Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 06:29 AM EDT

PDB ID	:	1WZ2
Title	:	The crystal structure of Leucyl-tRNA synthetase and tRNA(leucine) complex
Authors	:	Fukunaga, R.; Yokoyama, S.; RIKEN Structural Genomics/Proteomics Initiative (RSGI)
Deposited on	:	2005-02-21
Resolution	:	3.21 Å(reported)

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

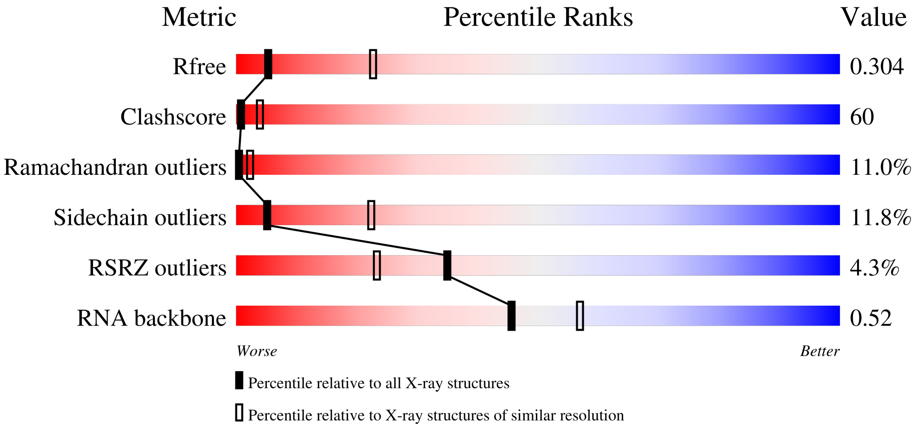
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.20.1
EDS	:	2.36.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance ⓘ

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

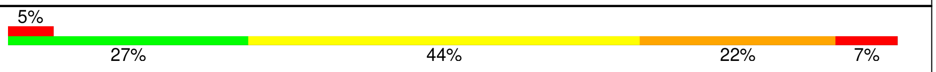
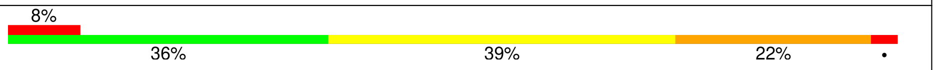
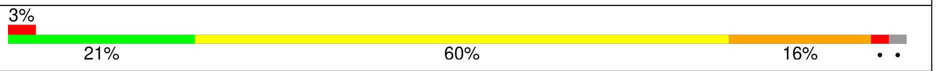
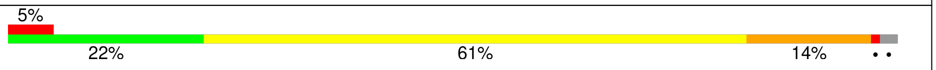
The reported resolution of this entry is 3.21 Å.

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	1335 (3.24-3.20)
Clashscore	141614	1460 (3.24-3.20)
Ramachandran outliers	138981	1437 (3.24-3.20)
Sidechain outliers	138945	1436 (3.24-3.20)
RSRZ outliers	127900	1291 (3.24-3.20)
RNA backbone	3102	1023 (3.54-2.90)

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	C	88	
1	D	88	
2	A	967	
2	B	967	

2 Entry composition ⓘ

There are 2 unique types of molecules in this entry. The entry contains 19578 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 RNA chain called tRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	C	88	1880	836	339	617	88	0	0	0
1	D	88	1880	836	339	617	88	0	0	0

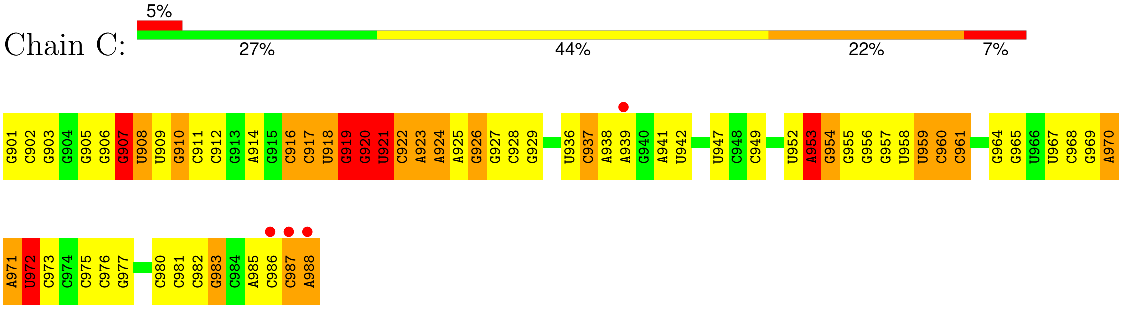
- Molecule 2 is a protein called Leucyl-tRNA synthetase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	A	948	7909	5132	1323	1430	24	0	0	0
2	B	948	7909	5132	1323	1430	24	0	0	0

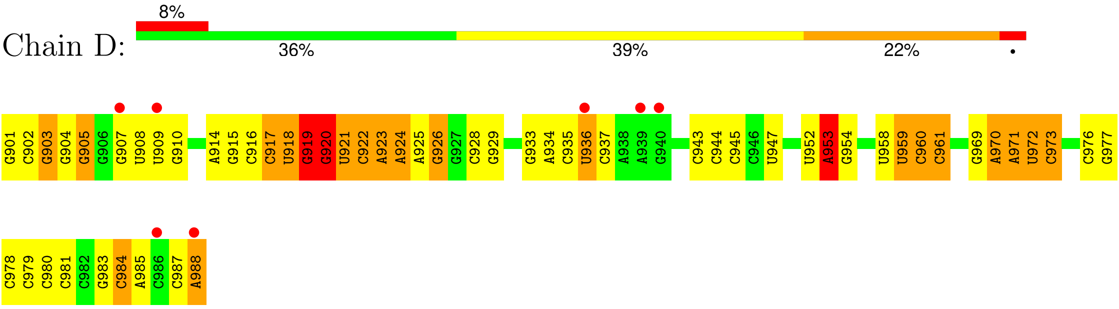
3 Residue-property plots ⓘ

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.

