



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 29, 2020 – 10:26 AM BST

PDB ID : 4LDS
Title : The inward-facing structure of the glucose transporter from *Staphylococcus epidermidis*
Authors : Choe, J.; Aleshin, A.; Iancu, C.V.
Deposited on : 2013-06-25
Resolution : 3.20 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Xtrriage (Phenix) : 1.13
EDS : 2.13
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) : 2.13

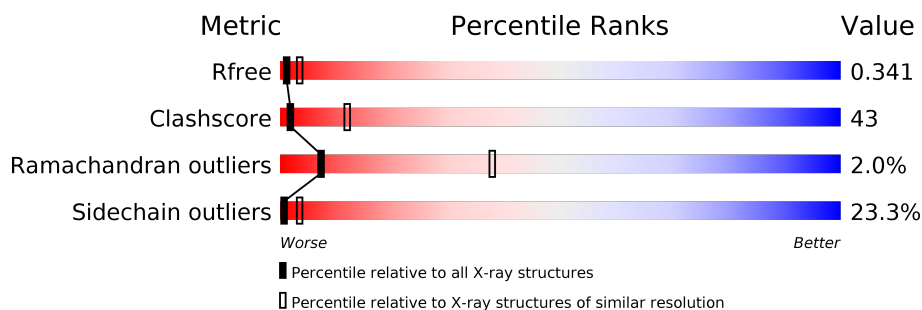
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)

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 on 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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	446	 30% 49% 14% • 6%
1	B	446	 35% 47% 11% • 6%

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 6388 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.

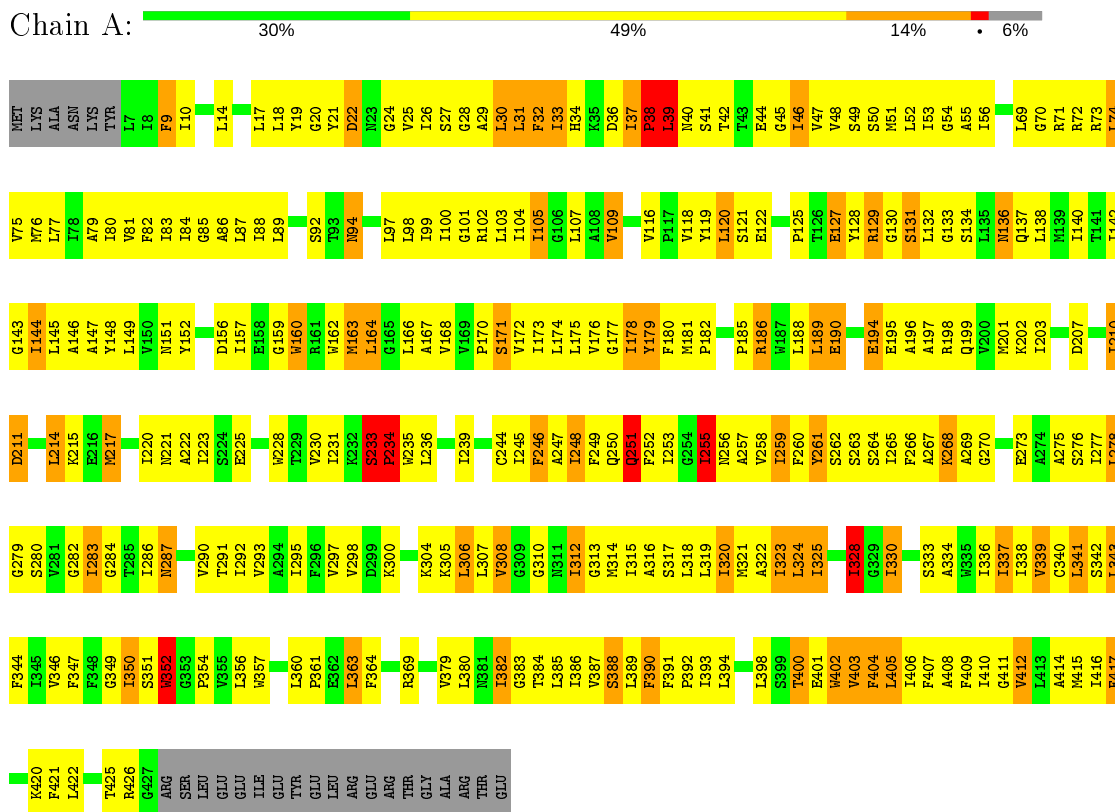
- Molecule 1 is a protein called Glucose transporter GlcP.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	421	Total 3194	C 2127	N 503	O 548	S 16	0	0	0
1	B	421	Total 3194	C 2127	N 503	O 548	S 16	0	0	0

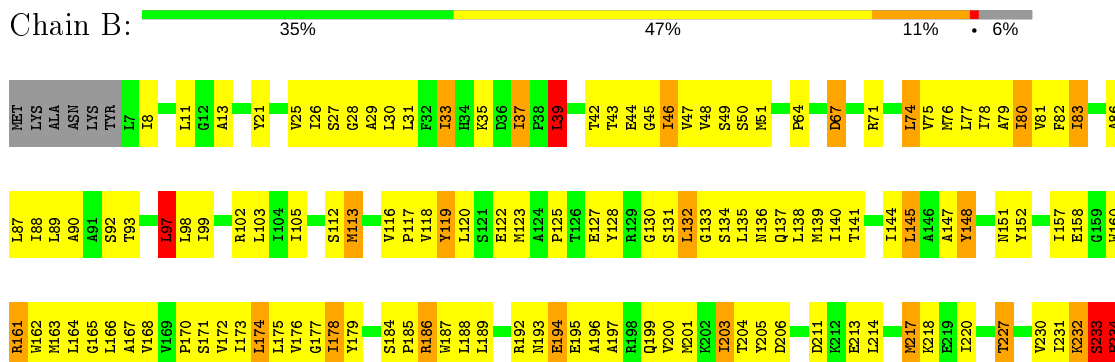
3 Residue-property plots i

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. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Glucose transporter GlcP



- Molecule 1: Glucose transporter GlcP



W235	V298	R367	GLU
L236	D299	L367	LEU
G237	K300	G374	ARG
R238	R303	I375	GLU
I239	K304	S376	ARG
I240	K305	A377	THR
I241	L306	L378	GLY
V242	L307	V379	ALA
G243	V308	N381	ARG
C244	G309	I382	THR
I245	G310	G383	GLU
F246	N311	V387	
A247	I312	S388	
I248	G313	L389	
F249	M314	F390	
Q250	I315	F391	
Q251	F252	P392	
F252	I253	I393	
I253	G254	L394	
G254	I255	S395	
I255	N256	L398	
N256	A257	S399	
A257	V258	T400	
V258	I259	V403	
I259	F260	F404	
F260	Y261	L405	
Y261	S262	I406	
S262	S263	F407	
S263	S264	A408	
S264	I265	F409	
I265	K268	I410	
K268	A269	I411	
A269	G270	G411	
G270	E273	V412	
E273	A274	I413	
A274	A275	A414	
A275	S276	M415	
S276	I277	I416	
I277	L278	F417	
L278	G279	V418	
G279	S280	I419	
S280	V281	K420	
V281	G282	F421	
G282	I283	L422	
I283	G284	F423	
G284	T285	E424	
T285	I286	T425	
I286	M287	R426	
M287	V288	G427	
V288	L289	ARG	
L289	V290	SER	
V290	T291	LEU	
T291	I292	GLU	
I292	V293	GLU	
V293	F296	ILE	
F296	V297	GLU	
V297		TYR	

