Full wwPDB X-ray Structure Validation Report ⓘ

Nov 16, 2024 – 07:56 AM EST

PDB ID	:	3K4A
Title	:	Crystal structure of selenomethionine substituted E. coli beta-glucuronidase
Authors	:	Wallace, B.D.; Orans, J.; Redinbo, M.R.
Deposited on	:	2009-10-05
Resolution	:	2.90 Å(reported)

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

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

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

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

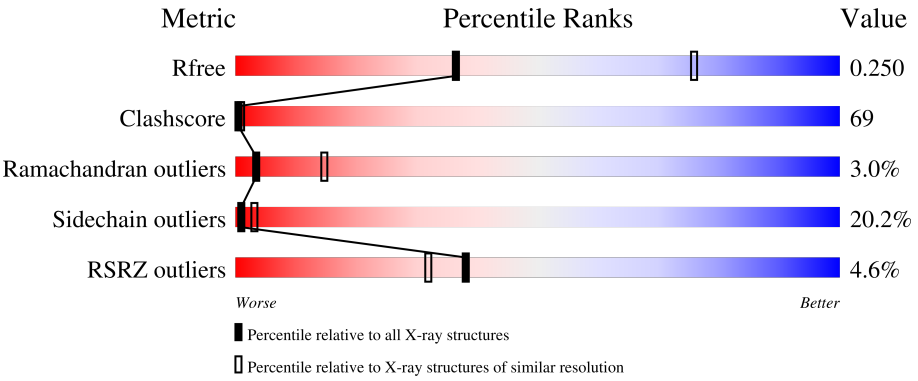
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.90 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	2335 (2.90-2.90)
Clashscore	180529	2564 (2.90-2.90)
Ramachandran outliers	177936	2514 (2.90-2.90)
Sidechain outliers	177891	2516 (2.90-2.90)
RSRZ outliers	164620	2337 (2.90-2.90)

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

Mol	Chain	Length	Quality of chain
1	A	605	4% 33% 51% 14% ··
1	B	605	5% 25% 55% 16% ··

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 9761 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 Beta-glucuronidase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	597	Total	C	N	O	S	Se	0	0	0
			4779	3034	827	896	9	13			
1	B	597	Total	C	N	O	S	Se	0	0	0
			4768	3026	826	894	9	13			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	SER	-	expression tag	UNP P05804
A	0	HIS	-	expression tag	UNP P05804
B	-1	SER	-	expression tag	UNP P05804
B	0	HIS	-	expression tag	UNP P05804

- Molecule 2 is water.

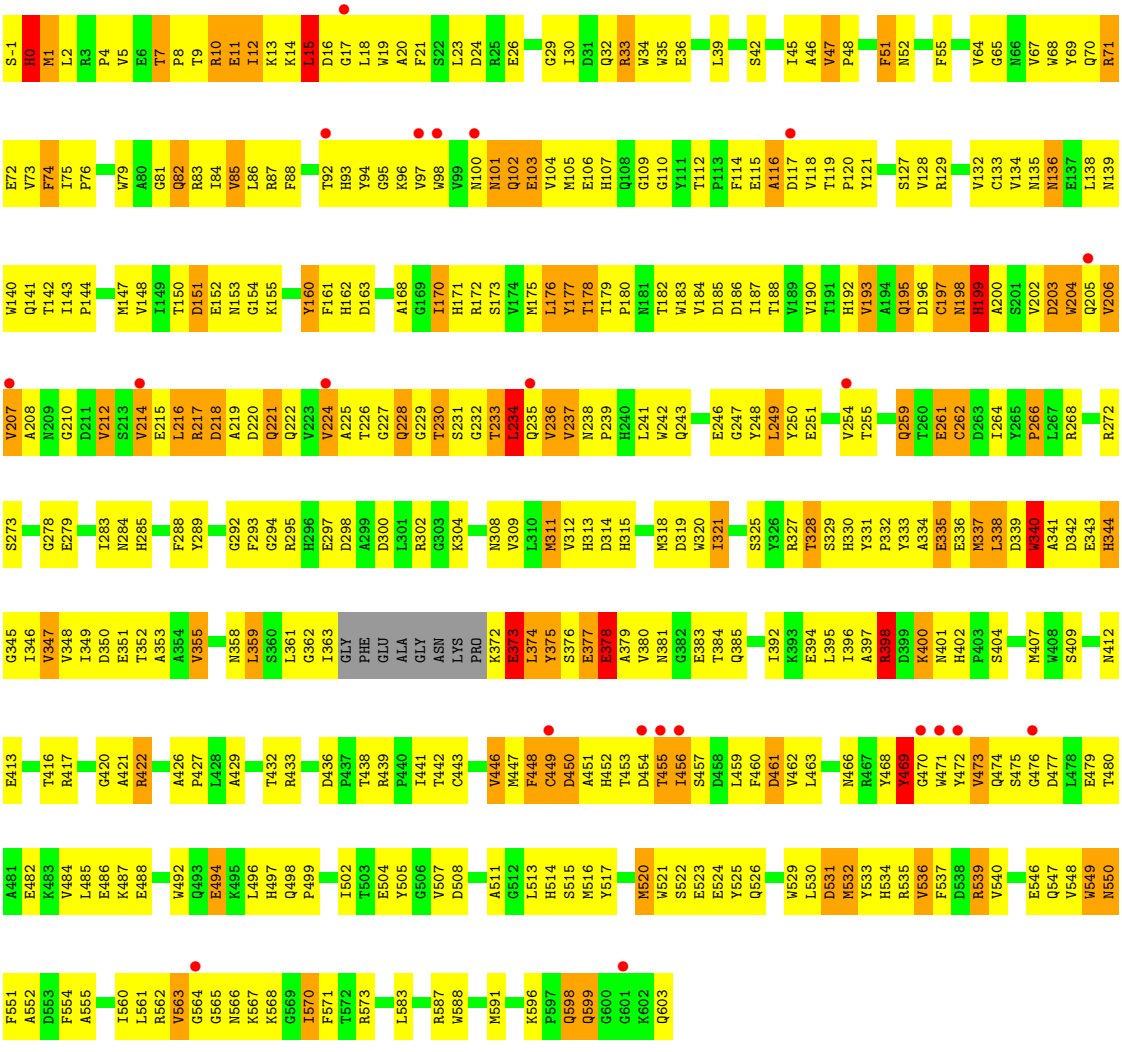
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	123	Total	O	0	0
			123	123		
2	B	91	Total	O	0	0
			91	91		

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.

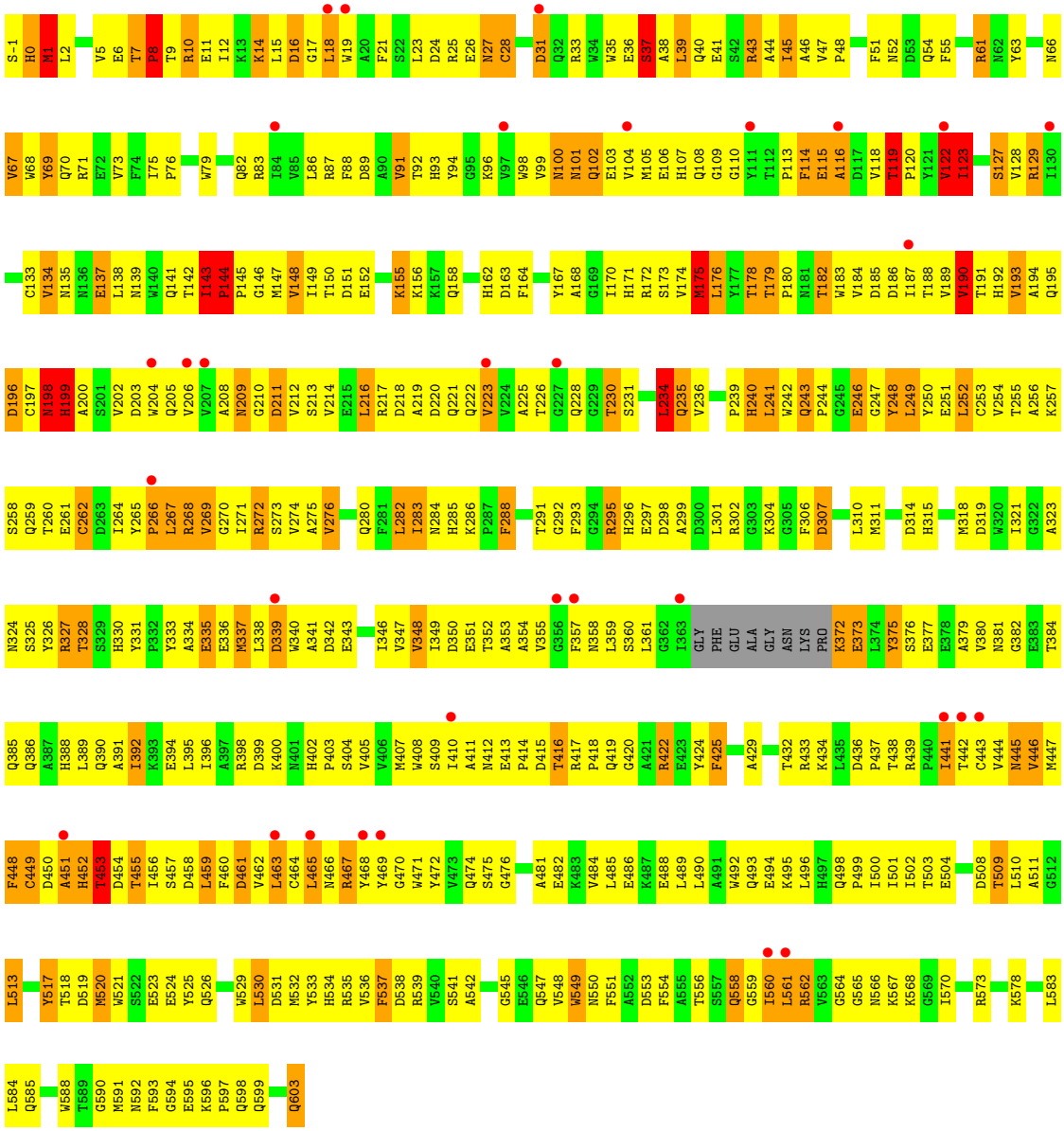
• Molecule 1: Beta-glucuronidase

Chain A:



• Molecule 1: Beta-glucuronidase

Chain B:


S-1 H0 M1 L2 V5 E6 T7 P8 T9 R10 E11 I12 K13 K14 L15 D16 G17 L18 W19 A20 F21 S22 L23 D24 R25 E26 N27 C28 D31 Q32 R33 W34 V35 E36 S37 A38 L39 Q40 E41 S42 R43 A44 I45 A46 V47 P48 F51 N52 D53 Q54 F55 R61 N62 Y63 N66
V67 W68 Y69 Q70 R71 E72 V73 F74 I75 P76 W79 Q82 R83 I84 V85 L86 R87 F88 D89 A90 V91 T92 H93 Y94 G95 K96 V97 W98 V99 N100 N101 Q102 E103 V104 M105 E106 H107 Q108 G109 G110 Y111 T112 P113 F114 E115 A116 D117 V118 T119 P120 Y121 V122 I123 S127 V128 R129 I130
C133 V134 N135 N136 E137 L138 N139 W140 Q141 T142 I143 P144 P145 G146 M147 V148 I149 T150 D151 E152 K155 K156 K157 Q158 H162 D163 F164 Y167 A168 G169 I170 H171 R172 S173 V174 M175 L176 Y177 T178 T179 P180 N181 T182 W183 V184 D185 D186 I187 T188 V189 V190 T191 H192 V193 A194 Q195
D196 C197 N198 H199 A200 S201 V202 D203 W204 Q205 V206 Y207 A208 N209 G210 D211 V212 S213 V214 E215 L216 R217 D218 A219 D220 Q221 Q222 V223 V224 A225 T226 G227 Q228 G229 T230 S231 L234 Q235 V236 P239 H240 L241 W242 Q243 P244 G245 E246 G247 Y248 L249 Y250 E251 L252 C253 V254 T255 A256 K257
S258 Q259 T260 E261 C262 D263 I264 Y265 P266 L267 R268 V269 G270 I271 R272 S273 V274 A275 V276 Q280 F281 L282 I283 N284 H285 K286 P287 F288 T291 G292 F293 G294 R295 H296 E297 D298 A299 D300 L301 R302 G303 K304 G305 F306 D307 L310 M311 D314 H315 M318 D319 W320 I321 G322 A323
N324 S325 Y326 R327 T328 S329 H330 Y331 P332 Y333 A334 E335 E336 M337 L338 D339 W340 A341 D342 E343 I346 V347 V348 I349 D350 E351 T352 A353 A354 V355 G356 F357 N358 L359 S360 L361 G362 I363 GLY PHE GLU ALA GLY ASN LYS PRO K372 E373 L374 Y375 S376 E377 E378 A379 V380 N381 G382 E383 T384
Q385 Q386 A387 H388 L389 Q390 A391 I392 K393 E394 L395 I396 A397 R398 D399 K400 N401 H402 P403 S404 V405 V406 M407 W408 S409 I410 A411 N412 E413 P414 D415 T416 R417 P418 Q419 G420 A421 R422 E423 Y424 F425 A429 T432 R433 K434 L435 D436 P437 T438 R439 P440 T441 T442 C443 V444 N445 V446 M447
F448 C449 D450 A451 H452 T453 D454 T455 I456 S457 D458 L459 F460 D461 V462 L463 C464 L465 N466 R467 Y468 Y469 G470 W471 Y472 V473 Q474 S475 G476 A481 E482 K483 V484 L485 E486 K487 E488 L489 L490 A491 W492 Q493 E494 K495 L496 H497 Q498 P499 I500 I501 I502 T503 E504 D508 T509 L510 A511 G512
L513 Y517 T518 D519 M520 W521 S522 E523 E524 Y525 Q526 W529 L530 D531 M532 Y533 H534 R535 V536 F537 D538 R539 V540 S541 A542 G545 E546 Q547 V548 W549 N550 F551 A552 D553 F554 A555 T556 S557 Q558 G559 I560 L561 R562 V563 G564 G565 N566 K567 K568 G569 I570 R573 K578 L583
L584 Q585 W588 T589 G590 M591 N592 F593 G594 E595 K596 P597 Q598 Q599 Q603

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	169.00Å 77.26Å 126.58Å 90.00° 125.02° 90.00°	Depositor
Resolution (Å)	32.11 – 2.90 32.11 – 2.90	Depositor EDS
% Data completeness (in resolution range)	100.0 (32.11-2.90) 98.8 (32.11-2.90)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.59 (at 2.91Å)	Xtriage
Refinement program	REFMAC 5.5.0072	Depositor
R, R_{free}	0.242 , 0.282 0.251 , 0.250	Depositor DCC
R_{free} test set	1495 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å^2)	54.2	Xtriage
Anisotropy	0.687	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 57.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.89	EDS
Total number of atoms	9761	wwPDB-VP
Average B, all atoms (Å^2)	57.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.55% 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

5.1 Standard geometry

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	0.98	8/4893 (0.2%)	1.05	19/6636 (0.3%)
1	B	0.82	2/4882 (0.0%)	0.94	8/6623 (0.1%)
All	All	0.91	10/9775 (0.1%)	1.00	27/13259 (0.2%)

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	6
1	B	0	5
All	All	0	11

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	340	TRP	CB-CG	-9.12	1.33	1.50
1	A	1	MSE	CG-SE	-6.18	1.74	1.95
1	B	1	MSE	CG-SE	-5.88	1.75	1.95
1	A	532	MSE	CG-SE	-5.87	1.75	1.95
1	A	311	MSE	CG-SE	-5.72	1.76	1.95
1	A	443	CYS	CB-SG	-5.63	1.72	1.81
1	A	516	MSE	CG-SE	-5.40	1.77	1.95
1	B	175	MSE	CG-SE	-5.23	1.77	1.95
1	A	337	MSE	CG-SE	-5.18	1.77	1.95
1	A	520	MSE	CG-SE	-5.02	1.78	1.95

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	374	LEU	N-CA-C	8.35	133.55	111.00
1	A	199	HIS	N-CA-C	7.98	132.56	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	573	ARG	NE-CZ-NH1	-7.83	116.38	120.30
1	A	198	ASN	N-CA-C	7.50	131.25	111.00
1	A	294	GLY	N-CA-C	-7.17	95.18	113.10
1	B	453	THR	N-CA-C	-7.04	91.98	111.00
1	A	449	CYS	CA-CB-SG	-7.01	101.39	114.00
1	A	449	CYS	N-CA-C	6.66	128.98	111.00
1	A	448	PHE	CB-CA-C	-5.97	98.45	110.40
1	A	0	HIS	N-CA-C	5.93	127.02	111.00
1	A	398	ARG	NE-CZ-NH1	5.89	123.25	120.30
1	A	446	VAL	CB-CA-C	-5.64	100.68	111.40
1	A	15	LEU	CA-CB-CG	5.54	128.03	115.30
1	B	307	ASP	CB-CG-OD1	5.45	123.21	118.30
1	B	122	VAL	CB-CA-C	5.38	121.62	111.40
1	B	549	TRP	CA-CB-CG	-5.32	103.59	113.70
1	B	199	HIS	N-CA-C	5.28	125.25	111.00
1	A	469	TYR	CB-CA-C	-5.24	99.92	110.40
1	A	196	ASP	N-CA-C	5.21	125.06	111.00
1	A	234	LEU	CA-CB-CG	5.20	127.25	115.30
1	B	234	LEU	CA-CB-CG	5.18	127.23	115.30
1	A	398	ARG	NE-CZ-NH2	-5.04	117.78	120.30
1	B	91	VAL	N-CA-C	-5.03	97.42	111.00
1	B	116	ALA	N-CA-C	5.03	124.58	111.00
1	A	448	PHE	C-N-CA	-5.02	109.15	121.70
1	A	422	ARG	CG-CD-NE	-5.00	101.30	111.80
1	A	599	GLN	N-CA-C	-5.00	97.50	111.00

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	116	ALA	Peptide
1	A	197	CYS	Peptide
1	A	373	GLU	Peptide
1	A	378	GLU	Peptide
1	A	455	THR	Peptide
1	A	549	TRP	Peptide
1	B	143	ILE	Peptide
1	B	17	GLY	Peptide
1	B	37	SER	Peptide
1	B	451	ALA	Peptide
1	B	8	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	4779	0	4554	600	1
1	B	4768	0	4532	690	4
2	A	123	0	0	73	3
2	B	91	0	0	59	0
All	All	9761	0	9086	1279	4

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 69.