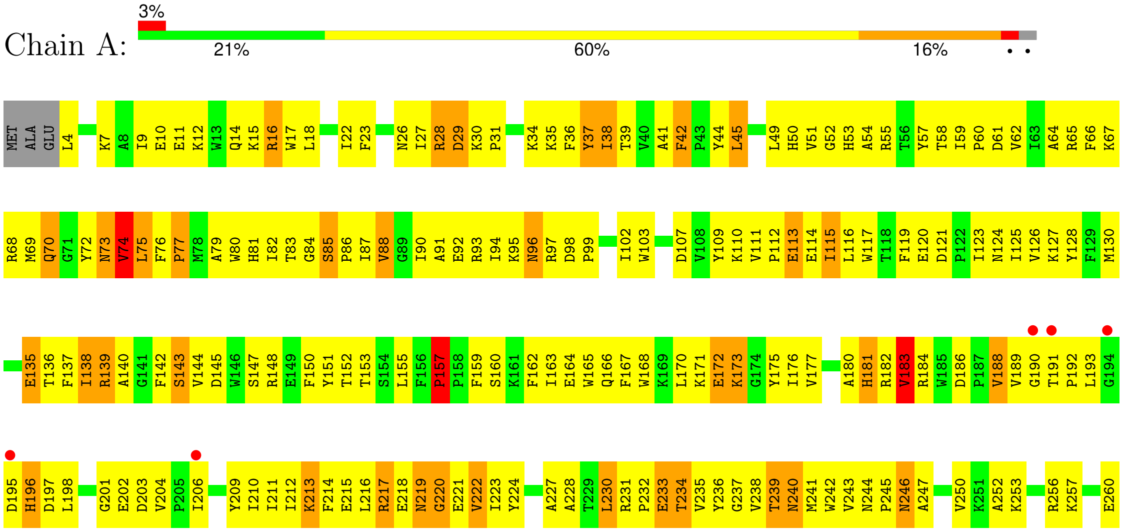
- Molecule 1: tRNA

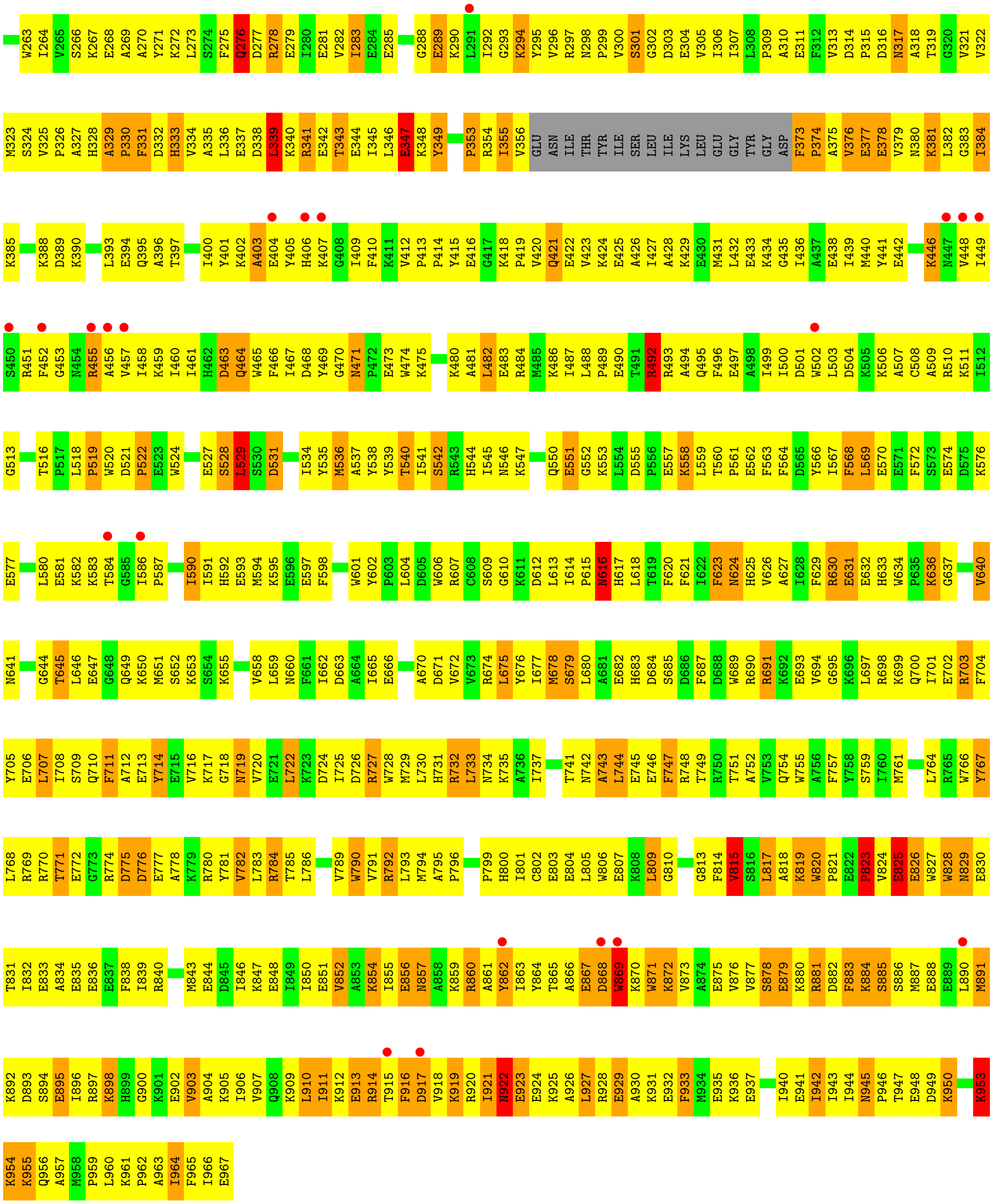


- Molecule 1: tRNA

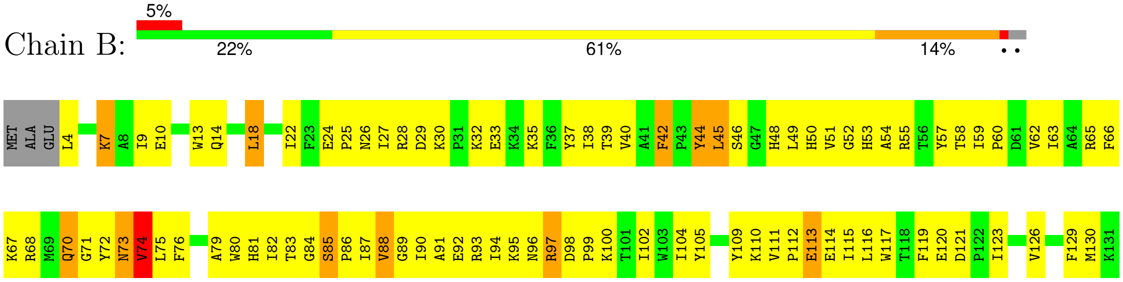


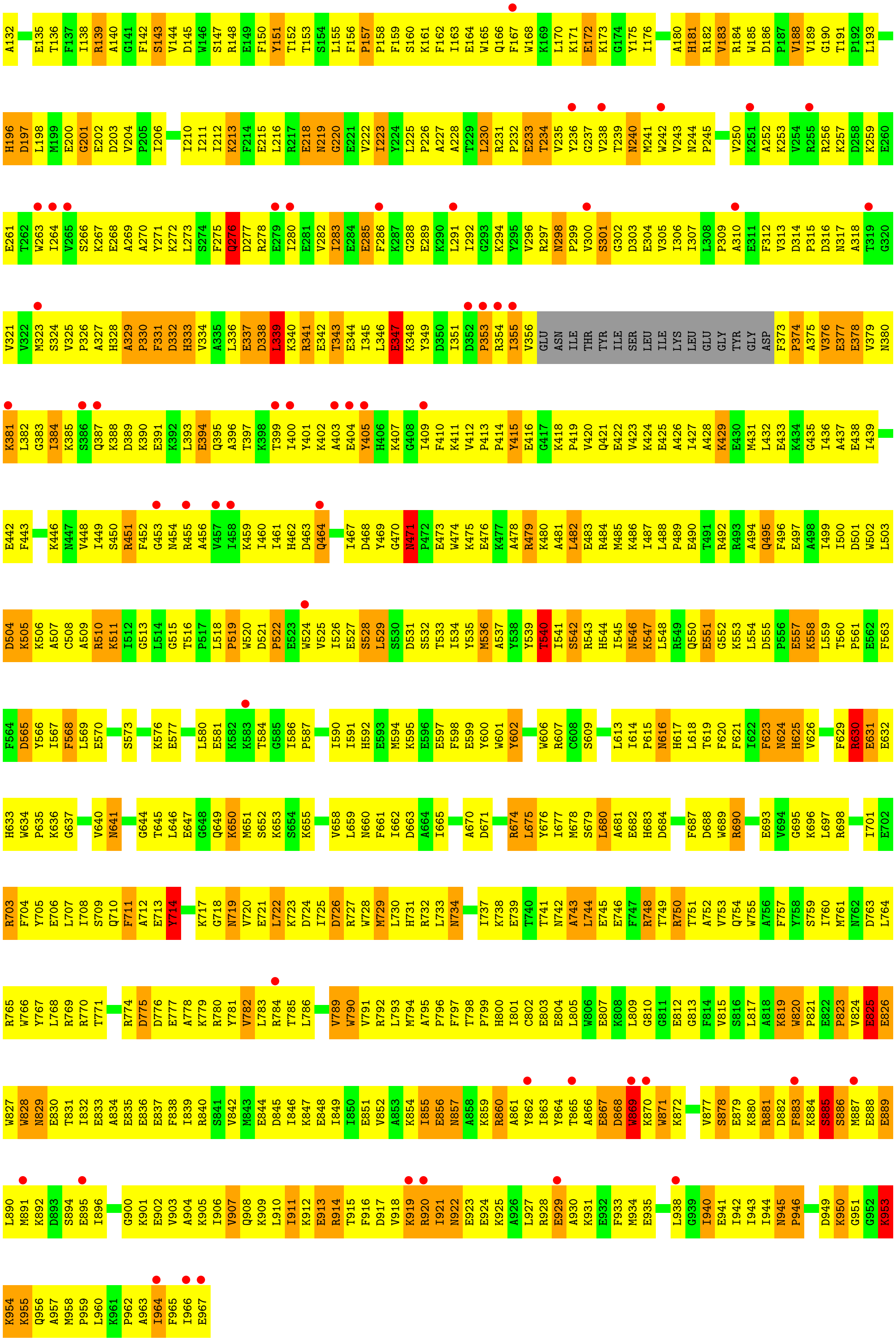
- Molecule 2: Leucyl-tRNA synthetase





- Molecule 2: Leucyl-tRNA synthetase




A132 E135 T136 F137 I138 R139 A140 G141 F142 S143 V144 D145 W146 S147 R148 E149 F150 Y151 T152 T153 S154 L155 F156 P157 P158 F159 S160 K161 F162 I163 E164 W165 Q166 F167 W168 K169 L170 K171 E172 K173 G174 Y175 I176 A180 H181 R182 V183 R184 W185 D186 P187 V188 V189 G190 T191 P192 L193
H196 D197 L198 M199 E200 G201 E202 D203 V204 P205 I206 I210 I211 I212 K213 F214 E215 L216 R217 E218 N219 G220 E221 V222 I223 Y224 L225 P226 A227 A228 T229 L230 R231 P232 E233 T234 V235 Y236 G237 V238 T239 N240 M241 W242 V243 N244 P245 V250 K251 A252 K253 V254 R255 R256 K257 D258 K259 E260
E261 T262 W263 I264 V265 S266 K267 E268 A269 A270 Y271 K272 L273 S274 F275 Q276 D277 R278 E279 I280 E281 V282 I283 E284 E285 F286 K287 G288 E289 K290 L291 I292 G293 K294 Y295 V296 R297 N298 P299 V300 S301 G302 D303 E304 V305 I306 I307 L308 P309 A310 E311 F312 V313 D314 P315 D316 N317 A318 T319 G320
V321 V322 M323 S324 V325 P326 A327 H328 A329 P330 F331 D332 H333 V334 A335 L336 E337 D338 L339 K340 R341 E342 T343 E344 I345 L346 E347 K348 Y349 D350 I351 D352 P353 R354 I355 V356 GLU ASN ILE THR TYR ILE SER LEU ILE LYS LEU GLU GLY TYR GLY ASP F373 P374 A375 V376 E377 E378 V379 N380
K381 L382 G383 I384 K385 S386 Q387 K388 D389 K390 E391 K392 L393 E394 Q395 A396 T397 K398 T399 I400 Y401 K402 A403 E404 Y405 H406 K407 G408 I409 F410 K411 V412 P413 P414 Y415 E416 G417 K418 P419 V420 Q421 E422 V423 K424 E425 A426 I427 A428 K429 E430 M431 L432 E433 K434 G435 I436 A437 E438 I439
E442 F443 K446 N447 V448 I449 S450 R451 F452 G453 N454 R455 A456 V457 I458 K459 I460 I461 H462 D463 Q464 I467 D468 Y469 G470 N471 P472 E473 W474 K475 E476 K477 A478 R479 K480 A481 L482 E483 R484 M485 K486 L487 L488 P489 E490 T491 R492 R493 A494 Q495 F496 E497 A498 I499 I500 D501 W502 L503
D504 K505 K506 A507 C508 A509 R510 K511 I512 G513 L514 G515 T516 P517 L518 P519 W520 D521 P522 E523 W524 V525 I526 E527 S528 L529 S530 D531 S532 T533 I534 Y535 M536 A537 Y538 Y539 T540 I541 S542 R543 H544 I545 N546 K547 L548 R549 Q550 E551 G552 K553 L554 D555 P556 E557 K558 L559 T560 P561 E562 F563
F564 D565 Y566 I567 F568 L569 E570 S573 K576 E577 L580 E581 K582 K583 T584 G585 I586 P587 I590 I591 H592 E593 M594 K595 E596 F597 F598 E599 Y600 W601 Y602 W606 R607 C608 S609 L613 I614 P615 N616 H617 L618 T619 F620 F621 I622 F623 N624 H625 V626 F629 R630 E631 E632
H633 W634 P635 K636 G637 V640 N641 G644 T645 L646 E647 G648 Q649 K650 M651 S652 K653 S654 K655 V658 L659 N660 F661 I662 D663 A664 I665 A670 D671 R674 L675 Y676 I677 M678 S679 L680 A681 E682 H683 D684 F687 D688 W689 R690 E693 V694 G695 K696 L697 R698 I701 E702
R703 F704 Y705 E706 L707 I708 S709 Q710 F711 A712 E713 Y714 K717 G718 N719 V720 E721 L722 K723 D724 I725 D726 R727 W728 M729 L730 H731 R732 L733 N734 I737 K738 E739 T740 T741 N742 A743 L744 E745 E746 F747 R748 T749 R750 T751 A752 V753 Q754 W755 A756 F757 Y758 S759 I760 M761 N762 D763 L764
R765 W766 Y767 L768 R769 R770 T771 R774 D775 D776 E777 A778 K779 R780 Y781 V782 L783 R784 T785 L786 V789 W790 V791 R792 L793 M794 A795 P796 F797 T798 P799 H800 I801 C802 E803 E804 L805 W806 E807 K808 L809 G810 G811 E812 G813 F814 V815 S816 L817 A818 K819 W820 P821 E822 P823 V824 E825 E826
W827 W828 N829 E830 T831 I832 E833 A834 E835 E836 E837 F838 I839 R840 S841 V842 M843 E844 D845 I846 K847 E848 I849 I850 E851 V852 A853 K854 I855 E856 N857 A858 K859 R860 A861 Y862 I863 Y864 T865 A866 E867 D868 W869 K870 W871 K872 V877 S878 E879 K880 R881 D882 F883 K884 S885 S886 M887 E888 E889
L890 M891 K892 D893 S894 E895 I896 G900 K901 E902 V903 A904 K905 I906 V907 Q908 K909 L910 I911 K912 E913 R914 T915 F916 D917 V918 K919 R920 I921 N922 E923 E924 K925 A926 L927 R928 E929 A930 K931 E932 F933 M934 E935 L938 G939 I940 E941 I942 I943 I944 N945 P946 D949 K950 G951 G952 K953
K954 K955 Q956 A957 M958 P959 L960 K961 P962 A963 I964 F965 I966 E967

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	120.55Å 231.13Å 118.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	14.99 – 3.21 48.69 – 3.21	Depositor EDS
% Data completeness (in resolution range)	90.7 (14.99-3.21) 90.8 (48.69-3.21)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.22 (at 3.19Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.241 , 0.305 0.243 , 0.304	Depositor DCC
R_{free} test set	5012 reflections (10.06%)	wwPDB-VP
Wilson B-factor (Å^2)	75.5	Xtriage
Anisotropy	0.463	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 76.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.43$, $< L^2 > = 0.26$	Xtriage
Estimated twinning fraction	0.046 for l,-k,h	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	19578	wwPDB-VP
Average B, all atoms (Å^2)	84.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.28% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

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	C	0.55	1/2099 (0.0%)	0.82	7/3270 (0.2%)
1	D	0.52	1/2099 (0.0%)	0.81	3/3270 (0.1%)
2	A	0.59	0/8115	0.76	6/10953 (0.1%)
2	B	0.42	0/8115	0.67	2/10953 (0.0%)
All	All	0.52	2/20428 (0.0%)	0.74	18/28446 (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	C	0	6
1	D	0	5
2	A	0	2
All	All	0	13

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	901	G	OP3-P	-7.18	1.52	1.61
1	D	901	G	OP3-P	-7.06	1.52	1.61

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	675	LEU	CA-CB-CG	10.29	138.97	115.30
2	A	815	VAL	CB-CA-C	-8.02	96.17	111.40
1	C	919	G	N9-C1'-C2'	7.77	124.10	114.00
1	D	953	A	N9-C1'-C2'	7.42	123.64	114.00
1	C	907	G	N9-C1'-C2'	7.18	123.33	114.00
1	D	920	G	N9-C1'-C2'	7.04	123.15	114.00
1	C	953	A	N9-C1'-C2'	6.38	122.30	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	972	U	N1-C1'-C2'	5.87	121.63	114.00
1	D	920	G	O4'-C1'-N9	5.84	112.87	108.20
1	C	953	A	C1'-O4'-C4'	-5.72	105.32	109.90
1	C	920	G	N9-C1'-C2'	5.71	121.43	114.00
2	A	927	LEU	CA-CB-CG	5.69	128.38	115.30
1	C	953	A	O4'-C1'-N9	5.62	112.70	108.20
2	B	680	LEU	N-CA-C	5.50	125.84	111.00
2	A	680	LEU	N-CA-C	5.44	125.68	111.00
2	A	74	VAL	N-CA-C	5.33	125.39	111.00
2	A	492	ARG	CG-CD-NE	5.05	122.41	111.80
2	B	74	VAL	N-CA-C	5.04	124.61	111.00

There are no chirality outliers.

All (13) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	A	535	TYR	Sidechain
2	A	767	TYR	Sidechain
1	C	907	G	Sidechain
1	C	919	G	Sidechain
1	C	920	G	Sidechain
1	C	921	U	Sidechain
1	C	926	G	Sidechain
1	C	959	U	Sidechain
1	D	919	G	Sidechain
1	D	920	G	Sidechain
1	D	926	G	Sidechain
1	D	953	A	Sidechain
1	D	959	U	Sidechain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	1880	0	956	88	0
1	D	1880	0	956	65	0
2	A	7909	0	7908	1115	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	7909	0	7908	1018	0
All	All	19578	0	17728	2256	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 60.