4 Data and refinement statistics

Property	Value	Source
Space group	I 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	130.07Å 118.85Å 160.05Å 90.00° 100.08° 90.00°	Depositor
Resolution (Å)	19.90 – 3.20 19.90 – 3.20	Depositor EDS
% Data completeness (in resolution range)	98.0 (19.90-3.20) 98.4 (19.90-3.20)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.12	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.19 (at 3.22Å)	Xtrriage
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, R_{free}	0.302 , 0.341 0.302 , 0.341	Depositor DCC
R_{free} test set	1948 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å ²)	50.9	Xtrriage
Anisotropy	0.868	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.01 , 8.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.25$, $\langle L^2 \rangle = 0.11$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.81	EDS
Total number of atoms	6388	wwPDB-VP
Average B, all atoms (Å ²)	199.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.39% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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

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	0.75	1/3258 (0.0%)	0.98	8/4431 (0.2%)
1	B	0.57	0/3258	0.85	4/4431 (0.1%)
All	All	0.67	1/6516 (0.0%)	0.92	12/8862 (0.1%)

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	A	0	2
1	B	0	5
All	All	0	7

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	352	TRP	CB-CG	-5.71	1.40	1.50

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	270	GLY	N-CA-C	7.80	132.61	113.10
1	A	39	LEU	CA-CB-CG	6.36	129.92	115.30
1	A	31	LEU	CA-CB-CG	6.32	129.84	115.30
1	A	314	MET	CB-CG-SD	5.95	130.25	112.40
1	B	39	LEU	CA-CB-CG	5.72	128.46	115.30
1	A	255	ILE	CB-CA-C	-5.57	100.46	111.60
1	A	251	GLN	N-CA-C	5.34	125.42	111.00
1	A	38	PRO	N-CA-C	5.29	125.85	112.10
1	A	341	LEU	CA-CB-CG	-5.24	103.26	115.30
1	B	205	TYR	N-CA-C	5.06	124.67	111.00
1	A	402	TRP	N-CA-C	5.06	124.67	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	97	LEU	CA-CB-CG	5.01	126.83	115.30

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	234	PRO	Peptide
1	A	400	THR	Peptide
1	B	206	ASP	Peptide
1	B	233	SER	Peptide
1	B	234	PRO	Peptide
1	B	399	SER	Peptide
1	B	423	PRO	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	3194	0	3399	306	0
1	B	3194	0	3399	262	0
All	All	6388	0	6798	563	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 43.