All (1279) 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:502:ILE:HD12	1:B:537:PHE:CE2	1.49	1.48
1:A:455:THR:CG2	1:A:456:ILE:HG22	1.50	1.41
1:B:198:ASN:CB	1:B:236:VAL:HG22	1.59	1.32
1:B:444:VAL:CG1	1:B:466:ASN:HD21	1.47	1.26
1:A:456:ILE:CG1	1:A:459:LEU:HB2	1.64	1.26
1:B:449:CYS:SG	1:B:488:GLU:OE1	1.97	1.21
1:B:444:VAL:HG13	1:B:466:ASN:ND2	1.55	1.21
1:A:92:THR:HG21	1:A:171:HIS:ND1	1.56	1.20
1:A:238:ASN:CG	1:A:239:PRO:HD3	1.63	1.18
1:B:452:HIS:O	1:B:453:THR:HG23	1.44	1.16
1:B:253:CYS:SG	1:B:264:ILE:HG22	1.85	1.15
1:A:502:ILE:HD13	1:A:537:PHE:CE2	1.80	1.15
1:A:448:PHE:HB3	1:A:452:HIS:HA	1.15	1.15
1:A:402:HIS:CD2	2:A:673:HOH:O	1.94	1.14
1:A:139:ASN:O	1:A:142:THR:HG22	1.46	1.14
1:A:237:VAL:HG12	1:A:238:ASN:N	1.63	1.14
1:B:92:THR:HG22	2:B:680:HOH:O	1.45	1.14
1:A:448:PHE:O	1:A:452:HIS:HB2	1.48	1.13
1:B:416:THR:HG21	1:B:453:THR:HA	1.28	1.13
1:A:237:VAL:CG1	1:A:238:ASN:H	1.61	1.12
1:B:273:SER:HB3	1:B:284:ASN:H	1.09	1.11
1:B:335:GLU:HA	2:B:662:HOH:O	0.94	1.10
1:A:456:ILE:HG13	1:A:459:LEU:HB2	1.27	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:213:SER:HB3	1:B:255:THR:HB	1.31	1.10
1:A:151:ASP:HB2	1:A:155:LYS:HB3	1.23	1.10
1:A:402:HIS:HD2	2:A:673:HOH:O	1.31	1.10
1:B:36:GLU:HG3	1:B:129:ARG:HH22	1.16	1.09
1:A:92:THR:HG21	1:A:171:HIS:CE1	1.88	1.09
1:A:455:THR:CG2	1:A:456:ILE:CG2	2.31	1.09
1:B:198:ASN:HB2	1:B:236:VAL:HG22	1.17	1.09
1:B:466:ASN:HB2	1:B:504:GLU:HB2	1.30	1.09
1:A:151:ASP:CB	1:A:155:LYS:HB3	1.83	1.08
1:A:92:THR:O	1:A:110:GLY:CA	2.01	1.08
1:A:183:TRP:HB3	2:A:715:HOH:O	1.52	1.07
1:B:444:VAL:HG13	1:B:466:ASN:HD21	0.92	1.07
1:B:36:GLU:HG3	1:B:129:ARG:NH2	1.68	1.07
1:B:69:TYR:CD1	1:B:170:ILE:HD12	1.88	1.07
1:A:361:LEU:HA	2:A:717:HOH:O	1.52	1.06
1:A:448:PHE:HB3	1:A:452:HIS:CA	1.85	1.06
1:B:502:ILE:CD1	1:B:537:PHE:HE2	1.68	1.06
1:A:328:THR:C	2:A:711:HOH:O	1.92	1.06
1:B:566:ASN:HB3	1:B:568:LYS:HD2	1.36	1.05
1:A:455:THR:HG22	1:A:456:ILE:HG22	1.09	1.05
1:A:455:THR:HG23	1:A:456:ILE:CG2	1.87	1.05
1:B:447:MSE:HE3	1:B:467:ARG:HB3	1.34	1.05
1:B:144:PRO:HD2	1:B:353:ALA:O	1.55	1.04
1:B:502:ILE:CD1	1:B:537:PHE:CE2	2.41	1.04
1:B:69:TYR:CE1	1:B:170:ILE:HD12	1.91	1.04
1:A:17:GLY:HA2	1:A:47:VAL:HG13	1.04	1.03
1:A:455:THR:HG23	1:A:456:ILE:HG22	1.38	1.03
1:A:494:GLU:HG2	2:A:713:HOH:O	1.57	1.03
1:B:273:SER:O	1:B:283:ILE:HA	1.55	1.03
1:A:14:LYS:NZ	1:A:14:LYS:HB3	1.70	1.02
1:B:416:THR:CG2	1:B:453:THR:HA	1.88	1.02
1:A:338:LEU:HG	1:A:339:ASP:N	1.74	1.02
1:A:335:GLU:HA	2:A:614:HOH:O	0.84	1.01
1:B:92:THR:O	1:B:110:GLY:HA3	1.60	1.01
1:A:83:ARG:HB3	1:A:179:THR:O	1.57	1.00
1:A:92:THR:O	1:A:110:GLY:HA3	1.61	1.00
1:A:343:GLU:OE1	2:A:615:HOH:O	1.77	1.00
1:B:549:TRP:HZ3	1:B:568:LYS:NZ	1.58	1.00
1:B:337:MSE:HE1	1:B:348:VAL:HG21	1.41	0.99
1:A:179:THR:HB	2:A:715:HOH:O	1.61	0.99
1:A:10:ARG:HD2	1:A:79:TRP:HE1	1.24	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:92:THR:CG2	1:A:171:HIS:HD1	1.73	0.99
1:B:172:ARG:HH11	1:B:334:ALA:HB2	1.25	0.99
1:B:143:ILE:HG23	1:B:353:ALA:O	1.62	0.98
1:B:14:LYS:HD3	1:B:174:VAL:O	1.62	0.98
1:B:282:LEU:HD23	1:B:285:HIS:HA	1.43	0.98
1:B:198:ASN:HB3	1:B:236:VAL:HG22	1.43	0.97
1:B:273:SER:HB3	1:B:284:ASN:N	1.79	0.97
1:A:14:LYS:HD2	1:A:176:LEU:HB2	1.45	0.97
1:A:92:THR:HG22	2:A:666:HOH:O	1.62	0.97
1:B:15:LEU:CD2	1:B:173:SER:HB3	1.94	0.97
1:B:559:GLY:H	1:B:562:ARG:HH22	1.05	0.97
1:A:142:THR:HG23	1:A:144:PRO:O	1.65	0.97
1:A:14:LYS:HB3	1:A:14:LYS:HZ3	1.25	0.97
1:A:456:ILE:HG12	1:A:459:LEU:HB2	1.42	0.97
1:A:233:THR:O	1:A:234:LEU:HD23	1.64	0.96
1:B:172:ARG:NH1	1:B:334:ALA:HB2	1.81	0.96
1:A:5:VAL:HG11	1:A:266:PRO:HD2	1.46	0.96
1:A:92:THR:CG2	1:A:171:HIS:ND1	2.28	0.96
1:A:39:LEU:HD22	1:A:70:GLN:HB2	1.45	0.96
1:A:92:THR:O	1:A:110:GLY:HA2	1.66	0.96
1:A:17:GLY:CA	1:A:47:VAL:HG13	1.95	0.95
1:B:36:GLU:HB2	1:B:101:ASN:HD21	1.28	0.95
1:B:96:LYS:HE2	1:B:103:GLU:OE2	1.66	0.95
1:B:15:LEU:HD22	1:B:173:SER:HA	1.48	0.95
1:B:92:THR:O	1:B:110:GLY:CA	2.15	0.95
1:B:299:ALA:HB2	1:B:310:LEU:HD11	1.47	0.94
1:B:502:ILE:HD12	1:B:537:PHE:CZ	2.01	0.94
1:A:237:VAL:HG12	1:A:238:ASN:H	0.78	0.94
1:A:502:ILE:CD1	1:A:537:PHE:CE2	2.49	0.94
1:B:15:LEU:HD22	1:B:173:SER:CB	1.98	0.94
1:B:325:SER:N	2:B:691:HOH:O	2.01	0.94
1:B:272:ARG:HG3	1:B:274:VAL:HG23	1.51	0.93
1:A:199:HIS:CE1	1:A:236:VAL:CG2	2.52	0.93
1:A:8:PRO:HB2	2:A:610:HOH:O	1.68	0.93
1:B:197:CYS:HB3	1:B:198:ASN:CB	1.99	0.93
1:A:118:VAL:HG23	1:A:120:PRO:HD2	1.50	0.92
1:B:10:ARG:H	1:B:178:THR:HG22	1.34	0.92
1:A:101:ASN:OD1	1:A:129:ARG:NH2	2.01	0.92
1:B:15:LEU:HD22	1:B:173:SER:CA	1.99	0.92
1:B:462:VAL:HG22	1:B:499:PRO:HG2	1.52	0.92
1:A:338:LEU:HG	1:A:339:ASP:H	1.35	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:144:PRO:CD	1:B:353:ALA:O	2.19	0.91
1:B:108:GLN:HG3	2:B:617:HOH:O	1.69	0.91
1:B:118:VAL:C	1:B:120:PRO:HD3	1.92	0.90
1:A:449:CYS:O	1:A:449:CYS:SG	2.30	0.90
1:A:378:GLU:O	1:A:378:GLU:HG3	1.71	0.90
1:B:417:ARG:HG2	1:B:418:PRO:HD3	1.53	0.90
1:B:465:LEU:H	1:B:465:LEU:HD12	1.37	0.90
1:A:328:THR:HG22	1:A:333:TYR:CG	2.07	0.90
1:B:198:ASN:CB	1:B:236:VAL:CG2	2.48	0.90
1:B:449:CYS:CB	1:B:488:GLU:OE1	2.20	0.90
1:A:455:THR:HG22	1:A:456:ILE:CG2	1.96	0.89
1:A:548:VAL:HG11	1:A:570:ILE:HD11	1.53	0.89
1:B:96:LYS:NZ	2:B:648:HOH:O	1.98	0.89
1:A:342:ASP:OD2	2:A:673:HOH:O	1.89	0.89
1:A:92:THR:HG21	1:A:171:HIS:HD1	1.22	0.89
1:B:197:CYS:HB3	1:B:198:ASN:ND2	1.87	0.89
1:A:102:GLN:OE1	1:A:102:GLN:HA	1.74	0.88
1:A:110:GLY:O	2:A:666:HOH:O	1.89	0.88
1:B:197:CYS:HB3	1:B:198:ASN:CG	1.93	0.88
1:A:327:ARG:HH21	1:A:412:ASN:HD21	1.15	0.88
1:A:456:ILE:HG13	1:A:459:LEU:CB	2.04	0.88
1:B:429:ALA:O	1:B:433:ARG:HG2	1.74	0.88
1:A:327:ARG:HH21	1:A:412:ASN:ND2	1.70	0.88
1:B:191:THR:HG22	1:B:200:ALA:HB2	1.56	0.88
1:B:197:CYS:HB3	1:B:198:ASN:HB3	1.56	0.87
1:B:10:ARG:HB2	1:B:10:ARG:HH11	1.34	0.87
1:B:382:GLY:O	1:B:386:GLN:HG2	1.74	0.87
1:B:253:CYS:SG	1:B:264:ILE:CG2	2.62	0.86
1:B:101:ASN:N	1:B:101:ASN:HD22	1.73	0.86
1:B:10:ARG:HH11	1:B:10:ARG:CB	1.87	0.86
1:B:311:MSE:HE2	1:B:336:GLU:HG2	1.56	0.86
1:B:470:GLY:H	1:B:529:TRP:HH2	1.23	0.86
1:A:548:VAL:HG11	1:A:570:ILE:CD1	2.06	0.86
1:B:105:MSE:SE	1:B:114:PHE:HB3	2.26	0.85
1:A:95:GLY:HA2	1:A:133:CYS:O	1.76	0.85
1:B:447:MSE:HE3	1:B:467:ARG:CB	2.05	0.85
1:A:15:LEU:HD23	1:A:173:SER:OG	1.77	0.85
1:B:86:LEU:O	1:B:105:MSE:HE1	1.77	0.85
1:B:101:ASN:HD22	1:B:101:ASN:H	1.25	0.85
1:B:302:ARG:HD3	2:B:645:HOH:O	1.77	0.84
1:A:74:PHE:CZ	1:B:7:THR:HA	2.11	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:84:ILE:HG22	1:A:176:LEU:HD11	1.57	0.84
1:A:197:CYS:HB2	1:A:198:ASN:OD1	1.75	0.84
1:B:451:ALA:HB2	2:B:677:HOH:O	1.76	0.84
1:B:10:ARG:HH12	1:B:79:TRP:HE1	1.26	0.84
1:B:15:LEU:CD2	1:B:173:SER:CB	2.54	0.84
1:A:17:GLY:HA3	1:A:47:VAL:H	1.41	0.84
1:B:36:GLU:HB2	1:B:101:ASN:ND2	1.92	0.84
1:B:471:TRP:HZ3	1:B:520:MSE:HG2	1.42	0.84
1:B:184:VAL:HG21	1:B:254:VAL:HG12	1.60	0.84
1:A:33:ARG:HB3	1:A:36:GLU:OE2	1.78	0.84
1:B:172:ARG:HH11	1:B:334:ALA:CB	1.89	0.84
1:B:198:ASN:HB3	1:B:236:VAL:CG2	2.06	0.83
1:B:328:THR:HA	1:B:333:TYR:CZ	2.13	0.83
1:B:45:ILE:HG13	1:B:55:PHE:HZ	1.43	0.83
1:A:186:ASP:HB3	1:A:206:VAL:CG1	2.08	0.83
1:B:10:ARG:NH1	1:B:79:TRP:HE1	1.75	0.83
1:B:172:ARG:NH1	1:B:334:ALA:CB	2.42	0.83
1:B:453:THR:HG21	1:B:456:ILE:HB	1.60	0.83
1:A:0:HIS:NE2	1:A:186:ASP:OD2	2.11	0.82
1:B:5:VAL:HG12	1:B:6:GLU:N	1.93	0.82
1:A:199:HIS:CE1	1:A:236:VAL:HG21	2.15	0.82
1:B:143:ILE:HG23	1:B:144:PRO:HD2	1.58	0.82
1:B:376:SER:HB2	2:B:643:HOH:O	1.78	0.82
1:B:327:ARG:NH1	1:B:503:THR:HB	1.93	0.82
1:A:45:ILE:HD12	1:A:55:PHE:CZ	2.15	0.82
1:B:241:LEU:H	1:B:241:LEU:HD23	1.45	0.82
1:B:400:LYS:HA	1:B:439:ARG:HH12	1.43	0.82
1:A:243:GLN:O	1:A:246:GLU:O	1.98	0.82
1:B:511:ALA:O	1:B:523:GLU:OE1	1.97	0.82
1:A:217:ARG:O	1:A:222:GLN:O	1.97	0.82
1:B:502:ILE:HD12	1:B:537:PHE:HE2	0.90	0.82
1:A:228:GLN:HA	1:A:228:GLN:NE2	1.95	0.81
1:B:83:ARG:HA	1:B:119:THR:OG1	1.78	0.81
1:B:143:ILE:HD11	1:B:388:HIS:HA	1.59	0.81
1:A:14:LYS:NZ	1:A:14:LYS:CB	2.42	0.81
1:A:218:ASP:HB2	1:A:221:GLN:HA	1.62	0.81
1:A:339:ASP:CB	2:A:722:HOH:O	2.28	0.81
1:A:297:GLU:O	1:A:304:LYS:HD3	1.81	0.81
1:A:361:LEU:HD23	2:A:717:HOH:O	1.80	0.81
1:B:15:LEU:HB3	1:B:174:VAL:H	1.46	0.81
1:A:332:PRO:HG3	1:A:395:LEU:HD12	1.61	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:566:ASN:HB3	2:A:635:HOH:O	1.80	0.81
1:A:416:THR:H	1:A:448:PHE:HE2	1.28	0.81
1:A:448:PHE:CB	1:A:452:HIS:HA	2.05	0.81
1:A:502:ILE:HD13	1:A:537:PHE:HE2	1.46	0.81
1:B:202:VAL:HG23	1:B:234:LEU:CD2	2.11	0.81
1:A:329:SER:O	1:A:330:HIS:ND1	2.13	0.80
1:B:392:ILE:O	1:B:396:ILE:HG13	1.81	0.80
1:B:272:ARG:HH21	1:B:439:ARG:HH21	1.28	0.80
1:B:21:PHE:CD2	1:B:45:ILE:HD12	2.16	0.80
1:B:465:LEU:HD12	1:B:465:LEU:N	1.97	0.80
1:B:36:GLU:HG2	1:B:37:SER:H	1.47	0.80
1:B:328:THR:HA	1:B:333:TYR:CE2	2.17	0.80
1:B:549:TRP:CZ3	1:B:568:LYS:NZ	2.42	0.79
1:B:341:ALA:HB1	1:B:404:SER:HB3	1.62	0.79
1:B:36:GLU:HG2	1:B:37:SER:N	1.97	0.79
1:B:327:ARG:HH12	1:B:504:GLU:HG3	1.46	0.79
1:B:466:ASN:HB3	1:B:504:GLU:H	1.47	0.79
1:B:375:TYR:CE1	1:B:379:ALA:HB2	2.18	0.79
1:B:470:GLY:N	1:B:529:TRP:HH2	1.80	0.79
1:A:105:MSE:HE1	1:A:115:GLU:HA	1.62	0.79
1:A:64:VAL:O	1:A:136:ASN:ND2	2.16	0.79
1:A:513:LEU:HD23	1:A:521:TRP:O	1.82	0.79
1:B:225:ALA:HB1	1:B:235:GLN:HG3	1.65	0.79
1:A:202:VAL:HG22	1:A:234:LEU:CD2	2.13	0.79
1:B:444:VAL:CG1	1:B:466:ASN:ND2	2.28	0.79
1:A:199:HIS:ND1	1:A:236:VAL:HB	1.98	0.79
1:B:202:VAL:HG23	1:B:234:LEU:HD21	1.64	0.79
1:B:466:ASN:HB3	1:B:504:GLU:N	1.98	0.78
1:A:172:ARG:NE	1:A:334:ALA:HB2	1.98	0.78
1:B:92:THR:CG2	1:B:93:HIS:N	2.47	0.78
1:A:17:GLY:HA2	1:A:47:VAL:CG1	2.01	0.78
1:A:45:ILE:HD12	1:A:55:PHE:HZ	1.46	0.78
1:A:71:ARG:HG2	1:A:71:ARG:HH11	1.49	0.78
1:B:92:THR:HA	2:B:657:HOH:O	1.82	0.78
1:B:466:ASN:HB2	1:B:504:GLU:CB	2.14	0.78
1:B:449:CYS:HB2	1:B:488:GLU:OE1	1.83	0.78
1:B:549:TRP:CD1	1:B:549:TRP:O	2.36	0.78
1:B:92:THR:HG23	1:B:93:HIS:N	1.97	0.78
1:B:590:GLY:O	2:B:641:HOH:O	2.00	0.78
1:A:199:HIS:HE1	1:A:236:VAL:HG21	1.49	0.77
1:A:340:TRP:O	1:A:346:ILE:HD12	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:392:ILE:HG21	1:A:432:THR:HG22	1.66	0.77
1:B:315:HIS:HE1	1:B:336:GLU:OE1	1.67	0.77
1:B:52:ASN:HD21	1:B:168:ALA:H	1.30	0.77
1:A:238:ASN:CB	1:A:239:PRO:HD3	2.13	0.77
1:A:327:ARG:NH2	1:A:412:ASN:HD21	1.83	0.77
1:B:99:VAL:HG12	1:B:100:ASN:N	1.99	0.77
1:B:452:HIS:O	1:B:453:THR:CG2	2.32	0.77
1:B:508:ASP:OD2	1:B:568:LYS:HG2	1.84	0.77
1:A:15:LEU:HD22	1:A:48:PRO:HD3	1.67	0.76
1:B:122:VAL:CG2	1:B:123:ILE:HD12	2.16	0.76
1:A:392:ILE:HD13	1:A:432:THR:CG2	2.16	0.76
1:B:167:TYR:HB2	1:B:304:LYS:HG3	1.67	0.76
1:B:500:ILE:N	2:B:665:HOH:O	2.10	0.76
1:A:218:ASP:HB2	1:A:220:ASP:O	1.83	0.76
1:A:452:HIS:HD1	1:A:453:THR:N	1.84	0.76
1:A:100:ASN:HA	1:A:129:ARG:HH21	1.51	0.75
1:B:139:ASN:O	1:B:142:THR:HG22	1.85	0.75
1:A:216:LEU:HD21	1:A:250:TYR:HB3	1.68	0.75
1:B:105:MSE:HE2	1:B:116:ALA:HB3	1.67	0.75
1:B:498:GLN:HB2	1:B:499:PRO:HD2	1.66	0.75
1:B:436:ASP:OD2	1:B:438:THR:N	2.19	0.75
1:A:17:GLY:O	1:A:46:ALA:HA	1.87	0.75
1:A:15:LEU:CD2	1:A:173:SER:OG	2.34	0.75
1:B:5:VAL:HG12	1:B:6:GLU:H	1.49	0.75
1:A:373:GLU:OE1	1:A:374:LEU:HD23	1.87	0.75