All (2256) 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)
2:A:866:ALA:N	2:A:955:LYS:HZ3	1.39	1.18
2:A:30:LYS:HB2	2:A:73:ASN:HD22	1.11	1.13
2:A:170:LEU:HB3	2:A:176:ILE:HD11	1.23	1.09
2:A:616:ASN:HD22	2:A:617:HIS:N	1.51	1.08
2:A:68:ARG:HH22	2:A:143:SER:HB3	1.15	1.07
2:A:924:GLU:HB3	2:A:928:ARG:HH21	1.12	1.07
2:B:920:ARG:HE	2:B:920:ARG:HA	1.12	1.06
2:B:26:ASN:HB3	2:B:28:ARG:NH2	1.70	1.06
2:A:480:LYS:HE2	2:A:484:ARG:HH22	1.17	1.05
2:A:921:ILE:HD12	2:A:928:ARG:HH12	1.20	1.05
2:A:922:ASN:HD22	2:A:923:GLU:N	1.53	1.05
2:B:703:ARG:HB2	2:B:703:ARG:HH11	1.18	1.05
2:A:724:ASP:HA	2:A:727:ARG:HG3	1.33	1.04
2:A:771:THR:HG21	2:A:774:ARG:HH11	1.18	1.04
2:B:198:LEU:HB2	2:B:202:GLU:HG2	1.40	1.02
2:A:924:GLU:HB3	2:A:928:ARG:NH2	1.75	1.02
2:B:733:LEU:HD11	2:B:789:VAL:HG11	1.41	1.02
2:B:866:ALA:H	2:B:955:LYS:NZ	1.58	1.01
2:A:616:ASN:ND2	2:A:617:HIS:H	1.57	1.01
2:B:558:LYS:HB3	2:B:584:THR:HA	1.43	1.01
2:B:860:ARG:NH1	2:B:943:ILE:H	1.59	1.01
2:B:650:LYS:HE2	2:B:651:MET:H	1.22	1.00
2:A:529:LEU:H	2:A:529:LEU:HD12	1.27	1.00
2:A:163:ILE:HD12	2:A:531:ASP:HB2	1.40	1.00
2:A:722:LEU:H	2:A:722:LEU:HD22	1.22	1.00
2:A:87:ILE:HG13	2:A:88:VAL:H	1.24	0.99
2:B:703:ARG:HB2	2:B:703:ARG:NH1	1.77	0.99
2:A:188:VAL:HG23	2:A:189:VAL:H	1.28	0.99
1:D:904:G:H2’	1:D:905:G:H5”	1.45	0.98
2:A:848:GLU:O	2:A:852:VAL:HG23	1.63	0.98
2:B:227:ALA:HA	2:B:321:VAL:HG23	1.45	0.98
2:A:567:ILE:HA	2:A:595:LYS:HD2	1.44	0.97

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
1:C:916:C:H5’	1:C:917:C:C5	1.99	0.97
2:A:227:ALA:HA	2:A:321:VAL:HG23	1.46	0.97
2:A:426:ALA:HA	2:A:429:LYS:HE2	1.45	0.97
2:A:690:ARG:NH1	2:A:693:GLU:HG3	1.79	0.96
2:A:922:ASN:HD22	2:A:922:ASN:C	1.68	0.96
2:A:68:ARG:NH2	2:A:143:SER:HB3	1.79	0.96
2:A:890:LEU:HD12	2:A:906:ILE:HD11	1.48	0.96
1:C:986:C:H4’	1:C:987:C:H5”	1.47	0.95
2:A:345:ILE:HG12	2:A:346:LEU:H	1.29	0.95
2:B:88:VAL:HG21	2:B:513:GLY:HA2	1.48	0.95
2:A:68:ARG:HH22	2:A:143:SER:CB	1.80	0.95
2:A:558:LYS:HB3	2:A:584:THR:HA	1.48	0.94
2:B:860:ARG:HH11	2:B:943:ILE:N	1.66	0.94
2:A:792:ARG:HH21	2:A:792:ARG:HG3	1.30	0.94
2:A:660:ASN:HB2	2:A:663:ASP:HB3	1.50	0.93
2:A:741:THR:HG1	2:A:820:TRP:HZ3	1.04	0.93
2:B:866:ALA:H	2:B:955:LYS:HZ3	1.01	0.93
2:A:860:ARG:NH1	2:A:861:ALA:HA	1.84	0.93
2:A:771:THR:HG21	2:A:774:ARG:NH1	1.82	0.93
2:B:429:LYS:O	2:B:433:GLU:HG2	1.67	0.92
2:A:182:ARG:HD2	2:A:206:ILE:HG21	1.49	0.92
2:A:28:ARG:H	2:A:28:ARG:HE	1.01	0.92
2:A:139:ARG:HH11	2:A:139:ARG:HG3	1.34	0.92
2:A:860:ARG:NH1	2:A:943:ILE:H	1.66	0.92
2:A:866:ALA:H	2:A:955:LYS:HZ3	0.98	0.92
2:B:784:ARG:HH22	2:B:810:GLY:H	1.15	0.92
2:A:770:ARG:HD2	2:A:933:PHE:CE2	2.06	0.91
2:B:927:LEU:HD12	2:B:944:ILE:HD12	1.50	0.91
2:B:82:ILE:HG21	2:B:126:VAL:HG13	1.50	0.91
2:A:480:LYS:HE2	2:A:484:ARG:NH2	1.84	0.91
2:A:866:ALA:H	2:A:955:LYS:NZ	1.69	0.91
2:B:49:LEU:H	2:B:49:LEU:HD12	1.34	0.91
2:B:233:GLU:HA	2:B:427:ILE:HD12	1.51	0.91
2:B:734:ASN:HD21	2:B:824:VAL:H	1.12	0.91
2:B:355:ILE:HG22	2:B:356:VAL:H	1.36	0.91
2:A:210:ILE:HD11	2:A:232:PRO:HG3	1.54	0.90
2:B:860:ARG:HH11	2:B:943:ILE:H	0.99	0.90
2:B:26:ASN:HB3	2:B:28:ARG:HH22	1.34	0.90
2:B:167:PHE:HA	2:B:170:LEU:HD12	1.55	0.89
2:B:826:GLU:C	2:B:828:TRP:H	1.70	0.89
2:A:567:ILE:HG22	2:A:595:LYS:HB2	1.51	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:49:LEU:H	2:A:49:LEU:HD12	1.35	0.89
2:A:198:LEU:HB2	2:A:202:GLU:HG2	1.52	0.89
2:B:920:ARG:HA	2:B:920:ARG:NE	1.85	0.89
2:A:771:THR:CG2	2:A:774:ARG:HH11	1.86	0.89
2:A:496:PHE:CE1	2:A:614:ILE:HG12	2.08	0.89
2:A:230:LEU:H	2:A:230:LEU:HD23	1.37	0.88
2:A:730:LEU:HB3	2:A:827:TRP:NE1	1.88	0.88
2:A:826:GLU:C	2:A:828:TRP:H	1.70	0.88
2:B:870:LYS:HE3	2:B:905:LYS:HE3	1.55	0.88
2:A:111:VAL:HG22	2:A:128:TYR:HE2	1.39	0.88
2:A:343:THR:HG23	2:A:344:GLU:H	1.37	0.88
1:D:983:G:H2’	1:D:984:C:H5”	1.53	0.88
2:B:83:THR:HG22	2:B:515:GLY:HA2	1.56	0.88
2:B:675:LEU:HD23	2:B:697:LEU:HD21	1.54	0.87
1:D:922:C:H4’	1:D:923:A:O5’	1.72	0.87
2:B:567:ILE:HG22	2:B:595:LYS:HB2	1.55	0.87
2:A:489:PRO:HG3	2:A:684:ASP:OD2	1.75	0.87
2:B:555:ASP:HB3	2:B:558:LYS:HG2	1.55	0.87
2:A:471:ASN:OD1	2:A:473:GLU:HG2	1.73	0.87
2:B:714:TYR:H	2:B:714:TYR:HD2	1.21	0.87
2:A:219:ASN:ND2	2:A:220:GLY:H	1.72	0.87
2:B:188:VAL:HG23	2:B:189:VAL:H	1.40	0.87
2:A:921:ILE:HB	2:A:928:ARG:HH22	1.40	0.87
1:C:902:C:H2’	1:C:903:G:O4’	1.74	0.86
2:A:211:ILE:HG22	2:A:228:ALA:HB2	1.57	0.86
2:A:482:LEU:O	2:A:482:LEU:HD23	1.75	0.86
2:B:44:TYR:HE1	2:B:87:ILE:HD11	1.39	0.86
2:A:496:PHE:HE1	2:A:614:ILE:HG12	1.40	0.86
2:B:351:ILE:H	2:B:351:ILE:HD12	1.39	0.86
2:A:836:GLU:O	2:A:840:ARG:HG3	1.74	0.86
2:A:204:VAL:HG21	2:A:448:VAL:CG2	2.05	0.86
2:B:342:GLU:HG2	2:B:343:THR:H	1.40	0.86
2:B:882:ASP:CG	2:B:883:PHE:H	1.79	0.85
2:A:829:ASN:OD1	2:A:832:ILE:HG13	1.77	0.85
2:B:587:PRO:HB2	2:B:590:ILE:HG12	1.56	0.85
2:B:182:ARG:HD2	2:B:206:ILE:HG21	1.59	0.84
2:B:413:PRO:HB2	2:B:414:PRO:HD3	1.57	0.84
2:A:819:LYS:H	2:A:819:LYS:HE3	1.43	0.84
2:A:803:GLU:HA	2:A:815:VAL:CG2	2.07	0.84
2:B:446:LYS:N	2:B:446:LYS:HD2	1.92	0.84
1:C:928:C:H2’	1:C:929:G:C8	2.13	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:703:ARG:HD2	2:B:707:LEU:HD11	1.60	0.84
1:C:928:C:H2'	1:C:929:G:H8	1.42	0.83
2:A:145:ASP:OD1	2:A:147:SER:HB3	1.78	0.83
2:A:731:HIS:HE1	2:A:833:GLU:OE1	1.60	0.83
2:B:705:TYR:CE2	2:B:805:LEU:HD21	2.13	0.83
2:B:866:ALA:N	2:B:955:LYS:HZ3	1.76	0.83
2:A:671:ASP:OD2	2:A:800:HIS:HB2	1.78	0.83
2:B:4:LEU:O	2:B:4:LEU:HD23	1.79	0.83
2:A:966:ILE:O	2:A:967:GLU:HB2	1.79	0.83
2:B:186:ASP:HB2	2:B:193:LEU:HD11	1.59	0.83
2:A:770:ARG:HD2	2:A:933:PHE:HE2	1.41	0.83
2:B:86:PRO:O	2:B:90:ILE:HG12	1.78	0.83
2:A:732:ARG:HH11	2:A:735:LYS:HD3	1.45	0.82
2:A:28:ARG:H	2:A:28:ARG:NE	1.76	0.82
2:B:935:GLU:OE1	2:B:941:GLU:HA	1.80	0.82
1:D:923:A:H4'	1:D:924:A:O5'	1.79	0.82
2:A:59:ILE:HG12	2:A:678:MET:HE1	1.60	0.82
2:A:51:VAL:O	2:A:54:ALA:HB3	1.80	0.82
2:B:13:TRP:CE2	2:B:803:GLU:HB3	2.15	0.82
2:A:238:VAL:HG11	2:A:298:ASN:HD22	1.45	0.81
2:A:345:ILE:HG12	2:A:346:LEU:N	1.94	0.81
2:A:384:ILE:HG22	2:A:385:LYS:H	1.45	0.81
2:A:859:LYS:HB3	2:A:941:GLU:HB3	1.63	0.81
1:C:922:C:H4'	1:C:923:A:O5'	1.78	0.81
2:A:355:ILE:HG22	2:A:356:VAL:H	1.45	0.81
2:B:230:LEU:HD23	2:B:230:LEU:H	1.45	0.81
2:A:722:LEU:HD22	2:A:722:LEU:N	1.95	0.81
2:B:340:LYS:NZ	2:B:341:ARG:HH12	1.79	0.81
2:B:860:ARG:HB3	2:B:966:ILE:HG22	1.61	0.81
2:A:895:GLU:OE1	2:A:898:LYS:HD2	1.81	0.81
2:A:690:ARG:HH11	2:A:693:GLU:HG3	1.45	0.80
2:B:268:GLU:HG3	2:B:316:ASP:HA	1.63	0.80
2:B:641:ASN:HA	2:B:683:HIS:O	1.80	0.80
2:B:170:LEU:HB2	2:B:176:ILE:HD11	1.62	0.80
2:A:660:ASN:HB2	2:A:663:ASP:CB	2.10	0.80
2:B:186:ASP:HB3	2:B:191:THR:HG23	1.61	0.80
2:A:412:VAL:HG23	2:A:414:PRO:HD2	1.64	0.80
1:C:986:C:N3	2:A:506:LYS:HG2	1.97	0.80
2:B:384:ILE:HG22	2:B:385:LYS:H	1.47	0.80
2:A:73:ASN:O	2:A:601:TRP:HH2	1.64	0.80
2:A:39:THR:HG23	2:A:604:LEU:HD11	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:904:G:C2'	1:D:905:G:H5"	2.11	0.79
2:A:931:LYS:O	2:A:935:GLU:HG3	1.80	0.79
2:B:860:ARG:HE	2:B:942:ILE:HA	1.48	0.79
2:B:863:ILE:HB	2:B:953:LYS:HD3	1.64	0.79
1:C:911:C:H2'	1:C:912:C:H6	1.47	0.79
2:B:157:PRO:HB2	2:B:158:PRO:HD3	1.65	0.79
2:A:82:ILE:HG13	2:A:153:THR:HG23	1.63	0.79
2:A:170:LEU:CB	2:A:176:ILE:HD11	2.11	0.79
2:A:732:ARG:NH1	2:A:735:LYS:HD3	1.98	0.79
2:A:922:ASN:ND2	2:A:923:GLU:N	2.30	0.79
2:B:116:LEU:HD12	2:B:119:PHE:CD2	2.17	0.79
2:B:547:LYS:HA	2:B:547:LYS:HE2	1.63	0.79
2:B:919:LYS:O	2:B:922:ASN:HB2	1.82	0.79
2:A:297:ARG:HG2	2:A:304:GLU:HG2	1.63	0.79
2:A:487:ILE:HG22	2:A:489:PRO:O	1.82	0.79
2:B:297:ARG:HG2	2:B:304:GLU:HG2	1.63	0.79
2:B:826:GLU:C	2:B:828:TRP:N	2.34	0.79
1:D:902:C:H3'	1:D:903:G:H5"	1.64	0.79
2:A:867:GLU:H	2:A:867:GLU:CD	1.86	0.78
2:A:924:GLU:CB	2:A:928:ARG:HH21	1.94	0.78
2:A:186:ASP:HB3	2:A:191:THR:HG23	1.65	0.78
2:B:343:THR:HG23	2:B:344:GLU:H	1.47	0.78
2:B:345:ILE:HG12	2:B:346:LEU:H	1.47	0.78
2:B:464:GLN:HA	2:B:524:TRP:CH2	2.18	0.78
1:C:986:C:H4'	1:C:987:C:C5'	2.14	0.78
2:A:204:VAL:HG21	2:A:448:VAL:HG22	1.66	0.78
2:B:51:VAL:O	2:B:54:ALA:HB3	1.84	0.78
2:B:722:LEU:H	2:B:722:LEU:CD2	1.97	0.78
2:B:949:ASP:HB2	2:B:954:LYS:HE2	1.64	0.78
2:A:348:LYS:NZ	2:A:348:LYS:HB3	1.99	0.78
2:A:871:TRP:CZ3	2:A:918:VAL:HG13	2.18	0.78
2:A:826:GLU:C	2:A:828:TRP:N	2.34	0.78
2:B:55:ARG:O	2:B:59:ILE:HG13	1.83	0.78
2:B:471:ASN:ND2	2:B:473:GLU:HG2	1.99	0.78
2:A:87:ILE:HG13	2:A:88:VAL:N	1.98	0.78
2:A:393:LEU:HD12	2:A:396:ALA:HB3	1.66	0.78
2:A:482:LEU:HD12	2:A:500:ILE:HD11	1.66	0.78
2:B:45:LEU:HD11	2:B:80:TRP:HB3	1.64	0.78
2:B:333:HIS:HA	2:B:336:LEU:HB2	1.66	0.78
2:A:482:LEU:HD11	2:A:496:PHE:HB3	1.66	0.77
2:A:650:LYS:HD2	2:A:651:MET:H	1.48	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:540:THR:HG23	2:B:541:ILE:HG23	1.64	0.77
2:B:731:HIS:CD2	2:B:829:ASN:H	2.02	0.77
2:B:801:ILE:O	2:B:805:LEU:HG	1.84	0.77
2:A:529:LEU:H	2:A:529:LEU:CD1	1.96	0.77
2:A:209:TYR:HE1	2:A:317:ASN:HD21	1.30	0.77
1:C:985:A:H61	2:A:504:ASP:HB2	1.47	0.77
2:A:860:ARG:HB3	2:A:966:ILE:HG22	1.64	0.77
2:A:871:TRP:CD1	2:A:959:PRO:HG3	2.18	0.77
1:C:986:C:N3	2:A:507:ALA:N	2.32	0.77
2:A:242:TRP:HH2	2:A:332:ASP:HA	1.50	0.77
2:B:446:LYS:HD2	2:B:446:LYS:H	1.47	0.77
2:B:834:ALA:HA	2:B:837:GLU:OE2	1.83	0.77
2:A:819:LYS:H	2:A:819:LYS:CE	1.97	0.77
2:A:722:LEU:H	2:A:722:LEU:CD2	1.98	0.77
2:B:150:PHE:HD1	2:B:151:TYR:O	1.68	0.77
2:B:866:ALA:N	2:B:955:LYS:NZ	2.31	0.77
2:A:770:ARG:NH1	2:A:933:PHE:HD2	1.81	0.76
2:A:919:LYS:HD2	2:A:960:LEU:CD1	2.16	0.76
2:B:845:ASP:O	2:B:849:ILE:HG13	1.84	0.76
2:B:880:LYS:HG3	2:B:885:SER:HB2	1.67	0.76
2:A:198:LEU:HB2	2:A:202:GLU:CG	2.14	0.76
2:B:631:GLU:HA	2:B:634:TRP:CE2	2.20	0.76
2:A:27:ILE:N	2:A:28:ARG:HH21	1.83	0.76
2:B:914:ARG:HH21	2:B:915:THR:HG23	1.51	0.76
2:A:28:ARG:HE	2:A:28:ARG:N	1.81	0.76
2:A:488:LEU:HD12	2:A:606:TRP:CH2	2.21	0.76
2:A:88:VAL:HG21	2:A:513:GLY:HA2	1.66	0.76
2:A:731:HIS:CE1	2:A:833:GLU:OE1	2.39	0.76
2:A:928:ARG:O	2:A:930:ALA:N	2.18	0.76
2:B:82:ILE:HG21	2:B:126:VAL:CG1	2.16	0.76
2:B:887:MET:SD	2:B:906:ILE:HD12	2.26	0.76
2:B:931:LYS:O	2:B:935:GLU:HG3	1.86	0.76
1:D:929:G:H1	1:D:947:U:H3	1.35	0.75
2:B:165:TRP:CD1	2:B:561:PRO:HA	2.21	0.75
2:A:238:VAL:CG1	2:A:298:ASN:HD22	1.98	0.75
2:A:949:ASP:HB2	2:A:954:LYS:HE2	1.69	0.75
2:A:641:ASN:HA	2:A:683:HIS:O	1.85	0.75
2:B:767:TYR:HE2	2:B:783:LEU:HD11	1.49	0.75
2:B:678:MET:HB3	2:B:749:THR:HB	1.68	0.75
2:A:492:ARG:HH11	2:A:492:ARG:CG	1.99	0.75
2:A:17:TRP:CH2	2:A:800:HIS:HD2	2.04	0.75

