54
1:A:94:LEU:O	1:A:94:LEU:HD22	2.08	0.54
1:C:278:VAL:HG12	1:C:278:VAL:O	2.08	0.54
1:F:191:PHE:O	1:F:195:VAL:HG13	2.08	0.54
1:C:221:VAL:CG2	1:C:371:SER:OG	2.56	0.54
1:A:324:ARG:CZ	1:A:339:THR:HG23	2.38	0.54
1:E:218:MSE:CG	1:E:226:VAL:HG11	2.37	0.54
1:F:40:ASN:C	1:F:40:ASN:OD1	2.46	0.54
1:A:371:SER:HG	1:A:373:LEU:H	1.56	0.53
1:C:275:ASP:HB3	1:C:283:ALA:HB2	1.90	0.53
1:D:24:LEU:CD1	1:D:50:VAL:HG11	2.38	0.53
1:E:35:LEU:HD13	1:E:192:ALA:CB	2.38	0.53
1:C:410:TYR:CE1	1:C:416:GLU:HG3	2.43	0.53
1:E:332:GLN:O	1:E:333:VAL:C	2.46	0.53
1:C:96:ILE:HG22	1:C:97:ALA:N	2.22	0.53
1:C:274:ALA:O	1:C:276:TYR:N	2.41	0.53
1:D:289:PHE:O	1:D:292:ILE:N	2.37	0.53
1:E:186:ASN:HB3	1:F:194:MSE:HE3	1.90	0.53
1:A:324:ARG:NH2	1:A:339:THR:HG23	2.24	0.53
1:B:217:THR:HG21	1:B:253:MSE:HE1	1.91	0.53
1:C:28:SER:O	1:C:29:GLU:C	2.47	0.53
1:D:340:VAL:HG22	1:D:385:ALA:HA	1.90	0.53
1:F:177:ASN:O	1:F:179:VAL:N	2.42	0.53
1:A:23:GLU:OE2	1:A:175:GLY:CA	2.57	0.53
1:A:363:VAL:CG1	1:A:364:CYS:N	2.71	0.53
1:B:24:LEU:HD23	1:B:24:LEU:C	2.28	0.53
1:B:25:ARG:HD2	1:B:64:ALA:HB2	1.91	0.53
1:B:258:ARG:NH2	1:B:291:ALA:HB2	2.23	0.53
1:C:17:ALA:HB3	1:C:52:ASP:OD2	2.08	0.53
1:C:337:ARG:HD2	1:C:338:THR:O	2.08	0.53
1:E:35:LEU:HD13	1:E:192:ALA:HB1	1.91	0.53
1:C:37:SER:O	1:C:40:ASN:HB2	2.08	0.53
1:C:69:VAL:O	1:C:69:VAL:HG22	2.08	0.53
1:C:285:ASP:C	1:C:285:ASP:OD1	2.46	0.53
1:D:193:GLY:O	1:D:194:MSE:C	2.46	0.53
1:E:350:ILE:HG22	1:E:354:LEU:CD2	2.36	0.53
1:B:246:THR:HG22	1:B:246:THR:O	2.07	0.53
1:C:154:GLN:HB2	1:D:154:GLN:HE22	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:14:ILE:HG23	1:F:51:VAL:HG22	1.91	0.53
1:A:417:PHE:O	1:A:420:ALA:HB3	2.09	0.52
1:D:53:VAL:C	1:D:99:MSE:HE3	2.29	0.52
1:D:63:CYS:O	1:D:65:ASP:N	2.42	0.52
1:D:290:ASP:OD1	1:D:353:LYS:HD2	2.09	0.52
1:D:334:SER:C	1:D:335:LEU:HD23	2.30	0.52
1:E:14:ILE:HG12	1:E:51:VAL:CG1	2.38	0.52
1:F:20:LYS:HA	1:F:23:GLU:OE1	2.09	0.52
1:C:373:LEU:N	1:C:373:LEU:HD12	2.24	0.52
1:C:149:THR:HA	1:C:169:SER:OG	2.09	0.52
1:D:301:LEU:HD22	1:D:363:VAL:HG22	1.89	0.52
1:E:269:THR:CG2	1:E:271:THR:HG22	2.29	0.52
1:B:35:LEU:HD13	1:B:192:ALA:CB	2.40	0.52
1:B:361:VAL:HG12	1:B:362:CYS:N	2.24	0.52
1:F:186:ASN:N	1:F:186:ASN:HD22	2.07	0.52
1:A:20:LYS:HG2	1:A:173:ILE:HG22	1.92	0.52
1:D:53:VAL:CA	1:D:99:MSE:HE3	2.39	0.52
1:D:177:ASN:O	1:D:178:ASN:C	2.47	0.52
1:A:257:VAL:HG12	1:A:262:ILE:CG2	2.39	0.52
1:B:417:PHE:O	1:B:420:ALA:HB3	2.09	0.52
1:C:106:PHE:C	1:C:106:PHE:CD1	2.82	0.52
1:D:246:THR:O	1:D:246:THR:HG22	2.09	0.52
1:D:317:ILE:HG22	1:D:318:PRO:O	2.09	0.52
1:F:35:LEU:CD1	1:F:195:VAL:CG2	2.87	0.52
1:D:319:PRO:O	1:D:321:PHE:N	2.43	0.52
1:E:30:HIS:O	1:E:30:HIS:CG	2.63	0.52
1:E:343:ASN:O	1:E:389:LEU:HD13	2.09	0.52
1:F:74:VAL:HG21	1:F:99:MSE:SE	2.60	0.52
1:D:229:VAL:HG23	1:D:233:LEU:HD12	1.92	0.51
1:D:345:LYS:O	1:D:348:ALA:N	2.42	0.51
1:D:273:VAL:O	1:D:277:VAL:HG23	2.09	0.51
1:C:254:GLU:OE2	1:C:289:PHE:N	2.36	0.51
1:D:34:SER:O	1:D:35:LEU:C	2.48	0.51
1:D:115:ASN:N	1:D:115:ASN:OD1	2.43	0.51
1:E:347:ALA:HB2	1:E:393:LEU:CD2	2.40	0.51
1:C:277:VAL:CG2	1:C:278:VAL:HG23	2.40	0.51
1:E:136:ARG:NH1	1:E:157:SER:O	2.44	0.51
1:E:221:VAL:CG2	1:E:222:THR:HG23	2.34	0.51
1:F:375:ALA:HB3	1:F:378:LYS:HG3	1.93	0.51
1:C:51:VAL:HG23	1:C:52:ASP:N	2.25	0.51
1:C:214:VAL:CG1	1:C:266:LEU:HD23	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:306:LEU:O	1:F:338:THR:HG21	2.09	0.51
1:B:226:VAL:HA	1:B:229:VAL:HG13	1.91	0.51
1:B:375:ALA:HB3	1:B:378:LYS:HG3	1.92	0.51
1:F:75:LEU:HD23	1:F:99:MSE:HE3	1.93	0.51
1:A:115:ASN:H	1:A:115:ASN:ND2	2.03	0.51
1:A:213:THR:CG2	1:A:241:LEU:HD12	2.41	0.51
1:A:355:ASN:HA	1:A:400:ASN:ND2	2.23	0.51
1:B:13:CYS:HA	1:B:120:ILE:HG23	1.93	0.51
1:C:130:LEU:HD23	1:C:130:LEU:O	2.10	0.51
1:C:221:VAL:HG21	1:C:371:SER:OG	2.10	0.51
1:C:327:HIS:O	1:C:328:GLU:C	2.49	0.51
1:D:350:ILE:HG22	1:D:354:LEU:CD2	2.36	0.51
1:D:382:ASP:C	1:D:382:ASP:OD1	2.49	0.51
1:D:386:THR:O	1:D:390:THR:OG1	2.26	0.51
1:F:307:ASP:OD2	1:F:370:VAL:HG23	2.11	0.51
1:B:147:ILE:HD12	1:B:147:ILE:H	1.74	0.51
1:E:371:SER:OG	1:E:373:LEU:N	2.44	0.51
1:F:122:LEU:HD12	1:F:122:LEU:N	2.26	0.51
1:B:258:ARG:HH21	1:B:291:ALA:HB2	1.76	0.50
1:C:381:TYR:O	1:C:382:ASP:HB2	2.11	0.50
1:A:213:THR:HG21	1:A:241:LEU:HD12	1.92	0.50
1:F:299:LEU:C	1:F:299:LEU:HD22	2.31	0.50
1:B:196:ILE:HG22	1:B:197:GLY:N	2.25	0.50
1:C:365:LEU:HD22	1:C:365:LEU:N	2.27	0.50
1:D:243:PHE:CE1	1:D:253:MSE:HG3	2.45	0.50
1:F:35:LEU:CD1	1:F:195:VAL:HG21	2.35	0.50
1:A:221:VAL:O	1:A:221:VAL:HG23	2.11	0.50
1:C:343:ASN:HD22	1:C:389:LEU:HD22	1.74	0.50
1:C:194:MSE:CG	1:D:190:ALA:HB2	2.41	0.50
1:E:24:LEU:CD1	1:E:50:VAL:HG13	2.39	0.50
1:F:367:GLU:HG3	1:F:407:VAL:HG12	1.92	0.50
1:B:59:GLU:HG2	1:B:61:ASN:HD21	1.76	0.50
1:B:216:VAL:HG13	1:B:268:ILE:CD1	2.40	0.50
1:C:369:GLY:HA3	1:C:374:ASP:O	2.11	0.50
1:D:122:LEU:CD1	1:D:122:LEU:C	2.80	0.50
1:D:400:ASN:OD1	1:D:402:ARG:HB2	2.11	0.50
1:A:34:SER:O	1:A:35:LEU:C	2.48	0.50
1:D:143:PRO:HB3	1:D:194:MSE:HE2	1.94	0.50
1:F:350:ILE:O	1:F:354:LEU:N	2.44	0.50
1:A:360:SER:CB	1:A:428:ILE:HG23	2.42	0.50
1:B:94:LEU:HD13	1:B:94:LEU:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:155:THR:HG21	1:D:151:ALA:O	2.12	0.50