1:B:202:VAL:CG2	1:B:234:LEU:HD21	2.16	0.75
1:A:203:ASP:OD1	1:A:233:THR:OG1	2.04	0.75
1:A:416:THR:HB	1:A:455:THR:HB	1.69	0.75
1:B:379:ALA:HA	1:B:381:ASN:HD22	1.51	0.74
1:A:433:ARG:NH1	1:A:461:ASP:OD1	2.21	0.74
1:A:242:TRP:CZ2	1:A:345:GLY:HA2	2.23	0.74
1:A:328:THR:HG22	1:A:333:TYR:CD2	2.21	0.74
1:A:340:TRP:C	2:A:695:HOH:O	2.24	0.74
1:B:311:MSE:CE	1:B:336:GLU:HG2	2.18	0.74
1:B:562:ARG:HH11	1:B:562:ARG:CG	2.01	0.74
1:A:198:ASN:O	1:A:237:VAL:O	2.06	0.73
1:B:400:LYS:O	1:B:439:ARG:NH2	2.16	0.73
1:B:559:GLY:H	1:B:562:ARG:NH2	1.83	0.73
1:A:105:MSE:HB3	1:A:116:ALA:HB2	1.70	0.73
1:A:453:THR:CA	2:A:707:HOH:O	2.35	0.73
1:B:272:ARG:HH21	1:B:439:ARG:NH2	1.86	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:328:THR:O	2:A:711:HOH:O	1.94	0.73
1:A:452:HIS:ND1	1:A:453:THR:N	2.37	0.73
1:A:598:GLN:O	1:A:599:GLN:HG2	1.88	0.73
1:B:463:LEU:HD21	1:B:492:TRP:CZ3	2.23	0.73
1:A:311:MSE:SE	2:A:722:HOH:O	2.55	0.73
1:A:378:GLU:O	1:A:378:GLU:CG	2.36	0.73
1:B:292:GLY:O	1:B:547:GLN:HA	1.88	0.72
1:A:470:GLY:HA3	1:A:529:TRP:CH2	2.23	0.72
1:B:417:ARG:NH2	2:B:632:HOH:O	2.22	0.72
1:B:325:SER:OG	2:B:691:HOH:O	2.05	0.72
1:B:465:LEU:O	1:B:502:ILE:HG23	1.89	0.72
1:B:462:VAL:HG13	1:B:499:PRO:O	1.88	0.72
1:B:451:ALA:HA	1:B:495:LYS:HD2	1.69	0.72
1:A:84:ILE:CG2	1:A:176:LEU:HD11	2.19	0.72
1:B:566:ASN:HB3	1:B:568:LYS:CD	2.18	0.72
1:B:547:GLN:CB	2:B:666:HOH:O	2.38	0.72
1:B:466:ASN:OD1	2:B:678:HOH:O	2.08	0.72
1:B:413:GLU:HG2	2:B:678:HOH:O	1.91	0.71
1:B:475:SER:HB2	1:B:520:MSE:HE1	1.73	0.71
1:A:207:VAL:CG1	1:A:210:GLY:H	2.04	0.71
1:A:228:GLN:HA	1:A:228:GLN:HE21	1.53	0.71
1:A:469:TYR:HE2	1:A:485:LEU:HD13	1.56	0.71
1:B:372:LYS:HB2	1:B:372:LYS:HZ3	1.55	0.71
1:B:8:PRO:O	2:B:634:HOH:O	2.07	0.71
1:A:328:THR:OG1	1:A:350:ASP:HA	1.90	0.71
1:A:335:GLU:O	1:A:339:ASP:CB	2.39	0.71
1:B:449:CYS:SG	1:B:450:ASP:N	2.64	0.71
1:B:550:ASN:ND2	1:B:554:PHE:CE2	2.58	0.71
1:A:9:THR:HG23	1:A:178:THR:O	1.91	0.71
1:B:103:GLU:HB2	2:B:647:HOH:O	1.90	0.70
1:B:38:ALA:HB1	1:B:70:GLN:OE1	1.91	0.70
1:B:338:LEU:HB2	2:B:653:HOH:O	1.91	0.70
1:A:172:ARG:CD	1:A:334:ALA:HB2	2.21	0.70
1:A:363:ILE:O	1:A:561:LEU:HG	1.91	0.70
1:B:455:THR:O	1:B:459:LEU:HD12	1.91	0.70
1:A:352:THR:HG22	1:A:395:LEU:HD13	1.72	0.70
1:B:447:MSE:HA	1:B:467:ARG:HD3	1.73	0.70
1:B:172:ARG:HD3	1:B:334:ALA:HB2	1.72	0.70
1:A:30:ILE:HA	1:A:35:TRP:HZ3	1.57	0.70
1:A:450:ASP:OD1	2:A:671:HOH:O	2.08	0.69
1:A:10:ARG:HB3	1:A:10:ARG:CZ	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:548:VAL:HG21	1:B:584:LEU:HD21	1.74	0.69
1:A:12:ILE:HG22	1:A:79:TRP:HH2	1.57	0.69
1:B:105:MSE:SE	1:B:114:PHE:CB	2.90	0.69
1:B:442:THR:OG1	1:B:443:CYS:N	2.26	0.69
1:A:10:ARG:HD2	1:A:79:TRP:NE1	2.04	0.69
1:A:36:GLU:C	1:A:129:ARG:HH12	1.95	0.69
1:B:43:ARG:HD3	1:B:55:PHE:CE1	2.27	0.69
1:A:151:ASP:OD1	1:A:155:LYS:NZ	2.15	0.69
1:A:144:PRO:HG3	1:A:353:ALA:O	1.91	0.69
1:A:381:ASN:CB	1:A:383:GLU:HB2	2.21	0.69
1:B:15:LEU:HD13	1:B:48:PRO:HD3	1.73	0.69
1:B:197:CYS:CB	1:B:198:ASN:HB3	2.23	0.69
1:B:359:LEU:CD1	1:B:372:LYS:NZ	2.56	0.69
1:B:584:LEU:O	1:B:588:TRP:HB2	1.93	0.69
1:A:336:GLU:HA	2:A:722:HOH:O	1.91	0.69
1:A:232:GLY:O	1:A:233:THR:OG1	2.09	0.69
1:B:15:LEU:O	1:B:15:LEU:HD12	1.92	0.69
1:B:272:ARG:NH2	1:B:439:ARG:HH21	1.91	0.68
1:B:372:LYS:HB2	1:B:372:LYS:NZ	2.07	0.68
1:B:400:LYS:C	1:B:439:ARG:HH22	1.95	0.68
1:A:502:ILE:HD13	1:A:537:PHE:CZ	2.28	0.68
1:B:45:ILE:HG13	1:B:55:PHE:CZ	2.27	0.68
1:B:413:GLU:CG	2:B:678:HOH:O	2.41	0.68
1:B:449:CYS:SG	1:B:488:GLU:CD	2.71	0.68
1:A:330:HIS:N	2:A:711:HOH:O	2.26	0.68
1:A:376:SER:O	1:A:380:VAL:HG23	1.93	0.68
1:A:198:ASN:HB3	1:A:199:HIS:HD2	1.58	0.68
1:B:562:ARG:HA	1:B:566:ASN:CG	2.14	0.68
1:A:199:HIS:CE1	1:A:236:VAL:HG23	2.28	0.68
1:A:207:VAL:HG11	1:A:210:GLY:H	1.58	0.68
1:B:5:VAL:CG1	1:B:6:GLU:H	2.06	0.68
1:B:33:ARG:NH1	1:B:36:GLU:HB3	2.09	0.68
1:B:358:ASN:HB3	1:B:360:SER:H	1.59	0.68
1:B:474:GLN:N	2:B:670:HOH:O	2.27	0.68
1:A:17:GLY:O	1:A:45:ILE:O	2.12	0.68
1:A:381:ASN:CB	1:A:383:GLU:H	2.05	0.68
1:B:216:LEU:H	1:B:226:THR:HG22	1.59	0.68
1:A:295:ARG:O	1:A:329:SER:HB2	1.94	0.68
1:B:99:VAL:O	1:B:100:ASN:C	2.30	0.68
1:A:88:PHE:CE2	1:A:97:VAL:HG21	2.29	0.68
1:B:92:THR:O	1:B:110:GLY:HA2	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:202:VAL:CG1	1:B:204:TRP:HZ3	2.07	0.68
1:B:273:SER:CB	1:B:284:ASN:H	1.97	0.68
1:B:562:ARG:HH11	1:B:562:ARG:CB	2.05	0.68
1:B:195:GLN:CD	1:B:195:GLN:H	1.98	0.67
1:B:212:VAL:HG11	1:B:230:THR:N	2.09	0.67
1:A:329:SER:N	2:A:711:HOH:O	2.19	0.67
1:A:456:ILE:HB	1:A:459:LEU:HD12	1.76	0.67
1:B:91:VAL:CG1	1:B:134:VAL:CG1	2.72	0.67
1:B:341:ALA:HA	1:B:346:ILE:HB	1.75	0.67
1:B:338:LEU:HD12	1:B:339:ASP:N	2.09	0.67
1:B:462:VAL:HG22	1:B:499:PRO:CG	2.24	0.67
1:A:93:HIS:N	2:A:704:HOH:O	2.20	0.67
1:B:5:VAL:CG1	1:B:6:GLU:N	2.58	0.67
1:B:197:CYS:CB	1:B:198:ASN:ND2	2.57	0.67
1:A:83:ARG:HD3	1:A:179:THR:OG1	1.93	0.66
1:A:497:HIS:HD2	2:A:687:HOH:O	1.77	0.66
1:A:315:HIS:O	1:A:319:ASP:HB2	1.95	0.66
1:B:493:GLN:HG3	2:B:644:HOH:O	1.96	0.66
1:A:94:TYR:HB3	1:A:135:ASN:HB3	1.76	0.66
1:A:118:VAL:HG23	1:A:120:PRO:CD	2.22	0.66
1:A:457:SER:HB2	1:A:496:LEU:HD11	1.76	0.66
1:B:202:VAL:HG12	1:B:230:THR:O	1.95	0.66
1:B:52:ASN:ND2	1:B:168:ALA:H	1.94	0.66
1:B:296:HIS:HD2	1:B:550:ASN:HD21	1.43	0.66
1:B:302:ARG:CG	1:B:302:ARG:O	2.43	0.66
1:B:337:MSE:CE	1:B:348:VAL:HG21	2.21	0.66
1:B:190:VAL:HG21	1:B:438:THR:HG21	1.76	0.66
1:A:190:VAL:HG13	1:A:438:THR:HG21	1.76	0.66
1:B:184:VAL:HG12	1:B:185:ASP:N	2.11	0.66
1:B:288:PHE:HZ	1:B:347:VAL:HG21	1.61	0.66
1:B:355:VAL:HA	2:B:683:HOH:O	1.96	0.66
1:B:455:THR:O	1:B:459:LEU:CD1	2.43	0.66
1:B:333:TYR:O	1:B:398:ARG:NH2	2.29	0.65
1:A:187:ILE:HG22	1:A:188:THR:N	2.11	0.65
1:A:456:ILE:HG23	1:A:456:ILE:O	1.95	0.65
1:B:432:THR:OG1	1:B:441:ILE:HD13	1.96	0.65
1:A:187:ILE:HG22	1:A:188:THR:H	1.60	0.65
1:B:327:ARG:HH11	1:B:503:THR:HB	1.60	0.65
1:A:278:GLY:O	1:A:279:GLU:HB3	1.96	0.65
1:B:122:VAL:HG23	1:B:123:ILE:HD12	1.79	0.65
1:B:12:ILE:HG23	1:B:12:ILE:O	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:20:ALA:HB3	1:A:70:GLN:HB3	1.79	0.65
1:A:381:ASN:HB2	1:A:383:GLU:HB2	1.77	0.65
1:A:17:GLY:HA3	1:A:47:VAL:O	1.96	0.65
1:B:115:GLU:OE1	1:B:115:GLU:HA	1.96	0.65
1:B:448:PHE:HD1	1:B:448:PHE:O	1.79	0.65
1:B:547:GLN:HB3	2:B:666:HOH:O	1.97	0.65
1:B:559:GLY:N	1:B:562:ARG:HH22	1.87	0.65
1:B:191:THR:HG22	1:B:200:ALA:CB	2.27	0.65
1:B:359:LEU:CD1	1:B:372:LYS:HZ3	2.10	0.65
1:A:195:GLN:O	1:A:195:GLN:HG3	1.97	0.64
1:A:107:HIS:HE1	1:A:394:GLU:OE1	1.81	0.64
1:A:238:ASN:OD1	1:A:239:PRO:HD3	1.98	0.64
1:A:436:ASP:OD1	1:A:439:ARG:NH1	2.30	0.64
1:A:546:GLU:OE2	1:A:587:ARG:NH1	2.30	0.64
1:B:150:THR:O	2:B:642:HOH:O	2.14	0.64
1:B:359:LEU:HD11	1:B:372:LYS:HZ3	1.63	0.64
1:B:414:PRO:HA	2:B:679:HOH:O	1.97	0.64
1:A:5:VAL:HG11	1:A:266:PRO:CD	2.26	0.64
1:A:82:GLN:HA	1:A:82:GLN:NE2	2.11	0.64
1:B:241:LEU:H	1:B:241:LEU:CD2	2.11	0.64
1:B:542:ALA:O	2:B:665:HOH:O	2.15	0.64
1:A:470:GLY:O	1:A:471:TRP:C	2.36	0.64
1:B:14:LYS:CD	1:B:174:VAL:O	2.42	0.64
1:B:351:GLU:HG2	1:B:409:SER:HB3	1.80	0.64
1:A:238:ASN:CB	1:A:239:PRO:CD	2.76	0.64
1:A:455:THR:C	1:A:456:ILE:HG22	2.19	0.64
1:A:497:HIS:CD2	2:A:687:HOH:O	2.50	0.64
1:B:292:GLY:HA2	1:B:323:ALA:HB1	1.80	0.64
1:B:560:ILE:O	1:B:562:ARG:N	2.31	0.64
1:B:466:ASN:CB	1:B:504:GLU:H	2.11	0.63
1:A:14:LYS:HE2	1:A:73:VAL:HG21	1.80	0.63
1:A:172:ARG:HD3	1:A:334:ALA:HB2	1.81	0.63
1:B:33:ARG:HA	1:B:35:TRP:CZ3	2.34	0.63
1:B:359:LEU:HD12	1:B:372:LYS:NZ	2.13	0.63
1:A:340:TRP:O	1:A:340:TRP:HD1	1.82	0.63
1:B:482:GLU:HG3	1:B:536:VAL:HG21	1.80	0.63
1:B:517:TYR:O	1:B:519:ASP:N	2.32	0.63
1:B:526:GLN:O	1:B:530:LEU:HB2	1.98	0.63
1:B:535:ARG:O	1:B:539:ARG:HB2	1.99	0.63
1:A:102:GLN:HG3	1:A:121:TYR:CD1	2.34	0.63
1:B:355:VAL:HG23	1:B:412:ASN:HD22	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:562:ARG:HH11	1:B:562:ARG:HG3	1.62	0.63
1:A:30:ILE:HB	2:A:694:HOH:O	1.98	0.63
1:A:186:ASP:HB3	1:A:206:VAL:HG11	1.80	0.63
1:A:455:THR:O	1:A:456:ILE:HG22	1.98	0.63
1:A:247:GLY:C	2:A:693:HOH:O	2.37	0.63
1:A:455:THR:HG23	1:A:456:ILE:HG21	1.80	0.63
1:B:321:ILE:HG12	1:B:321:ILE:O	1.99	0.63
1:B:468:TYR:N	1:B:468:TYR:CD2	2.67	0.63
1:B:501:ILE:HG12	1:B:545:GLY:HA3	1.81	0.63
1:A:9:THR:CG2	1:A:178:THR:O	2.47	0.63
1:A:485:LEU:HD23	1:A:536:VAL:HG11	1.80	0.63
1:B:69:TYR:CD1	1:B:170:ILE:CD1	2.75	0.63
1:B:549:TRP:CD1	1:B:549:TRP:C	2.66	0.63
1:A:186:ASP:HB3	1:A:206:VAL:HG13	1.81	0.62
1:B:61:ARG:NH1	2:B:624:HOH:O	2.32	0.62
1:B:392:ILE:HD13	1:B:410:ILE:HG23	1.80	0.62
1:A:279:GLU:O	1:A:279:GLU:HG2	1.99	0.62
1:B:31:ASP:HB2	2:B:675:HOH:O	1.99	0.62
1:B:402:HIS:CE1	2:B:638:HOH:O	2.52	0.62
1:A:476:GLY:N	1:A:520:MSE:HE2	2.14	0.62
1:B:465:LEU:HD11	1:B:500:ILE:HG12	1.81	0.62
1:A:7:THR:O	1:A:9:THR:O	2.17	0.62
1:A:73:VAL:HG22	1:A:74:PHE:H	1.64	0.62
1:A:447:MSE:O	1:A:448:PHE:HD1	1.82	0.62
1:B:99:VAL:CG1	1:B:100:ASN:N	2.62	0.62
1:B:591:MSE:HE2	1:B:597:PRO:HD3	1.81	0.62
1:A:351:GLU:HG2	1:A:409:SER:OG	2.00	0.62
1:A:455:THR:HG22	1:A:455:THR:O	1.98	0.62
1:B:151:ASP:OD1	1:B:152:GLU:N	2.31	0.62
1:B:241:LEU:O	1:B:243:GLN:HG3	1.99	0.62
1:A:217:ARG:HG3	1:A:218:ASP:HB3	1.80	0.62
2:A:662:HOH:O	1:B:12:ILE:HD11	1.99	0.62
1:B:36:GLU:HA	1:B:129:ARG:NH1	2.15	0.62
1:B:36:GLU:CG	1:B:37:SER:H	2.13	0.62
1:A:520:MSE:O	1:A:521:TRP:HB2	1.99	0.62
1:B:119:THR:N	1:B:120:PRO:HD3	2.15	0.62
1:B:119:THR:HG21	2:B:693:HOH:O	2.00	0.61
1:B:182:THR:HG21	1:B:258:SER:HB2	1.81	0.61
1:B:372:LYS:N	1:B:373:GLU:HA	2.15	0.61
1:B:570:ILE:HD13	1:B:584:LEU:HD22	1.81	0.61
1:A:207:VAL:HG11	1:A:210:GLY:O	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:340:TRP:O	1:A:340:TRP:CD1	2.53	0.61
1:A:372:LYS:HB2	1:A:373:GLU:OE2	2.00	0.61
1:A:452:HIS:CD2	1:A:492:TRP:HH2	2.18	0.61
1:A:525:TYR:HB3	2:A:708:HOH:O	1.98	0.61
1:B:94:TYR:HB2	1:B:108:GLN:OE1	2.00	0.61
1:A:218:ASP:CB	1:A:221:GLN:HA	2.29	0.61
1:B:21:PHE:CE2	1:B:45:ILE:HD12	2.35	0.61
1:B:139:ASN:HA	1:B:146:GLY:O	2.00	0.61
1:B:172:ARG:NH1	1:B:334:ALA:N	2.48	0.61
1:B:212:VAL:HG22	1:B:230:THR:HG22	1.83	0.61
1:B:375:TYR:CD1	1:B:379:ALA:HB2	2.35	0.61
1:B:509:THR:HG21	1:B:526:GLN:HB2	1.83	0.61
1:A:228:GLN:NE2	1:A:228:GLN:CA	2.63	0.61
1:A:452:HIS:CE1	1:A:453:THR:O	2.54	0.61
1:B:212:VAL:CG2	1:B:230:THR:HG22	2.31	0.61
1:A:214:VAL:HG12	1:A:227:GLY:HA3	1.83	0.61
1:B:388:HIS:HD2	1:B:392:ILE:HD11	1.65	0.61
1:B:519:ASP:O	1:B:525:TYR:HB2	2.01	0.61
1:B:386:GLN:O	1:B:389:LEU:HB3	2.01	0.60
1:A:562:ARG:NH1	1:A:566:ASN:HD22	1.99	0.60
1:B:92:THR:CG2	1:B:93:HIS:H	2.14	0.60
1:B:187:ILE:HA	1:B:204:TRP:HB2	1.83	0.60
1:B:293:PHE:HZ	1:B:321:ILE:HD13	1.66	0.60
1:A:93:HIS:C	2:A:705:HOH:O	2.39	0.60
1:A:136:ASN:C	1:A:136:ASN:HD22	2.05	0.60
1:A:422:ARG:HB2	1:A:454:ASP:HB2	1.83	0.60
1:A:468:TYR:OH	1:A:568:LYS:HD3	2.02	0.60
1:A:476:GLY:N	1:A:520:MSE:CE	2.64	0.60
1:A:550:ASN:ND2	1:A:554:PHE:CE2	2.70	0.60
1:B:402:HIS:CG	2:B:654:HOH:O	2.54	0.60
1:A:12:ILE:HD12	2:A:698:HOH:O	2.01	0.60
1:B:105:MSE:HE2	1:B:116:ALA:CB	2.31	0.60
1:A:10:ARG:CD	1:A:79:TRP:HE1	2.08	0.60
1:A:11:GLU:O	1:A:11:GLU:HG2	2.01	0.60
1:A:376:SER:O	1:A:380:VAL:CG2	2.49	0.60
1:B:449:CYS:C	1:B:452:HIS:HB2	2.21	0.60