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:A:957:ALA:HB2	2:A:963:ALA:HB2	1.67	0.75
2:B:846:ILE:HG12	2:B:964:ILE:CD1	2.16	0.75
2:A:139:ARG:HG3	2:A:139:ARG:NH1	1.95	0.74
2:A:624:ASN:HD22	2:A:624:ASN:H	1.35	0.74
2:B:211:ILE:HG22	2:B:228:ALA:HB2	1.68	0.74
2:A:213:LYS:HD2	2:A:435:GLY:O	1.87	0.74
2:B:631:GLU:HA	2:B:634:TRP:NE1	2.01	0.74
2:A:551:GLU:O	2:A:553:LYS:HG2	1.86	0.74
2:B:89:GLY:O	2:B:93:ARG:HG3	1.87	0.74
2:B:681:ALA:HA	2:B:750:ARG:HG3	1.68	0.74
2:A:755:TRP:O	2:A:759:SER:HB3	1.87	0.74
2:A:645:THR:HG22	2:A:650:LYS:HA	1.68	0.74
1:C:908:U:H5’	1:C:961:C:OP2	1.88	0.74
1:D:902:C:C3’	1:D:903:G:H5”	2.17	0.74
2:A:354:ARG:HD2	2:A:376:VAL:CG1	2.17	0.74
2:A:432:LEU:HD11	2:A:439:ILE:HG13	1.70	0.74
2:B:836:GLU:O	2:B:840:ARG:HG3	1.87	0.74
2:A:30:LYS:HB2	2:A:73:ASN:ND2	1.96	0.73
2:A:230:LEU:H	2:A:230:LEU:CD2	2.01	0.73
2:A:882:ASP:CG	2:A:883:PHE:H	1.92	0.73
2:B:26:ASN:CB	2:B:28:ARG:HH22	2.01	0.73
2:B:928:ARG:O	2:B:930:ALA:N	2.21	0.73
2:A:566:TYR:HA	2:A:570:GLU:HB2	1.70	0.73
2:A:766:TRP:CH2	2:A:770:ARG:HD3	2.23	0.73
2:B:703:ARG:HH11	2:B:703:ARG:CB	2.00	0.73
2:B:859:LYS:HB3	2:B:941:GLU:HB3	1.69	0.73
2:A:345:ILE:HG23	2:A:346:LEU:HD13	1.71	0.73
2:B:198:LEU:CB	2:B:202:GLU:HG2	2.19	0.73
2:B:544:HIS:O	2:B:548:LEU:HG	1.87	0.73
2:B:857:ASN:ND2	2:B:967:GLU:HG2	2.03	0.73
2:B:867:GLU:H	2:B:867:GLU:CD	1.92	0.73
2:B:957:ALA:HB2	2:B:963:ALA:HB2	1.67	0.73
1:C:982:C:H2’	1:C:983:G:C8	2.24	0.73
2:A:413:PRO:HB2	2:A:414:PRO:HD3	1.70	0.73
2:A:537:ALA:O	2:A:540:THR:HG22	1.88	0.73
2:A:691:ARG:O	2:A:694:VAL:HG12	1.88	0.73
2:A:42:PHE:CD1	2:A:81:HIS:HB2	2.24	0.73
2:A:233:GLU:HB3	2:A:423:VAL:HG23	1.68	0.73
2:A:792:ARG:HG3	2:A:792:ARG:NH2	2.04	0.73
2:A:832:ILE:HA	2:A:835:GLU:HG3	1.71	0.73
2:A:17:TRP:CH2	2:A:800:HIS:CD2	2.76	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:373:PHE:CD1	2:A:374:PRO:HD3	2.24	0.73
2:A:250:VAL:HG12	2:A:285:GLU:HA	1.70	0.72
2:A:342:GLU:HG2	2:A:343:THR:H	1.54	0.72
2:A:558:LYS:HD2	2:A:583:LYS:O	1.89	0.72
2:A:860:ARG:NH2	2:A:862:TYR:HB3	2.04	0.72
2:B:734:ASN:HD21	2:B:824:VAL:N	1.86	0.72
2:B:803:GLU:OE2	2:B:815:VAL:N	2.23	0.72
2:B:925:LYS:HA	2:B:928:ARG:HG2	1.68	0.72
2:A:771:THR:HG22	2:A:774:ARG:HD3	1.70	0.72
2:B:695:GLY:O	2:B:698:ARG:HB3	1.90	0.72
2:B:848:GLU:O	2:B:852:VAL:HG23	1.89	0.72
2:A:488:LEU:HD12	2:A:606:TRP:CZ3	2.24	0.72
2:A:239:THR:CG2	2:A:326:PRO:HD2	2.20	0.72
2:B:757:PHE:HD1	2:B:794:MET:SD	2.12	0.72
2:B:480:LYS:HA	2:B:483:GLU:OE1	1.89	0.72
2:B:167:PHE:HA	2:B:170:LEU:CD1	2.19	0.72
2:B:467:ILE:HG13	2:B:508:CYS:SG	2.30	0.72
2:A:863:ILE:HB	2:A:953:LYS:HD3	1.70	0.71
2:A:119:PHE:CD1	2:A:125:ILE:HG12	2.24	0.71
2:A:342:GLU:HG2	2:A:343:THR:N	2.04	0.71
2:A:690:ARG:HD3	2:A:693:GLU:OE2	1.89	0.71
2:B:32:LYS:HG2	2:B:600:TYR:CD1	2.25	0.71
2:A:860:ARG:HH22	2:A:862:TYR:N	1.87	0.71
2:A:922:ASN:C	2:A:922:ASN:ND2	2.34	0.71
2:B:22:ILE:HG13	2:B:817:LEU:HD21	1.73	0.71
2:B:784:ARG:NH2	2:B:810:GLY:H	1.88	0.71
2:B:957:ALA:HB2	2:B:963:ALA:CB	2.21	0.71
2:A:219:ASN:HD22	2:A:220:GLY:H	1.37	0.71
2:A:731:HIS:CD2	2:A:829:ASN:H	2.08	0.71
2:A:770:ARG:NH1	2:A:933:PHE:CD2	2.59	0.71
2:A:957:ALA:HB2	2:A:963:ALA:CB	2.20	0.71
2:A:67:LYS:HD3	2:A:70:GLN:HE21	1.54	0.71
2:A:734:ASN:OD1	2:A:823:PRO:HA	1.91	0.71
2:B:30:LYS:HE3	2:B:71:GLY:O	1.90	0.71
2:B:890:LEU:HD12	2:B:906:ILE:HD11	1.73	0.71
2:A:730:LEU:HB3	2:A:827:TRP:HE1	1.54	0.70
2:A:198:LEU:HD22	2:A:202:GLU:HA	1.73	0.70
2:A:631:GLU:HA	2:A:634:TRP:CE2	2.26	0.70
2:B:282:VAL:HG12	2:B:283:ILE:N	2.07	0.70
2:A:276:GLN:HA	2:A:460:ILE:HD13	1.71	0.70
2:A:419:PRO:HG2	2:A:422:GLU:HG3	1.71	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:857:ASN:O	2:A:940:ILE:HD11	1.90	0.70
2:B:471:ASN:HD21	2:B:473:GLU:HG2	1.55	0.70
2:B:826:GLU:O	2:B:827:TRP:HB3	1.91	0.70
1:C:970:A:H4’	1:C:971:A:OP1	1.91	0.70
2:A:824:VAL:HG11	2:A:827:TRP:HE3	1.56	0.70
2:B:487:ILE:HG22	2:B:489:PRO:O	1.91	0.70
2:A:613:LEU:O	2:A:618:LEU:HB2	1.91	0.70
2:A:140:ALA:HB2	2:A:665:ILE:HD11	1.72	0.70
2:A:204:VAL:HG21	2:A:448:VAL:HG21	1.74	0.70
2:A:333:HIS:HA	2:A:336:LEU:HB2	1.73	0.70
2:A:795:ALA:HB3	2:A:796:PRO:HD3	1.72	0.70
2:A:826:GLU:O	2:A:827:TRP:HB3	1.90	0.70
2:A:12:LYS:NZ	2:A:16:ARG:HH12	1.90	0.70
2:B:803:GLU:OE2	2:B:815:VAL:HG12	1.91	0.70
2:A:866:ALA:N	2:A:955:LYS:NZ	2.27	0.69
2:A:919:LYS:O	2:A:922:ASN:HB2	1.92	0.69
2:B:297:ARG:HB3	2:B:297:ARG:NH2	2.07	0.69
2:B:927:LEU:CD1	2:B:944:ILE:HD12	2.23	0.69
1:C:920:G:H5”	1:C:921:U:H5	1.57	0.69
2:A:339:LEU:HD22	2:A:340:LYS:N	2.08	0.69
2:A:374:PRO:HG2	2:A:379:VAL:HG21	1.74	0.69
2:B:95:LYS:C	2:B:97:ARG:H	1.96	0.69
2:B:660:ASN:HB2	2:B:663:ASP:CB	2.22	0.69
2:B:690:ARG:HB3	2:B:690:ARG:NH1	2.06	0.69
2:A:22:ILE:HG23	2:A:23:PHE:CD1	2.27	0.69
2:A:165:TRP:HD1	2:A:561:PRO:HA	1.58	0.69
2:B:741:THR:HG1	2:B:820:TRP:HZ3	1.41	0.69
1:C:923:A:H4’	1:C:924:A:O5’	1.91	0.69
2:A:91:ALA:O	2:A:94:ILE:HG13	1.91	0.69
2:B:400:ILE:HD12	2:B:401:TYR:N	2.06	0.69
2:B:770:ARG:HD2	2:B:933:PHE:CE2	2.27	0.69
2:A:577:GLU:OE2	2:A:592:HIS:HB2	1.92	0.69
2:B:7:LYS:HB2	2:B:7:LYS:NZ	2.07	0.69
2:B:675:LEU:CD2	2:B:697:LEU:HD21	2.22	0.69
2:B:675:LEU:HD22	2:B:701:ILE:HD11	1.74	0.69
2:A:163:ILE:CD1	2:A:531:ASP:HB2	2.22	0.69
2:A:449:ILE:N	2:A:449:ILE:HD12	2.08	0.69
2:A:863:ILE:HG22	2:A:953:LYS:HG2	1.74	0.69
2:B:35:LYS:HB2	2:B:601:TRP:CZ3	2.28	0.69
2:A:45:LEU:HD11	2:A:80:TRP:HB3	1.75	0.69
2:A:221:GLU:OE2	2:A:221:GLU:HA	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:10:GLU:O	2:A:14:GLN:HG3	1.93	0.69
2:A:480:LYS:CE	2:A:484:ARG:HH22	1.99	0.68
2:B:920:ARG:C	2:B:922:ASN:H	1.97	0.68
2:A:730:LEU:HB3	2:A:827:TRP:CD1	2.28	0.68
2:B:341:ARG:HD3	2:B:341:ARG:N	2.07	0.68
2:A:95:LYS:C	2:A:97:ARG:H	1.96	0.68
2:A:920:ARG:C	2:A:922:ASN:H	1.96	0.68
2:B:14:GLN:O	2:B:18:LEU:HB2	1.93	0.68
2:B:566:TYR:HA	2:B:570:GLU:HB3	1.75	0.68
2:B:882:ASP:CG	2:B:883:PHE:N	2.47	0.68
2:A:30:LYS:CB	2:A:73:ASN:HD22	1.98	0.68
2:A:62:VAL:HG21	2:A:678:MET:HE3	1.75	0.68
2:A:198:LEU:CB	2:A:202:GLU:HG2	2.23	0.68
2:A:239:THR:HG23	2:A:326:PRO:HD2	1.74	0.68
2:B:65:ARG:HA	2:B:68:ARG:NH1	2.08	0.68
2:B:650:LYS:HE2	2:B:651:MET:N	2.03	0.68
2:B:871:TRP:NE1	2:B:959:PRO:HB3	2.09	0.68
2:A:629:PHE:O	2:A:631:GLU:N	2.25	0.68
2:B:116:LEU:HD12	2:B:119:PHE:HD2	1.59	0.68
2:B:276:GLN:O	2:B:460:ILE:HD12	1.92	0.68
2:B:767:TYR:CE2	2:B:783:LEU:HD11	2.27	0.68
2:A:717:LYS:O	2:A:717:LYS:HD3	1.94	0.68
2:B:28:ARG:HH11	2:B:28:ARG:HG3	1.59	0.68
2:B:678:MET:HE3	2:B:749:THR:HG21	1.74	0.68
2:A:82:ILE:HG21	2:A:126:VAL:HG13	1.74	0.68
2:A:652:SER:OG	2:A:655:LYS:HB2	1.94	0.68
2:A:722:LEU:N	2:A:722:LEU:CD2	2.55	0.68
2:B:770:ARG:HA	2:B:933:PHE:HE2	1.58	0.68
2:B:26:ASN:HB2	2:B:29:ASP:OD2	1.93	0.68
2:B:198:LEU:H	2:B:198:LEU:HD12	1.59	0.68
2:B:734:ASN:ND2	2:B:823:PRO:HA	2.07	0.68
1:C:929:G:H1	1:C:947:U:H3	1.42	0.68
1:C:988:A:H5”	2:A:528:SER:OG	1.94	0.68
2:A:803:GLU:CD	2:A:815:VAL:HG23	2.14	0.68
2:B:237:GLY:O	2:B:325:VAL:HG13	1.94	0.68
2:B:300:VAL:HG13	2:B:301:SER:H	1.59	0.68
2:A:75:LEU:C	2:A:75:LEU:HD12	2.14	0.67
2:B:185:TRP:CZ2	2:B:190:GLY:HA2	2.29	0.67
2:B:345:ILE:HG12	2:B:346:LEU:N	2.09	0.67
1:D:920:G:H5”	1:D:921:U:H5	1.59	0.67
2:B:92:GLU:O	2:B:95:LYS:HB3	1.94	0.67