1:C:334:SER:C	1:C:335:LEU:HD23	2.32	0.50
1:A:214:VAL:HG12	1:A:215:GLY:N	2.27	0.50
1:A:257:VAL:HG12	1:A:262:ILE:HG22	1.94	0.50
1:C:28:SER:OG	1:C:50:VAL:HG22	2.11	0.50
1:E:411:HIS:CE1	1:E:412:ILE:HG22	2.47	0.50
1:B:354:LEU:O	1:B:357:ALA:HB2	2.12	0.49
1:D:136:ARG:NH1	1:D:157:SER:O	2.41	0.49
1:D:145:VAL:HG13	1:D:165:VAL:HG13	1.94	0.49
1:A:284:CYS:HB2	1:A:288:ARG:CG	2.42	0.49
1:B:268:ILE:O	1:B:304:GLY:HA3	2.11	0.49
1:C:10:ARG:NH1	1:C:49:THR:OG1	2.40	0.49
1:C:155:THR:HG23	1:C:159:ILE:HD12	1.93	0.49
1:E:226:VAL:CG2	1:E:227:ASN:H	2.25	0.49
1:F:123:GLY:HA2	1:F:173:ILE:HD13	1.94	0.49
1:B:299:LEU:C	1:B:299:LEU:HD22	2.32	0.49
1:D:94:LEU:O	1:D:94:LEU:HD22	2.11	0.49
1:D:274:ALA:O	1:D:276:TYR:N	2.45	0.49
1:E:412:ILE:HG23	1:E:413:ASN:N	2.27	0.49
1:B:265:VAL:HG22	1:B:299:LEU:HD23	1.94	0.49
1:F:51:VAL:CB	1:F:69:VAL:HG13	2.40	0.49
1:A:418:ALA:O	1:A:422:VAL:HG23	2.12	0.49
1:D:24:LEU:CD1	1:D:50:VAL:HG13	2.36	0.49
1:D:253:MSE:O	1:D:257:VAL:HG13	2.12	0.49
1:E:96:ILE:HG23	1:E:130:LEU:HB2	1.94	0.49
1:E:410:TYR:CE1	1:E:416:GLU:HG3	2.48	0.49
1:A:229:VAL:HG13	1:A:422:VAL:HG22	1.93	0.49
1:A:360:SER:O	1:A:361:VAL:HG23	2.12	0.49
1:E:25:ARG:HG3	1:E:63:CYS:SG	2.53	0.49
1:E:195:VAL:O	1:E:199:LEU:HD13	2.13	0.49
1:C:130:LEU:C	1:C:130:LEU:CD2	2.81	0.49
1:C:223:THR:O	1:C:224:PRO:C	2.44	0.49
1:C:235:LYS:HB2	1:C:235:LYS:NZ	2.28	0.49
1:C:299:LEU:C	1:C:299:LEU:CD2	2.81	0.49
1:F:32:ARG:CB	1:F:48:VAL:HG21	2.42	0.49
1:F:71:SER:HA	1:F:74:VAL:HG22	1.95	0.49
1:B:169:SER:C	1:B:170:VAL:HG23	2.32	0.49
1:B:232:ARG:CG	1:B:422:VAL:HG11	2.43	0.49
1:C:336:MSE:O	1:C:337:ARG:C	2.51	0.49
1:D:177:ASN:ND2	1:D:179:VAL:H	2.10	0.49
1:F:74:VAL:CG2	1:F:99:MSE:CE	2.88	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:275:ASP:HA	1:F:309:VAL:CG1	2.42	0.49
1:C:245:ALA:HB1	1:C:272:GLU:HG3	1.95	0.48
1:F:99:MSE:O	1:F:102:ALA:CB	2.61	0.48
1:F:347:ALA:HA	1:F:393:LEU:HD21	1.94	0.48
1:B:373:LEU:HB3	1:B:380:PHE:HB2	1.95	0.48
1:D:351:ALA:HB1	1:D:396:LEU:HB3	1.95	0.48
1:F:420:ALA:O	1:F:421:LEU:C	2.52	0.48
1:A:69:VAL:O	1:A:69:VAL:HG22	2.11	0.48
1:B:219:PHE:HB2	1:B:269:THR:HG21	1.95	0.48
1:B:360:SER:HB2	1:B:428:ILE:HG23	1.95	0.48
1:C:329:HIS:O	1:C:330:ASN:CG	2.52	0.48
1:E:31:VAL:HG12	1:E:35:LEU:CD2	2.44	0.48
1:F:274:ALA:CB	1:F:309:VAL:HG22	2.42	0.48
1:B:131:LEU:O	1:B:132:SER:C	2.52	0.48
1:E:410:TYR:CD1	1:E:416:GLU:HG3	2.48	0.48
1:F:69:VAL:HG23	1:F:73:ASP:HB2	1.94	0.48
1:F:412:ILE:HA	1:F:417:PHE:CD2	2.48	0.48
1:A:122:LEU:HD12	1:A:122:LEU:H	1.77	0.48
1:A:249:GLY:O	1:A:252:ALA:HB3	2.14	0.48
1:A:266:LEU:HD21	1:A:425:PHE:CG	2.49	0.48
1:B:18:ASP:CG	1:B:19:THR:HG22	2.31	0.48
1:D:284:CYS:HB2	1:D:288:ARG:HG2	1.94	0.48
1:C:119:VAL:HG23	1:C:119:VAL:O	2.13	0.48
1:A:35:LEU:CD1	1:A:192:ALA:HB1	2.41	0.48
1:B:14:ILE:O	1:B:121:GLY:HA2	2.14	0.48
1:E:303:VAL:CA	1:E:306:LEU:HD22	2.44	0.48
1:C:249:GLY:O	1:C:250:GLY:C	2.52	0.48
1:D:18:ASP:CG	1:D:54:SER:HG	2.15	0.48
1:D:363:VAL:CG1	1:D:364:CYS:N	2.77	0.48
1:D:374:ASP:OD2	1:D:386:THR:HG21	2.14	0.48
1:A:171:VAL:HG23	1:A:172:ASP:O	2.14	0.48
1:A:266:LEU:HD13	1:A:300:VAL:HB	1.94	0.48
1:B:69:VAL:HG23	1:B:73:ASP:HB2	1.95	0.48
1:C:30:HIS:HB2	3:C:508:HOH:O	2.13	0.48
1:C:54:SER:O	1:C:99:MSE:HE3	2.14	0.48
1:D:122:LEU:HD12	1:D:122:LEU:O	2.14	0.48
1:A:220:GLY:O	1:A:223:THR:HG23	2.14	0.48
1:A:285:ASP:OD1	1:A:285:ASP:C	2.52	0.48
1:B:69:VAL:HG22	1:B:69:VAL:O	2.12	0.48
1:B:225:CYS:O	1:B:229:VAL:HG13	2.12	0.48
1:B:257:VAL:CG2	1:B:258:ARG:N	2.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:351:ALA:HA	1:B:397:LEU:HD21	1.94	0.48
1:C:113:GLU:N	1:C:113:GLU:OE1	2.47	0.48
1:C:417:PHE:O	1:C:420:ALA:HB3	2.13	0.48
1:D:17:ALA:CB	1:D:52:ASP:CG	2.82	0.48
1:F:51:VAL:HA	1:F:69:VAL:HG13	1.95	0.48
1:F:169:SER:O	1:F:170:VAL:HB	2.13	0.48
1:B:265:VAL:HG11	1:B:292:ILE:CD1	2.44	0.47
1:C:69:VAL:O	1:C:69:VAL:CG2	2.62	0.47
1:D:281:VAL:HG12	1:D:281:VAL:O	2.14	0.47
1:E:220:GLY:O	1:E:222:THR:N	2.47	0.47
1:A:281:VAL:HG13	1:A:282:MSE:HG3	1.96	0.47
1:D:17:ALA:CB	1:D:52:ASP:OD2	2.61	0.47
1:E:122:LEU:HD12	1:E:122:LEU:H	1.79	0.47
1:F:18:ASP:OD1	1:F:19:THR:N	2.46	0.47
1:C:261:PHE:CD2	1:D:179:VAL:HG22	2.49	0.47
1:C:373:LEU:N	1:C:373:LEU:CD1	2.78	0.47
1:D:307:ASP:OD2	1:D:371:SER:HB3	2.14	0.47
1:A:145:VAL:HG12	1:A:146:ILE:N	2.30	0.47
1:B:35:LEU:HD13	1:B:192:ALA:HB1	1.96	0.47
1:C:143:PRO:HB3	1:C:194:MSE:HE2	1.97	0.47
1:C:196:ILE:O	1:C:197:GLY:C	2.53	0.47
1:C:384:GLU:HG2	1:C:385:ALA:N	2.29	0.47
1:D:428:ILE:O	1:D:428:ILE:CG2	2.63	0.47
1:E:145:VAL:HG13	1:E:167:PHE:CE1	2.49	0.47
1:E:232:ARG:O	1:E:236:GLU:HB2	2.14	0.47
1:E:369:GLY:HA3	1:E:374:ASP:O	2.14	0.47
1:E:417:PHE:O	1:E:420:ALA:HB3	2.13	0.47
1:F:123:GLY:HA2	1:F:173:ILE:CD1	2.45	0.47
1:F:254:GLU:OE2	1:F:289:PHE:N	2.48	0.47
1:C:109:ILE:CG2	1:C:109:ILE:O	2.62	0.47
1:C:109:ILE:O	1:C:109:ILE:HG22	2.15	0.47
1:C:190:ALA:HB2	1:D:194:MSE:HG2	1.96	0.47
1:D:176:ILE:HD13	1:D:176:ILE:N	2.29	0.47
1:A:71:SER:O	1:A:72:LYS:C	2.52	0.47
1:A:90:ASP:CA	1:A:91:ILE:HD13	2.44	0.47
1:B:214:VAL:HG12	1:B:215:GLY:N	2.30	0.47
1:B:303:VAL:O	1:B:304:GLY:C	2.53	0.47
1:C:290:ASP:CG	1:C:353:LYS:HZ3	2.18	0.47
1:C:34:SER:O	1:C:35:LEU:C	2.53	0.47
1:C:257:VAL:HG12	1:C:262:ILE:CG2	2.45	0.47