1:B:467:ARG:HB2	1:B:469:TYR:CZ	2.37	0.60
1:A:-1:SER:O	1:A:0:HIS:CB	2.48	0.60
1:A:450:ASP:O	1:A:452:HIS:O	2.19	0.60
1:A:14:LYS:CB	1:A:14:LYS:HZ2	2.14	0.60
1:B:143:ILE:CG2	1:B:144:PRO:HD2	2.30	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:379:ALA:HA	1:B:381:ASN:ND2	2.17	0.59
1:B:33:ARG:HA	1:B:35:TRP:CH2	2.37	0.59
1:B:184:VAL:HG12	1:B:185:ASP:H	1.67	0.59
1:B:341:ALA:HB1	1:B:404:SER:CB	2.30	0.59
1:B:444:VAL:HA	1:B:464:CYS:O	2.02	0.59
1:A:33:ARG:HB3	1:A:36:GLU:CD	2.22	0.59
1:A:172:ARG:HD3	1:A:334:ALA:CB	2.32	0.59
1:A:469:TYR:CE2	1:A:485:LEU:HD13	2.35	0.59
1:B:143:ILE:HD13	1:B:391:ALA:HB2	1.85	0.59
1:B:417:ARG:CG	1:B:418:PRO:HD3	2.30	0.59
1:B:547:GLN:HB2	2:B:666:HOH:O	1.99	0.59
1:B:562:ARG:HG2	1:B:566:ASN:ND2	2.16	0.59
1:A:105:MSE:CE	1:A:114:PHE:O	2.50	0.59
1:B:184:VAL:HG21	1:B:254:VAL:CG1	2.29	0.59
1:B:99:VAL:HG23	1:B:104:VAL:HG21	1.84	0.59
1:B:455:THR:CG2	1:B:456:ILE:HG13	2.33	0.59
1:A:202:VAL:HG22	1:A:234:LEU:HD22	1.85	0.59
1:A:202:VAL:HG22	1:A:234:LEU:HD21	1.81	0.59
1:B:91:VAL:HG22	1:B:170:ILE:HG12	1.84	0.59
1:B:562:ARG:HH11	1:B:562:ARG:HB2	1.67	0.59
1:A:321:ILE:O	1:A:321:ILE:HG23	2.02	0.59
1:B:470:GLY:N	1:B:529:TRP:CH2	2.66	0.59
1:B:68:TRP:CZ3	1:B:133:CYS:HB2	2.37	0.59
1:B:359:LEU:HD11	1:B:372:LYS:NZ	2.17	0.59
1:A:216:LEU:HD21	1:A:250:TYR:CB	2.33	0.59
1:B:520:MSE:HB3	1:B:521:TRP:HD1	1.66	0.59
1:B:99:VAL:HG12	1:B:100:ASN:H	1.67	0.58
1:A:456:ILE:O	1:A:460:PHE:HD2	1.86	0.58
1:B:211:ASP:O	1:B:256:ALA:HA	2.04	0.58
1:B:273:SER:HB3	1:B:284:ASN:CA	2.33	0.58
1:B:295:ARG:HH12	1:B:314:ASP:HB3	1.69	0.58
1:B:299:ALA:CB	1:B:310:LEU:HD11	2.28	0.58
1:B:183:TRP:CE3	1:B:184:VAL:O	2.56	0.58
1:B:184:VAL:CG1	1:B:185:ASP:H	2.15	0.58
1:B:416:THR:HG23	1:B:453:THR:HA	1.83	0.58
1:A:36:GLU:HB2	2:A:714:HOH:O	2.04	0.58
1:B:102:GLN:HB2	2:B:668:HOH:O	2.02	0.58
1:A:249:LEU:HG	2:A:693:HOH:O	2.01	0.58
1:B:0:HIS:ND1	1:B:0:HIS:N	2.52	0.58
1:B:510:LEU:HD23	1:B:513:LEU:HD12	1.85	0.58
1:B:465:LEU:O	1:B:502:ILE:HA	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:143:ILE:HG22	1:A:353:ALA:HB3	1.84	0.58
1:B:206:VAL:HG13	1:B:206:VAL:O	2.03	0.58
1:A:338:LEU:O	1:A:342:ASP:HB2	2.04	0.58
1:A:486:GLU:OE2	1:A:539:ARG:HD2	2.04	0.58
1:B:91:VAL:O	1:B:110:GLY:HA2	2.03	0.58
1:B:453:THR:CG2	1:B:456:ILE:HB	2.30	0.58
1:A:104:VAL:O	2:A:655:HOH:O	2.16	0.57
1:B:298:ASP:OD2	1:B:554:PHE:HA	2.03	0.57
1:A:278:GLY:HA2	2:A:709:HOH:O	2.04	0.57
1:A:441:ILE:HD12	1:A:460:PHE:CE1	2.38	0.57
1:B:43:ARG:HD3	1:B:55:PHE:CD1	2.40	0.57
1:B:302:ARG:CD	2:B:645:HOH:O	2.44	0.57
1:B:412:ASN:O	2:B:683:HOH:O	2.17	0.57
1:B:36:GLU:CG	1:B:37:SER:N	2.66	0.57
1:A:195:GLN:O	1:A:195:GLN:CG	2.52	0.57
1:A:469:TYR:CD2	1:A:533:TYR:OH	2.57	0.57
1:B:466:ASN:CB	1:B:504:GLU:N	2.67	0.57
1:A:219:ALA:N	2:A:686:HOH:O	2.30	0.57
1:A:279:GLU:O	1:A:279:GLU:CG	2.52	0.57
1:B:292:GLY:HA3	1:B:325:SER:O	2.04	0.57
1:B:328:THR:OG1	1:B:331:TYR:O	2.20	0.57
1:A:94:TYR:O	1:A:134:VAL:HA	2.05	0.57
1:A:205:GLN:HB2	1:A:231:SER:H	1.69	0.57
1:A:304:LYS:NZ	2:A:656:HOH:O	2.34	0.57
1:A:343:GLU:N	2:A:695:HOH:O	2.36	0.57
1:A:453:THR:C	2:A:707:HOH:O	2.42	0.57
1:A:187:ILE:HG12	1:A:205:GLN:NE2	2.19	0.57
1:A:468:TYR:CE2	1:A:549:TRP:HD1	2.23	0.57
1:B:-1:SER:C	1:B:0:HIS:ND1	2.57	0.57
1:B:83:ARG:NE	1:B:179:THR:HG23	2.20	0.57
1:B:208:ALA:O	1:B:210:GLY:N	2.35	0.57
1:B:216:LEU:HA	1:B:252:LEU:HA	1.87	0.57
1:B:272:ARG:HE	1:B:439:ARG:HE	1.52	0.57
1:A:138:LEU:HD22	1:A:144:PRO:O	2.05	0.57
1:A:470:GLY:CA	1:A:529:TRP:CH2	2.88	0.57
1:A:525:TYR:O	1:A:526:GLN:C	2.40	0.57
1:B:388:HIS:CD2	1:B:392:ILE:HD11	2.40	0.57
1:A:51:PHE:C	1:A:51:PHE:CD1	2.78	0.57
1:A:136:ASN:ND2	1:A:136:ASN:C	2.57	0.57
1:A:563:VAL:HG23	1:A:566:ASN:OD1	2.04	0.57
2:A:608:HOH:O	1:B:340:TRP:HH2	1.88	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:243:GLN:OE1	1:B:246:GLU:HB2	2.04	0.57
1:A:313:HIS:CD2	1:B:301:LEU:HD22	2.40	0.56
1:A:328:THR:HG22	1:A:333:TYR:CD1	2.39	0.56
1:A:0:HIS:CE1	1:A:206:VAL:HG11	2.40	0.56
1:A:475:SER:OG	1:A:520:MSE:HE1	2.05	0.56
1:B:385:GLN:HB2	1:B:424:TYR:CE1	2.41	0.56
1:B:465:LEU:CD1	1:B:500:ILE:HG23	2.35	0.56
1:A:14:LYS:CD	1:A:176:LEU:HB2	2.29	0.56
1:A:221:GLN:HG3	2:A:648:HOH:O	2.05	0.56
1:A:447:MSE:O	1:A:448:PHE:CD1	2.58	0.56
1:A:-1:SER:O	1:A:0:HIS:HB2	2.06	0.56
1:B:15:LEU:HD23	1:B:173:SER:HB3	1.82	0.56
1:A:335:GLU:O	1:A:335:GLU:CG	2.52	0.56
1:A:381:ASN:HB3	1:A:383:GLU:H	1.69	0.56
1:B:466:ASN:CB	1:B:504:GLU:HB2	2.21	0.56
1:B:288:PHE:HA	1:B:594:GLY:O	2.05	0.56
1:B:195:GLN:CD	1:B:195:GLN:N	2.58	0.56
1:B:196:ASP:OD2	1:B:196:ASP:N	2.37	0.56
1:B:36:GLU:HA	1:B:129:ARG:CZ	2.36	0.56
1:B:357:PHE:C	1:B:358:ASN:OD1	2.44	0.56
1:A:309:VAL:HG21	1:B:302:ARG:HE	1.70	0.55
1:B:94:TYR:HD2	1:B:135:ASN:HB2	1.72	0.55
1:B:218:ASP:HB2	1:B:248:TYR:OH	2.05	0.55
1:B:315:HIS:CE1	1:B:336:GLU:OE1	2.54	0.55
1:B:359:LEU:HD12	1:B:372:LYS:HZ1	1.70	0.55
1:B:388:HIS:O	1:B:392:ILE:HG13	2.06	0.55
1:B:402:HIS:CB	2:B:654:HOH:O	2.53	0.55
1:B:415:ASP:N	2:B:679:HOH:O	1.92	0.55
1:B:445:ASN:C	1:B:445:ASN:OD1	2.44	0.55
1:B:41:GLU:HA	2:B:623:HOH:O	2.04	0.55
1:A:337:MSE:O	1:A:341:ALA:HB3	2.06	0.55
1:B:282:LEU:HA	1:B:286:LYS:O	2.07	0.55
1:B:566:ASN:CB	1:B:568:LYS:HD2	2.24	0.55
1:B:570:ILE:CD1	1:B:584:LEU:HD22	2.37	0.55
1:A:456:ILE:CB	1:A:459:LEU:HD12	2.36	0.55
1:B:377:GLU:HA	1:B:380:VAL:HG13	1.89	0.55
1:A:101:ASN:OD1	1:A:101:ASN:N	2.39	0.55
1:A:107:HIS:CD2	1:A:109:GLY:O	2.59	0.55
1:A:454:ASP:N	1:A:454:ASP:OD1	2.38	0.55
1:B:299:ALA:HB2	1:B:310:LEU:CD1	2.31	0.55
1:A:102:GLN:CG	1:A:121:TYR:CD1	2.90	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:321:ILE:O	1:A:321:ILE:CG2	2.55	0.55
1:B:187:ILE:HA	1:B:204:TRP:CB	2.37	0.55
1:B:402:HIS:HB3	2:B:654:HOH:O	2.06	0.55
1:A:73:VAL:O	1:A:127:SER:HA	2.07	0.55
1:A:475:SER:OG	1:A:520:MSE:CE	2.55	0.55
1:B:94:TYR:HD2	1:B:135:ASN:CB	2.20	0.55
1:B:99:VAL:CG1	1:B:100:ASN:H	2.20	0.55
1:B:249:LEU:HD21	1:B:268:ARG:HH11	1.71	0.55
1:B:455:THR:HG23	1:B:456:ILE:HG13	1.89	0.55
1:B:174:VAL:O	1:B:174:VAL:HG13	2.08	0.54
1:B:447:MSE:CE	1:B:467:ARG:HB3	2.23	0.54
1:A:12:ILE:CG2	1:A:79:TRP:HH2	2.20	0.54
1:A:315:HIS:CD2	1:A:318:MSE:HE3	2.42	0.54
1:A:562:ARG:HH11	1:A:566:ASN:HD22	1.53	0.54
1:B:18:LEU:H	1:B:46:ALA:HA	1.72	0.54
1:B:156:LYS:HD2	2:B:604:HOH:O	2.07	0.54
1:B:351:GLU:HG2	1:B:409:SER:CB	2.37	0.54
1:A:216:LEU:CD2	1:A:250:TYR:HB3	2.37	0.54
1:B:562:ARG:HB2	1:B:562:ARG:NH1	2.23	0.54
1:A:311:MSE:HE3	1:A:340:TRP:CE3	2.43	0.54
1:A:377:GLU:OE2	1:A:377:GLU:CA	2.55	0.54
1:A:417:ARG:NH2	2:A:625:HOH:O	2.40	0.54
1:B:494:GLU:O	1:B:495:LYS:C	2.45	0.54
1:A:17:GLY:CA	1:A:47:VAL:H	2.17	0.54
1:A:456:ILE:CG1	1:A:459:LEU:CB	2.59	0.54
1:B:407:MSE:SE	1:B:442:THR:HG21	2.58	0.54
1:A:20:ALA:HB1	1:A:42:SER:HB2	1.90	0.54
1:A:202:VAL:CG2	1:A:234:LEU:HD22	2.38	0.54
1:A:308:ASN:O	1:A:312:VAL:HG23	2.07	0.54
1:B:114:PHE:N	1:B:114:PHE:CD2	2.76	0.54
1:B:184:VAL:CG1	1:B:185:ASP:N	2.70	0.54
1:B:295:ARG:HG3	1:B:326:TYR:CD1	2.42	0.54
1:A:12:ILE:CG2	1:A:176:LEU:HB3	2.38	0.54
1:A:469:TYR:HD2	1:A:533:TYR:OH	1.91	0.54
1:A:535:ARG:HA	2:A:650:HOH:O	2.07	0.54
1:B:51:PHE:CE2	1:B:168:ALA:HB3	2.43	0.54
1:A:0:HIS:CD2	1:A:186:ASP:OD2	2.60	0.53
1:B:144:PRO:HD3	1:B:353:ALA:O	2.04	0.53
1:A:12:ILE:HG23	1:A:12:ILE:O	2.09	0.53
1:A:242:TRP:HZ2	1:A:345:GLY:HA2	1.74	0.53
1:A:548:VAL:CG1	1:A:570:ILE:CD1	2.84	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:52:ASN:ND2	1:B:167:TYR:HA	2.23	0.53
1:B:15:LEU:CD2	1:B:173:SER:CA	2.80	0.53
1:B:122:VAL:HG23	1:B:123:ILE:CD1	2.37	0.53
1:B:138:LEU:HD13	1:B:144:PRO:O	2.08	0.53
1:B:293:PHE:CE1	1:B:570:ILE:HD12	2.43	0.53
1:A:36:GLU:C	1:A:129:ARG:NH1	2.62	0.53
1:A:39:LEU:HB2	1:A:70:GLN:HE21	1.73	0.53
1:A:147:MSE:HE3	1:A:161:PHE:HZ	1.74	0.53
1:A:479:GLU:OE1	1:A:479:GLU:N	2.30	0.53
1:B:217:ARG:NH1	1:B:223:VAL:HG22	2.24	0.53
1:B:398:ARG:HG2	1:B:399:ASP:OD1	2.08	0.53
1:B:469:TYR:CD2	1:B:485:LEU:HD13	2.43	0.53
1:B:407:MSE:SE	1:B:442:THR:CG2	3.06	0.53
1:B:445:ASN:ND2	1:B:465:LEU:HB3	2.24	0.53
1:B:450:ASP:N	1:B:452:HIS:HB2	2.23	0.53
1:A:0:HIS:CD2	1:A:186:ASP:CG	2.82	0.53
1:A:86:LEU:HB2	1:A:176:LEU:HD22	1.89	0.53
1:A:224:VAL:HG22	1:A:237:VAL:HG21	1.91	0.53
1:B:96:LYS:CE	1:B:103:GLU:OE2	2.50	0.53
1:A:205:GLN:HG3	1:A:212:VAL:HG21	1.89	0.53
1:A:297:GLU:O	1:A:304:LYS:HA	2.08	0.53
1:B:183:TRP:HE3	1:B:184:VAL:O	1.92	0.53
1:B:241:LEU:O	1:B:243:GLN:NE2	2.41	0.53
1:B:276:VAL:HG21	1:B:461:ASP:HB3	1.90	0.53
1:B:375:TYR:CD1	1:B:379:ALA:CB	2.92	0.53
1:B:467:ARG:HH21	1:B:492:TRP:HE1	1.55	0.53
1:A:212:VAL:HA	1:A:255:THR:O	2.09	0.53
1:B:193:VAL:HG11	1:B:271:ILE:CG2	2.39	0.53
1:B:202:VAL:HG23	1:B:234:LEU:HD22	1.90	0.53
1:B:495:LYS:HG2	1:B:496:LEU:HG	1.91	0.53
1:B:562:ARG:HA	1:B:566:ASN:OD1	2.09	0.53
1:A:140:TRP:HB3	1:A:379:ALA:O	2.09	0.53
1:A:292:GLY:HA3	1:A:325:SER:O	2.09	0.53
1:B:114:PHE:N	1:B:114:PHE:HD2	2.07	0.53
1:A:494:GLU:O	1:A:497:HIS:CE1	2.62	0.52
1:B:339:ASP:O	1:B:343:GLU:HG3	2.09	0.52
1:A:73:VAL:HG22	1:A:74:PHE:N	2.24	0.52
1:B:82:GLN:CD	1:B:82:GLN:N	2.63	0.52
1:A:180:PRO:HB2	1:A:261:GLU:HG2	1.91	0.52
1:A:33:ARG:NH1	1:A:36:GLU:OE2	2.42	0.52
1:A:139:ASN:H	1:A:142:THR:CG2	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:377:GLU:OE2	1:A:377:GLU:HA	2.10	0.52
1:B:217:ARG:HD3	1:B:222:GLN:C	2.30	0.52
1:B:396:ILE:HG23	1:B:408:TRP:CZ2	2.44	0.52
1:A:39:LEU:HD13	1:A:70:GLN:NE2	2.24	0.52
1:A:515:SER:HB3	1:A:517:TYR:O	2.08	0.52
1:B:6:GLU:O	1:B:7:THR:HB	2.10	0.52
1:B:151:ASP:HB3	1:B:155:LYS:HB2	1.91	0.52
1:B:288:PHE:C	1:B:288:PHE:CD2	2.82	0.52
1:B:465:LEU:HD13	1:B:500:ILE:HG23	1.91	0.52
1:A:21:PHE:CE2	1:A:23:LEU:HD23	2.44	0.52
1:A:344:HIS:ND1	1:A:344:HIS:N	2.57	0.52
1:B:107:HIS:HE1	1:B:394:GLU:OE1	1.92	0.52
1:B:19:TRP:CE3	1:B:71:ARG:HB3	2.44	0.52
1:A:289:TYR:OH	1:A:546:GLU:OE1	2.19	0.52
1:A:340:TRP:CA	2:A:695:HOH:O	2.56	0.52
1:A:71:ARG:NH1	1:A:72:GLU:O	2.43	0.52
1:A:482:GLU:OE2	1:A:539:ARG:NH2	2.42	0.52
1:A:504:GLU:HG2	1:A:549:TRP:HB2	1.92	0.52
1:B:92:THR:HG22	1:B:93:HIS:H	1.75	0.52
1:A:16:ASP:OD2	1:A:18:LEU:HD12	2.10	0.52
1:A:456:ILE:HG13	1:A:459:LEU:CD1	2.39	0.52
1:A:259:GLN:HE21	1:A:259:GLN:HA	1.75	0.51
1:A:469:TYR:HB2	1:A:533:TYR:OH	2.10	0.51
1:A:563:VAL:O	1:A:564:GLY:C	2.48	0.51
1:B:379:ALA:HB3	2:B:684:HOH:O	2.09	0.51
1:A:311:MSE:HE3	1:A:340:TRP:HE3	1.75	0.51
1:A:453:THR:HA	2:A:707:HOH:O	2.07	0.51
1:A:550:ASN:OD1	1:A:551:PHE:N	2.43	0.51
1:B:82:GLN:HB3	1:B:179:THR:O	2.10	0.51
1:B:338:LEU:O	1:B:342:ASP:HB2	2.10	0.51
1:B:414:PRO:HD3	1:B:444:VAL:O	2.10	0.51
1:A:205:GLN:OE1	1:A:206:VAL:N	2.41	0.51
1:A:297:GLU:HG3	1:A:331:TYR:HE1	1.76	0.51
1:B:33:ARG:HG3	1:B:35:TRP:CZ2	2.45	0.51
1:B:99:VAL:O	1:B:101:ASN:N	2.43	0.51
1:B:438:THR:HG23	1:B:439:ARG:HG3	1.91	0.51
1:A:180:PRO:HG3	1:A:262:CYS:O	2.09	0.51
1:B:110:GLY:N	2:B:688:HOH:O	2.42	0.51
1:B:380:VAL:HG12	2:B:684:HOH:O	2.09	0.51
1:B:482:GLU:HG3	1:B:536:VAL:CG2	2.40	0.51
1:A:98:TRP:CZ3	1:A:103:GLU:HB3	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:381:ASN:HB2	1:A:384:THR:H	1.76	0.51
1:B:396:ILE:HA	1:B:408:TRP:CH2	2.45	0.51
1:B:548:VAL:HG21	1:B:584:LEU:CD2	2.40	0.51
1:A:229:GLY:O	1:A:230:THR:C	2.49	0.51