All (563) 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:B:186:ARG:HG2	1:B:217:MET:HG2	1.32	1.04
1:B:92:SER:HA	1:B:97:LEU:HD11	1.38	1.01
1:A:330:ILE:HA	1:A:333:SER:HB3	1.49	0.94
1:A:324:LEU:HD11	1:A:336:ILE:HB	1.52	0.90
1:A:283:ILE:HD11	1:A:342:SER:HA	1.53	0.89
1:A:163:MET:HA	1:A:166:LEU:HB2	1.54	0.88
1:A:318:LEU:HD23	1:A:404:PHE:HB3	1.55	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:18:LEU:HD11	1:A:171:SER:HA	1.54	0.86
1:B:351:SER:HG	1:B:352:TRP:HD1	1.22	0.86
1:B:253:ILE:HG13	1:B:410:ILE:HG22	1.57	0.84
1:B:315:ILE:HG23	1:B:408:ALA:HB1	1.61	0.82
1:A:185:PRO:HA	1:A:188:LEU:HD12	1.62	0.81
1:B:172:VAL:HA	1:B:175:LEU:HB2	1.61	0.80
1:B:334:ALA:HA	1:B:337:ILE:HB	1.61	0.80
1:A:82:PHE:HB3	1:A:171:SER:HB2	1.64	0.80
1:A:25:VAL:HG13	1:A:160:TRP:HH2	1.47	0.79
1:A:83:ILE:HA	1:A:168:VAL:HG22	1.65	0.79
1:A:351:SER:HB2	1:A:352:TRP:CD1	2.19	0.78
1:B:411:GLY:O	1:B:415:MET:HB2	1.83	0.78
1:A:130:GLY:O	1:A:133:GLY:N	2.16	0.77
1:A:409:PHE:HA	1:A:412:VAL:HB	1.66	0.77
1:B:35:LYS:HB3	1:B:157:ILE:HD11	1.66	0.77
1:A:76:MET:SD	1:A:178:ILE:HB	2.25	0.76
1:A:388:SER:OG	1:A:389:LEU:N	2.15	0.76
1:B:186:ARG:HG3	1:B:189:LEU:HD12	1.69	0.75
1:B:234:PRO:HB2	1:B:238:ARG:HH21	1.50	0.75
1:A:276:SER:O	1:A:280:SER:OG	2.03	0.74
1:A:284:GLY:O	1:A:287:ASN:ND2	2.20	0.74
1:B:409:PHE:HA	1:B:412:VAL:HB	1.68	0.74
1:A:30:LEU:HG	1:A:264:SER:HB2	1.68	0.74
1:B:241:ILE:HA	1:B:244:CYS:HB2	1.70	0.74
1:B:318:LEU:HD23	1:B:404:PHE:HD1	1.53	0.73
1:A:406:ILE:O	1:A:409:PHE:N	2.22	0.73
1:A:246:PHE:CE2	1:A:356:LEU:HG	2.23	0.72
1:A:25:VAL:HG22	1:A:160:TRP:HZ3	1.54	0.72
1:A:387:VAL:HG13	1:A:391:PHE:HD2	1.54	0.72
1:A:87:LEU:HG	1:A:168:VAL:HG21	1.69	0.72
1:A:312:ILE:HG12	1:B:320:ILE:HG12	1.72	0.72
1:A:131:SER:O	1:A:134:SER:OG	2.07	0.72
1:A:387:VAL:HG13	1:A:391:PHE:CD2	2.25	0.71
1:A:266:PHE:CE1	1:A:338:ILE:HA	2.25	0.71
1:B:227:THR:HG21	1:B:367:ARG:HH11	1.55	0.71
1:B:398:LEU:HD12	1:B:400:THR:HB	1.73	0.71
1:A:315:ILE:HA	1:A:318:LEU:HB2	1.71	0.71
1:B:265:ILE:HD13	1:B:337:ILE:HD13	1.72	0.70
1:A:253:ILE:HD11	1:A:410:ILE:HG22	1.74	0.70
1:A:323:ILE:HG21	1:B:415:MET:HE3	1.73	0.70
1:A:346:VAL:O	1:A:350:ILE:HG12	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:32:PHE:HB3	1:A:157:ILE:HD11	1.73	0.69
1:A:25:VAL:HG13	1:A:160:TRP:CH2	2.27	0.69
1:A:217:MET:HA	1:A:220:ILE:HG12	1.75	0.69
1:B:175:LEU:HG	1:B:179:TYR:HE1	1.58	0.68
1:A:351:SER:HB2	1:A:352:TRP:HD1	1.57	0.68
1:B:87:LEU:HG	1:B:168:VAL:HG21	1.76	0.68
1:A:246:PHE:CZ	1:A:360:LEU:HG	2.29	0.67
1:A:273:GLU:O	1:A:276:SER:N	2.27	0.67
1:A:207:ASP:HA	1:A:210:ILE:HG12	1.75	0.67
1:B:158:GLU:HG2	1:B:161:ARG:HH21	1.59	0.67
1:A:89:LEU:HB3	1:A:164:LEU:HD12	1.77	0.67
1:B:395:SER:HA	1:B:400:THR:HG21	1.76	0.67
1:B:324:LEU:HB3	1:B:333:SER:HB2	1.77	0.66
1:B:394:LEU:HD13	1:B:398:LEU:HD11	1.77	0.66
1:A:265:ILE:O	1:A:269:ALA:HB3	1.95	0.66
1:B:141:THR:HG22	1:B:288:VAL:HG22	1.78	0.66
1:A:244:CYS:HB3	1:A:379:VAL:HG11	1.78	0.65
1:A:283:ILE:HA	1:A:286:ILE:HD12	1.78	0.65
1:B:171:SER:O	1:B:175:LEU:N	2.30	0.65
1:B:407:PHE:HA	1:B:410:ILE:HB	1.79	0.65
1:A:145:LEU:HD23	1:A:284:GLY:HA3	1.79	0.65
1:B:27:SER:HA	1:B:260:PHE:HA	1.79	0.65
1:A:322:ALA:HB1	1:A:401:GLU:HG2	1.78	0.65
1:B:253:ILE:HG23	1:B:407:PHE:HB3	1.79	0.65
1:B:308:VAL:HG22	1:B:418:VAL:HG11	1.79	0.64
1:B:122:GLU:HG2	1:B:186:ARG:HB2	1.79	0.64
1:A:266:PHE:HB3	1:A:275:ALA:O	1.98	0.64
1:A:257:ALA:HB2	1:A:387:VAL:HG12	1.79	0.64
1:A:146:ALA:HA	1:A:149:LEU:HD13	1.80	0.64
1:B:44:GLU:HA	1:B:47:VAL:HB	1.79	0.64
1:A:89:LEU:HD13	1:A:101:GLY:HA3	1.79	0.63
1:A:317:SER:HA	1:A:320:ILE:HG22	1.80	0.63
1:B:21:TYR:HA	1:B:147:ALA:HB2	1.81	0.63
1:A:84:ILE:HG22	1:A:104:ILE:HG21	1.79	0.62
1:B:176:VAL:HA	1:B:179:TYR:HB2	1.81	0.62
1:B:335:TRP:O	1:B:338:ILE:HB	1.99	0.62
1:A:323:ILE:HG21	1:B:415:MET:CE	2.28	0.62
1:A:80:ILE:HA	1:A:83:ILE:HG22	1.81	0.62
1:A:92:SER:HA	1:A:97:LEU:HD21	1.81	0.62
1:B:26:ILE:HG13	1:B:29:ALA:HB3	1.82	0.62
1:A:151:ASN:HA	1:A:163:MET:SD	2.40	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:200:VAL:HA	1:B:203:ILE:HB	1.82	0.62
1:B:315:ILE:HD13	1:B:412:VAL:HG23	1.82	0.62
1:A:152:TYR:CZ	1:A:273:GLU:HB2	2.34	0.62
1:A:403:VAL:O	1:A:406:ILE:N	2.33	0.62
1:A:75:VAL:HG21	1:A:119:TYR:CG	2.35	0.62
1:A:72:ARG:NH2	1:A:181:MET:O	2.33	0.62
1:A:189:LEU:HD11	1:A:214:LEU:HD22	1.82	0.62
1:A:312:ILE:HG23	1:B:320:ILE:HD11	1.80	0.62
1:A:159:GLY:O	1:A:162:TRP:HB3	1.99	0.61
1:B:400:THR:OG1	1:B:400:THR:O	2.17	0.61
1:A:100:ILE:HA	1:A:103:LEU:HD12	1.81	0.61
1:A:257:ALA:HB2	1:A:387:VAL:CG1	2.32	0.60
1:B:45:GLY:O	1:B:49:SER:OG	2.09	0.60
1:B:255:ILE:HA	1:B:258:VAL:HB	1.83	0.60
1:A:51:MET:HA	1:A:102:ARG:O	2.01	0.60
1:A:306:LEU:O	1:A:351:SER:OG	2.16	0.60
1:B:79:ALA:HB2	1:B:178:ILE:HD12	1.83	0.60
1:B:325:ILE:HG21	1:B:400:THR:O	2.02	0.60
1:A:275:ALA:O	1:A:279:GLY:HA3	2.02	0.60
1:A:334:ALA:HA	1:A:337:ILE:HB	1.82	0.60
1:A:144:ILE:O	1:A:147:ALA:HB3	2.01	0.60
1:A:47:VAL:O	1:A:50:SER:OG	2.16	0.60