1:E:239:GLU:OE2	1:F:177:ASN:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:301:LEU:HD23	1:E:302:SER:N	2.30	0.47
1:F:10:ARG:NH1	1:F:49:THR:OG1	2.47	0.47
1:F:32:ARG:NH1	1:F:66:PHE:CE1	2.83	0.47
1:F:343:ASN:HD21	1:F:385:ALA:HB1	1.79	0.47
1:A:35:LEU:HD12	1:A:35:LEU:HA	1.84	0.47
1:B:229:VAL:O	1:B:233:LEU:HD23	2.15	0.47
1:C:284:CYS:HB2	1:C:288:ARG:HG2	1.97	0.47
1:D:23:GLU:HG2	1:D:173:ILE:HG23	1.96	0.47
1:F:292:ILE:HG23	1:F:297:ILE:CD1	2.45	0.47
1:C:190:ALA:HB2	1:D:194:MSE:CG	2.45	0.46
1:D:177:ASN:O	1:D:179:VAL:N	2.48	0.46
1:E:147:ILE:H	1:E:147:ILE:CD1	2.20	0.46
1:F:136:ARG:NH1	1:F:157:SER:O	2.46	0.46
1:F:258:ARG:C	1:F:260:GLY:H	2.18	0.46
1:B:306:LEU:O	1:B:338:THR:HG21	2.16	0.46
1:B:321:PHE:CG	1:B:336:MSE:HE1	2.50	0.46
1:E:122:LEU:HD12	1:E:122:LEU:N	2.31	0.46
1:E:340:VAL:HG13	1:E:385:ALA:HA	1.97	0.46
1:F:301:LEU:HD23	1:F:301:LEU:C	2.36	0.46
1:B:417:PHE:O	1:B:420:ALA:N	2.47	0.46
1:C:347:ALA:HB1	1:C:393:LEU:HD22	1.97	0.46
1:E:287:SER:HA	1:E:290:ASP:OD2	2.16	0.46
1:F:99:MSE:HE2	1:F:102:ALA:HB3	1.96	0.46
1:A:226:VAL:CG2	1:A:227:ASN:N	2.79	0.46
1:A:410:TYR:CE1	1:A:416:GLU:HG3	2.50	0.46
1:B:327:HIS:O	1:B:327:HIS:ND1	2.48	0.46
1:C:306:LEU:HD12	1:C:306:LEU:HA	1.81	0.46
1:E:345:LYS:O	1:E:348:ALA:HB3	2.16	0.46
1:C:19:THR:O	1:C:19:THR:HG22	2.14	0.46
1:C:22:ASP:O	1:C:176:ILE:HD11	2.15	0.46
1:E:305:ALA:CB	1:E:308:MSE:HE3	2.45	0.46
1:B:303:VAL:CA	1:B:306:LEU:HD23	2.45	0.46
1:E:150:VAL:HG23	1:E:150:VAL:O	2.16	0.46
1:F:392:GLU:OE2	1:F:396:LEU:CD1	2.55	0.46
1:D:26:PHE:CD1	1:D:26:PHE:C	2.89	0.46
1:D:264:GLY:CA	1:D:297:ILE:HD12	2.44	0.46
1:E:31:VAL:O	1:E:35:LEU:HD22	2.15	0.46
1:E:123:GLY:O	1:E:148:SER:HA	2.16	0.46
1:A:321:PHE:CE1	1:A:336:MSE:HE1	2.50	0.46
1:A:347:ALA:CB	1:A:393:LEU:HD22	2.46	0.46
1:C:39:SER:HB2	1:C:196:ILE:HG13	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:165:VAL:HG21	1:D:167:PHE:CE2	2.50	0.46
1:D:94:LEU:HD22	1:D:98:ILE:HG13	1.96	0.46
1:D:219:PHE:HB2	1:D:269:THR:HG21	1.97	0.46
1:E:403:CYS:SG	1:E:404:GLN:N	2.88	0.46
1:A:262:ILE:HG22	1:A:262:ILE:O	2.16	0.46
1:B:361:VAL:CG1	1:B:362:CYS:N	2.78	0.46
1:D:94:LEU:HD22	1:D:98:ILE:CD1	2.46	0.46
1:E:178:ASN:O	1:E:182:VAL:HG12	2.16	0.46
1:E:226:VAL:HA	1:E:229:VAL:HG13	1.98	0.46
1:F:347:ALA:CB	1:F:392:GLU:HG3	2.45	0.46
1:A:343:ASN:ND2	1:A:389:LEU:HD22	2.31	0.46
1:B:303:VAL:HB	1:B:306:LEU:HD23	1.98	0.46
1:C:256:LEU:HD13	1:D:179:VAL:HG21	1.98	0.46
1:C:277:VAL:CG2	1:C:278:VAL:N	2.78	0.46
1:C:335:LEU:N	1:C:335:LEU:CD2	2.79	0.46
1:A:186:ASN:HB3	1:B:194:MSE:HE3	1.97	0.45
1:B:221:VAL:CG2	1:B:308:MSE:HE1	2.30	0.45
1:D:17:ALA:HB2	1:D:52:ASP:CG	2.36	0.45
1:B:388:CYS:O	1:B:392:GLU:HB2	2.16	0.45
1:C:9:PRO:HG2	1:C:46:VAL:HG22	1.98	0.45
1:C:308:MSE:SE	1:C:335:LEU:CD1	3.14	0.45
1:C:391:ARG:O	1:C:392:GLU:C	2.55	0.45
1:E:94:LEU:HD23	1:E:98:ILE:CD1	2.38	0.45
1:F:419:ASN:O	1:F:420:ALA:C	2.53	0.45
1:A:25:ARG:HG3	1:A:63:CYS:SG	2.56	0.45
1:D:306:LEU:HA	1:D:306:LEU:HD12	1.68	0.45
1:E:347:ALA:HB3	1:E:392:GLU:HG2	1.99	0.45
1:B:255:ASP:OD1	1:B:258:ARG:NH1	2.44	0.45
1:B:278:VAL:HG23	1:B:278:VAL:O	2.15	0.45
1:A:218:MSE:CB	1:A:226:VAL:HG11	2.46	0.45
1:A:248:VAL:HG23	1:A:249:GLY:H	1.82	0.45
1:A:271:THR:O	1:A:274:ALA:HB3	2.17	0.45
1:A:365:LEU:HD13	1:A:390:THR:HG23	1.99	0.45
1:B:12:PHE:O	1:B:120:ILE:HG22	2.17	0.45
1:C:259:GLY:O	1:C:261:PHE:CE1	2.70	0.45
1:F:69:VAL:O	1:F:69:VAL:HG22	2.17	0.45
1:E:226:VAL:O	1:E:229:VAL:N	2.48	0.45
1:F:225:CYS:O	1:F:229:VAL:HG13	2.17	0.45
1:A:354:LEU:CD1	1:A:361:VAL:HG11	2.47	0.45
1:C:115:ASN:OD1	1:C:115:ASN:N	2.50	0.45
1:C:140:ILE:HG22	1:C:141:GLY:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:319:PRO:O	1:C:320:GLU:C	2.55	0.45
1:C:337:ARG:CD	1:C:338:THR:O	2.65	0.45
1:E:165:VAL:HG21	1:F:167:PHE:CE2	2.52	0.45
1:E:373:LEU:HB3	1:E:380:PHE:HB2	1.99	0.45
1:C:106:PHE:CD1	1:C:106:PHE:O	2.69	0.45
1:F:350:ILE:HG23	1:F:354:LEU:CD1	2.46	0.45
1:A:422:VAL:HG12	1:A:426:LEU:CD2	2.46	0.45
1:B:422:VAL:O	1:B:426:LEU:HD22	2.15	0.45
1:C:107:LEU:HD13	1:C:138:LEU:HD11	1.98	0.45
1:C:293:LEU:O	1:C:296:LYS:N	2.47	0.45
1:F:223:THR:HA	1:F:226:VAL:CG1	2.44	0.45
1:F:246:THR:HG23	1:F:282:MSE:CE	2.42	0.45
1:F:350:ILE:HG23	1:F:354:LEU:HD13	1.98	0.45
1:F:390:THR:HG21	1:F:407:VAL:HG13	1.98	0.45
1:A:269:THR:HA	1:A:304:GLY:HA3	1.98	0.44
1:D:247:GLY:N	1:D:272:GLU:OE2	2.35	0.44
1:D:321:PHE:CD1	1:D:336:MSE:HE1	2.52	0.44
1:F:23:GLU:HG3	1:F:176:ILE:CD1	2.46	0.44
1:B:422:VAL:CG1	1:B:426:LEU:CD2	2.94	0.44
1:D:363:VAL:HG12	1:D:364:CYS:N	2.31	0.44
1:A:139:PRO:HB2	1:A:142:ILE:HD12	1.98	0.44
1:C:130:LEU:CD2	1:C:131:LEU:HD13	2.45	0.44
1:C:223:THR:HA	1:C:226:VAL:HG13	1.98	0.44
1:D:361:VAL:O	1:D:403:CYS:HA	2.18	0.44
1:E:213:THR:HG21	1:F:178:ASN:OD1	2.18	0.44
1:A:18:ASP:OD1	1:A:19:THR:N	2.51	0.44
2:A:501:TLA:O1	2:A:501:TLA:O3	2.34	0.44
1:C:94:LEU:HD13	1:C:94:LEU:C	2.38	0.44
1:C:176:ILE:HG23	1:C:181:LYS:HG3	1.98	0.44
1:C:230:LYS:HE3	1:C:240:THR:HG21	1.99	0.44
1:E:115:ASN:OD1	1:E:115:ASN:N	2.48	0.44
1:E:300:VAL:HA	1:E:362:CYS:O	2.17	0.44
1:E:303:VAL:HA	1:E:306:LEU:HD22	1.99	0.44
1:F:391:ARG:O	1:F:392:GLU:C	2.55	0.44
1:A:60:THR:HG22	1:A:68:PHE:CZ	2.52	0.44
1:A:373:LEU:HD23	1:A:373:LEU:HA	1.79	0.44
1:D:410:TYR:CE1	1:D:416:GLU:HG3	2.53	0.44
1:A:9:PRO:HG3	1:A:199:LEU:HD21	1.99	0.44