1:B:-1:SER:H2	1:B:0:HIS:CE1	2.28	0.51
1:B:141:GLN:HA	1:B:384:THR:HG22	1.93	0.51
1:B:538:ASP:HB2	1:B:597:PRO:HG2	1.93	0.51
1:B:82:GLN:CD	1:B:82:GLN:H	2.14	0.51
1:B:202:VAL:O	1:B:231:SER:HA	2.10	0.51
1:B:302:ARG:O	1:B:302:ARG:HG2	2.10	0.51
1:B:352:THR:HG22	1:B:353:ALA:N	2.26	0.51
1:A:337:MSE:HE1	1:A:348:VAL:HG11	1.92	0.51
1:A:198:ASN:O	1:A:199:HIS:CD2	2.64	0.51
1:B:187:ILE:CG2	1:B:188:THR:N	2.74	0.51
1:A:20:ALA:HB1	1:A:42:SER:CB	2.41	0.50
1:A:216:LEU:HD13	1:A:216:LEU:O	2.12	0.50
1:B:83:ARG:NH2	1:B:183:TRP:CE3	2.79	0.50
1:A:450:ASP:CG	2:A:671:HOH:O	2.48	0.50
1:B:91:VAL:HG11	1:B:134:VAL:HG13	1.94	0.50
1:B:467:ARG:C	1:B:468:TYR:CD2	2.84	0.50
1:B:493:GLN:HG2	1:B:494:GLU:N	2.26	0.50
1:B:76:PRO:O	1:B:79:TRP:HB2	2.12	0.50
1:B:171:HIS:CG	1:B:304:LYS:O	2.64	0.50
1:B:216:LEU:C	1:B:216:LEU:HD12	2.32	0.50
1:B:553:ASP:OD1	1:B:578:LYS:NZ	2.43	0.50
1:A:198:ASN:HB3	1:A:199:HIS:CD2	2.42	0.50
1:A:340:TRP:CH2	1:B:44:ALA:HB3	2.46	0.50
1:A:453:THR:O	2:A:707:HOH:O	2.19	0.50
1:B:244:PRO:HG2	1:B:593:PHE:CE1	2.46	0.50
1:B:469:TYR:HD2	1:B:533:TYR:HH	1.60	0.50
1:A:372:LYS:C	1:A:373:GLU:HG3	2.31	0.50
1:B:101:ASN:N	1:B:101:ASN:ND2	2.45	0.50
1:B:476:GLY:HA2	1:B:525:TYR:OH	2.11	0.50
1:B:499:PRO:HA	2:B:665:HOH:O	2.11	0.50
1:A:92:THR:HA	1:A:110:GLY:O	2.12	0.50
1:A:116:ALA:HB1	2:A:655:HOH:O	2.11	0.50
1:A:565:GLY:O	1:A:567:LYS:HD3	2.11	0.50
1:B:549:TRP:HZ3	1:B:568:LYS:HZ3	0.75	0.50
1:A:392:ILE:HD13	1:A:432:THR:HG22	1.91	0.50
1:A:452:HIS:ND1	1:A:453:THR:O	2.45	0.50
1:A:453:THR:N	2:A:707:HOH:O	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:552:ALA:HA	1:A:571:PHE:O	2.11	0.50
1:B:102:GLN:O	1:B:102:GLN:NE2	2.45	0.50
1:B:242:TRP:CE2	1:B:403:PRO:HB2	2.47	0.50
1:B:337:MSE:HE1	1:B:348:VAL:CG2	2.29	0.50
1:A:21:PHE:HE2	1:A:23:LEU:CD2	2.25	0.50
1:A:248:TYR:HB3	2:A:689:HOH:O	2.10	0.50
1:A:381:ASN:HB2	1:A:383:GLU:H	1.77	0.50
1:B:267:LEU:CD1	1:B:269:VAL:HG13	2.42	0.50
1:A:83:ARG:CB	1:A:179:THR:O	2.44	0.49
1:A:214:VAL:O	1:A:227:GLY:N	2.45	0.49
1:B:469:TYR:HD2	1:B:533:TYR:OH	1.95	0.49
1:B:566:ASN:N	2:B:682:HOH:O	2.18	0.49
1:A:15:LEU:CD2	1:A:48:PRO:HD3	2.40	0.49
1:A:312:VAL:HG11	1:B:54:GLN:NE2	2.27	0.49
1:A:337:MSE:HB2	2:A:614:HOH:O	2.13	0.49
1:B:51:PHE:HE2	1:B:168:ALA:HB3	1.76	0.49
1:B:92:THR:HG21	1:B:168:ALA:CB	2.42	0.49
1:B:96:LYS:HE3	1:B:106:GLU:OE2	2.12	0.49
1:B:558:GLN:OE1	1:B:559:GLY:N	2.46	0.49
1:A:242:TRP:HA	2:A:689:HOH:O	2.10	0.49
1:B:25:ARG:C	1:B:27:ASN:N	2.63	0.49
1:B:433:ARG:HA	2:B:627:HOH:O	2.11	0.49
1:B:490:LEU:O	1:B:493:GLN:HB3	2.11	0.49
1:A:69:TYR:CE2	1:A:170:ILE:HG13	2.47	0.49
1:A:197:CYS:CB	1:A:198:ASN:OD1	2.53	0.49
1:A:230:THR:C	1:A:231:SER:OG	2.50	0.49
1:A:238:ASN:HB3	1:A:239:PRO:CD	2.43	0.49
2:A:662:HOH:O	1:B:12:ILE:CD1	2.56	0.49
1:B:122:VAL:HG22	1:B:123:ILE:HD12	1.93	0.49
1:A:83:ARG:NH2	1:A:183:TRP:CH2	2.80	0.49
1:A:222:GLN:HG2	2:A:645:HOH:O	2.12	0.49
1:A:422:ARG:NH1	1:A:454:ASP:O	2.46	0.49
1:B:11:GLU:OE1	1:B:11:GLU:N	2.45	0.49
1:B:295:ARG:HB2	1:B:333:TYR:OH	2.12	0.49
1:B:556:THR:HG23	1:B:565:GLY:HA2	1.95	0.49
1:A:254:VAL:O	1:A:264:ILE:HA	2.13	0.49
1:B:93:HIS:CD2	1:B:138:LEU:HD21	2.48	0.49
1:B:171:HIS:HB3	1:B:304:LYS:O	2.13	0.49
1:B:392:ILE:HG21	1:B:432:THR:CG2	2.43	0.49
1:A:216:LEU:C	1:A:216:LEU:HD22	2.33	0.49
1:A:288:PHE:CZ	1:A:347:VAL:HG11	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:314:ASP:OD1	1:A:551:PHE:HE2	1.95	0.49
1:A:456:ILE:HA	1:A:459:LEU:H	1.77	0.49
1:A:392:ILE:CG2	1:A:432:THR:HG22	2.42	0.49
1:A:470:GLY:N	1:A:529:TRP:CH2	2.80	0.49
1:A:555:ALA:HA	1:A:565:GLY:HA2	1.94	0.49
1:B:410:ILE:HD12	1:B:460:PHE:HE1	1.78	0.49
1:B:488:GLU:O	1:B:488:GLU:HG3	2.13	0.49
1:A:16:ASP:OD2	1:A:18:LEU:CD1	2.61	0.49
1:A:10:ARG:NH1	1:A:10:ARG:CB	2.76	0.48
1:A:32:GLN:HB2	1:A:34:TRP:HE1	1.78	0.48
1:A:35:TRP:CE2	1:A:36:GLU:OE2	2.66	0.48
1:A:81:GLY:C	1:A:82:GLN:HE21	2.15	0.48
1:A:273:SER:O	1:A:283:ILE:HA	2.14	0.48
1:A:373:GLU:OE2	1:A:373:GLU:N	2.46	0.48
1:A:407:MSE:SE	1:A:462:VAL:CG1	3.11	0.48
1:B:328:THR:O	1:B:351:GLU:HB2	2.13	0.48
1:B:341:ALA:HB1	1:B:346:ILE:O	2.13	0.48
1:A:21:PHE:CE2	1:A:23:LEU:CD2	2.96	0.48
1:B:35:TRP:CE2	1:B:98:TRP:CZ3	3.00	0.48
1:B:83:ARG:CG	1:B:179:THR:HG23	2.43	0.48
1:B:102:GLN:N	1:B:102:GLN:HE21	2.11	0.48
1:B:392:ILE:HG21	1:B:432:THR:HG22	1.95	0.48
1:B:467:ARG:NH2	1:B:492:TRP:HE1	2.11	0.48
1:A:20:ALA:HB1	1:A:42:SER:OG	2.12	0.48
1:A:100:ASN:C	1:A:101:ASN:OD1	2.51	0.48
1:A:337:MSE:HE2	1:A:337:MSE:HA	1.95	0.48
1:A:376:SER:O	1:A:377:GLU:OE2	2.31	0.48
1:A:401:ASN:HB2	2:A:676:HOH:O	2.12	0.48
1:A:504:GLU:HG2	1:A:549:TRP:CG	2.47	0.48
1:B:12:ILE:HG22	1:B:176:LEU:HG	1.95	0.48
1:B:138:LEU:HB2	1:B:158:GLN:HE22	1.78	0.48
1:A:183:TRP:CE2	1:A:208:ALA:CB	2.96	0.48
1:A:362:GLY:O	1:A:363:ILE:CB	2.62	0.48
1:A:529:TRP:CE2	1:A:533:TYR:HE1	2.32	0.48
1:B:199:HIS:O	1:B:199:HIS:CD2	2.66	0.48
1:A:187:ILE:CG2	1:A:188:THR:H	2.26	0.48
1:A:249:LEU:HD22	1:A:268:ARG:HB3	1.96	0.48
1:A:330:HIS:O	2:A:701:HOH:O	2.20	0.48
1:B:76:PRO:HD2	1:B:79:TRP:CE3	2.48	0.48
1:B:213:SER:HB3	1:B:255:THR:CB	2.23	0.48
1:A:456:ILE:HG13	1:A:459:LEU:HD12	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:27:ASN:O	1:B:28:CYS:SG	2.72	0.48
1:B:183:TRP:CE3	1:B:185:ASP:HB2	2.48	0.48
1:B:286:LYS:HE3	1:B:286:LYS:HB2	1.77	0.48
1:B:162:HIS:CD2	1:B:164:PHE:CZ	3.01	0.48
1:B:375:TYR:CE2	1:B:379:ALA:N	2.81	0.48
1:A:107:HIS:CE1	1:A:394:GLU:OE1	2.65	0.48
1:A:327:ARG:HA	1:A:349:ILE:O	2.14	0.48
1:B:424:TYR:HB2	2:B:626:HOH:O	2.14	0.48
1:A:230:THR:HG22	1:A:231:SER:OG	2.14	0.48
1:A:449:CYS:HA	1:A:452:HIS:HB2	1.96	0.48
1:B:481:ALA:O	1:B:485:LEU:HB2	2.14	0.48
1:A:119:THR:N	1:A:120:PRO:CD	2.77	0.47
1:A:255:THR:HG23	1:A:264:ILE:HG23	1.95	0.47
1:B:142:THR:HG22	1:B:145:PRO:HA	1.96	0.47
1:B:471:TRP:CZ3	1:B:520:MSE:HG2	2.35	0.47
1:A:116:ALA:CB	2:A:655:HOH:O	2.62	0.47
1:A:140:TRP:HE1	1:A:147:MSE:HE2	1.78	0.47
1:A:335:GLU:N	2:A:614:HOH:O	2.25	0.47
1:B:48:PRO:O	2:B:645:HOH:O	2.20	0.47
1:B:194:ALA:HB3	1:B:196:ASP:OD2	2.14	0.47
1:B:248:TYR:CD1	1:B:248:TYR:C	2.87	0.47
1:A:17:GLY:HA3	1:A:47:VAL:N	2.21	0.47
1:A:183:TRP:HZ3	1:A:185:ASP:OD1	1.97	0.47
1:A:237:VAL:CG1	1:A:238:ASN:N	2.37	0.47
1:A:273:SER:HB3	1:A:284:ASN:HA	1.96	0.47
1:A:341:ALA:HA	1:A:346:ILE:HB	1.96	0.47
1:A:10:ARG:HB3	1:A:10:ARG:NH1	2.30	0.47
1:A:19:TRP:CZ2	1:A:71:ARG:HD2	2.49	0.47
1:A:162:HIS:HB3	1:A:355:VAL:HB	1.97	0.47
1:A:540:VAL:O	1:A:596:LYS:NZ	2.47	0.47
1:B:1:MSE:SE	1:B:113:PRO:HB2	2.64	0.47
1:B:189:VAL:O	1:B:190:VAL:HB	2.13	0.47
1:B:293:PHE:CD2	1:B:551:PHE:HD1	2.32	0.47
1:A:52:ASN:HD21	1:A:168:ALA:H	1.63	0.47
1:A:205:GLN:HB2	1:A:231:SER:HA	1.96	0.47
1:A:327:ARG:HB2	1:A:349:ILE:HB	1.96	0.47
1:B:67:VAL:O	1:B:134:VAL:HG23	2.14	0.47
1:A:19:TRP:CE3	1:A:69:TYR:HB3	2.49	0.47
1:A:321:ILE:CG2	1:A:588:TRP:CE3	2.97	0.47
1:A:397:ALA:O	1:A:400:LYS:HD2	2.14	0.47
1:B:83:ARG:HA	1:B:119:THR:HG1	1.77	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:212:VAL:HG21	1:B:230:THR:CG2	2.44	0.47
1:B:399:ASP:HB3	1:B:405:VAL:HG21	1.95	0.47
1:A:29:GLY:HA2	1:A:34:TRP:CD2	2.50	0.47
1:A:241:LEU:O	1:A:248:TYR:HB3	2.15	0.47
1:A:320:TRP:CZ3	1:A:321:ILE:HG13	2.49	0.47
1:A:452:HIS:C	1:A:453:THR:OG1	2.53	0.47
1:B:2:LEU:HD11	1:B:187:ILE:H	1.80	0.47
1:B:33:ARG:HH11	1:B:36:GLU:HB3	1.80	0.47
1:B:73:VAL:O	1:B:127:SER:HA	2.15	0.47
1:B:189:VAL:HG12	1:B:190:VAL:N	2.29	0.47
1:B:280:GLN:NE2	2:B:633:HOH:O	2.45	0.47
1:B:295:ARG:HE	1:B:295:ARG:HB3	1.48	0.47
1:B:449:CYS:HG	1:B:488:GLU:CD	2.16	0.47
1:A:15:LEU:HD21	1:A:173:SER:OG	2.14	0.47
1:A:309:VAL:HG21	1:B:302:ARG:HB3	1.96	0.47
1:A:507:VAL:CG1	1:A:529:TRP:CD1	2.98	0.47
1:B:268:ARG:O	1:B:269:VAL:HG13	2.14	0.47
1:B:357:PHE:HB2	2:B:679:HOH:O	2.14	0.47
1:A:10:ARG:CZ	1:A:10:ARG:CB	2.92	0.47
1:A:295:ARG:N	1:A:329:SER:OG	2.47	0.47
1:A:547:GLN:NE2	2:A:663:HOH:O	2.48	0.47
1:B:191:THR:OG1	1:B:271:ILE:HA	2.15	0.47
1:B:468:TYR:OH	1:B:504:GLU:HB3	2.14	0.47
1:A:4:PRO:HD3	1:A:87:ARG:NH1	2.30	0.47
1:A:468:TYR:O	1:A:472:TYR:CD2	2.68	0.47
1:A:513:LEU:O	1:A:522:SER:HA	2.15	0.47
1:B:252:LEU:HD22	1:B:269:VAL:HG21	1.97	0.47
1:B:315:HIS:HB3	1:B:340:TRP:CZ3	2.50	0.47
1:B:570:ILE:CD1	1:B:584:LEU:CD2	2.93	0.47
1:A:24:ASP:OD2	1:A:29:GLY:HA3	2.15	0.46
1:A:35:TRP:CD2	1:A:36:GLU:OE1	2.68	0.46
1:A:119:THR:N	1:A:120:PRO:HD2	2.30	0.46
1:A:302:ARG:HH22	1:B:307:ASP:CG	2.18	0.46
1:A:340:TRP:HA	1:A:344:HIS:CE1	2.49	0.46
1:B:18:LEU:HA	1:B:45:ILE:O	2.16	0.46
1:B:375:TYR:CG	1:B:379:ALA:HB3	2.50	0.46
1:A:74:PHE:CE1	1:B:7:THR:HA	2.47	0.46
1:A:141:GLN:NE2	1:A:381:ASN:OD1	2.47	0.46
1:A:471:TRP:HZ2	1:A:521:TRP:CZ2	2.34	0.46
1:A:474:GLN:HE21	1:A:480:THR:HG22	1.80	0.46
1:B:155:LYS:HD2	1:B:155:LYS:HA	1.82	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:218:ASP:HA	2:A:686:HOH:O	2.15	0.46
1:B:217:ARG:N	1:B:251:GLU:O	2.44	0.46
1:A:207:VAL:HG13	1:A:210:GLY:H	1.79	0.46
1:A:381:ASN:HB2	1:A:383:GLU:N	2.31	0.46
1:A:480:THR:O	1:A:484:VAL:HG13	2.15	0.46
1:B:273:SER:CB	1:B:284:ASN:N	2.65	0.46
1:B:533:TYR:HB3	1:B:537:PHE:CE1	2.50	0.46
1:B:562:ARG:HG3	1:B:562:ARG:NH1	2.29	0.46
1:B:43:ARG:HG2	1:B:44:ALA:N	2.27	0.46
1:B:172:ARG:HH12	1:B:334:ALA:N	2.13	0.46
1:B:272:ARG:HD2	1:B:274:VAL:HG21	1.97	0.46
1:B:293:PHE:CZ	1:B:321:ILE:HD13	2.48	0.46
1:B:531:ASP:HA	1:B:534:HIS:ND1	2.31	0.46
1:A:468:TYR:O	1:A:472:TYR:HD2	1.99	0.46
1:B:47:VAL:HG13	1:B:170:ILE:HG22	1.97	0.46
1:A:33:ARG:C	1:A:36:GLU:OE1	2.54	0.46
1:B:83:ARG:HH11	1:B:118:VAL:CG1	2.28	0.46
1:B:219:ALA:O	1:B:220:ASP:OD2	2.34	0.46
1:B:242:TRP:CD1	1:B:270:GLY:HA3	2.51	0.46
1:B:304:LYS:HE3	1:B:331:TYR:CE2	2.50	0.46
1:B:470:GLY:HA2	1:B:474:GLN:HB2	1.98	0.46
1:A:29:GLY:HA3	1:A:68:TRP:CZ2	2.51	0.46
1:A:33:ARG:O	1:A:36:GLU:OE1	2.34	0.46
1:A:187:ILE:CG2	1:A:188:THR:N	2.79	0.46
1:A:329:SER:HB2	2:A:678:HOH:O	2.15	0.46
1:A:588:TRP:HA	1:A:591:MSE:HE3	1.98	0.46
1:B:15:LEU:HD13	1:B:48:PRO:CD	2.44	0.46
1:B:293:PHE:HA	1:B:548:VAL:O	2.15	0.46
1:B:306:PHE:HE1	1:B:311:MSE:HE3	1.81	0.46
1:B:341:ALA:CB	1:B:404:SER:CB	2.93	0.46
1:B:432:THR:HB	1:B:441:ILE:HD11	1.98	0.46
1:A:309:VAL:HG21	1:B:302:ARG:NE	2.31	0.45
1:A:514:HIS:HA	1:A:524:GLU:OE2	2.16	0.45
1:B:291:THR:OG1	1:B:324:ASN:CG	2.55	0.45
1:B:318:MSE:HA	1:B:321:ILE:HG22	1.98	0.45
1:B:560:ILE:O	1:B:561:LEU:C	2.54	0.45
1:A:139:ASN:N	1:A:142:THR:HG21	2.31	0.45
1:A:342:ASP:CG	2:A:673:HOH:O	2.48	0.45
1:A:560:ILE:C	1:A:562:ARG:N	2.69	0.45
1:B:66:ASN:HA	1:B:134:VAL:O	2.16	0.45
1:B:138:LEU:HB3	1:B:142:THR:HG21	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:570:ILE:HD11	1:B:584:LEU:CD2	2.46	0.45
1:A:295:ARG:O	1:A:329:SER:CB	2.62	0.45
1:A:381:ASN:HB2	1:A:383:GLU:CB	2.45	0.45
1:A:550:ASN:HD22	1:A:554:PHE:HE2	1.62	0.45
1:B:94:TYR:O	1:B:134:VAL:HA	2.16	0.45
1:B:184:VAL:CG2	1:B:254:VAL:HG12	2.41	0.45
1:B:213:SER:OG	1:B:228:GLN:NE2	2.48	0.45
1:B:469:TYR:CD2	1:B:533:TYR:OH	2.68	0.45
1:B:504:GLU:HG2	1:B:549:TRP:CD1	2.51	0.45
1:A:225:ALA:HB1	1:A:235:GLN:HG2	1.99	0.45
1:A:442:THR:CA	1:A:460:PHE:CD1	2.99	0.45
1:A:455:THR:C	1:A:456:ILE:CG2	2.83	0.45
1:A:457:SER:CB	1:A:496:LEU:HD11	2.46	0.45
1:B:176:LEU:C	1:B:176:LEU:HD12	2.36	0.45
1:B:197:CYS:CB	1:B:198:ASN:HD22	2.28	0.45