1:A:249:PHE:HD2	1:A:414:ALA:HB2	1.67	0.60
1:B:158:GLU:HA	1:B:161:ARG:NE	2.17	0.59
1:A:79:ALA:O	1:A:82:PHE:HB2	2.02	0.59
1:B:315:ILE:HG12	1:B:408:ALA:O	2.03	0.59
1:A:45:GLY:O	1:A:49:SER:OG	2.14	0.59
1:A:118:VAL:HA	1:A:121:SER:HB3	1.84	0.59
1:B:46:ILE:HA	1:B:49:SER:HB2	1.85	0.59
1:B:42:THR:HA	1:B:393:ILE:HG22	1.85	0.59
1:A:175:LEU:HG	1:A:179:TYR:CE1	2.38	0.59
1:A:42:THR:HG22	1:A:393:ILE:HB	1.83	0.59
1:B:170:PRO:HA	1:B:173:ILE:HG12	1.85	0.59
1:B:334:ALA:C	1:B:337:ILE:H	2.05	0.59
1:A:20:GLY:O	1:A:144:ILE:HG13	2.03	0.59
1:A:256:ASN:O	1:A:260:PHE:HE1	1.84	0.59
1:A:318:LEU:HD13	1:A:408:ALA:HA	1.85	0.58
1:B:26:ILE:HD11	1:B:48:VAL:HG22	1.84	0.58
1:A:352:TRP:HE3	1:A:356:LEU:HD22	1.68	0.58
1:A:310:GLY:O	1:A:347:PHE:HB3	2.03	0.58
1:A:41:SER:HA	1:A:44:GLU:CD	2.24	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:214:LEU:O	1:B:218:LYS:HB2	2.03	0.58
1:A:266:PHE:O	1:A:270:GLY:HA3	2.03	0.58
1:A:253:ILE:CD1	1:A:410:ILE:HG22	2.33	0.58
1:B:253:ILE:HD13	1:B:314:MET:HE1	1.86	0.58
1:A:173:ILE:O	1:A:177:GLY:N	2.35	0.58
1:A:409:PHE:CA	1:A:412:VAL:HB	2.34	0.58
1:A:51:MET:HB2	1:A:102:ARG:HE	1.68	0.58
1:B:313:GLY:HA3	1:B:347:PHE:CD2	2.38	0.58
1:B:318:LEU:HB3	1:B:404:PHE:HB3	1.85	0.57
1:B:383:GLY:O	1:B:387:VAL:HG23	2.04	0.57
1:A:315:ILE:HD11	1:A:411:GLY:O	2.04	0.57
1:B:123:MET:HE1	1:B:200:VAL:HG11	1.87	0.57
1:A:273:GLU:C	1:A:276:SER:H	2.08	0.57
1:B:233:SER:HB3	1:B:234:PRO:HD3	1.86	0.57
1:A:28:GLY:O	1:A:31:LEU:HB3	2.04	0.57
1:A:79:ALA:HA	1:A:82:PHE:HD2	1.69	0.57
1:B:306:LEU:HD22	1:B:351:SER:HB3	1.87	0.57
1:B:253:ILE:CG1	1:B:410:ILE:HG22	2.32	0.57
1:A:336:ILE:O	1:A:339:VAL:HB	2.03	0.57
1:A:9:PHE:CE1	1:A:120:LEU:HG	2.40	0.57
1:A:313:GLY:O	1:A:316:ALA:HB3	2.04	0.57
1:B:144:ILE:HG23	1:B:148:TYR:CE2	2.40	0.57
1:B:185:PRO:HA	1:B:188:LEU:HD12	1.86	0.57
1:B:252:PHE:CZ	1:B:383:GLY:HA2	2.40	0.57
1:B:407:PHE:HD1	1:B:410:ILE:HD12	1.70	0.57
1:B:311:ASN:HB3	1:B:415:MET:SD	2.45	0.57
1:B:284:GLY:O	1:B:288:VAL:HG23	2.05	0.56
1:A:247:ALA:O	1:A:380:LEU:HD12	2.05	0.56
1:A:258:VAL:O	1:A:262:SER:OG	2.21	0.56
1:A:321:MET:HE2	1:A:340:CYS:HB3	1.87	0.56
1:B:359:MET:O	1:B:363:LEU:HG	2.05	0.56
1:A:352:TRP:CE3	1:A:356:LEU:HD22	2.40	0.56
1:B:174:LEU:HD13	1:B:177:GLY:HA3	1.87	0.56
1:B:51:MET:HB2	1:B:102:ARG:HD3	1.87	0.56
1:A:315:ILE:HG23	1:A:408:ALA:HB1	1.88	0.56
1:A:128:TYR:HB3	1:A:132:LEU:HD11	1.88	0.56
1:A:24:GLY:O	1:A:27:SER:HB3	2.05	0.56
1:A:300:LYS:O	1:A:426:ARG:NH1	2.39	0.56
1:A:261:TYR:OH	1:A:403:VAL:HG21	2.05	0.56
1:A:307:LEU:HD11	1:A:356:LEU:HD13	1.86	0.56
1:B:387:VAL:HA	1:B:391:PHE:CD2	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:417:PHE:HA	1:B:421:PHE:HD2	1.71	0.56
1:A:389:LEU:O	1:A:393:ILE:HG23	2.06	0.55
1:B:413:LEU:HD23	1:B:416:ILE:HG21	1.87	0.55
1:B:125:PRO:HA	1:B:186:ARG:HH22	1.72	0.55
1:A:176:VAL:HA	1:A:179:TYR:CG	2.42	0.55
1:A:27:SER:HA	1:A:260:PHE:HA	1.87	0.55
1:A:85:GLY:O	1:A:89:LEU:HB2	2.07	0.55
1:B:112:SER:OG	1:B:113:MET:N	2.40	0.55
1:A:246:PHE:CE2	1:A:360:LEU:HG	2.42	0.55
1:B:86:ALA:O	1:B:164:LEU:HB3	2.07	0.55
1:B:141:THR:HG21	1:B:288:VAL:HA	1.89	0.55
1:B:374:GLY:O	1:B:377:ALA:HB3	2.06	0.55
1:B:419:ILE:O	1:B:423:PRO:HG3	2.07	0.55
1:A:29:ALA:O	1:A:32:PHE:N	2.41	0.54
1:B:242:VAL:O	1:B:245:ILE:HG22	2.07	0.54
1:B:257:ALA:HA	1:B:260:PHE:CD2	2.43	0.54
1:A:160:TRP:HA	1:A:163:MET:HG2	1.89	0.54
1:A:77:LEU:O	1:A:81:VAL:HG23	2.07	0.54
1:B:287:ASN:HA	1:B:290:VAL:HG12	1.88	0.54
1:B:125:PRO:HA	1:B:186:ARG:NH2	2.23	0.54
1:B:43:THR:HA	1:B:46:ILE:HB	1.89	0.54
1:B:246:PHE:HD1	1:B:417:PHE:CE1	2.26	0.54
1:A:352:TRP:CD1	1:A:352:TRP:N	2.76	0.54
1:A:390:PHE:HB3	1:A:391:PHE:CD1	2.42	0.54
1:A:343:LEU:O	1:A:346:VAL:N	2.40	0.54
1:B:308:VAL:HG22	1:B:418:VAL:CG1	2.37	0.54
1:B:71:ARG:O	1:B:75:VAL:HG23	2.08	0.54
1:A:122:GLU:HG2	1:A:186:ARG:HB3	1.90	0.54
1:B:170:PRO:O	1:B:174:LEU:N	2.41	0.54
1:A:321:MET:SD	1:A:337:ILE:HG12	2.47	0.53
1:B:137:GLN:O	1:B:140:ILE:HB	2.08	0.53
1:A:175:LEU:HA	1:A:178:ILE:HD12	1.90	0.53
1:B:234:PRO:O	1:B:236:LEU:N	2.41	0.53
1:B:307:LEU:HA	1:B:351:SER:OG	2.08	0.53
1:B:378:LEU:O	1:B:382:ILE:HG13	2.08	0.53
1:A:26:ILE:HG12	1:A:48:VAL:CG2	2.38	0.53
1:A:315:ILE:HG22	1:A:319:LEU:HD12	1.89	0.53
1:A:405:LEU:O	1:A:408:ALA:HB3	2.09	0.53
1:B:80:ILE:HG13	1:B:175:LEU:HD11	1.89	0.53
1:B:249:PHE:CZ	1:B:413:LEU:HD22	2.44	0.53
1:B:233:SER:HB3	1:B:234:PRO:CD	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:357:TRP:O	1:B:360:LEU:N	2.41	0.53
1:A:19:TYR:CE1	1:A:109:VAL:HG13	2.44	0.53
1:A:252:PHE:HB3	1:A:410:ILE:HG21	1.91	0.53
1:A:143:GLY:O	1:A:147:ALA:HB2	2.09	0.52
1:B:259:ILE:HA	1:B:262:SER:HB3	1.91	0.52
1:A:409:PHE:C	1:A:412:VAL:HB	2.30	0.52
1:B:130:GLY:O	1:B:133:GLY:N	2.42	0.52
1:B:313:GLY:HA3	1:B:347:PHE:CE2	2.45	0.52
1:A:211:ASP:O	1:A:215:LYS:HB2	2.09	0.52
1:A:28:GLY:HA3	1:A:151:ASN:CG	2.30	0.52
1:B:187:TRP:HE3	1:B:188:LEU:HG	1.75	0.52
1:B:324:LEU:HD11	1:B:336:ILE:HD12	1.92	0.52