1:D:321:PHE:CE1	1:D:336:MSE:HE1	2.53	0.44
1:D:330:ASN:O	1:D:331:GLU:C	2.56	0.44
1:E:24:LEU:HD23	1:E:122:LEU:CD1	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:41:LYS:CA	1:F:42:SER:CB	2.95	0.44
1:F:275:ASP:CG	1:F:309:VAL:HG13	2.37	0.44
1:F:347:ALA:HB3	1:F:392:GLU:HG3	2.00	0.44
1:A:367:GLU:HG3	1:A:407:VAL:HG12	2.00	0.44
1:B:124:GLY:HA2	1:B:149:THR:OG1	2.18	0.44
1:B:182:VAL:CG2	1:B:183:VAL:N	2.81	0.44
1:B:274:ALA:O	1:B:278:VAL:HG13	2.17	0.44
1:B:426:LEU:HD13	1:B:426:LEU:HA	1.91	0.44
1:C:313:PRO:HB3	1:C:332:GLN:HA	2.00	0.44
1:E:298:PRO:HB3	1:E:428:ILE:CG2	2.47	0.44
1:A:142:ILE:O	1:A:144:LYS:HG3	2.18	0.44
1:A:290:ASP:OD2	1:A:353:LYS:NZ	2.51	0.44
1:B:23:GLU:N	1:B:23:GLU:OE1	2.51	0.44
1:B:303:VAL:HA	1:B:306:LEU:HD23	1.98	0.44
1:C:411:HIS:HE1	1:C:413:ASN:HD22	1.65	0.44
1:D:124:GLY:O	1:D:125:SER:O	2.35	0.44
1:D:274:ALA:O	1:D:275:ASP:C	2.56	0.44
1:D:343:ASN:HB3	1:D:389:LEU:CD1	2.48	0.44
1:E:31:VAL:CG1	1:E:35:LEU:CD2	2.96	0.44
1:F:98:ILE:HD13	1:F:98:ILE:O	2.18	0.44
1:F:292:ILE:HG23	1:F:297:ILE:HD11	1.99	0.44
1:A:90:ASP:OD1	1:A:90:ASP:N	2.50	0.44
1:A:265:VAL:HG11	1:A:292:ILE:HD13	1.99	0.44
1:C:149:THR:HG23	1:C:173:ILE:HD12	2.00	0.44
1:E:42:SER:O	1:E:44:PHE:N	2.51	0.44
1:E:287:SER:CA	1:E:290:ASP:OD2	2.66	0.44
1:D:16:THR:HG22	1:D:54:SER:HA	1.99	0.43
1:D:40:ASN:HA	1:D:41:LYS:HA	1.78	0.43
1:E:360:SER:HB3	1:E:428:ILE:HG23	1.98	0.43
1:F:146:ILE:HG22	1:F:147:ILE:O	2.18	0.43
1:E:24:LEU:O	1:E:24:LEU:HD13	2.18	0.43
1:E:27:LEU:O	1:E:28:SER:C	2.56	0.43
1:F:63:CYS:HB2	1:F:68:PHE:CD2	2.54	0.43
1:A:79:THR:HG23	1:A:105:THR:HG21	2.01	0.43
1:A:216:VAL:HG11	1:A:226:VAL:HB	2.00	0.43
1:B:75:LEU:HD23	1:B:75:LEU:HA	1.85	0.43
1:B:419:ASN:O	1:B:423:ASP:CG	2.57	0.43
1:D:149:THR:HG23	1:D:173:ILE:HD12	2.00	0.43
1:E:21:PHE:N	3:E:507:HOH:O	2.52	0.43
1:F:25:ARG:HG3	1:F:63:CYS:SG	2.59	0.43
1:F:274:ALA:HB1	1:F:309:VAL:CG2	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:285:ASP:O	1:F:287:SER:N	2.50	0.43
1:A:17:ALA:N	1:A:52:ASP:OD1	2.44	0.43
1:A:40:ASN:HA	1:A:41:LYS:HA	1.82	0.43
1:A:362:CYS:SG	1:A:424:SER:HB3	2.57	0.43
1:C:371:SER:O	1:C:411:HIS:NE2	2.51	0.43
1:D:12:PHE:CE1	1:D:116:LEU:HD12	2.53	0.43
1:E:24:LEU:CD1	1:E:50:VAL:CG1	2.96	0.43
1:E:221:VAL:HG11	1:E:308:MSE:HE1	2.01	0.43
1:F:50:VAL:O	1:F:69:VAL:HG12	2.19	0.43
1:F:226:VAL:HG22	1:F:227:ASN:N	2.33	0.43
1:F:258:ARG:C	1:F:260:GLY:N	2.71	0.43
1:F:299:LEU:HD22	1:F:300:VAL:N	2.34	0.43
1:D:329:HIS:HB3	1:D:333:VAL:CG2	2.41	0.43
1:A:24:LEU:HD13	1:A:50:VAL:HG13	1.99	0.43
1:A:163:ASP:OD1	1:A:163:ASP:N	2.50	0.43
1:B:270:THR:OG1	1:B:306:LEU:HD21	2.18	0.43
1:C:154:GLN:HB2	1:D:154:GLN:NE2	2.33	0.43
1:C:374:ASP:OD2	1:C:386:THR:CG2	2.65	0.43
1:E:307:ASP:HA	1:E:338:THR:OG1	2.19	0.43
1:F:277:VAL:HG23	1:F:278:VAL:HG23	2.00	0.43
1:F:365:LEU:HD13	1:F:390:THR:CG2	2.49	0.43
1:A:194:MSE:HE3	1:B:186:ASN:HB3	2.01	0.43
1:A:309:VAL:HG12	1:A:311:PHE:CE2	2.53	0.43
1:C:345:LYS:O	1:C:348:ALA:HB3	2.18	0.43
1:E:178:ASN:ND2	1:F:213:THR:HG23	2.34	0.43
1:F:14:ILE:HG12	1:F:51:VAL:HG13	2.01	0.43
1:C:12:PHE:CE1	1:C:49:THR:HG21	2.54	0.43
1:C:347:ALA:O	1:C:351:ALA:CB	2.67	0.43
1:E:163:ASP:OD1	1:E:163:ASP:N	2.52	0.43
1:E:176:ILE:HG23	1:E:181:LYS:HG3	2.00	0.43
1:F:185:SER:O	1:F:188:GLY:N	2.46	0.43
1:A:168:PRO:HG2	1:B:163:ASP:HA	1.99	0.43
1:B:277:VAL:CG2	1:B:346:PHE:HE1	2.31	0.43
1:C:140:ILE:CD1	1:D:170:VAL:HG11	2.49	0.43
1:C:417:PHE:O	1:C:418:ALA:C	2.57	0.43
1:D:289:PHE:O	1:D:290:ASP:C	2.57	0.43
1:D:308:MSE:SE	1:D:335:LEU:HD13	2.69	0.43
1:D:371:SER:O	1:D:411:HIS:NE2	2.52	0.43
1:E:244:HIS:O	1:E:246:THR:OG1	2.26	0.43
1:F:218:MSE:CG	1:F:226:VAL:HG11	2.48	0.43
1:A:284:CYS:HB2	1:A:288:ARG:HG2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:383:PRO:HA	1:A:386:THR:OG1	2.18	0.43
1:B:228:ALA:O	1:B:231:GLU:HB2	2.19	0.43
1:C:355:ASN:HA	1:C:400:ASN:HD22	1.79	0.43
1:E:135:PHE:HD2	1:E:164:LEU:HD11	1.83	0.43
1:F:111:ASN:HD22	1:F:116:LEU:HB3	1.84	0.43
1:F:307:ASP:OD1	1:F:308:MSE:CE	2.61	0.43
1:A:159:ILE:O	1:A:162:SER:OG	2.30	0.42
1:A:350:ILE:HG23	1:A:354:LEU:HD23	2.01	0.42
1:C:313:PRO:O	1:C:317:ILE:HG21	2.19	0.42
1:D:145:VAL:HG22	1:D:165:VAL:HG11	1.98	0.42
1:D:306:LEU:O	1:D:338:THR:HG21	2.18	0.42
1:D:355:ASN:HA	1:D:400:ASN:ND2	2.33	0.42
1:E:24:LEU:HD11	1:E:50:VAL:CG1	2.43	0.42
1:F:74:VAL:CB	1:F:99:MSE:HE1	2.49	0.42
1:F:150:VAL:HG21	1:F:158:TYR:OH	2.18	0.42
1:B:314:LYS:HG3	1:B:315:THR:N	2.34	0.42
1:D:120:ILE:HD11	1:D:147:ILE:HD11	2.02	0.42
1:B:219:PHE:O	1:B:220:GLY:C	2.58	0.42
1:D:14:ILE:CG2	1:D:15:GLY:N	2.82	0.42
1:D:147:ILE:HD12	1:D:147:ILE:N	2.34	0.42
1:F:298:PRO:HB3	1:F:428:ILE:CG2	2.46	0.42
1:A:232:ARG:HG3	1:A:422:VAL:HG11	2.01	0.42
1:A:408:LEU:HD11	1:A:420:ALA:HB1	2.01	0.42
1:C:96:ILE:CG2	1:C:97:ALA:N	2.83	0.42
1:C:253:MSE:O	1:C:257:VAL:HG13	2.20	0.42
1:F:292:ILE:HG21	1:F:299:LEU:HG	2.01	0.42
1:D:12:PHE:HE1	1:D:116:LEU:HD12	1.84	0.42
1:F:111:ASN:O	1:F:114:GLN:HA	2.20	0.42
1:A:284:CYS:HB2	1:A:288:ARG:HG3	2.00	0.42
1:B:232:ARG:NE	1:B:236:GLU:OE2	2.46	0.42
1:B:369:GLY:HA2	1:B:374:ASP:OD2	2.20	0.42
1:D:382:ASP:OD2	1:D:385:ALA:HB2	2.19	0.42
1:E:14:ILE:HD13	1:E:51:VAL:HG11	2.01	0.42
1:F:131:LEU:HD12	1:F:131:LEU:HA	1.91	0.42
1:F:303:VAL:HB	1:F:306:LEU:HD12	2.00	0.42