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:B:555:ASP:HB3	2:B:558:LYS:CG	2.24	0.67
2:A:423:VAL:C	2:A:425:GLU:H	1.95	0.67
2:B:795:ALA:HB3	2:B:796:PRO:HD3	1.77	0.67
2:A:919:LYS:H	2:A:919:LYS:CE	2.07	0.67
2:B:26:ASN:CB	2:B:28:ARG:NH2	2.55	0.67
1:D:977:G:H2'	1:D:978:C:C6	2.30	0.67
2:A:404:GLU:O	2:A:420:VAL:HG21	1.95	0.67
2:A:872:LYS:O	2:A:876:VAL:HG23	1.94	0.67
2:B:423:VAL:C	2:B:425:GLU:H	1.97	0.67
2:A:242:TRP:CH2	2:A:332:ASP:HA	2.29	0.67
2:B:614:ILE:N	2:B:615:PRO:HD2	2.09	0.67
2:A:139:ARG:NH2	2:A:666:GLU:OE1	2.27	0.67
2:A:870:LYS:HE2	2:A:905:LYS:HE3	1.77	0.67
1:C:916:C:OP1	1:C:916:C:H4'	1.93	0.66
2:A:428:ALA:O	2:A:432:LEU:HD23	1.95	0.66
2:A:891:MET:SD	2:A:897:ARG:HG3	2.35	0.66
2:B:57:TYR:O	2:B:60:PRO:HG2	1.95	0.66
2:B:741:THR:OG1	2:B:820:TRP:HZ3	1.78	0.66
2:A:529:LEU:HD12	2:A:529:LEU:N	2.06	0.66
2:A:536:MET:SD	2:A:607:ARG:NH1	2.69	0.66
2:A:682:GLU:OE1	2:A:748:ARG:HB3	1.95	0.66
2:A:717:LYS:HD3	2:A:717:LYS:C	2.15	0.66
2:B:136:THR:HG22	2:B:661:PHE:HD2	1.60	0.66
2:B:326:PRO:HA	2:B:332:ASP:HB2	1.77	0.66
2:A:266:SER:HB2	2:A:269:ALA:HB2	1.78	0.66
2:A:488:LEU:HD22	2:A:683:HIS:CE1	2.31	0.66
2:B:935:GLU:HG2	2:B:942:ILE:HD13	1.78	0.66
2:A:703:ARG:HG3	2:A:707:LEU:HD12	1.78	0.66
2:B:871:TRP:CZ3	2:B:918:VAL:HG13	2.30	0.66
2:B:793:LEU:CD2	2:B:821:PRO:HG2	2.25	0.66
2:B:921:ILE:HB	2:B:928:ARG:NH2	2.09	0.66
2:A:188:VAL:HG23	2:A:189:VAL:N	2.06	0.66
2:A:434:LYS:HB3	2:A:436:ILE:HG12	1.77	0.66
2:A:921:ILE:HD12	2:A:928:ARG:NH1	2.03	0.66
2:B:171:LYS:HG2	2:B:176:ILE:HD12	1.78	0.66
2:B:459:LYS:NZ	2:B:461:ILE:HD13	2.11	0.66
2:B:690:ARG:HB3	2:B:690:ARG:CZ	2.25	0.66
2:A:198:LEU:HB2	2:A:202:GLU:CD	2.15	0.66
2:A:947:THR:HG23	2:A:948:GLU:N	2.11	0.66
2:B:256:ARG:HG3	2:B:257:LYS:H	1.61	0.66
2:A:784:ARG:HH22	2:A:810:GLY:H	1.45	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:139:ARG:HG3	2:B:139:ARG:HH11	1.60	0.65
1:D:983:G:C2’	1:D:984:C:H5”	2.25	0.65
2:A:860:ARG:NH1	2:A:943:ILE:N	2.41	0.65
2:B:197:ASP:HB3	2:B:451:ARG:HB2	1.78	0.65
2:B:650:LYS:CE	2:B:651:MET:H	2.05	0.65
2:A:83:THR:HG23	2:A:152:THR:HB	1.78	0.65
2:B:198:LEU:HB2	2:B:202:GLU:CG	2.20	0.65
2:B:537:ALA:HB2	2:B:602:TYR:CZ	2.31	0.65
2:A:354:ARG:HD2	2:A:376:VAL:HG12	1.78	0.65
2:A:914:ARG:NH2	2:A:915:THR:HG23	2.11	0.65
2:A:82:ILE:HG21	2:A:126:VAL:CG1	2.26	0.65
2:A:730:LEU:HD22	2:A:827:TRP:CZ2	2.31	0.65
2:A:210:ILE:CD1	2:A:232:PRO:HG3	2.24	0.65
2:A:297:ARG:HG2	2:A:304:GLU:CG	2.25	0.65
1:C:967:U:H2’	1:C:969:G:N7	2.11	0.65
2:A:86:PRO:O	2:A:90:ILE:HG13	1.95	0.65
2:A:109:TYR:OH	2:A:653:LYS:HE2	1.96	0.65
2:A:590:ILE:O	2:A:594:MET:HG3	1.97	0.65
2:A:647:GLU:OE2	2:A:690:ARG:HA	1.97	0.65
2:A:767:TYR:HE2	2:A:783:LEU:CD1	2.09	0.65
2:A:914:ARG:HH21	2:A:915:THR:HG23	1.62	0.65
2:B:50:HIS:CE1	2:B:52:GLY:HA3	2.31	0.65
2:B:616:ASN:ND2	2:B:617:HIS:H	1.93	0.65
2:A:233:GLU:HA	2:A:427:ILE:HD12	1.77	0.65
2:A:4:LEU:O	2:A:4:LEU:HD23	1.97	0.65
2:B:87:ILE:HD13	2:B:126:VAL:CG2	2.27	0.65
2:B:540:THR:CG2	2:B:541:ILE:HG23	2.25	0.65
2:B:909:LYS:NZ	2:B:914:ARG:O	2.29	0.65
2:A:197:ASP:HB3	2:A:451:ARG:HB2	1.78	0.64
2:A:650:LYS:HD2	2:A:651:MET:N	2.11	0.64
2:B:39:THR:HG22	2:B:40:VAL:H	1.60	0.64
2:B:300:VAL:HG13	2:B:301:SER:N	2.12	0.64
2:B:924:GLU:O	2:B:928:ARG:N	2.28	0.64
2:B:924:GLU:HB3	2:B:928:ARG:HH21	1.62	0.64
2:B:922:ASN:HD22	2:B:923:GLU:N	1.96	0.64
2:A:345:ILE:CG1	2:A:346:LEU:H	2.06	0.64
2:B:27:ILE:HG13	2:B:28:ARG:N	2.13	0.64
2:B:198:LEU:HD22	2:B:202:GLU:HA	1.78	0.64
2:B:724:ASP:HA	2:B:727:ARG:HG3	1.79	0.64
2:B:880:LYS:CG	2:B:885:SER:HB2	2.28	0.64
2:A:139:ARG:HH11	2:A:139:ARG:CG	2.09	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:467:ILE:HG13	2:A:508:CYS:HB3	1.80	0.64
2:B:33:GLU:CD	2:B:33:GLU:H	2.00	0.64
2:B:563:PHE:CD1	2:B:584:THR:HG21	2.33	0.64
2:B:632:GLU:HG3	2:B:633:HIS:ND1	2.13	0.64
2:B:958:MET:CE	2:B:959:PRO:HD2	2.27	0.64
2:A:313:VAL:HG12	2:A:322:VAL:HG21	1.78	0.64
2:A:890:LEU:CD1	2:A:906:ILE:HD11	2.27	0.64
2:B:289:GLU:O	2:B:292:ILE:HB	1.98	0.64
2:B:570:GLU:OE1	2:B:576:LYS:HE2	1.98	0.64
2:B:729:MET:HE3	2:B:763:ASP:O	1.97	0.64
1:C:920:G:H5”	1:C:921:U:C5	2.33	0.64
1:D:977:G:H2’	1:D:978:C:H6	1.62	0.64
2:A:492:ARG:HH11	2:A:492:ARG:HG2	1.63	0.64
2:A:871:TRP:HH2	2:A:919:LYS:HE3	1.61	0.64
2:B:660:ASN:HB2	2:B:663:ASP:HB3	1.80	0.64
1:D:943:C:H2’	1:D:944:C:C6	2.33	0.64
2:A:212:ILE:HD13	2:A:235:VAL:CG1	2.27	0.64
2:A:475:LYS:NZ	2:A:503:LEU:O	2.31	0.64
2:B:860:ARG:HB3	2:B:966:ILE:HA	1.78	0.64
2:A:136:THR:HG23	2:A:662:ILE:HB	1.80	0.64
2:B:864:TYR:HH	2:B:871:TRP:HZ2	1.45	0.64
2:A:49:LEU:HD12	2:A:49:LEU:N	2.10	0.63
2:A:92:GLU:O	2:A:95:LYS:HB3	1.99	0.63
2:B:73:ASN:O	2:B:601:TRP:HH2	1.81	0.63
2:A:342:GLU:CG	2:A:343:THR:H	2.11	0.63
2:A:924:GLU:O	2:A:928:ARG:N	2.28	0.63
2:B:373:PHE:N	2:B:374:PRO:HD2	2.14	0.63
2:B:213:LYS:HD2	2:B:435:GLY:O	1.99	0.63
2:B:256:ARG:HH11	2:B:278:ARG:HG3	1.63	0.63
2:A:272:LYS:HE3	2:A:442:GLU:OE1	1.98	0.63
2:A:343:THR:HG23	2:A:344:GLU:N	2.12	0.63
2:A:924:GLU:CD	2:A:927:LEU:HD13	2.19	0.63
2:B:755:TRP:O	2:B:759:SER:HB3	1.99	0.63
2:A:616:ASN:ND2	2:A:617:HIS:N	2.24	0.63
2:B:10:GLU:O	2:B:14:GLN:HG3	1.97	0.63
2:A:85:SER:H	2:A:86:PRO:CD	2.12	0.63
2:A:724:ASP:HA	2:A:727:ARG:CG	2.19	0.63
2:B:139:ARG:HG3	2:B:139:ARG:NH1	2.13	0.63
2:B:681:ALA:CA	2:B:750:ARG:HG3	2.28	0.63
2:B:428:ALA:O	2:B:432:LEU:HD23	1.98	0.63
2:B:87:ILE:HD13	2:B:126:VAL:HG22	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:495:GLN:HE21	2:B:614:ILE:HG21	1.63	0.63
2:A:282:VAL:HG12	2:A:283:ILE:H	1.64	0.63
2:A:631:GLU:HA	2:A:634:TRP:NE1	2.14	0.63
2:A:728:TRP:HE3	2:A:729:MET:N	1.97	0.63
2:A:924:GLU:O	2:A:927:LEU:HB3	1.99	0.63
2:B:45:LEU:HD11	2:B:80:TRP:CB	2.29	0.63
2:B:826:GLU:CD	2:B:826:GLU:N	2.52	0.63
2:A:268:GLU:OE1	2:A:268:GLU:N	2.26	0.62
2:A:544:HIS:H	2:A:544:HIS:CD2	2.15	0.62
2:B:332:ASP:O	2:B:333:HIS:HB2	1.99	0.62
2:B:894:SER:C	2:B:896:ILE:H	2.03	0.62
1:C:918:U:H5”	1:C:919:G:OP1	1.98	0.62
2:A:180:ALA:O	2:A:181:HIS:HB2	1.99	0.62
2:B:26:ASN:HB2	2:B:29:ASP:CG	2.19	0.62
2:B:216:LEU:HD11	2:B:294:LYS:HB3	1.80	0.62
2:B:764:LEU:HD13	2:B:786:LEU:HD13	1.80	0.62
2:A:235:VAL:HB	2:A:300:VAL:HG11	1.79	0.62
2:B:51:VAL:HG11	2:B:689:TRP:CE3	2.33	0.62
2:A:41:ALA:HA	2:A:607:ARG:NH2	2.15	0.62
2:A:126:VAL:HG12	2:A:126:VAL:O	1.99	0.62
2:A:724:ASP:CA	2:A:727:ARG:HG3	2.20	0.62
2:A:730:LEU:CB	2:A:827:TRP:HE1	2.12	0.62
1:C:911:C:H2’	1:C:912:C:C6	2.33	0.62
2:A:733:LEU:O	2:A:737:ILE:HG13	1.99	0.62
2:A:94:ILE:HD12	2:A:95:LYS:N	2.14	0.62
2:A:168:TRP:CH2	2:A:520:TRP:HB3	2.34	0.62
2:A:306:ILE:HG12	2:A:307:ILE:N	2.14	0.62