1:B:465:LEU:N	1:B:465:LEU:CD1	2.69	0.45
1:A:39:LEU:HD13	1:A:70:GLN:HE21	1.81	0.45
1:A:139:ASN:H	1:A:142:THR:HG21	1.81	0.45
1:A:442:THR:HA	1:A:460:PHE:CD1	2.51	0.45
1:A:453:THR:O	1:A:455:THR:N	2.49	0.45
1:B:151:ASP:HB3	1:B:155:LYS:CB	2.46	0.45
1:B:217:ARG:HG2	2:B:628:HOH:O	2.17	0.45
1:B:257:LYS:HA	1:B:262:CYS:HB3	1.97	0.45
1:B:311:MSE:HE2	1:B:336:GLU:CG	2.38	0.45
1:B:358:ASN:OD1	1:B:358:ASN:N	2.48	0.45
1:A:248:TYR:CB	2:A:689:HOH:O	2.64	0.45
1:B:47:VAL:CG1	1:B:170:ILE:HG22	2.47	0.45
1:B:197:CYS:HB3	1:B:198:ASN:HD22	1.76	0.45
1:B:377:GLU:HB2	1:B:419:GLN:OE1	2.16	0.45
1:B:422:ARG:HB3	1:B:454:ASP:OD2	2.17	0.45
1:B:453:THR:CB	1:B:456:ILE:HB	2.46	0.45
1:A:51:PHE:CD2	1:A:168:ALA:O	2.69	0.45
1:A:385:GLN:HE22	1:A:427:PRO:HG2	1.80	0.45
1:B:379:ALA:C	2:B:684:HOH:O	2.54	0.45
1:A:295:ARG:HB3	1:A:295:ARG:HH11	1.82	0.45
1:A:398:ARG:HG2	1:A:398:ARG:HH11	1.81	0.45
1:A:420:GLY:N	2:A:697:HOH:O	2.49	0.45
1:A:474:GLN:HE22	1:A:484:VAL:HG13	1.82	0.45
1:B:14:LYS:C	1:B:16:ASP:N	2.69	0.45
1:B:14:LYS:O	1:B:16:ASP:N	2.49	0.45
1:B:36:GLU:CB	1:B:101:ASN:HD21	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:259:GLN:HA	1:A:259:GLN:NE2	2.32	0.45
1:A:312:VAL:HG11	1:B:54:GLN:HE21	1.81	0.45
1:A:381:ASN:C	1:A:383:GLU:N	2.68	0.45
1:B:83:ARG:HG2	1:B:179:THR:HG23	1.98	0.45
1:B:463:LEU:CD2	1:B:492:TRP:CZ3	2.99	0.45
1:B:564:GLY:O	1:B:567:LYS:HE3	2.17	0.45
1:A:205:GLN:HB2	1:A:231:SER:N	2.30	0.44
1:A:293:PHE:HE1	1:A:570:ILE:HD13	1.81	0.44
1:B:24:ASP:OD1	1:B:27:ASN:O	2.35	0.44
1:A:87:ARG:HB3	1:A:115:GLU:CB	2.48	0.44
1:A:377:GLU:OE1	2:A:691:HOH:O	2.21	0.44
1:A:400:LYS:O	1:A:439:ARG:NH2	2.46	0.44
1:A:532:MSE:O	1:A:533:TYR:C	2.54	0.44
1:B:23:LEU:HD13	1:B:63:TYR:CD1	2.52	0.44
1:B:101:ASN:HD21	1:B:129:ARG:HH12	1.65	0.44
1:B:241:LEU:CD2	1:B:241:LEU:N	2.79	0.44
1:A:138:LEU:CA	1:A:142:THR:HG21	2.46	0.44
1:A:151:ASP:HB3	1:A:155:LYS:HB3	1.87	0.44
1:A:7:THR:HB	1:A:8:PRO:HD2	1.98	0.44
1:A:82:GLN:NE2	1:A:82:GLN:CA	2.80	0.44
1:B:10:ARG:CB	1:B:10:ARG:NH1	2.69	0.44
1:B:47:VAL:CG1	1:B:170:ILE:CG2	2.96	0.44
1:B:83:ARG:NH2	1:B:183:TRP:CD2	2.85	0.44
1:B:183:TRP:CZ3	1:B:185:ASP:HB2	2.53	0.44
1:B:242:TRP:NE1	1:B:403:PRO:HB2	2.32	0.44
1:A:462:VAL:HG23	1:A:499:PRO:HB2	1.99	0.44
1:B:5:VAL:HG11	1:B:266:PRO:HG2	2.00	0.44
1:B:33:ARG:HH11	1:B:33:ARG:HG2	1.82	0.44
1:B:498:GLN:HB2	1:B:499:PRO:CD	2.40	0.44
1:A:15:LEU:C	1:A:17:GLY:N	2.68	0.44
1:A:455:THR:O	1:A:456:ILE:CG2	2.66	0.44
1:A:469:TYR:O	1:A:473:VAL:HG23	2.18	0.44
1:A:511:ALA:O	1:A:523:GLU:OE2	2.35	0.44
1:B:21:PHE:HE2	1:B:69:TYR:HE2	1.66	0.44
1:A:268:ARG:NH2	1:A:343:GLU:HG3	2.33	0.44
1:A:313:HIS:CG	1:B:301:LEU:HD22	2.52	0.44
1:B:390:GLN:O	1:B:394:GLU:HG3	2.17	0.44
1:B:467:ARG:HG3	1:B:469:TYR:OH	2.17	0.44
1:B:592:ASN:HB2	1:B:595:GLU:HG2	2.00	0.44
1:A:2:LEU:HD11	1:A:187:ILE:HG13	2.00	0.44
1:A:35:TRP:CE2	1:A:36:GLU:CD	2.91	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:197:CYS:C	1:A:198:ASN:OD1	2.56	0.44
1:A:314:ASP:OD1	1:A:551:PHE:CE2	2.71	0.44
1:B:448:PHE:O	1:B:448:PHE:CD1	2.65	0.44
1:B:532:MSE:C	1:B:532:MSE:SE	3.06	0.44
1:A:23:LEU:HD22	1:A:67:VAL:HG12	2.00	0.44
1:B:10:ARG:H	1:B:178:THR:CG2	2.15	0.44
1:B:183:TRP:O	1:B:206:VAL:HG23	2.17	0.44
1:B:236:VAL:HG23	1:B:236:VAL:O	2.17	0.44
1:B:379:ALA:O	1:B:380:VAL:CG1	2.66	0.44
1:B:556:THR:HB	1:B:562:ARG:HD2	1.99	0.44
1:A:92:THR:OG1	1:A:168:ALA:HA	2.18	0.43
1:A:230:THR:C	1:A:231:SER:HG	2.22	0.43
1:A:4:PRO:HG2	1:A:87:ARG:HD3	2.00	0.43
1:A:32:GLN:HB2	1:A:34:TRP:NE1	2.33	0.43
1:A:183:TRP:N	1:A:183:TRP:CD1	2.86	0.43
1:A:202:VAL:CG2	1:A:234:LEU:CD2	2.90	0.43
1:A:476:GLY:CA	1:A:520:MSE:HE2	2.49	0.43
1:A:534:HIS:CE1	1:A:587:ARG:HD2	2.54	0.43
1:B:184:VAL:O	1:B:185:ASP:HB2	2.17	0.43
1:B:248:TYR:C	1:B:248:TYR:HD1	2.20	0.43
1:B:562:ARG:CG	1:B:562:ARG:NH1	2.70	0.43
1:A:92:THR:C	1:A:110:GLY:HA2	2.35	0.43
1:A:407:MSE:SE	1:A:462:VAL:HG11	2.68	0.43
1:B:7:THR:OG1	2:B:690:HOH:O	2.21	0.43
1:B:33:ARG:HG3	1:B:35:TRP:CE2	2.52	0.43
1:B:47:VAL:HG11	1:B:170:ILE:HG21	2.00	0.43
1:A:202:VAL:HG13	1:A:204:TRP:CZ3	2.53	0.43
1:B:21:PHE:HB2	1:B:45:ILE:HB	2.01	0.43
1:B:75:ILE:HD11	1:B:128:VAL:CG2	2.48	0.43
1:B:110:GLY:CA	2:B:688:HOH:O	2.67	0.43
1:B:214:VAL:O	1:B:214:VAL:HG12	2.18	0.43
1:B:244:PRO:HG2	1:B:593:PHE:HE1	1.83	0.43
1:B:349:ILE:HG22	1:B:349:ILE:O	2.17	0.43
1:B:375:TYR:CZ	1:B:379:ALA:HB2	2.54	0.43
1:B:240:HIS:CD2	1:B:250:TYR:OH	2.71	0.43
1:B:21:PHE:CZ	1:B:51:PHE:HB2	2.54	0.43
1:B:186:ASP:HB3	1:B:205:GLN:HB3	2.00	0.43
1:A:144:PRO:HD3	1:A:353:ALA:HB1	2.01	0.43
1:A:183:TRP:CZ3	1:A:185:ASP:CG	2.92	0.43
1:A:295:ARG:HB3	1:A:295:ARG:NH1	2.33	0.43
1:B:203:ASP:O	1:B:204:TRP:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:531:ASP:OD1	1:B:531:ASP:C	2.57	0.43
1:B:583:LEU:O	1:B:585:GLN:N	2.52	0.43
1:A:105:MSE:HE1	1:A:115:GLU:CA	2.42	0.43
1:A:187:ILE:O	1:A:400:LYS:HE2	2.19	0.43
1:A:238:ASN:CG	1:A:239:PRO:CD	2.57	0.43
1:A:351:GLU:O	1:A:395:LEU:HD11	2.19	0.43
1:B:315:HIS:CD2	1:B:340:TRP:CE3	3.07	0.43
1:A:24:ASP:OD1	1:A:26:GLU:O	2.37	0.43
1:A:160:TYR:CD2	1:A:160:TYR:N	2.86	0.43
1:A:451:ALA:O	1:A:453:THR:OG1	2.37	0.43
1:A:550:ASN:O	1:A:551:PHE:C	2.54	0.43
1:B:193:VAL:HG23	1:B:194:ALA:O	2.19	0.43
1:B:489:LEU:O	1:B:493:GLN:N	2.49	0.43
1:A:193:VAL:CG2	1:A:285:HIS:NE2	2.82	0.43
1:A:469:TYR:HB2	1:A:529:TRP:HZ2	1.83	0.43
1:B:105:MSE:SE	1:B:114:PHE:HB2	2.68	0.43
1:B:358:ASN:HB3	1:B:360:SER:HB3	2.01	0.43
1:B:453:THR:OG1	1:B:457:SER:N	2.39	0.43
1:A:150:THR:HA	1:A:155:LYS:O	2.19	0.42
1:A:186:ASP:OD1	1:A:400:LYS:NZ	2.40	0.42
1:A:561:LEU:O	1:A:566:ASN:ND2	2.51	0.42
1:B:265:TYR:HD2	2:B:655:HOH:O	2.01	0.42
1:B:486:GLU:O	1:B:489:LEU:N	2.52	0.42
1:A:398:ARG:HG2	1:A:398:ARG:NH1	2.34	0.42
1:A:525:TYR:HD2	2:A:708:HOH:O	2.02	0.42
1:A:413:GLU:HG3	1:A:466:ASN:HD22	1.84	0.42
1:B:187:ILE:HG22	1:B:188:THR:N	2.33	0.42
1:B:293:PHE:HE1	1:B:570:ILE:HD12	1.83	0.42
1:B:414:PRO:CD	1:B:444:VAL:O	2.67	0.42
1:A:102:GLN:OE1	1:A:102:GLN:CA	2.54	0.42
1:A:171:HIS:NE2	1:A:304:LYS:HB2	2.35	0.42
1:B:101:ASN:ND2	1:B:129:ARG:HH12	2.17	0.42
1:A:12:ILE:CD1	2:A:698:HOH:O	2.63	0.42
1:A:426:ALA:HA	1:A:459:LEU:HD13	2.01	0.42
1:A:477:ASP:OD1	1:A:480:THR:HB	2.20	0.42
1:A:507:VAL:HG13	1:A:529:TRP:CD1	2.55	0.42
1:B:243:GLN:O	1:B:247:GLY:N	2.42	0.42
1:B:291:THR:O	1:B:588:TRP:CH2	2.72	0.42
1:B:359:LEU:HG	1:B:359:LEU:O	2.20	0.42
1:A:19:TRP:HE3	1:A:69:TYR:HB3	1.83	0.42
1:A:160:TYR:CD1	1:A:162:HIS:CD2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1:MSE:HE3	1:B:1:MSE:HB3	1.72	0.42
1:B:12:ILE:O	1:B:12:ILE:CG2	2.65	0.42
1:B:39:LEU:HD12	1:B:39:LEU:HA	1.71	0.42
1:B:88:PHE:N	1:B:88:PHE:CD2	2.87	0.42
1:B:94:TYR:CD2	1:B:135:ASN:HB2	2.53	0.42
1:B:189:VAL:HG11	1:B:269:VAL:HG11	2.01	0.42
1:B:549:TRP:HZ3	1:B:568:LYS:CE	2.28	0.42
1:A:192:HIS:HB2	1:A:200:ALA:HB3	2.00	0.42
1:A:330:HIS:N	2:A:678:HOH:O	2.31	0.42
1:A:426:ALA:O	1:A:429:ALA:HB3	2.19	0.42
1:A:502:ILE:HD12	1:A:537:PHE:CE2	2.48	0.42
1:B:354:ALA:HB3	1:B:411:ALA:HA	2.02	0.42
1:B:400:LYS:HA	1:B:439:ARG:NH1	2.23	0.42
1:A:15:LEU:HD23	1:A:173:SER:HG	1.78	0.42
1:A:344:HIS:O	1:A:345:GLY:C	2.57	0.42
1:A:396:ILE:O	1:A:400:LYS:HB3	2.20	0.42
1:A:426:ALA:HB3	1:A:427:PRO:HD3	2.02	0.42
1:A:498:GLN:HB2	1:A:499:PRO:CD	2.49	0.42
1:A:138:LEU:HA	1:A:142:THR:HG21	2.01	0.42
1:A:351:GLU:CG	1:A:409:SER:OG	2.68	0.42
1:B:143:ILE:HD11	1:B:388:HIS:CA	2.41	0.42
1:B:175:MSE:HE2	1:B:175:MSE:H	1.85	0.42
1:B:292:GLY:N	2:B:691:HOH:O	2.52	0.42
1:A:248:TYR:N	2:A:689:HOH:O	2.53	0.42
1:B:213:SER:CB	1:B:255:THR:HB	2.23	0.42
1:B:449:CYS:SG	1:B:488:GLU:OE2	2.78	0.42
1:A:315:HIS:CD2	1:A:318:MSE:CE	3.03	0.41
1:B:6:GLU:HA	1:B:9:THR:O	2.19	0.41
1:B:92:THR:HG21	1:B:168:ALA:HB1	2.01	0.41
1:B:137:GLU:HG2	1:B:148:VAL:HG11	2.01	0.41
1:B:272:ARG:HG3	1:B:274:VAL:CG2	2.36	0.41
1:B:83:ARG:HE	1:B:179:THR:HG23	1.85	0.41
1:B:194:ALA:CB	1:B:196:ASP:OD2	2.69	0.41
1:A:505:TYR:CZ	1:A:548:VAL:HG22	2.55	0.41
1:A:507:VAL:HG22	1:A:526:GLN:HG3	2.02	0.41
1:B:142:THR:O	1:B:142:THR:CG2	2.66	0.41
1:B:276:VAL:CG1	1:B:499:PRO:HG3	2.50	0.41
1:B:372:LYS:HZ3	1:B:372:LYS:CB	2.29	0.41
1:B:432:THR:OG1	1:B:441:ILE:CD1	2.65	0.41
1:A:18:LEU:C	1:A:19:TRP:HD1	2.23	0.41
1:A:199:HIS:CE1	1:A:236:VAL:HB	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:104:VAL:HG12	1:B:105:MSE:HG2	2.02	0.41
1:B:388:HIS:O	1:B:392:ILE:CG1	2.68	0.41
1:A:417:ARG:HE	1:A:417:ARG:HB2	1.57	0.41
1:B:425:PHE:CD2	1:B:455:THR:HG21	2.55	0.41
1:B:474:GLN:HE22	1:B:484:VAL:HG21	1.86	0.41
1:A:348:VAL:HG12	1:A:349:ILE:N	2.35	0.41
1:B:212:VAL:CG2	1:B:230:THR:CG2	2.99	0.41
1:A:118:VAL:C	1:A:120:PRO:HD2	2.41	0.41
1:A:199:HIS:CE1	1:A:236:VAL:CB	3.04	0.41
1:A:463:LEU:HD21	1:A:492:TRP:CE3	2.56	0.41
1:B:47:VAL:CG1	1:B:48:PRO:HA	2.50	0.41
1:B:172:ARG:HH22	1:B:333:TYR:HA	1.85	0.41
1:B:538:ASP:HA	1:B:596:LYS:NZ	2.36	0.41
1:A:333:TYR:O	1:A:398:ARG:NH2	2.54	0.41
1:A:375:TYR:O	1:A:377:GLU:N	2.53	0.41
1:B:531:ASP:HA	1:B:534:HIS:HB2	2.02	0.41
1:B:562:ARG:HG2	1:B:566:ASN:HD22	1.83	0.41
1:A:11:GLU:HB2	1:A:177:TYR:HB2	2.03	0.41
1:A:163:ASP:HB3	2:A:706:HOH:O	2.20	0.41
1:A:193:VAL:HG22	1:A:273:SER:HB2	2.03	0.41
1:A:358:ASN:O	1:A:359:LEU:HD13	2.21	0.41
1:A:397:ALA:O	1:A:400:LYS:CD	2.68	0.41
1:A:421:ALA:HB1	1:A:455:THR:OG1	2.21	0.41
1:A:531:ASP:OD1	1:A:583:LEU:HD21	2.20	0.41
1:B:180:PRO:HB2	1:B:261:GLU:HG3	2.03	0.41
1:B:273:SER:HB3	1:B:284:ASN:HA	2.03	0.41
1:B:342:ASP:OD1	1:B:404:SER:OG	2.38	0.41
1:B:459:LEU:H	1:B:459:LEU:HG	1.52	0.41
1:B:538:ASP:CB	1:B:597:PRO:HG2	2.51	0.41
1:A:95:GLY:O	1:A:106:GLU:HA	2.21	0.41
1:A:160:TYR:HD1	1:A:162:HIS:CD2	2.39	0.41
1:A:233:THR:O	1:A:234:LEU:CD2	2.52	0.41
1:A:413:GLU:CG	1:A:466:ASN:HD22	2.34	0.41
1:A:508:ASP:OD2	1:A:568:LYS:HD3	2.20	0.41
1:B:15:LEU:O	1:B:15:LEU:CD1	2.64	0.41
1:B:35:TRP:CD1	1:B:98:TRP:CE3	3.09	0.41
1:B:275:ALA:O	1:B:282:LEU:HD13	2.20	0.41
1:B:380:VAL:HG22	1:B:380:VAL:O	2.20	0.41
1:A:176:LEU:HD13	1:A:177:TYR:N	2.36	0.40
1:A:179:THR:CB	2:A:715:HOH:O	2.38	0.40
1:B:83:ARG:HH11	1:B:118:VAL:HG12	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:328:THR:CA	1:B:333:TYR:CZ	2.97	0.40
1:B:358:ASN:OD1	1:B:415:ASP:HB2	2.21	0.40
1:B:437:PRO:HA	2:B:627:HOH:O	2.19	0.40
1:A:238:ASN:ND2	1:A:239:PRO:HD3	2.25	0.40
1:B:217:ARG:HD2	1:B:221:GLN:HA	2.02	0.40
1:B:242:TRP:NE1	1:B:403:PRO:CB	2.84	0.40
1:B:335:GLU:O	1:B:335:GLU:CG	2.67	0.40
1:B:538:ASP:O	1:B:596:LYS:NZ	2.54	0.40
1:A:97:VAL:HG22	1:A:132:VAL:HG22	2.03	0.40
1:A:218:ASP:HB2	1:A:221:GLN:CA	2.42	0.40
1:A:230:THR:O	1:A:231:SER:OG	2.34	0.40
1:A:342:ASP:OD1	1:A:404:SER:OG	2.33	0.40
1:B:524:GLU:OE1	1:B:524:GLU:N	2.49	0.40
1:A:13:LYS:HE3	1:A:175:MSE:HE2	2.02	0.40
1:A:321:ILE:CG2	1:A:588:TRP:HE3	2.33	0.40
1:A:384:THR:O	1:A:385:GLN:C	2.60	0.40
1:B:119:THR:N	1:B:120:PRO:CD	2.83	0.40
1:A:85:VAL:HA	1:A:117:ASP:O	2.21	0.40
1:A:456:ILE:CG2	1:A:456:ILE:O	2.60	0.40
1:B:75:ILE:HD11	1:B:128:VAL:HG21	2.04	0.40
1:B:139:ASN:O	1:B:145:PRO:HA	2.22	0.40
1:B:183:TRP:CZ3	1:B:185:ASP:CG	2.94	0.40
1:B:297:GLU:O	1:B:304:LYS:HA	2.21	0.40
1:B:392:ILE:CD1	1:B:410:ILE:HG23	2.48	0.40
1:B:420:GLY:HA3	2:B:671:HOH:O	2.21	0.40
1:B:463:LEU:HB3	1:B:500:ILE:HG12	2.02	0.40