1:F:365:LEU:HD13	1:F:390:THR:HG23	2.01	0.42
1:A:367:GLU:CG	1:A:407:VAL:HG12	2.50	0.42
1:B:53:VAL:HA	1:B:99:MSE:HE3	2.02	0.42
1:B:285:ASP:OD1	1:B:287:SER:OG	2.35	0.42
1:B:363:VAL:CG1	1:B:364:CYS:N	2.82	0.42
1:D:78:HIS:HA	1:D:79:THR:HA	1.74	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:355:ASN:HD22	1:D:400:ASN:HD22	1.66	0.42
1:D:409:PRO:O	1:D:410:TYR:CD1	2.73	0.42
1:F:365:LEU:HB3	1:F:390:THR:HG23	2.02	0.42
1:F:42:SER:OG	1:F:43:SER:N	2.49	0.42
1:A:31:VAL:CG1	1:A:35:LEU:HD22	2.48	0.42
1:A:374:ASP:OD2	1:A:386:THR:HG21	2.20	0.42
1:C:142:ILE:O	1:C:144:LYS:HG3	2.19	0.42
1:C:214:VAL:HG11	1:C:266:LEU:HD23	2.01	0.42
1:C:404:GLN:CB	1:F:43:SER:O	2.68	0.42
1:E:223:THR:HA	1:E:226:VAL:HG22	2.01	0.42
1:E:263:GLN:N	1:E:263:GLN:HE21	2.18	0.42
1:A:31:VAL:HG12	1:A:35:LEU:CD2	2.48	0.42
1:B:63:CYS:HB2	1:B:68:PHE:CD2	2.55	0.42
1:B:265:VAL:HG11	1:B:292:ILE:HD13	2.01	0.42
1:C:307:ASP:OD1	1:C:370:VAL:CG2	2.65	0.42
1:C:326:ILE:CG2	1:C:327:HIS:H	2.11	0.42
1:E:107:LEU:O	1:E:108:SER:C	2.58	0.42
1:E:350:ILE:O	1:E:354:LEU:HB2	2.20	0.42
1:A:122:LEU:HD12	1:A:122:LEU:N	2.35	0.41
1:B:107:LEU:HD13	1:B:119:VAL:HG11	2.01	0.41
1:B:146:ILE:HD12	1:B:164:LEU:HD21	2.02	0.41
1:E:300:VAL:HG22	1:E:362:CYS:HB3	2.02	0.41
1:E:422:VAL:HG12	1:E:426:LEU:HD23	2.02	0.41
1:F:258:ARG:O	1:F:260:GLY:N	2.53	0.41
1:A:66:PHE:CD1	2:A:501:TLA:O41	2.74	0.41
1:A:312:GLY:HA3	1:A:332:GLN:O	2.20	0.41
1:B:178:ASN:HB3	1:B:179:VAL:HG23	2.01	0.41
1:C:306:LEU:O	1:C:308:MSE:N	2.51	0.41
1:F:124:GLY:CA	1:F:149:THR:OG1	2.68	0.41
1:A:241:LEU:HD21	1:B:177:ASN:ND2	2.35	0.41
1:A:253:MSE:O	1:A:257:VAL:HG13	2.20	0.41
1:A:375:ALA:O	1:A:377:GLY:N	2.53	0.41
1:B:214:VAL:HG11	1:B:266:LEU:CD1	2.50	0.41
1:C:317:ILE:O	1:C:318:PRO:O	2.38	0.41
1:C:327:HIS:O	1:C:327:HIS:HD2	2.01	0.41
1:D:351:ALA:HB3	1:D:396:LEU:HD13	2.02	0.41
1:F:347:ALA:CA	1:F:393:LEU:HD21	2.50	0.41
1:B:365:LEU:HD12	1:B:390:THR:HG23	2.00	0.41
1:C:278:VAL:O	1:C:278:VAL:CG1	2.67	0.41
1:C:390:THR:H	1:C:390:THR:HG1	1.44	0.41
1:E:14:ILE:CG1	1:E:51:VAL:HG13	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:371:SER:N	1:E:412:ILE:HG21	2.34	0.41
1:E:241:LEU:HD21	1:F:177:ASN:ND2	2.36	0.41
1:F:69:VAL:HG23	1:F:73:ASP:CB	2.51	0.41
1:F:74:VAL:O	1:F:77:CYS:SG	2.78	0.41
1:F:277:VAL:CG2	1:F:278:VAL:N	2.83	0.41
1:A:24:LEU:HD23	1:A:24:LEU:HA	1.75	0.41
1:B:58:LYS:HD3	1:B:59:GLU:N	2.35	0.41
1:B:343:ASN:HA	1:B:346:PHE:CD2	2.56	0.41
1:C:63:CYS:O	1:C:64:ALA:C	2.58	0.41
1:D:177:ASN:HD22	1:D:179:VAL:H	1.68	0.41
1:E:130:LEU:HD23	1:E:131:LEU:N	2.36	0.41
1:E:226:VAL:HG22	1:E:227:ASN:H	1.85	0.41
1:F:303:VAL:CG2	1:F:370:VAL:CG1	2.98	0.41
1:B:305:ALA:CB	1:B:308:MSE:HE3	2.47	0.41
1:B:306:LEU:HD13	1:B:306:LEU:HA	1.91	0.41
1:D:35:LEU:HD12	1:D:35:LEU:HA	1.77	0.41
1:D:252:ALA:O	1:D:256:LEU:HG	2.21	0.41
1:F:382:ASP:OD2	1:F:385:ALA:HB2	2.21	0.41
1:E:382:ASP:OD2	1:E:385:ALA:HB2	2.20	0.41
1:A:35:LEU:CD1	1:A:192:ALA:CB	2.94	0.41
1:A:303:VAL:CG2	1:A:370:VAL:CG1	2.97	0.41
1:A:354:LEU:HA	1:A:354:LEU:HD13	1.82	0.41
1:B:340:VAL:HG21	1:B:384:GLU:OE2	2.21	0.41
1:C:271:THR:HB	1:C:305:ALA:CB	2.49	0.41
1:C:382:ASP:OD2	1:C:385:ALA:CB	2.59	0.41
1:D:223:THR:N	1:D:224:PRO:CD	2.84	0.41
1:D:253:MSE:HE1	1:D:267:ASP:OD2	2.21	0.41
1:D:326:ILE:HD13	1:D:336:MSE:HA	2.03	0.41
1:F:41:LYS:HA	1:F:42:SER:CB	2.50	0.41
1:F:275:ASP:CA	1:F:309:VAL:HG13	2.50	0.41
1:F:277:VAL:CG2	1:F:278:VAL:HG23	2.51	0.41
1:F:307:ASP:OD2	1:F:371:SER:HB3	2.21	0.41
1:F:365:LEU:HD12	1:F:407:VAL:HG22	2.01	0.41
1:F:397:LEU:CD2	1:F:400:ASN:HD22	2.34	0.41
1:A:99:MSE:O	1:A:102:ALA:HB3	2.21	0.41
1:B:70:PRO:HD2	1:B:73:ASP:OD2	2.21	0.41
1:B:112:ASP:C	1:B:114:GLN:N	2.75	0.41
1:B:177:ASN:HD21	1:B:179:VAL:HB	1.85	0.41
1:D:69:VAL:HG23	1:D:70:PRO:N	2.36	0.41
1:B:131:LEU:O	1:B:134:ALA:N	2.55	0.40
1:B:375:ALA:HB3	1:B:378:LYS:CG	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:35:LEU:HD12	1:C:35:LEU:HA	1.95	0.40
1:C:241:LEU:HD12	1:C:262:ILE:CD1	2.43	0.40
1:C:354:LEU:HD12	1:C:354:LEU:HA	1.92	0.40
1:C:409:PRO:O	1:C:410:TYR:CD1	2.74	0.40
1:D:254:GLU:OE1	1:D:291:ALA:HB3	2.21	0.40
1:D:367:GLU:HG3	1:D:407:VAL:HG12	2.03	0.40
1:E:42:SER:C	1:E:44:PHE:H	2.25	0.40
1:B:307:ASP:OD1	1:B:308:MSE:HE2	2.22	0.40
1:B:390:THR:CG2	1:B:407:VAL:HG22	2.52	0.40
1:B:404:GLN:CG	1:B:405:VAL:N	2.84	0.40
1:F:303:VAL:HG23	1:F:370:VAL:HG12	2.03	0.40
1:A:14:ILE:HG23	1:A:51:VAL:CG2	2.38	0.40
1:A:113:GLU:CB	1:A:115:ASN:ND2	2.84	0.40
1:E:18:ASP:OD1	1:E:19:THR:HG22	2.22	0.40
1:E:145:VAL:HG12	1:E:146:ILE:N	2.37	0.40
1:E:412:ILE:CG2	1:E:413:ASN:N	2.84	0.40
1:F:98:ILE:HD13	1:F:98:ILE:C	2.42	0.40
1:F:263:GLN:NE2	1:F:263:GLN:N	2.69	0.40
1:A:91:ILE:N	1:A:91:ILE:CD1	2.70	0.40
1:A:229:VAL:HG13	1:A:422:VAL:CG2	2.52	0.40
1:C:288:ARG:O	1:C:289:PHE:HB2	2.22	0.40
1:C:355:ASN:HD22	1:C:400:ASN:HD22	0.82	0.40
1:D:313:PRO:HG3	1:D:332:GLN:HA	2.03	0.40
1:E:20:LYS:HA	1:E:23:GLU:OE1	2.22	0.40
1:E:232:ARG:CG	1:E:422:VAL:HG11	2.51	0.40
1:E:307:ASP:OD2	1:E:371:SER:HB3	2.21	0.40
1:B:49:THR:OG1	1:B:67:ASP:HB3	2.21	0.40
1:F:127:GLY:O	1:F:130:LEU:N	2.55	0.40
1:F:146:ILE:HD12	1:F:164:LEU:HD21	2.04	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:SER:OG	1:D:56:SER:OG[1_556]	1.98	0.22