2:A:540:THR:OG1	2:A:598:PHE:HA	2.00	0.62
2:A:894:SER:C	2:A:896:ILE:H	2.02	0.62
2:A:7:LYS:HB2	2:A:7:LYS:NZ	2.15	0.62
2:B:181:HIS:ND1	2:B:464:GLN:HG2	2.14	0.62
2:B:218:GLU:CD	2:B:219:ASN:HD22	2.03	0.62
2:B:531:ASP:OD2	2:B:532:SER:N	2.32	0.62
2:A:213:LYS:HB2	2:A:224:TYR:CD2	2.35	0.62
2:A:933:PHE:CD1	2:A:933:PHE:C	2.72	0.62
2:B:68:ARG:NH2	2:B:143:SER:HB3	2.14	0.62
2:B:85:SER:H	2:B:86:PRO:HD3	1.64	0.62
2:B:126:VAL:O	2:B:126:VAL:HG12	1.99	0.62
2:B:212:ILE:HD13	2:B:235:VAL:HG12	1.82	0.62
2:B:277:ASP:O	2:B:278:ARG:HG3	1.99	0.62
1:C:914:A:H1’	1:C:925:A:C6	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:186:ASP:HB2	2:A:193:LEU:HD11	1.82	0.62
2:A:702:GLU:O	2:A:706:GLU:HG3	2.00	0.62
2:B:234:THR:HG22	2:B:325:VAL:HG11	1.80	0.62
2:A:709:SER:O	2:A:712:ALA:HB3	1.99	0.62
2:A:776:ASP:OD2	2:A:778:ALA:HB3	1.99	0.62
2:A:860:ARG:HH11	2:A:943:ILE:H	1.48	0.62
2:B:140:ALA:O	2:B:674:ARG:NH1	2.31	0.62
2:B:709:SER:O	2:B:712:ALA:HB3	2.00	0.62
1:D:970:A:H2’	1:D:972:U:OP2	2.00	0.61
2:A:906:ILE:O	2:A:910:LEU:HB2	2.00	0.61
2:B:49:LEU:HD12	2:B:49:LEU:N	2.13	0.61
2:B:793:LEU:HD21	2:B:821:PRO:HG2	1.81	0.61
2:A:297:ARG:NH2	2:A:297:ARG:CB	2.63	0.61
2:B:745:GLU:HA	2:B:745:GLU:OE2	1.99	0.61
1:C:986:C:C2	2:A:507:ALA:HB3	2.36	0.61
2:A:11:GLU:O	2:A:15:LYS:HG3	2.00	0.61
2:A:102:ILE:HD12	2:A:103:TRP:N	2.15	0.61
2:B:44:TYR:CE1	2:B:87:ILE:HD11	2.30	0.61
2:B:264:ILE:HG21	2:B:291:LEU:HD21	1.81	0.61
2:A:326:PRO:HA	2:A:332:ASP:HB2	1.81	0.61
2:A:803:GLU:HA	2:A:815:VAL:HG23	1.82	0.61
2:B:44:TYR:OH	2:B:87:ILE:HG13	2.00	0.61
2:B:401:TYR:O	2:B:405:TYR:HB2	2.00	0.61
2:B:920:ARG:HE	2:B:920:ARG:CA	2.01	0.61
2:A:82:ILE:H	2:A:152:THR:HG1	1.45	0.61
2:A:864:TYR:CZ	2:A:922:ASN:OD1	2.53	0.61
2:B:91:ALA:O	2:B:94:ILE:HG13	1.99	0.61
2:B:345:ILE:CG1	2:B:346:LEU:H	2.13	0.61
2:B:723:LYS:HG3	2:B:724:ASP:H	1.66	0.61
2:A:26:ASN:O	2:A:29:ASP:HB2	2.01	0.61
2:A:297:ARG:NH2	2:A:297:ARG:HB3	2.15	0.61
2:A:857:ASN:ND2	2:A:967:GLU:HG2	2.16	0.61
2:A:924:GLU:OE2	2:A:927:LEU:HD13	2.01	0.61
2:B:879:GLU:O	2:B:880:LYS:HD2	2.00	0.61
2:A:618:LEU:O	2:A:621:PHE:HB3	2.00	0.61
2:B:277:ASP:OD1	2:B:462:HIS:NE2	2.33	0.61
2:B:890:LEU:CD1	2:B:906:ILE:HD11	2.31	0.61
2:A:893:ASP:OD1	2:A:894:SER:O	2.19	0.61
2:A:919:LYS:HD2	2:A:960:LEU:HD11	1.82	0.61
2:B:145:ASP:OD1	2:B:147:SER:HB3	1.99	0.61
2:B:914:ARG:NE	2:B:915:THR:O	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:28:ARG:NH1	2:B:28:ARG:H	1.98	0.61
1:D:970:A:H4'	1:D:971:A:OP1	2.01	0.61
2:A:866:ALA:CA	2:A:955:LYS:HZ3	2.11	0.61
2:B:770:ARG:HA	2:B:933:PHE:CE2	2.35	0.61
2:A:94:ILE:HD11	2:A:120:GLU:N	2.15	0.60
2:A:492:ARG:HD2	2:A:614:ILE:CD1	2.30	0.60
2:A:123:ILE:O	2:A:127:LYS:HB2	2.00	0.60
2:A:241:MET:HB2	2:A:307:ILE:HA	1.81	0.60
2:A:567:ILE:O	2:A:568:PHE:CG	2.54	0.60
2:A:803:GLU:OE2	2:A:814:PHE:HB3	2.01	0.60
2:B:448:VAL:HG12	2:B:456:ALA:HB3	1.82	0.60
2:B:730:LEU:HB3	2:B:827:TRP:NE1	2.16	0.60
2:A:45:LEU:HD11	2:A:80:TRP:CB	2.31	0.60
2:A:427:ILE:O	2:A:431:MET:HG3	2.00	0.60
2:A:860:ARG:NE	2:A:860:ARG:O	2.35	0.60
2:A:381:LYS:HB3	2:A:382:LEU:HD12	1.83	0.60
2:A:594:MET:O	2:A:597:GLU:HB2	2.01	0.60
2:B:748:ARG:HB3	2:B:748:ARG:HH11	1.67	0.60
2:A:210:ILE:HG22	2:A:439:ILE:HG12	1.83	0.60
2:A:234:THR:HG22	2:A:325:VAL:HG11	1.83	0.60
2:A:461:ILE:CG2	2:A:464:GLN:HB2	2.32	0.60
2:B:166:GLN:O	2:B:170:LEU:HG	2.01	0.60
2:B:186:ASP:HB3	2:B:191:THR:CG2	2.32	0.60
1:C:976:C:O2'	1:C:977:G:H5'	2.01	0.60
1:C:953:A:H5'	1:C:954:G:OP1	2.02	0.60
2:A:12:LYS:HZ3	2:A:16:ARG:HH12	1.50	0.60
2:A:266:SER:HB2	2:A:269:ALA:CB	2.32	0.60
2:A:919:LYS:H	2:A:919:LYS:HE3	1.66	0.60
2:A:919:LYS:NZ	2:A:960:LEU:HD11	2.16	0.60
2:B:32:LYS:HG2	2:B:600:TYR:HD1	1.65	0.60
2:B:85:SER:H	2:B:86:PRO:CD	2.14	0.60
2:B:266:SER:HB3	2:B:269:ALA:HB2	1.83	0.60
1:D:979:C:H2'	1:D:980:C:C6	2.37	0.60
2:A:412:VAL:CG2	2:A:414:PRO:HD2	2.32	0.60
2:B:781:TYR:CE2	2:B:785:THR:HG21	2.37	0.60
2:B:781:TYR:O	2:B:785:THR:HG23	2.02	0.60
2:A:560:THR:HB	2:A:561:PRO:HD2	1.84	0.60
2:A:767:TYR:CZ	2:A:782:VAL:HG11	2.37	0.60
2:B:79:ALA:HB1	2:B:150:PHE:O	2.01	0.60
2:B:282:VAL:HG12	2:B:283:ILE:H	1.66	0.60
2:A:857:ASN:OD1	2:A:967:GLU:HA	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:725:ILE:HG21	2:B:771:THR:CG2	2.31	0.59
2:A:17:TRP:HH2	2:A:800:HIS:CD2	2.20	0.59
2:A:297:ARG:HH21	2:A:297:ARG:HB2	1.67	0.59
2:A:354:ARG:HD2	2:A:376:VAL:HG13	1.82	0.59
2:A:915:THR:OG1	2:A:916:PHE:N	2.31	0.59
2:B:540:THR:OG1	2:B:598:PHE:HA	2.01	0.59
2:B:569:LEU:HA	2:B:630:ARG:HD3	1.85	0.59
2:B:746:GLU:HB2	2:B:748:ARG:HD2	1.84	0.59
2:A:678:MET:HB3	2:A:749:THR:HB	1.84	0.59
2:A:895:GLU:OE1	2:A:898:LYS:CD	2.50	0.59
2:A:960:LEU:N	2:A:960:LEU:HD22	2.17	0.59
2:A:711:PHE:HA	2:A:714:TYR:CD2	2.38	0.59
2:A:914:ARG:NE	2:A:915:THR:O	2.35	0.59
2:B:339:LEU:HD22	2:B:340:LYS:N	2.17	0.59
2:B:475:LYS:HG2	2:B:479:ARG:NH2	2.18	0.59
2:B:935:GLU:OE1	2:B:942:ILE:N	2.34	0.59
2:A:75:LEU:HD23	2:A:601:TRP:CD2	2.37	0.59
2:A:79:ALA:HB1	2:A:150:PHE:O	2.01	0.59
2:A:182:ARG:O	2:A:183:VAL:HB	2.02	0.59
2:A:824:VAL:HG11	2:A:827:TRP:CE3	2.37	0.59
2:A:860:ARG:CB	2:A:966:ILE:HG22	2.33	0.59
2:B:100:LYS:HE2	2:B:104:ILE:HD11	1.83	0.59
2:B:241:MET:HB2	2:B:307:ILE:HA	1.84	0.59
2:B:711:PHE:CD1	2:B:783:LEU:HB3	2.38	0.59
1:C:986:C:C2	2:A:506:LYS:HG2	2.37	0.59
2:A:152:THR:HG22	2:A:159:PHE:HE1	1.67	0.59
2:A:560:THR:O	2:A:563:PHE:HB3	2.03	0.59
2:A:819:LYS:N	2:A:819:LYS:HD2	2.17	0.59
2:A:921:ILE:HB	2:A:928:ARG:NH2	2.16	0.59
2:B:112:PRO:O	2:B:114:GLU:N	2.36	0.59
2:B:594:MET:O	2:B:597:GLU:HB2	2.02	0.59
2:B:618:LEU:O	2:B:621:PHE:HB3	2.03	0.59
1:D:916:C:O2'	1:D:972:U:H4'	2.03	0.59
2:A:242:TRP:CE3	2:A:324:SER:HB2	2.38	0.59
2:A:401:TYR:O	2:A:405:TYR:HB2	2.03	0.59
2:B:94:ILE:HD12	2:B:95:LYS:N	2.18	0.59
2:A:231:ARG:HB3	2:A:233:GLU:OE2	2.02	0.59
2:B:227:ALA:CA	2:B:321:VAL:HG23	2.26	0.59
2:B:233:GLU:HB3	2:B:423:VAL:HG23	1.84	0.59
2:B:250:VAL:O	2:B:264:ILE:HA	2.02	0.59
2:A:211:ILE:CG2	2:A:228:ALA:HB2	2.30	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:297:ARG:CB	2:A:297:ARG:HH21	2.16	0.59
2:B:50:HIS:H	2:B:53:HIS:CD2	2.21	0.59
2:B:404:GLU:HA	2:B:407:LYS:O	2.03	0.59
2:B:921:ILE:HD12	2:B:928:ARG:HH22	1.68	0.59
2:B:943:ILE:HG22	2:B:946:PRO:HG3	1.84	0.59
2:B:966:ILE:O	2:B:967:GLU:HB2	2.03	0.59
2:A:66:PHE:CD1	2:A:744:LEU:HD12	2.37	0.58
2:A:250:VAL:O	2:A:264:ILE:HA	2.04	0.58
2:A:378:GLU:HA	2:A:378:GLU:OE2	2.02	0.58
2:A:393:LEU:HG	2:A:397:THR:OG1	2.03	0.58
2:A:547:LYS:O	2:A:550:GLN:HB3	2.03	0.58
2:A:847:LYS:O	2:A:851:GLU:HG3	2.03	0.58
2:A:882:ASP:CG	2:A:883:PHE:N	2.56	0.58