All (4) 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:B:152:GLU:OE2	2:A:685:HOH:O[2_554]	1.03	1.17
1:B:152:GLU:CD	2:A:685:HOH:O[2_554]	1.50	0.70
1:B:152:GLU:OE1	2:A:685:HOH:O[2_554]	1.83	0.37
1:A:599:GLN:O	1:B:603:GLN:C[2_564]	2.17	0.03

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	593/605 (98%)	522 (88%)	58 (10%)	13 (2%)	5 21
1	B	593/605 (98%)	494 (83%)	76 (13%)	23 (4%)	2 10
All	All	1186/1210 (98%)	1016 (86%)	134 (11%)	36 (3%)	3 15

All (36) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	228	GLN
1	B	7	THR
1	B	119	THR
1	B	123	ILE
1	B	144	PRO
1	B	209	ASN
1	B	561	LEU
1	A	237	VAL
1	B	137	GLU
1	B	198	ASN
1	B	335	GLU
1	B	560	ILE
1	A	0	HIS
1	A	378	GLU
1	B	337	MSE
1	B	339	ASP
1	B	453	THR
1	B	518	THR
1	A	7	THR
1	A	199	HIS
1	A	550	ASN
1	B	109	GLY
1	B	239	PRO
1	B	541	SER
1	A	230	THR