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	400/431 (93%)	343 (86%)	45 (11%)	12 (3%)	4 9
1	B	398/431 (92%)	337 (85%)	55 (14%)	6 (2%)	10 24
1	C	392/431 (91%)	311 (79%)	56 (14%)	25 (6%)	1 2
1	D	393/431 (91%)	326 (83%)	52 (13%)	15 (4%)	3 6
1	E	377/431 (88%)	315 (84%)	52 (14%)	10 (3%)	5 11
1	F	372/431 (86%)	296 (80%)	59 (16%)	17 (5%)	2 4
All	All	2332/2586 (90%)	1928 (83%)	319 (14%)	85 (4%)	3 6

All (85) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	91	ILE
1	A	331	GLU
1	B	178	ASN
1	C	39	SER
1	C	64	ALA
1	C	308	MSE
1	C	313	PRO
1	C	318	PRO
1	C	319	PRO
1	C	382	ASP
1	D	56	SER
1	D	64	ALA
1	D	125	SER
1	D	178	ASN
1	D	276	TYR
1	D	277	VAL
1	D	331	GLU
1	E	89	ALA
1	E	221	VAL
1	E	245	ALA

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Mol	Chain	Res	Type
1	E	313	PRO
1	E	333	VAL
1	F	42	SER
1	F	64	ALA
1	F	114	GLN
1	F	178	ASN
1	F	200	GLU
1	A	42	SER
1	A	174	CYS
1	A	212	PHE
1	A	289	PHE
1	B	245	ALA
1	B	304	GLY
1	B	372	ALA
1	B	403	CYS
1	C	37	SER
1	C	173	ILE
1	C	220	GLY
1	C	275	ASP
1	C	289	PHE
1	C	307	ASP
1	C	316	THR
1	D	78	HIS
1	D	93	GLY
1	D	275	ASP
1	D	320	GLU
1	E	43	SER
1	E	332	GLN
1	F	170	VAL
1	F	286	SER
1	B	289	PHE
1	C	56	SER
1	C	326	ILE
1	C	327	HIS
1	D	289	PHE
1	D	379	ASP
1	F	43	SER
1	F	96	ILE
1	F	190	ALA
1	F	259	GLY
1	A	44	PHE
1	C	8	SER