2:B:355:ILE:HG22	2:B:356:VAL:N	2.12	0.58
2:B:641:ASN:C	2:B:641:ASN:HD22	2.06	0.58
2:B:722:LEU:H	2:B:722:LEU:HD23	1.68	0.58
1:D:904:G:C3'	1:D:905:G:H5"	2.33	0.58
2:A:75:LEU:HD12	2:A:77:PRO:HD3	1.85	0.58
2:A:966:ILE:O	2:A:967:GLU:CB	2.50	0.58
2:B:49:LEU:H	2:B:49:LEU:CD1	2.12	0.58
2:B:105:TYR:O	2:B:111:VAL:HG23	2.03	0.58
2:A:216:LEU:HG	2:A:216:LEU:O	2.03	0.58
2:A:263:TRP:HH2	2:A:438:GLU:OE1	1.86	0.58
2:A:819:LYS:N	2:A:819:LYS:CD	2.66	0.58
2:A:860:ARG:HH22	2:A:862:TYR:HB3	1.68	0.58
2:A:860:ARG:HH11	2:A:943:ILE:N	2.01	0.58
2:A:920:ARG:O	2:A:922:ASN:N	2.36	0.58
2:B:733:LEU:HD13	2:B:737:ILE:HG13	1.85	0.58
2:B:857:ASN:O	2:B:940:ILE:HD11	2.03	0.58
2:A:27:ILE:H	2:A:28:ARG:NH2	2.01	0.58
2:A:235:VAL:HA	2:A:323:MET:HE3	1.85	0.58
2:A:541:ILE:HB	2:A:594:MET:HE2	1.86	0.58
2:A:729:MET:SD	2:A:764:LEU:HA	2.44	0.58
2:B:901:LYS:O	2:B:901:LYS:HD3	2.03	0.58
2:A:410:PHE:O	2:A:416:GLU:HB3	2.03	0.58
2:A:944:ILE:HG22	2:A:945:ASN:N	2.18	0.58
2:B:180:ALA:O	2:B:181:HIS:HB2	2.04	0.58
2:B:429:LYS:HB3	2:B:429:LYS:NZ	2.19	0.58
2:B:660:ASN:HB2	2:B:663:ASP:HB2	1.86	0.58
2:B:60:PRO:HB2	2:B:76:PHE:CE1	2.39	0.58
2:B:342:GLU:HG2	2:B:343:THR:N	2.15	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:804:GLU:O	2:B:807:GLU:HB3	2.03	0.58
2:B:50:HIS:HE1	2:B:52:GLY:HA3	1.68	0.58
2:B:238:VAL:HA	2:B:325:VAL:HG22	1.85	0.58
2:A:239:THR:O	2:A:240:ASN:HB3	2.03	0.58
2:A:566:TYR:O	2:A:595:LYS:HD2	2.04	0.58
2:A:710:GLN:O	2:A:712:ALA:N	2.37	0.58
2:B:495:GLN:O	2:B:499:ILE:HG12	2.04	0.58
2:B:652:SER:OG	2:B:655:LYS:HB2	2.04	0.58
2:B:682:GLU:OE1	2:B:748:ARG:HB3	2.03	0.58
2:B:713:GLU:HA	2:B:713:GLU:OE2	2.04	0.58
2:A:167:PHE:O	2:A:170:LEU:HB2	2.04	0.58
2:A:482:LEU:HD23	2:A:482:LEU:C	2.24	0.58
2:A:862:TYR:C	2:A:862:TYR:CD2	2.77	0.58
2:B:211:ILE:HG12	2:B:438:GLU:O	2.03	0.58
2:B:377:GLU:OE2	2:B:380:ASN:HB2	2.04	0.58
2:B:410:PHE:O	2:B:416:GLU:HB3	2.04	0.58
2:B:835:GLU:OE1	2:B:921:ILE:HG13	2.03	0.58
1:C:937:C:O5’	1:C:937:C:H6	1.87	0.57
2:A:860:ARG:NE	2:A:860:ARG:C	2.57	0.57
2:A:871:TRP:HZ3	2:A:918:VAL:HG22	1.69	0.57
2:B:467:ILE:HG13	2:B:508:CYS:HB3	1.85	0.57
2:B:860:ARG:CZ	2:B:860:ARG:O	2.52	0.57
2:A:112:PRO:O	2:A:114:GLU:N	2.37	0.57
2:A:355:ILE:HG23	2:A:412:VAL:CG1	2.34	0.57
2:B:459:LYS:HZ3	2:B:461:ILE:HD13	1.70	0.57
2:B:629:PHE:O	2:B:631:GLU:N	2.29	0.57
2:A:145:ASP:OD1	2:A:145:ASP:C	2.43	0.57
2:A:404:GLU:HA	2:A:407:LYS:O	2.05	0.57
2:A:614:ILE:N	2:A:615:PRO:HD2	2.19	0.57
2:A:646:LEU:O	2:A:647:GLU:HB2	2.04	0.57
2:B:563:PHE:CE1	2:B:584:THR:HG21	2.39	0.57
2:B:727:ARG:HG2	2:B:727:ARG:HH11	1.69	0.57
2:B:831:THR:O	2:B:835:GLU:HG3	2.05	0.57
1:D:943:C:H2’	1:D:944:C:H6	1.66	0.57
2:A:42:PHE:O	2:A:42:PHE:HD1	1.87	0.57
2:B:784:ARG:O	2:B:784:ARG:HD3	2.05	0.57
2:A:348:LYS:HB3	2:A:348:LYS:HZ3	1.70	0.57
2:A:541:ILE:HB	2:A:594:MET:CE	2.34	0.57
2:B:631:GLU:HA	2:B:634:TRP:CD1	2.40	0.57
2:A:757:PHE:HD1	2:A:794:MET:SD	2.27	0.57
2:A:860:ARG:CB	2:A:966:ILE:HA	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:116:LEU:HD12	2:B:119:PHE:CE2	2.40	0.57
2:B:541:ILE:O	2:B:545:ILE:HG12	2.05	0.57
2:B:793:LEU:CD2	2:B:821:PRO:CG	2.82	0.57
2:A:331:PHE:O	2:A:334:VAL:HG23	2.04	0.57
2:A:559:LEU:HD22	2:A:563:PHE:CE2	2.40	0.57
2:A:770:ARG:HD2	2:A:933:PHE:CD2	2.39	0.57
2:B:32:LYS:O	2:B:35:LYS:HG3	2.04	0.57
2:B:410:PHE:CE2	2:B:423:VAL:HG11	2.40	0.57
2:B:846:ILE:HG12	2:B:964:ILE:HD13	1.86	0.57
1:D:928:C:OP1	2:B:696:LYS:HE3	2.04	0.57
2:A:233:GLU:HA	2:A:427:ILE:CD1	2.34	0.57
2:A:253:LYS:HD3	2:A:260:GLU:OE1	2.04	0.57
2:A:551:GLU:O	2:A:553:LYS:N	2.37	0.57
2:A:804:GLU:O	2:A:807:GLU:HB3	2.05	0.57
2:B:242:TRP:CH2	2:B:332:ASP:HA	2.40	0.57
2:B:624:ASN:HD22	2:B:624:ASN:H	1.51	0.57
2:B:697:LEU:O	2:B:701:ILE:HG12	2.05	0.57
2:B:928:ARG:C	2:B:930:ALA:H	2.09	0.57
2:A:171:LYS:HE2	2:A:520:TRP:CE2	2.40	0.57
2:A:745:GLU:HA	2:A:745:GLU:OE2	2.05	0.57
2:B:151:TYR:CD1	2:B:156:PHE:HB2	2.40	0.57
2:A:83:THR:HG22	2:A:153:THR:HG22	1.87	0.56
2:A:256:ARG:HH11	2:A:278:ARG:HD3	1.70	0.56
2:A:920:ARG:C	2:A:922:ASN:N	2.58	0.56
2:B:239:THR:O	2:B:240:ASN:HB3	2.04	0.56
2:B:662:ILE:HG23	2:B:663:ASP:H	1.70	0.56
2:A:840:ARG:O	2:A:844:GLU:HG3	2.04	0.56
2:B:57:TYR:C	2:B:60:PRO:HD2	2.26	0.56
2:B:161:LYS:HD2	2:B:559:LEU:O	2.05	0.56
2:B:212:ILE:HD13	2:B:235:VAL:CG1	2.35	0.56
2:B:705:TYR:CD2	2:B:805:LEU:HD21	2.40	0.56
2:B:870:LYS:HE2	2:B:957:ALA:O	2.05	0.56
2:A:93:ARG:HG2	2:A:451:ARG:NH2	2.21	0.56
2:A:196:HIS:CD2	2:A:197:ASP:H	2.22	0.56
2:A:864:TYR:HD2	2:A:962:PRO:HB3	1.70	0.56
2:A:877:VAL:HG22	2:A:906:ILE:HG23	1.85	0.56
2:B:95:LYS:C	2:B:97:ARG:N	2.58	0.56
2:B:135:GLU:O	2:B:138:ILE:HG22	2.06	0.56
2:B:389:ASP:O	2:B:390:LYS:HD3	2.05	0.56
2:B:432:LEU:HD11	2:B:439:ILE:HG13	1.87	0.56
2:B:609:SER:O	2:B:640:VAL:HA	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:867:GLU:CD	2:B:867:GLU:N	2.57	0.56
2:B:918:VAL:HG11	2:B:920:ARG:HD2	1.87	0.56
2:A:93:ARG:HD3	2:A:451:ARG:NH2	2.20	0.56
2:A:481:ALA:O	2:A:484:ARG:N	2.34	0.56
2:B:44:TYR:HE1	2:B:87:ILE:CD1	2.16	0.56
2:B:165:TRP:HD1	2:B:561:PRO:HA	1.70	0.56
2:B:725:ILE:HD13	2:B:770:ARG:NH2	2.21	0.56
2:B:743:ALA:HB2	2:B:751:THR:HG22	1.87	0.56
2:B:884:LYS:O	2:B:887:MET:N	2.38	0.56
2:A:325:VAL:N	2:A:332:ASP:OD2	2.39	0.56
2:A:662:ILE:HG23	2:A:663:ASP:N	2.19	0.56
2:A:928:ARG:C	2:A:930:ALA:H	2.08	0.56
2:B:53:HIS:O	2:B:57:TYR:HD2	1.89	0.56
2:B:852:VAL:O	2:B:852:VAL:HG12	2.06	0.56
2:B:920:ARG:O	2:B:922:ASN:N	2.37	0.56
1:D:979:C:H2’	1:D:980:C:H6	1.71	0.56
2:A:16:ARG:CG	2:A:16:ARG:HH11	2.19	0.56
2:A:45:LEU:HD21	2:A:80:TRP:HB3	1.87	0.56
2:A:384:ILE:HG22	2:A:385:LYS:N	2.18	0.56
2:A:825:GLU:HG2	2:A:826:GLU:HG2	1.87	0.56
2:B:98:ASP:O	2:B:102:ILE:HG23	2.06	0.56
2:B:236:TYR:CE2	2:B:414:PRO:HG2	2.41	0.56
2:B:272:LYS:HE2	2:B:442:GLU:OE1	2.05	0.56
2:B:708:ILE:HB	2:B:805:LEU:HD13	1.87	0.56
2:B:742:ASN:HD22	2:B:742:ASN:N	2.03	0.56
2:A:27:ILE:N	2:A:28:ARG:NH2	2.53	0.56
2:A:95:LYS:C	2:A:97:ARG:N	2.58	0.56
2:A:771:THR:CG2	2:A:774:ARG:HD3	2.35	0.56
2:A:831:THR:O	2:A:835:GLU:HG3	2.06	0.56
2:A:884:LYS:O	2:A:887:MET:N	2.38	0.56
2:B:374:PRO:HG3	2:B:379:VAL:HG21	1.88	0.56
2:B:475:LYS:HG2	2:B:475:LYS:O	2.06	0.56
2:B:779:LYS:O	2:B:783:LEU:HD13	2.04	0.56
2:B:797:PHE:CD2	2:B:797:PHE:N	2.73	0.56
2:A:355:ILE:HD12	2:A:412:VAL:HG11	1.88	0.56
2:A:706:GLU:O	2:A:709:SER:HB2	2.06	0.56
2:A:953:LYS:NZ	2:A:953:LYS:HB3	2.19	0.56
2:A:67:LYS:CE	2:A:70:GLN:NE2	2.69	0.56
2:A:212:ILE:HD13	2:A:235:VAL:HG12	1.88	0.56
2:A:690:ARG:HH12	2:A:693:GLU:HG3	1.70	0.56
2:A:860:ARG:HH22	2:A:862:TYR:CB	2.18	0.56