1:A:22:ASP:OD2	1:A:105:ILE:HG23	2.09	0.52
1:A:339:VAL:O	1:A:342:SER:N	2.43	0.52
1:A:318:LEU:CD2	1:A:404:PHE:HB3	2.35	0.52
1:B:152:TYR:HE1	1:B:273:GLU:HB2	1.75	0.52
1:A:261:TYR:O	1:A:264:SER:HB3	2.10	0.51
1:A:341:LEU:O	1:A:344:PHE:N	2.43	0.51
1:A:46:ILE:O	1:A:49:SER:HB2	2.09	0.51
1:B:26:ILE:HA	1:B:29:ALA:HB3	1.92	0.51
1:A:54:GLY:HA3	1:A:103:LEU:O	2.10	0.51
1:B:99:ILE:O	1:B:103:LEU:HG	2.10	0.51
1:B:21:TYR:HE1	1:B:167:ALA:HB2	1.75	0.51
1:A:246:PHE:CD2	1:A:356:LEU:HG	2.46	0.51
1:A:47:VAL:HG21	1:A:98:LEU:HD13	1.91	0.51
1:B:148:TYR:OH	1:B:284:GLY:HA3	2.11	0.51
1:B:287:ASN:O	1:B:291:THR:HG23	2.11	0.51
1:A:339:VAL:O	1:A:343:LEU:HD22	2.10	0.51
1:B:196:ALA:HA	1:B:199:GLN:HB2	1.93	0.51
1:B:326:TRP:O	1:B:328:ILE:N	2.44	0.51
1:A:320:ILE:O	1:A:324:LEU:HB2	2.10	0.51
1:A:390:PHE:O	1:A:393:ILE:HG12	2.10	0.51
1:A:318:LEU:HB3	1:A:408:ALA:HB2	1.91	0.51
1:B:315:ILE:HD11	1:B:411:GLY:C	2.31	0.51
1:B:75:VAL:HB	1:B:178:ILE:HG21	1.93	0.51
1:A:266:PHE:HZ	1:A:341:LEU:HD23	1.75	0.51
1:B:141:THR:O	1:B:144:ILE:HG22	2.11	0.51
1:A:33:ILE:HD12	1:A:34:HIS:H	1.75	0.51
1:A:404:PHE:CD1	1:A:404:PHE:N	2.77	0.51
1:B:173:ILE:HA	1:B:176:VAL:HB	1.93	0.51
1:B:296:PHE:CE1	1:B:300:LYS:HD2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:310:GLY:HA2	1:B:347:PHE:CD1	2.46	0.51
1:B:414:ALA:O	1:B:418:VAL:HG23	2.10	0.51
1:A:266:PHE:CZ	1:A:341:LEU:HD23	2.46	0.50
1:B:132:LEU:O	1:B:135:LEU:HB3	2.12	0.50
1:A:10:ILE:O	1:A:14:LEU:HG	2.12	0.50
1:B:248:ILE:HG23	1:B:252:PHE:CD2	2.46	0.50
1:B:335:TRP:O	1:B:339:VAL:HG23	2.11	0.50
1:B:273:GLU:O	1:B:276:SER:N	2.36	0.50
1:B:74:LEU:O	1:B:78:ILE:HG13	2.12	0.50
1:B:93:THR:H	1:B:97:LEU:HG	1.76	0.50
1:A:30:LEU:HD12	1:A:33:ILE:HG12	1.94	0.50
1:A:261:TYR:HA	1:A:264:SER:HB3	1.94	0.50
1:A:404:PHE:HA	1:A:407:PHE:HB2	1.94	0.50
1:B:131:SER:O	1:B:134:SER:OG	2.25	0.50
1:B:360:LEU:HB3	1:B:361:PRO:HD3	1.93	0.50
1:A:308:VAL:HG22	1:A:415:MET:HE1	1.94	0.50
1:A:190:GLU:HG3	1:A:221:ASN:HB3	1.94	0.49
1:A:308:VAL:O	1:A:312:ILE:HB	2.11	0.49
1:B:145:LEU:HD23	1:B:288:VAL:HG21	1.95	0.49
1:B:357:TRP:O	1:B:361:PRO:HD2	2.13	0.49
1:A:25:VAL:HG22	1:A:160:TRP:CZ3	2.41	0.49
1:A:172:VAL:O	1:A:175:LEU:HB3	2.11	0.49
1:A:325:ILE:HG12	1:A:333:SER:OG	2.12	0.49
1:B:86:ALA:HA	1:B:164:LEU:HD12	1.92	0.49
1:B:90:ALA:O	1:B:161:ARG:HB3	2.11	0.49
1:A:236:LEU:HD12	1:A:236:LEU:H	1.77	0.49
1:B:234:PRO:HB2	1:B:238:ARG:NH2	2.22	0.49
1:B:315:ILE:HA	1:B:318:LEU:HD12	1.93	0.49
1:B:44:GLU:O	1:B:48:VAL:HG23	2.12	0.49
1:B:76:MET:SD	1:B:178:ILE:HB	2.52	0.49
1:B:189:LEU:HD22	1:B:218:LYS:HZ2	1.78	0.49
1:B:303:ARG:HG2	1:B:359:MET:HG2	1.94	0.49
1:B:193:ASN:O	1:B:195:GLU:N	2.46	0.48
1:B:232:LYS:HD2	1:B:233:SER:HB2	1.95	0.48
1:A:263:SER:OG	1:A:280:SER:OG	2.31	0.48
1:A:336:ILE:C	1:A:339:VAL:HB	2.32	0.48
1:B:26:ILE:HG23	1:B:260:PHE:CE1	2.48	0.48
1:B:151:ASN:N	1:B:163:MET:HE1	2.27	0.48
1:B:87:LEU:CG	1:B:168:VAL:HG21	2.43	0.48
1:B:187:TRP:CE3	1:B:188:LEU:HG	2.48	0.48
1:B:26:ILE:HA	1:B:29:ALA:CB	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:34:HIS:HA	1:A:38:PRO:HG2	1.95	0.48
1:A:357:TRP:HZ2	1:A:380:LEU:HD22	1.77	0.48
1:B:174:LEU:HA	1:B:174:LEU:HD13	1.66	0.48
1:B:27:SER:HB2	1:B:259:ILE:HD12	1.94	0.48
1:A:186:ARG:HA	1:A:189:LEU:HB2	1.96	0.48
1:A:188:LEU:HD13	1:A:196:ALA:HB3	1.96	0.48
1:B:26:ILE:HG21	1:B:51:MET:SD	2.54	0.48
1:A:26:ILE:HD13	1:A:102:ARG:NH1	2.29	0.48
1:A:308:VAL:HA	1:A:415:MET:SD	2.53	0.48
1:A:41:SER:O	1:A:44:GLU:HB2	2.14	0.48
1:B:125:PRO:HB3	1:B:213:GLU:CD	2.34	0.48
1:B:152:TYR:CE1	1:B:273:GLU:HB2	2.49	0.48
1:B:37:ILE:HG22	1:B:39:LEU:HD12	1.96	0.48
1:A:321:MET:HB2	1:A:321:MET:HE2	1.74	0.47
1:A:86:ALA:HB3	1:A:168:VAL:HG23	1.96	0.47
1:B:185:PRO:O	1:B:197:ALA:HB2	2.14	0.47
1:A:409:PHE:HD1	1:A:412:VAL:HG21	1.79	0.47
1:B:13:ALA:O	1:B:139:MET:HG2	2.13	0.47
1:A:190:GLU:HG3	1:A:221:ASN:CG	2.35	0.47
1:A:258:VAL:O	1:A:262:SER:CB	2.62	0.47
1:A:305:LYS:HA	1:A:308:VAL:HB	1.96	0.47
1:A:290:VAL:HG11	1:A:349:GLY:HA3	1.96	0.47
1:A:409:PHE:HA	1:A:412:VAL:CB	2.38	0.47
1:A:89:LEU:HD12	1:A:89:LEU:HA	1.70	0.47
1:B:334:ALA:O	1:B:337:ILE:N	2.47	0.47
1:A:251:GLN:NE2	1:A:256:ASN:HB2	2.29	0.47
1:A:26:ILE:HG23	1:A:260:PHE:CG	2.50	0.47
1:A:52:LEU:HA	1:A:55:ALA:HB3	1.96	0.47
1:A:416:ILE:O	1:A:420:LYS:HB2	2.15	0.47
1:B:249:PHE:HD2	1:B:417:PHE:CD2	2.33	0.47
1:A:27:SER:HB3	1:A:148:TYR:HB3	1.96	0.47
1:A:164:LEU:O	1:A:167:ALA:HB3	2.14	0.47
1:B:122:GLU:HB3	1:B:186:ARG:H	1.80	0.47
1:B:307:LEU:HA	1:B:351:SER:HG	1.79	0.47
1:A:264:SER:O	1:A:268:LYS:HB2	2.15	0.47
1:B:189:LEU:HD22	1:B:218:LYS:NZ	2.29	0.47
1:B:253:ILE:HG21	1:B:314:MET:HE3	1.96	0.47
1:B:379:VAL:HA	1:B:382:ILE:HD12	1.97	0.47
1:A:407:PHE:HA	1:A:410:ILE:HG13	1.96	0.47
1:B:290:VAL:CG1	1:B:349:GLY:HA3	2.45	0.47
1:A:125:PRO:C	1:A:127:GLU:H	2.17	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:265:ILE:O	1:A:270:GLY:N	2.41	0.47
1:A:400:THR:HB	1:A:402:TRP:HB2	1.97	0.46
1:B:26:ILE:HD12	1:B:102:ARG:HH11	1.81	0.46