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Mol	Chain	Res	Type
1	B	27	ASN
1	B	100	ASN
1	B	230	THR
1	A	152	GLU
1	A	65	GLY
1	A	154	GLY
1	A	266	PRO
1	B	190	VAL
1	B	266	PRO
1	B	446	VAL
1	A	224	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	505/501 (101%)	417 (83%)	88 (17%)	1 5
1	B	502/501 (100%)	387 (77%)	115 (23%)	0 2
All	All	1007/1002 (100%)	804 (80%)	203 (20%)	1 3

All (203) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	0	HIS
1	A	1	MSE
1	A	10	ARG
1	A	11	GLU
1	A	12	ILE
1	A	15	LEU
1	A	33	ARG
1	A	47	VAL
1	A	51	PHE
1	A	71	ARG
1	A	74	PHE
1	A	75	ILE

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Mol	Chain	Res	Type
1	A	76	PRO
1	A	82	GLN
1	A	85	VAL
1	A	96	LYS
1	A	101	ASN
1	A	102	GLN
1	A	103	GLU
1	A	112	THR
1	A	128	VAL
1	A	136	ASN
1	A	148	VAL
1	A	151	ASP
1	A	153	ASN
1	A	160	TYR
1	A	170	ILE
1	A	176	LEU
1	A	177	TYR
1	A	178	THR
1	A	182	THR
1	A	184	VAL
1	A	193	VAL
1	A	195	GLN
1	A	203	ASP
1	A	204	TRP
1	A	206	VAL
1	A	207	VAL
1	A	212	VAL
1	A	214	VAL
1	A	215	GLU
1	A	216	LEU
1	A	217	ARG
1	A	218	ASP
1	A	221	GLN
1	A	226	THR
1	A	233	THR
1	A	234	LEU
1	A	236	VAL
1	A	249	LEU
1	A	251	GLU
1	A	259	GLN
1	A	261	GLU
1	A	262	CYS

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Mol	Chain	Res	Type
1	A	272	ARG
1	A	298	ASP
1	A	300	ASP
1	A	321	ILE
1	A	328	THR
1	A	335	GLU
1	A	338	LEU
1	A	340	TRP
1	A	344	HIS
1	A	347	VAL
1	A	355	VAL
1	A	359	LEU
1	A	373	GLU
1	A	375	TYR
1	A	377	GLU
1	A	398	ARG
1	A	400	LYS
1	A	446	VAL
1	A	450	ASP
1	A	456	ILE
1	A	461	ASP
1	A	469	TYR
1	A	473	VAL
1	A	487	LYS
1	A	488	GLU
1	A	494	GLU
1	A	530	LEU
1	A	531	ASP
1	A	536	VAL
1	A	539	ARG
1	A	563	VAL
1	A	570	ILE
1	A	598	GLN
1	A	603	GLN
1	B	0	HIS
1	B	1	MSE
1	B	8	PRO
1	B	10	ARG
1	B	14	LYS
1	B	16	ASP
1	B	18	LEU
1	B	26	GLU

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Mol	Chain	Res	Type
1	B	28	CYS
1	B	31	ASP
1	B	37	SER
1	B	39	LEU
1	B	40	GLN
1	B	43	ARG
1	B	45	ILE
1	B	61	ARG
1	B	67	VAL
1	B	69	TYR
1	B	87	ARG
1	B	89	ASP
1	B	101	ASN
1	B	102	GLN
1	B	114	PHE
1	B	115	GLU
1	B	119	THR
1	B	122	VAL
1	B	123	ILE
1	B	127	SER
1	B	129	ARG
1	B	134	VAL
1	B	143	ILE
1	B	144	PRO
1	B	147	MSE
1	B	148	VAL
1	B	149	ILE
1	B	155	LYS
1	B	163	ASP
1	B	175	MSE
1	B	176	LEU
1	B	178	THR
1	B	179	THR
1	B	182	THR
1	B	190	VAL
1	B	192	HIS
1	B	193	VAL
1	B	196	ASP
1	B	198	ASN
1	B	199	HIS
1	B	209	ASN
1	B	211	ASP

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Mol	Chain	Res	Type
1	B	216	LEU
1	B	223	VAL
1	B	234	LEU
1	B	235	GLN
1	B	240	HIS
1	B	241	LEU
1	B	243	GLN
1	B	246	GLU
1	B	248	TYR
1	B	249	LEU
1	B	252	LEU
1	B	259	GLN
1	B	260	THR
1	B	262	CYS
1	B	267	LEU
1	B	268	ARG
1	B	269	VAL
1	B	272	ARG
1	B	276	VAL
1	B	282	LEU
1	B	283	ILE
1	B	288	PHE
1	B	295	ARG
1	B	319	ASP
1	B	327	ARG
1	B	328	THR
1	B	330	HIS
1	B	348	VAL
1	B	350	ASP
1	B	361	LEU
1	B	372	LYS
1	B	373	GLU
1	B	375	TYR
1	B	392	ILE
1	B	395	LEU
1	B	416	THR
1	B	422	ARG
1	B	425	PHE
1	B	434	LYS
1	B	441	ILE
1	B	445	ASN
1	B	446	VAL

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Mol	Chain	Res	Type
1	B	448	PHE
1	B	449	CYS
1	B	452	HIS
1	B	455	THR
1	B	458	ASP
1	B	459	LEU
1	B	461	ASP
1	B	463	LEU
1	B	465	LEU
1	B	467	ARG
1	B	472	TYR
1	B	509	THR
1	B	513	LEU
1	B	517	TYR
1	B	520	MSE
1	B	530	LEU
1	B	537	PHE
1	B	558	GLN
1	B	562	ARG
1	B	573	ARG
1	B	598	GLN
1	B	599	GLN
1	B	603	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (43) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	40	GLN
1	A	52	ASN
1	A	70	GLN
1	A	82	GLN
1	A	107	HIS
1	A	108	GLN
1	A	136	ASN
1	A	141	GLN
1	A	199	HIS
1	A	228	GLN
1	A	259	GLN
1	A	313	HIS
1	A	330	HIS
1	A	402	HIS
1	A	412	ASN

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Mol	Chain	Res	Type
1	A	474	GLN
1	A	493	GLN
1	A	497	HIS
1	A	547	GLN
1	B	32	GLN
1	B	52	ASN
1	B	54	GLN
1	B	93	HIS
1	B	101	ASN
1	B	102	GLN
1	B	107	HIS
1	B	192	HIS
1	B	199	HIS
1	B	222	GLN
1	B	228	GLN
1	B	240	HIS
1	B	259	GLN
1	B	315	HIS
1	B	385	GLN
1	B	402	HIS
1	B	412	ASN
1	B	466	ASN
1	B	497	HIS
1	B	498	GLN
1	B	514	HIS
1	B	526	GLN
1	B	550	ASN
1	B	592	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 oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	584/605 (96%)	0.14	22 (3%)	44	38	18, 45, 78, 103	0
1	B	584/605 (96%)	0.61	32 (5%)	32	27	39, 70, 89, 99	0
All	All	1168/1210 (96%)	0.37	54 (4%)	38	32	18, 61, 86, 103	0

All (54) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	454	ASP	5.5
1	B	206	VAL	5.1
1	B	227	GLY	4.2
1	A	456	ILE	4.1
1	B	204	TRP	4.0
1	B	97	VAL	4.0
1	B	84	ILE	4.0
1	A	117	ASP	3.9
1	A	470	GLY	3.7
1	A	601	GLY	3.6
1	B	469	TYR	3.6
1	A	564	GLY	3.5
1	B	266	PRO	3.4
1	A	471	TRP	3.4
1	A	97	VAL	3.2
1	A	455	THR	3.2
1	B	207	VAL	3.1
1	A	214	VAL	3.0
1	B	410	ILE	3.0
1	B	560	ILE	3.0
1	A	224	VAL	2.8
1	A	98	TRP	2.8
1	B	18	LEU	2.8
1	A	476	GLY	2.7

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Mol	Chain	Res	Type	RSRZ
1	B	468	TYR	2.7
1	A	205	GLN	2.6
1	B	357	PHE	2.6
1	B	465	LEU	2.6
1	B	339	ASP	2.5
1	B	363	ILE	2.5
1	B	451	ALA	2.5
1	B	187	ILE	2.4
1	B	19	TRP	2.4
1	B	104	VAL	2.4
1	B	122	VAL	2.4
1	B	463	LEU	2.4
1	B	561	LEU	2.4
1	A	92	THR	2.4
1	B	223	VAL	2.3
1	B	116	ALA	2.2
1	A	207	VAL	2.2
1	A	235	GLN	2.2
1	B	111	TYR	2.1
1	B	443	CYS	2.1
1	B	31	ASP	2.1
1	A	449	CYS	2.1
1	B	130	ILE	2.1
1	A	100	ASN	2.1
1	A	254	VAL	2.1
1	B	442	THR	2.0
1	B	356	GLY	2.0
1	A	472	TYR	2.0
1	B	441	ILE	2.0
1	A	17	GLY	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

There are no ligands in this entry.

6.5 Other polymers

There are no such residues in this entry.