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Mol	Chain	Res	Type
1	C	178	ASN
1	C	331	GLU
1	C	355	ASN
1	A	64	ALA
1	A	376	PRO
1	A	382	ASP
1	C	94	LEU
1	D	70	PRO
1	E	71	SER
1	E	382	ASP
1	F	221	VAL
1	F	379	ASP
1	F	421	LEU
1	A	170	VAL
1	C	366	PRO
1	D	170	VAL
1	F	150	VAL
1	C	196	ILE
1	E	376	PRO
1	A	318	PRO
1	C	197	GLY
1	F	193	GLY
1	F	376	PRO

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	343/353 (97%)	298 (87%)	45 (13%)	4 9
1	B	341/353 (97%)	295 (86%)	46 (14%)	4 8
1	C	338/353 (96%)	294 (87%)	44 (13%)	4 9
1	D	339/353 (96%)	287 (85%)	52 (15%)	2 6
1	E	324/353 (92%)	283 (87%)	41 (13%)	4 9
1	F	320/353 (91%)	278 (87%)	42 (13%)	4 9

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2005/2118 (95%)	1735 (86%)	270 (14%)	4 8

All (270) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	LEU
1	A	29	GLU
1	A	35	LEU
1	A	44	PHE
1	A	58	LYS
1	A	69	VAL
1	A	72	LYS
1	A	76	SER
1	A	91	ILE
1	A	94	LEU
1	A	105	THR
1	A	113	GLU
1	A	115	ASN
1	A	122	LEU
1	A	131	LEU
1	A	156	GLU
1	A	184	LEU
1	A	199	LEU
1	A	217	THR
1	A	219	PHE
1	A	221	VAL
1	A	226	VAL
1	A	227	ASN
1	A	240	THR
1	A	248	VAL
1	A	265	VAL
1	A	266	LEU
1	A	285	ASP
1	A	286	SER
1	A	288	ARG
1	A	299	LEU
1	A	306	LEU
1	A	315	THR
1	A	321	PHE
1	A	323	GLN
1	A	332	GLN
1	A	334	SER

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Mol	Chain	Res	Type
1	A	337	ARG
1	A	354	LEU
1	A	373	LEU
1	A	390	THR
1	A	393	LEU
1	A	395[A]	MSE
1	A	395[B]	MSE
1	A	416	GLU
1	B	8	SER
1	B	19	THR
1	B	29	GLU
1	B	35	LEU
1	B	39	SER
1	B	54	SER
1	B	60	THR
1	B	69	VAL
1	B	72	LYS
1	B	75	LEU
1	B	76	SER
1	B	94	LEU
1	B	111	ASN
1	B	113	GLU
1	B	115	ASN
1	B	122	LEU
1	B	129	SER
1	B	131	LEU
1	B	140	ILE
1	B	177	ASN
1	B	178	ASN
1	B	182	VAL
1	B	196	ILE
1	B	199	LEU
1	B	219	PHE
1	B	226	VAL
1	B	229	VAL
1	B	233	LEU
1	B	248	VAL
1	B	265	VAL
1	B	271	THR
1	B	278	VAL
1	B	288	ARG
1	B	299	LEU

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Mol	Chain	Res	Type
1	B	306	LEU
1	B	309	VAL
1	B	315	THR
1	B	321	PHE
1	B	323	GLN
1	B	332	GLN
1	B	333	VAL
1	B	337	ARG
1	B	354	LEU
1	B	395	MSE
1	B	421	LEU
1	B	426	LEU
1	C	7	ASN
1	C	10	ARG
1	C	24	LEU
1	C	29	GLU
1	C	42	SER
1	C	44	PHE
1	C	51	VAL
1	C	58	LYS
1	C	60	THR
1	C	71	SER
1	C	72	LYS
1	C	96	ILE
1	C	98	ILE
1	C	122	LEU
1	C	129	SER
1	C	131	LEU
1	C	133	SER
1	C	185	SER
1	C	196	ILE
1	C	199	LEU
1	C	219	PHE
1	C	226	VAL
1	C	229	VAL
1	C	240	THR
1	C	257	VAL
1	C	265	VAL
1	C	288	ARG
1	C	299	LEU
1	C	306	LEU
1	C	316	THR

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Mol	Chain	Res	Type
1	C	328	GLU
1	C	334	SER
1	C	335	LEU
1	C	336	MSE
1	C	354	LEU
1	C	359	SER
1	C	361	VAL
1	C	379	ASP
1	C	384	GLU
1	C	388	CYS
1	C	390	THR
1	C	395	MSE
1	C	403	CYS
1	C	416	GLU
1	D	24	LEU
1	D	33	SER
1	D	35	LEU
1	D	40	ASN
1	D	44	PHE
1	D	45	LYS
1	D	55	THR
1	D	58	LYS
1	D	61	ASN
1	D	72	LYS
1	D	91	ILE
1	D	94	LEU
1	D	99	MSE
1	D	115	ASN
1	D	122	LEU
1	D	131	LEU
1	D	156	GLU
1	D	168	PRO
1	D	178	ASN
1	D	199	LEU
1	D	212	PHE
1	D	213	THR
1	D	219	PHE
1	D	226	VAL
1	D	229	VAL
1	D	231	GLU
1	D	240	THR
1	D	241	LEU

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Mol	Chain	Res	Type
1	D	257	VAL
1	D	265	VAL
1	D	266	LEU
1	D	267	ASP
1	D	275	ASP
1	D	288	ARG
1	D	299	LEU
1	D	301	LEU
1	D	306	LEU
1	D	321	PHE
1	D	324	ARG
1	D	328	GLU
1	D	330	ASN
1	D	332	GLN
1	D	335	LEU
1	D	337	ARG
1	D	354	LEU
1	D	371	SER
1	D	388	CYS
1	D	390	THR
1	D	393	LEU
1	D	399	ASN
1	D	401	GLU
1	D	403	CYS
1	E	10	ARG
1	E	29	GLU
1	E	35	LEU
1	E	51	VAL
1	E	59	GLU
1	E	69	VAL
1	E	72	LYS
1	E	79	THR
1	E	92	ARG
1	E	94	LEU
1	E	99	MSE
1	E	113	GLU
1	E	122	LEU
1	E	125	SER
1	E	131	LEU
1	E	156	GLU
1	E	157	SER
1	E	176	ILE