1:B:415:MET:HA	1:B:418:VAL:HB	1.96	0.46
1:A:69:LEU:HD22	1:A:73:ARG:HH21	1.80	0.46
1:B:235:TRP:H	1:B:238:ARG:HH21	1.62	0.46
1:B:336:ILE:HA	1:B:339:VAL:HG23	1.97	0.46
1:B:379:VAL:O	1:B:382:ILE:HB	2.15	0.46
1:A:199:GLN:O	1:A:202:LYS:HB2	2.15	0.46
1:B:307:LEU:HD13	1:B:356:LEU:HD11	1.97	0.46
1:B:326:TRP:C	1:B:328:ILE:H	2.18	0.46
1:A:417:PHE:CD1	1:A:417:PHE:C	2.89	0.46
1:A:174:LEU:O	1:A:178:ILE:HG13	2.15	0.46
1:A:26:ILE:HG23	1:A:260:PHE:HB3	1.97	0.46
1:A:318:LEU:HD13	1:A:407:PHE:O	2.15	0.46
1:A:84:ILE:O	1:A:88:ILE:HB	2.16	0.46
1:B:173:ILE:O	1:B:177:GLY:N	2.48	0.46
1:B:261:TYR:HA	1:B:264:SER:HB3	1.97	0.46
1:B:322:ALA:O	1:B:325:ILE:HB	2.15	0.46
1:A:181:MET:HA	1:A:182:PRO:HD3	1.66	0.46
1:A:26:ILE:HG23	1:A:260:PHE:CB	2.46	0.46
1:A:148:TYR:HE1	1:A:280:SER:C	2.19	0.46
1:B:297:VAL:HA	1:B:300:LYS:HB3	1.98	0.46
1:B:307:LEU:HD12	1:B:418:VAL:HG22	1.98	0.46
1:B:326:TRP:O	1:B:328:ILE:HD12	2.16	0.46
1:A:198:ARG:O	1:A:201:MET:HB2	2.16	0.46
1:B:86:ALA:N	1:B:105:ILE:HD11	2.31	0.46
1:B:148:TYR:HE1	1:B:281:VAL:HG13	1.80	0.46
1:B:312:ILE:HG22	1:B:313:GLY:N	2.30	0.46
1:B:351:SER:OG	1:B:352:TRP:HD1	1.92	0.45
1:A:89:LEU:HD21	1:A:102:ARG:HG2	1.97	0.45
1:A:26:ILE:HG12	1:A:48:VAL:HG21	1.97	0.45
1:A:321:MET:HG2	1:A:404:PHE:CD1	2.52	0.45
1:A:89:LEU:HB3	1:A:164:LEU:CD1	2.46	0.45
1:B:175:LEU:O	1:B:179:TYR:HD1	2.00	0.45
1:B:43:THR:O	1:B:47:VAL:HG23	2.15	0.45
1:A:236:LEU:O	1:A:239:ILE:HG22	2.16	0.45
1:A:400:THR:C	1:A:402:TRP:N	2.66	0.45
1:B:188:LEU:HD13	1:B:197:ALA:N	2.31	0.45
1:B:26:ILE:HG21	1:B:51:MET:HE1	1.99	0.45
1:B:415:MET:O	1:B:418:VAL:HB	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:64:PRO:HA	1:B:67:ASP:HB2	1.97	0.45
1:A:26:ILE:HA	1:A:29:ALA:HB3	1.99	0.45
1:B:265:ILE:HG22	1:B:268:LYS:HB3	1.99	0.45
1:A:133:GLY:O	1:A:136:ASN:HB3	2.16	0.45
1:A:279:GLY:O	1:A:283:ILE:HB	2.17	0.45
1:A:21:TYR:HA	1:A:147:ALA:HB2	1.98	0.45
1:A:402:TRP:O	1:A:406:ILE:HG12	2.16	0.45
1:A:94:ASN:N	1:A:94:ASN:OD1	2.50	0.45
1:B:160:TRP:O	1:B:163:MET:HG2	2.17	0.45
1:A:160:TRP:CA	1:A:163:MET:HG2	2.47	0.45
1:A:248:ILE:HD11	1:A:382:ILE:HG22	1.98	0.45
1:A:307:LEU:HD13	1:A:352:TRP:CH2	2.52	0.45
1:B:118:VAL:O	1:B:122:GLU:HG3	2.17	0.45
1:B:144:ILE:HG23	1:B:148:TYR:CZ	2.52	0.45
1:B:235:TRP:CH2	1:B:236:LEU:HD11	2.52	0.45
1:A:144:ILE:HG22	1:A:145:LEU:N	2.31	0.45
1:A:324:LEU:HD12	1:A:340:CYS:SG	2.57	0.45
1:B:138:LEU:HA	1:B:141:THR:OG1	2.17	0.45
1:B:29:ALA:O	1:B:33:ILE:HG23	2.17	0.45
1:A:31:LEU:HD11	1:A:152:TYR:CG	2.52	0.44
1:A:176:VAL:HA	1:A:179:TYR:CD2	2.52	0.44
1:A:21:TYR:OH	1:A:167:ALA:HB2	2.17	0.44
1:A:259:ILE:HG23	1:A:260:PHE:H	1.81	0.44
1:A:325:ILE:O	1:A:328:ILE:N	2.44	0.44
1:B:347:PHE:CE1	1:B:350:ILE:HD11	2.51	0.44
1:B:75:VAL:HG12	1:B:178:ILE:HD13	1.99	0.44
1:B:184:SER:HA	1:B:185:PRO:HD3	1.81	0.44
1:B:21:TYR:CZ	1:B:25:VAL:HG21	2.53	0.44
1:B:304:LYS:HE3	1:B:305:LYS:HE3	1.99	0.44
1:B:77:LEU:O	1:B:81:VAL:HG23	2.16	0.44
1:A:24:GLY:O	1:A:148:TYR:HB3	2.16	0.44
1:A:351:SER:CB	1:A:352:TRP:CD1	2.97	0.44
1:A:37:ILE:N	1:A:38:PRO:HD3	2.31	0.44
1:A:138:LEU:HD11	1:A:295:ILE:HD11	2.00	0.44
1:B:117:PRO:HA	1:B:120:LEU:HB3	1.99	0.44
1:A:100:ILE:O	1:A:103:LEU:HB2	2.18	0.44
1:A:164:LEU:HA	1:A:164:LEU:HD22	1.64	0.44
1:B:51:MET:SD	1:B:102:ARG:NH1	2.91	0.44
1:B:246:PHE:HB2	1:B:417:PHE:CZ	2.53	0.44
1:A:189:LEU:HD21	1:A:214:LEU:CD1	2.48	0.44
1:A:334:ALA:O	1:A:337:ILE:N	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:246:PHE:O	1:B:250:GLN:HB3	2.18	0.44
1:B:122:GLU:HB3	1:B:185:PRO:HD2	1.99	0.44
1:B:246:PHE:HB2	1:B:417:PHE:HZ	1.83	0.44
1:B:321:MET:HB2	1:B:340:CYS:HB3	1.99	0.44
1:B:403:VAL:HG13	1:B:407:PHE:CE2	2.53	0.44
1:A:164:LEU:HD22	1:A:167:ALA:HB2	1.99	0.43
1:A:87:LEU:CG	1:A:168:VAL:HG21	2.44	0.43
1:A:188:LEU:HB2	1:A:197:ALA:HB2	2.00	0.43
1:A:386:ILE:O	1:A:390:PHE:HB2	2.18	0.43
1:A:410:ILE:C	1:A:412:VAL:H	2.20	0.43
1:A:194:GLU:O	1:A:197:ALA:HB3	2.18	0.43
1:B:21:TYR:CD2	1:B:147:ALA:HA	2.53	0.43
1:B:89:LEU:HD12	1:B:89:LEU:HA	1.54	0.43
1:A:228:TRP:HE3	1:A:231:ILE:HG13	1.82	0.43
1:A:267:ALA:HB2	1:A:273:GLU:HA	2.00	0.43
1:A:336:ILE:O	1:A:340:CYS:SG	2.64	0.43
1:A:360:LEU:HA	1:A:360:LEU:HD23	1.69	0.43
1:A:104:ILE:HA	1:A:107:LEU:HD12	2.00	0.43
1:A:230:VAL:O	1:A:236:LEU:HD13	2.19	0.43
1:B:194:GLU:O	1:B:197:ALA:HB3	2.18	0.43
1:B:27:SER:OG	1:B:28:GLY:N	2.51	0.43
1:A:52:LEU:HB2	1:A:385:LEU:HG	2.00	0.43
1:A:83:ILE:HG13	1:A:168:VAL:HG13	2.01	0.43
1:B:249:PHE:HD2	1:B:417:PHE:HD2	1.67	0.43
1:B:163:MET:HA	1:B:166:LEU:HB2	2.01	0.43
1:B:79:ALA:HB2	1:B:178:ILE:CD1	2.47	0.43
1:A:186:ARG:NH1	1:A:201:MET:SD	2.89	0.43
1:A:26:ILE:HG12	1:A:48:VAL:HG22	2.01	0.43
1:A:280:SER:O	1:A:283:ILE:HG22	2.18	0.43
1:B:318:LEU:HD22	1:B:404:PHE:HA	2.01	0.43
1:A:189:LEU:HA	1:A:194:GLU:HB2	2.01	0.43
1:A:79:ALA:HB3	1:A:175:LEU:HD13	2.01	0.43
1:B:145:LEU:HA	1:B:148:TYR:CE1	2.54	0.43
1:A:222:ALA:O	1:A:225:GLU:HB2	2.19	0.43
1:A:315:ILE:HG23	1:A:408:ALA:CB	2.48	0.43
1:A:252:PHE:HE1	1:A:383:GLY:HA2	1.84	0.43