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Mol	Chain	Res	Type
1	E	182	VAL
1	E	213	THR
1	E	217	THR
1	E	219	PHE
1	E	229	VAL
1	E	257	VAL
1	E	263	GLN
1	E	265	VAL
1	E	271	THR
1	E	277	VAL
1	E	288	ARG
1	E	299	LEU
1	E	306	LEU
1	E	314	LYS
1	E	331	GLU
1	E	335	LEU
1	E	336	MSE
1	E	337	ARG
1	E	354	LEU
1	E	371	SER
1	E	388	CYS
1	E	416	GLU
1	E	424	SER
1	F	25	ARG
1	F	35	LEU
1	F	40	ASN
1	F	41	LYS
1	F	43	SER
1	F	55	THR
1	F	56	SER
1	F	60	THR
1	F	69	VAL
1	F	77	CYS
1	F	94	LEU
1	F	96	ILE
1	F	98	ILE
1	F	99	MSE
1	F	105	THR
1	F	108	SER
1	F	122	LEU
1	F	131	LEU
1	F	156	GLU

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Mol	Chain	Res	Type
1	F	157	SER
1	F	178	ASN
1	F	199	LEU
1	F	213	THR
1	F	219	PHE
1	F	222	THR
1	F	226	VAL
1	F	240	THR
1	F	263	GLN
1	F	265	VAL
1	F	271	THR
1	F	288	ARG
1	F	299	LEU
1	F	310	ASN
1	F	337	ARG
1	F	379	ASP
1	F	388	CYS
1	F	389	LEU
1	F	396	LEU
1	F	402	ARG
1	F	403	CYS
1	F	416	GLU
1	F	426	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (48) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	114	GLN
1	A	115	ASN
1	A	186	ASN
1	A	227	ASN
1	A	330	ASN
1	A	332	GLN
1	A	343	ASN
1	A	404	GLN
1	B	7	ASN
1	B	61	ASN
1	B	111	ASN
1	B	177	ASN
1	B	186	ASN
1	B	209	ASN
1	B	227	ASN

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Mol	Chain	Res	Type
1	B	399	ASN
1	B	413	ASN
1	C	114	GLN
1	C	178	ASN
1	C	186	ASN
1	C	227	ASN
1	C	327	HIS
1	C	355	ASN
1	C	413	ASN
1	D	111	ASN
1	D	154	GLN
1	D	177	ASN
1	D	178	ASN
1	D	227	ASN
1	D	322	GLN
1	D	355	ASN
1	D	399	ASN
1	D	413	ASN
1	E	7	ASN
1	E	30	HIS
1	E	36	ASN
1	E	227	ASN
1	E	263	GLN
1	E	343	ASN
1	E	413	ASN
1	F	7	ASN
1	F	111	ASN
1	F	177	ASN
1	F	186	ASN
1	F	227	ASN
1	F	343	ASN
1	F	400	ASN
1	F	413	ASN

5.3.3 RNA (i)

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)

2 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	$\#\|Z\| > 2$
2	TLA	A	501	-	9,9,9	1.28	1 (11%)	12,12,12	1.04	0
2	TLA	B	501	-	9,9,9	1.17	0	12,12,12	1.61	3 (25%)

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
2	TLA	A	501	-	-	6/12/12/12	-
2	TLA	B	501	-	-	10/12/12/12	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	501	TLA	O41-C4	-2.11	1.23	1.30

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	501	TLA	O2-C2-C3	-2.85	104.37	110.17
2	B	501	TLA	O41-C4-C3	2.33	119.78	113.31
2	B	501	TLA	O11-C1-O1	-2.15	119.21	124.08

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	TLA	O2-C2-C3-O3
2	A	501	TLA	C1-C2-C3-C4
2	B	501	TLA	O3-C3-C4-O4
2	B	501	TLA	O3-C3-C4-O41
2	A	501	TLA	C1-C2-C3-O3
2	A	501	TLA	O2-C2-C3-C4
2	B	501	TLA	O11-C1-C2-C3
2	B	501	TLA	O2-C2-C3-C4
2	B	501	TLA	O2-C2-C3-O3
2	B	501	TLA	C1-C2-C3-O3
2	B	501	TLA	O11-C1-C2-O2
2	A	501	TLA	O1-C1-C2-C3
2	A	501	TLA	O11-C1-C2-C3
2	B	501	TLA	O1-C1-C2-O2
2	B	501	TLA	O1-C1-C2-C3
2	B	501	TLA	C1-C2-C3-C4

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	501	TLA	2	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 (i)

6.1 Protein, DNA and RNA chains (i)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	397/431 (92%)	-0.13	8 (2%)	65	67	20, 56, 97, 121	0
1	B	395/431 (91%)	0.08	9 (2%)	60	62	24, 65, 111, 128	0
1	C	392/431 (90%)	-0.11	7 (1%)	68	70	28, 58, 107, 140	0
1	D	393/431 (91%)	-0.14	8 (2%)	65	67	27, 55, 98, 125	0
1	E	378/431 (87%)	0.28	33 (8%)	10	8	25, 74, 115, 135	0
1	F	372/431 (86%)	0.18	17 (4%)	32	31	30, 78, 115, 166	0
All	All	2327/2586 (89%)	0.02	82 (3%)	44	44	20, 63, 109, 166	0

All (82) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	335	LEU	7.0
1	E	279	GLY	6.2
1	C	40	ASN	5.3
1	B	326	ILE	5.2
1	E	79	THR	4.5
1	A	318	PRO	4.4
1	E	403	CYS	4.3
1	E	278	VAL	4.3
1	E	114	GLN	4.1
1	E	281	VAL	3.9
1	C	316	THR	3.8
1	E	44	PHE	3.8
1	E	88	PHE	3.8
1	C	315	THR	3.7
1	E	407	VAL	3.7
1	A	322	GLN	3.7
1	A	321	PHE	3.6
1	A	326	ILE	3.6
1	F	276	TYR	3.4

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Mol	Chain	Res	Type	RSRZ
1	E	428	ILE	3.4
1	E	334	SER	3.4
1	B	322	GLN	3.4
1	E	423	ASP	3.4
1	C	345	LYS	3.3
1	E	361	VAL	3.3
1	E	274	ALA	3.3
1	A	315	THR	3.2
1	D	315	THR	3.2
1	E	354	LEU	3.2
1	E	43	SER	3.2
1	A	335	LEU	3.2
1	F	309	VAL	3.1
1	D	57	TRP	3.1
1	E	427	GLU	3.1
1	E	280	GLY	3.1
1	E	430	PRO	3.0
1	B	328	GLU	3.0
1	F	426	LEU	2.9
1	F	297	ILE	2.9
1	B	332	GLN	2.8
1	D	323	GLN	2.8
1	E	277	VAL	2.8
1	B	378	LYS	2.8
1	E	309	VAL	2.7
1	E	375	ALA	2.7
1	F	333	VAL	2.7
1	E	311	PHE	2.6
1	F	362	CYS	2.6
1	E	293	LEU	2.6
1	A	79	THR	2.6
1	F	97	ALA	2.6
1	E	232	ARG	2.6
1	B	318	PRO	2.5
1	F	393	LEU	2.5
1	C	41	LYS	2.5
1	C	314	LYS	2.5
1	B	314	LYS	2.4
1	F	399	ASN	2.4
1	D	326	ILE	2.4
1	E	266	LEU	2.3
1	D	320	GLU	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	319	PRO	2.3
1	E	237	GLY	2.3
1	B	319	PRO	2.3
1	F	403	CYS	2.3
1	E	110	ALA	2.3
1	F	359	SER	2.3
1	F	273	VAL	2.3
1	D	321	PHE	2.2
1	F	311	PHE	2.2
1	E	292	ILE	2.2
1	E	367	GLU	2.2
1	B	368	LYS	2.2
1	C	44	PHE	2.2
1	F	212	PHE	2.2
1	E	78	HIS	2.1
1	F	335	LEU	2.1
1	A	319	PRO	2.1
1	F	75	LEU	2.1
1	D	322	GLN	2.1
1	F	425	PHE	2.0
1	E	405	VAL	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	TLA	B	501	10/10	0.86	0.18	75,85,90,91	0
2	TLA	A	501	10/10	0.93	0.15	72,74,80,86	0

6.5 Other polymers (i)

There are no such residues in this entry.