1:A:70:GLY:O	1:A:74:LEU:HB2	2.19	0.43
1:B:315:ILE:O	1:B:319:LEU:HD12	2.19	0.43
1:B:326:TRP:C	1:B:328:ILE:N	2.72	0.43
1:B:417:PHE:HA	1:B:421:PHE:CD2	2.53	0.43
1:A:234:PRO:O	1:A:236:LEU:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:278:LEU:HA	1:A:278:LEU:HD13	1.81	0.42
1:A:287:ASN:O	1:A:291:THR:HG23	2.19	0.42
1:B:247:ALA:HA	1:B:250:GLN:OE1	2.19	0.42
1:B:257:ALA:HB1	1:B:261:TYR:CE2	2.54	0.42
1:B:394:LEU:HB2	1:B:398:LEU:HD21	2.00	0.42
1:A:168:VAL:HA	1:A:171:SER:HB3	2.00	0.42
1:A:350:ILE:HG12	1:A:350:ILE:H	1.66	0.42
1:A:92:SER:HA	1:A:97:LEU:HD11	2.01	0.42
1:B:125:PRO:HB2	1:B:128:TYR:HD2	1.84	0.42
1:B:248:ILE:HG23	1:B:252:PHE:CE2	2.54	0.42
1:A:321:MET:SD	1:A:337:ILE:HD11	2.59	0.42
1:A:87:LEU:HG	1:A:168:VAL:CG2	2.44	0.42
1:B:296:PHE:CD1	1:B:300:LYS:HD2	2.55	0.42
1:B:88:ILE:HD13	1:B:88:ILE:HA	1.93	0.42
1:A:145:LEU:O	1:A:149:LEU:HB2	2.18	0.42
1:A:72:ARG:HG3	1:A:182:PRO:O	2.19	0.42
1:A:253:ILE:HD12	1:A:253:ILE:N	2.35	0.42
1:A:343:LEU:HD22	1:A:343:LEU:H	1.84	0.42
1:B:307:LEU:HB2	1:B:352:TRP:NE1	2.34	0.42
1:B:413:LEU:HA	1:B:416:ILE:HB	2.01	0.42
1:B:415:MET:O	1:B:419:ILE:HG13	2.20	0.42
1:A:146:ALA:O	1:A:149:LEU:HB3	2.20	0.42
1:A:307:LEU:HD22	1:A:352:TRP:CD2	2.55	0.42
1:A:341:LEU:HA	1:A:341:LEU:HD12	1.58	0.42
1:A:315:ILE:HG23	1:A:408:ALA:CA	2.49	0.42
1:B:71:ARG:HB3	1:B:119:TYR:CD2	2.54	0.42
1:A:308:VAL:HG13	1:A:415:MET:HE2	2.01	0.42
1:A:400:THR:HB	1:A:402:TRP:N	2.35	0.42
1:B:359:MET:O	1:B:363:LEU:N	2.53	0.42
1:A:259:ILE:HG23	1:A:260:PHE:N	2.34	0.42
1:A:417:PHE:O	1:A:421:PHE:HD1	2.03	0.42
1:B:152:TYR:HD2	1:B:277:ILE:HD12	1.85	0.42
1:B:345:ILE:HA	1:B:345:ILE:HD13	1.82	0.42
1:B:290:VAL:O	1:B:293:VAL:HG12	2.19	0.42
1:A:217:MET:SD	1:A:220:ILE:HD11	2.60	0.42
1:A:42:THR:HA	1:A:393:ILE:HG22	2.02	0.42
1:B:75:VAL:HG12	1:B:178:ILE:CD1	2.50	0.42
1:B:275:ALA:O	1:B:279:GLY:HA3	2.20	0.42
1:A:152:TYR:O	1:A:152:TYR:CG	2.72	0.41
1:A:189:LEU:HD21	1:A:214:LEU:HD13	2.01	0.41
1:A:318:LEU:HD13	1:A:407:PHE:C	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:388:SER:O	1:A:392:PRO:HD2	2.20	0.41
1:B:217:MET:HG3	1:B:217:MET:O	2.18	0.41
1:B:46:ILE:HA	1:B:49:SER:CB	2.48	0.41
1:A:152:TYR:CE2	1:A:273:GLU:O	2.73	0.41
1:A:361:PRO:O	1:A:369:ARG:NH2	2.53	0.41
1:A:38:PRO:C	1:A:39:LEU:HD13	2.39	0.41
1:B:235:TRP:N	1:B:238:ARG:HH21	2.18	0.41
1:B:261:TYR:CE2	1:B:392:PRO:HG3	2.55	0.41
1:B:148:TYR:CD1	1:B:281:VAL:HG22	2.55	0.41
1:B:390:PHE:O	1:B:393:ILE:HG23	2.20	0.41
1:A:26:ILE:O	1:A:260:PHE:HB2	2.21	0.41
1:A:52:LEU:O	1:A:56:ILE:HG13	2.21	0.41
1:B:157:ILE:HD13	1:B:157:ILE:HA	1.77	0.41
1:B:175:LEU:HG	1:B:179:TYR:CE1	2.47	0.41
1:B:376:SER:O	1:B:380:LEU:HB2	2.20	0.41
1:A:160:TRP:CZ3	1:A:164:LEU:HD23	2.54	0.41
1:A:233:SER:CB	1:A:234:PRO:HD2	2.50	0.41
1:A:315:ILE:HG12	1:A:408:ALA:O	2.20	0.41
1:A:385:LEU:HA	1:A:388:SER:HB3	2.03	0.41
1:B:83:ILE:HA	1:B:168:VAL:HG22	2.02	0.41
1:A:19:TYR:HE1	1:A:109:VAL:HG13	1.82	0.41
1:A:282:GLY:O	1:A:286:ILE:HG13	2.21	0.41
1:A:363:LEU:HD13	1:A:364:PHE:CE1	2.55	0.41
1:A:36:ASP:OD1	1:A:157:ILE:HG13	2.20	0.41
1:B:261:TYR:CD2	1:B:392:PRO:HG3	2.55	0.41
1:B:148:TYR:CE1	1:B:281:VAL:HA	2.55	0.41
1:A:251:GLN:OE1	1:A:384:THR:HG22	2.21	0.41
1:B:83:ILE:N	1:B:171:SER:OG	2.53	0.41
1:B:243:GLY:HA2	1:B:246:PHE:HB3	2.03	0.41
1:B:342:SER:O	1:B:346:VAL:HG23	2.20	0.41
1:B:93:THR:H	1:B:97:LEU:CG	2.34	0.41
1:B:133:GLY:O	1:B:136:ASN:HB3	2.21	0.41
1:B:161:ARG:O	1:B:164:LEU:HB2	2.20	0.41
1:B:97:LEU:C	1:B:97:LEU:HD12	2.40	0.41
1:A:293:VAL:O	1:A:297:VAL:HG22	2.21	0.41
1:A:307:LEU:HB3	1:A:352:TRP:CZ2	2.56	0.41
1:A:340:CYS:HA	1:A:343:LEU:HD23	2.03	0.41
1:B:298:VAL:HG23	1:B:299:ASP:OD1	2.21	0.41
1:B:311:ASN:HA	1:B:314:MET:HE2	2.03	0.41
1:A:32:PHE:HA	1:A:32:PHE:HD1	1.68	0.41
1:B:75:VAL:O	1:B:178:ILE:HD13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:255:ILE:HA	1:A:258:VAL:HB	2.03	0.40
1:A:400:THR:HB	1:A:402:TRP:CA	2.51	0.40
1:A:416:ILE:HG23	1:B:327:THR:HG22	2.02	0.40
1:B:30:LEU:HD22	1:B:260:PHE:HB3	2.01	0.40
1:B:45:GLY:HA2	1:B:388:SER:O	2.20	0.40
1:A:170:PRO:O	1:A:173:ILE:HG12	2.21	0.40
1:A:251:GLN:HG2	1:A:384:THR:HA	2.03	0.40
1:A:401:GLU:OE2	1:A:405:LEU:HD12	2.21	0.40
1:A:411:GLY:HA2	1:A:414:ALA:HB3	2.03	0.40
1:B:116:VAL:HB	1:B:117:PRO:HD3	2.02	0.40
1:B:165:GLY:O	1:B:168:VAL:HB	2.21	0.40
1:A:128:TYR:O	1:A:132:LEU:HG	2.21	0.40
1:A:130:GLY:O	1:A:132:LEU:N	2.55	0.40
1:A:190:GLU:HG3	1:A:221:ASN:CB	2.52	0.40
1:A:304:LYS:O	1:A:307:LEU:HB2	2.22	0.40
1:B:394:LEU:O	1:B:398:LEU:HG	2.20	0.40
1:A:175:LEU:O	1:A:179:TYR:N	2.55	0.40
1:A:385:LEU:HD23	1:A:385:LEU:O	2.22	0.40
1:B:318:LEU:HB3	1:B:404:PHE:O	2.21	0.40
1:A:313:GLY:HA2	1:A:316:ALA:CB	2.52	0.40
1:A:318:LEU:HD13	1:A:408:ALA:CA	2.51	0.40
1:B:238:ARG:O	1:B:242:VAL:HG23	2.22	0.40
1:B:311:ASN:O	1:B:315:ILE:HG13	2.21	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	419/446 (94%)	350 (84%)	58 (14%)	11 (3%)	5 31
1	B	419/446 (94%)	355 (85%)	58 (14%)	6 (1%)	11 46

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	838/892 (94%)	705 (84%)	116 (14%)	17 (2%)	7 38

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	234	PRO
1	A	235	TRP
1	B	234	PRO
1	B	328	ILE
1	B	194	GLU
1	B	235	TRP
1	A	129	ARG
1	A	131	SER
1	B	233	SER
1	A	403	VAL
1	A	233	SER
1	A	38	PRO
1	A	354	PRO
1	A	328	ILE
1	A	339	VAL
1	B	423	PRO
1	A	308	VAL

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	341/363 (94%)	256 (75%)	85 (25%)	0 2
1	B	341/363 (94%)	267 (78%)	74 (22%)	1 5
All	All	682/726 (94%)	523 (77%)	159 (23%)	1 3

All (159) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	9	PHE

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Mol	Chain	Res	Type
1	A	17	LEU
1	A	22	ASP
1	A	30	LEU
1	A	32	PHE
1	A	33	ILE
1	A	37	ILE
1	A	39	LEU
1	A	40	ASN
1	A	46	ILE
1	A	53	ILE
1	A	71	ARG
1	A	74	LEU
1	A	94	ASN
1	A	99	ILE
1	A	105	ILE
1	A	109	VAL
1	A	116	VAL
1	A	120	LEU
1	A	127	GLU
1	A	129	ARG
1	A	136	ASN
1	A	137	GLN
1	A	140	ILE
1	A	142	ILE
1	A	144	ILE
1	A	156	ASP
1	A	160	TRP
1	A	163	MET
1	A	164	LEU
1	A	171	SER
1	A	178	ILE
1	A	179	TYR
1	A	180	PHE
1	A	186	ARG
1	A	189	LEU
1	A	190	GLU
1	A	194	GLU
1	A	195	GLU
1	A	203	ILE
1	A	210	ILE
1	A	211	ASP
1	A	214	LEU

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Mol	Chain	Res	Type
1	A	217	MET
1	A	223	ILE
1	A	233	SER
1	A	245	ILE
1	A	246	PHE
1	A	248	ILE
1	A	250	GLN
1	A	251	GLN
1	A	255	ILE
1	A	259	ILE
1	A	261	TYR
1	A	268	LYS
1	A	277	ILE
1	A	278	LEU
1	A	283	ILE
1	A	287	ASN
1	A	292	ILE
1	A	298	VAL
1	A	306	LEU
1	A	312	ILE
1	A	320	ILE
1	A	323	ILE
1	A	324	LEU
1	A	325	ILE
1	A	328	ILE
1	A	330	ILE
1	A	337	ILE
1	A	343	LEU
1	A	350	ILE
1	A	352	TRP
1	A	363	LEU
1	A	382	ILE
1	A	388	SER
1	A	390	PHE
1	A	394	LEU
1	A	398	LEU
1	A	404	PHE
1	A	405	LEU
1	A	412	VAL
1	A	417	PHE
1	A	422	LEU
1	A	425	THR

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Mol	Chain	Res	Type
1	B	8	ILE
1	B	11	LEU
1	B	31	LEU
1	B	33	ILE
1	B	37	ILE
1	B	39	LEU
1	B	46	ILE
1	B	50	SER
1	B	67	ASP
1	B	74	LEU
1	B	80	ILE
1	B	82	PHE
1	B	83	ILE
1	B	97	LEU
1	B	98	LEU
1	B	113	MET
1	B	119	TYR
1	B	127	GLU
1	B	132	LEU
1	B	145	LEU
1	B	148	TYR
1	B	161	ARG
1	B	162	TRP
1	B	174	LEU
1	B	178	ILE
1	B	186	ARG
1	B	192	ARG
1	B	201	MET
1	B	203	ILE
1	B	204	THR
1	B	211	ASP
1	B	217	MET
1	B	220	ILE
1	B	227	THR
1	B	230	VAL
1	B	231	ILE
1	B	232	LYS
1	B	233	SER
1	B	236	LEU
1	B	239	ILE
1	B	244	CYS
1	B	245	ILE

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Mol	Chain	Res	Type
1	B	253	ILE
1	B	258	VAL
1	B	259	ILE
1	B	261	TYR
1	B	262	SER
1	B	273	GLU
1	B	277	ILE
1	B	283	ILE
1	B	285	THR
1	B	290	VAL
1	B	304	LYS
1	B	306	LEU
1	B	307	LEU
1	B	312	ILE
1	B	317	SER
1	B	319	LEU
1	B	328	ILE
1	B	337	ILE
1	B	341	LEU
1	B	360	LEU
1	B	379	VAL
1	B	390	PHE
1	B	393	ILE
1	B	398	LEU
1	B	400	THR
1	B	405	LEU
1	B	413	LEU
1	B	415	MET
1	B	416	ILE
1	B	422	LEU
1	B	423	PRO
1	B	425	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	311	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

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

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.