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:B:767:TYR:HE2	2:B:783:LEU:CD1	2.19	0.56
1:C:905:G:H2'	1:C:906:G:O4'	2.06	0.56
2:A:82:ILE:HG13	2:A:153:THR:CG2	2.33	0.56
2:A:708:ILE:HD12	2:A:791:VAL:HG23	1.87	0.56
2:A:866:ALA:HB3	2:A:955:LYS:NZ	2.21	0.56
2:B:551:GLU:O	2:B:553:LYS:N	2.39	0.56
2:B:744:LEU:HD23	2:B:752:ALA:HB2	1.87	0.56
2:B:935:GLU:CD	2:B:942:ILE:H	2.09	0.56
2:A:468:ASP:C	2:A:470:GLY:H	2.08	0.55
2:A:675:LEU:HD12	2:A:697:LEU:HD21	1.88	0.55
2:A:728:TRP:O	2:A:731:HIS:N	2.38	0.55
2:A:863:ILE:HG13	2:A:945:ASN:OD1	2.05	0.55
2:B:613:LEU:O	2:B:618:LEU:HB2	2.06	0.55
2:B:746:GLU:O	2:B:748:ARG:HG3	2.06	0.55
2:B:868:ASP:O	2:B:870:LYS:N	2.39	0.55
2:A:112:PRO:HG2	2:A:115:ILE:HD12	1.87	0.55
2:A:331:PHE:HD1	2:A:334:VAL:HG21	1.72	0.55
2:B:167:PHE:O	2:B:170:LEU:HB2	2.06	0.55
2:B:727:ARG:HG2	2:B:727:ARG:NH1	2.21	0.55
1:C:920:G:H4'	1:C:920:G:OP1	2.06	0.55
2:A:198:LEU:H	2:A:198:LEU:HD12	1.70	0.55
2:A:631:GLU:HA	2:A:634:TRP:CD1	2.42	0.55
2:A:933:PHE:C	2:A:933:PHE:HD1	2.08	0.55
2:B:468:ASP:C	2:B:470:GLY:H	2.09	0.55
2:B:555:ASP:OD2	2:B:558:LYS:HE2	2.07	0.55
2:B:636:LYS:HZ2	2:B:636:LYS:HB3	1.71	0.55
2:B:920:ARG:C	2:B:922:ASN:N	2.60	0.55
1:D:980:C:O2'	1:D:981:C:H5'	2.06	0.55
2:A:84:GLY:O	2:A:513:GLY:HA3	2.07	0.55
2:A:349:TYR:H	2:A:349:TYR:HD1	1.55	0.55
2:A:644:GLY:O	2:A:650:LYS:NZ	2.38	0.55
2:A:767:TYR:HE2	2:A:783:LEU:HD13	1.70	0.55
2:A:859:LYS:CB	2:A:941:GLU:HB3	2.33	0.55
2:A:868:ASP:O	2:A:870:LYS:N	2.40	0.55
2:B:878:SER:CB	2:B:915:THR:HG22	2.36	0.55
2:A:297:ARG:HG2	2:A:304:GLU:CD	2.27	0.55
2:A:488:LEU:HA	2:A:489:PRO:C	2.27	0.55
2:B:314:ASP:HB3	2:B:317:ASN:HB3	1.88	0.55
2:B:835:GLU:O	2:B:838:PHE:HB3	2.07	0.55
2:B:847:LYS:O	2:B:851:GLU:HG3	2.06	0.55
2:A:142:PHE:C	2:A:144:VAL:H	2.11	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:884:LYS:O	2:A:886:SER:N	2.40	0.55
2:B:142:PHE:C	2:B:144:VAL:H	2.10	0.55
2:B:235:VAL:HB	2:B:300:VAL:HG11	1.88	0.55
2:B:860:ARG:CZ	2:B:860:ARG:C	2.75	0.55
2:B:884:LYS:HG2	2:B:888:GLU:OE1	2.07	0.55
2:A:66:PHE:CE2	2:A:70:GLN:NE2	2.69	0.55
2:A:469:TYR:HB3	2:A:503:LEU:HD23	1.89	0.55
2:A:567:ILE:HA	2:A:595:LYS:CD	2.28	0.55
2:B:508:CYS:O	2:B:509:ALA:HB2	2.06	0.55
2:A:555:ASP:OD2	2:A:558:LYS:HG2	2.07	0.55
2:A:733:LEU:HD11	2:A:789:VAL:HG21	1.89	0.55
2:B:489:PRO:HG3	2:B:684:ASP:OD2	2.06	0.55
2:B:537:ALA:O	2:B:540:THR:HG22	2.07	0.55
2:A:58:THR:O	2:A:62:VAL:HG23	2.07	0.54
2:A:342:GLU:CG	2:A:343:THR:N	2.68	0.54
2:A:714:TYR:CD1	2:A:780:ARG:HG2	2.42	0.54
2:A:766:TRP:CH2	2:A:836:GLU:OE1	2.60	0.54
2:B:84:GLY:O	2:B:513:GLY:HA3	2.07	0.54
2:B:139:ARG:HH11	2:B:139:ARG:CG	2.19	0.54
2:B:471:ASN:CG	2:B:473:GLU:HG2	2.28	0.54
2:B:864:TYR:HD2	2:B:962:PRO:HB3	1.72	0.54
1:D:933:G:O2’	1:D:934:A:H5’	2.07	0.54
2:A:152:THR:HG22	2:A:159:PHE:CE1	2.43	0.54
2:B:136:THR:HG22	2:B:661:PHE:CD2	2.41	0.54
2:B:219:ASN:OD1	2:B:220:GLY:N	2.41	0.54
2:A:388:LYS:HD3	2:A:389:ASP:N	2.21	0.54
2:A:480:LYS:CE	2:A:484:ARG:NH2	2.64	0.54
2:A:784:ARG:CZ	2:A:809:LEU:HD23	2.37	0.54
2:B:432:LEU:HD13	2:B:437:ALA:O	2.06	0.54
1:C:986:C:C5	2:A:181:HIS:NE2	2.72	0.54
2:A:27:ILE:H	2:A:28:ARG:HH21	1.54	0.54
2:A:49:LEU:H	2:A:49:LEU:CD1	2.13	0.54
2:A:75:LEU:HD12	2:A:76:PHE:N	2.22	0.54
2:A:922:ASN:HD22	2:A:923:GLU:CA	2.18	0.54
2:B:536:MET:N	2:B:536:MET:SD	2.81	0.54
2:B:728:TRP:O	2:B:731:HIS:N	2.38	0.54
2:B:753:VAL:HG23	2:B:797:PHE:CE1	2.42	0.54
2:A:67:LYS:HE2	2:A:70:GLN:NE2	2.23	0.54
2:A:282:VAL:HG12	2:A:283:ILE:N	2.22	0.54
2:A:623:PHE:O	2:A:626:VAL:HG22	2.08	0.54
2:A:964:ILE:HD12	2:A:965:PHE:N	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:173:LYS:HB3	2:B:175:TYR:CE2	2.43	0.54
2:B:298:ASN:HD22	2:B:299:PRO:HD2	1.71	0.54
2:B:730:LEU:HD22	2:B:827:TRP:CZ2	2.42	0.54
2:A:98:ASP:O	2:A:102:ILE:HG23	2.07	0.54
2:A:343:THR:HG23	2:A:344:GLU:HG2	1.89	0.54
2:A:377:GLU:O	2:A:378:GLU:HB2	2.07	0.54
2:A:734:ASN:OD1	2:A:823:PRO:CA	2.56	0.54
2:B:206:ILE:O	2:B:206:ILE:HG22	2.08	0.54
2:B:275:PHE:O	2:B:277:ASP:N	2.39	0.54
2:B:567:ILE:O	2:B:568:PHE:CG	2.60	0.54
2:B:729:MET:HG3	2:B:729:MET:O	2.07	0.54
2:B:757:PHE:CD1	2:B:794:MET:SD	2.99	0.54
1:D:914:A:H4’	2:B:750:ARG:HH22	1.72	0.54
1:D:960:C:O2’	1:D:961:C:OP2	2.16	0.54
2:A:51:VAL:HG23	2:A:52:GLY:N	2.23	0.54
2:A:75:LEU:HD23	2:A:601:TRP:CG	2.42	0.54
2:A:560:THR:HB	2:A:561:PRO:CD	2.38	0.54
2:A:724:ASP:HB2	2:A:929:GLU:OE2	2.07	0.54
2:B:48:HIS:HB2	2:B:109:TYR:HD1	1.73	0.54
2:B:50:HIS:ND1	2:B:52:GLY:N	2.56	0.54
2:B:213:LYS:NZ	2:B:213:LYS:HB3	2.21	0.54
2:B:226:PRO:HG3	2:B:263:TRP:CE3	2.43	0.54
2:B:343:THR:HG23	2:B:344:GLU:N	2.21	0.54
2:B:413:PRO:CB	2:B:414:PRO:HD3	2.33	0.54
2:A:67:LYS:CD	2:A:70:GLN:HE21	2.18	0.54
2:B:45:LEU:HD13	2:B:130:MET:CB	2.38	0.54
2:B:347:GLU:OE1	2:B:348:LYS:N	2.39	0.54
2:B:467:ILE:HG13	2:B:508:CYS:CB	2.37	0.54
2:B:475:LYS:HA	2:B:623:PHE:HE1	1.72	0.54
2:A:388:LYS:HD3	2:A:389:ASP:HB2	1.89	0.54
2:A:860:ARG:NH2	2:A:862:TYR:N	2.56	0.54
2:A:923:GLU:N	2:A:923:GLU:CD	2.61	0.54
2:B:51:VAL:HG23	2:B:659:LEU:HB3	1.89	0.54
2:B:188:VAL:HG23	2:B:189:VAL:N	2.16	0.54
2:B:393:LEU:HD12	2:B:396:ALA:HB3	1.88	0.54
2:B:776:ASP:OD2	2:B:778:ALA:HB3	2.08	0.54
2:B:838:PHE:O	2:B:842:VAL:HG23	2.07	0.54
1:C:955:G:OP1	2:A:961:LYS:NZ	2.39	0.54
2:A:62:VAL:HG21	2:A:678:MET:CE	2.38	0.54
2:A:150:PHE:HD1	2:A:151:TYR:O	1.91	0.54
2:A:420:VAL:HG12	2:A:424:LYS:NZ	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:420:VAL:C	2:A:422:GLU:H	2.12	0.54
2:A:495:GLN:HG2	2:A:614:ILE:HG21	1.90	0.54
2:A:609:SER:O	2:A:640:VAL:HA	2.08	0.54
2:A:824:VAL:CG1	2:A:827:TRP:HE3	2.20	0.54
2:A:867:GLU:CD	2:A:867:GLU:N	2.58	0.54
2:B:243:VAL:HG12	2:B:321:VAL:HG12	1.90	0.54
1:C:985:A:H2'	1:C:986:C:C4	2.43	0.53
2:A:15:LYS:NZ	2:A:15:LYS:HB3	2.23	0.53
2:A:216:LEU:HB2	2:A:296:VAL:HG12	1.91	0.53
2:A:508:CYS:O	2:A:509:ALA:HB2	2.07	0.53
2:A:953:LYS:HB3	2:A:953:LYS:HZ3	1.72	0.53
2:B:55:ARG:HD2	2:B:687:PHE:CE1	2.44	0.53
2:B:710:GLN:O	2:B:712:ALA:N	2.41	0.53
2:B:871:TRP:CD1	2:B:959:PRO:HB3	2.42	0.53
2:A:12:LYS:NZ	2:A:16:ARG:NH1	2.55	0.53
2:A:193:LEU:HG	2:A:197:ASP:HB2	1.90	0.53
2:B:616:ASN:HA	2:B:620:PHE:CE1	2.44	0.53
2:B:725:ILE:HD13	2:B:770:ARG:HH21	1.72	0.53
2:B:733:LEU:CD1	2:B:789:VAL:HG11	2.28	0.53
2:A:233:GLU:HB3	2:A:423:VAL:CG2	2.36	0.53
2:A:263:TRP:CH2	2:A:438:GLU:OE1	2.62	0.53
2:A:555:ASP:OD2	2:A:558:LYS:HE2	2.09	0.53
2:A:730:LEU:O	2:A:827:TRP:NE1	2.42	0.53
2:B:66:PHE:CG	2:B:744:LEU:HD12	2.43	0.53
2:B:182:ARG:O	2:B:183:VAL:HB	2.07	0.53
2:B:235:VAL:HG23	2:B:236:TYR:N	2.23	0.53
2:B:240:ASN:HA	2:B:305:VAL:HB	1.90	0.53
2:B:729:MET:HE2	2:B:729:MET:HA	1.90	0.53
2:B:855:ILE:O	2:B:856:GLU:HB2	2.07	0.53
2:A:39:THR:HG23	2:A:604:LEU:CD1	2.36	0.53
2:A:826:GLU:O	2:A:828:TRP:N	2.40	0.53
2:A:860:ARG:HB3	2:A:966:ILE:HA	1.90	0.53
2:B:42:PHE:O	2:B:42:PHE:HD1	1.91	0.53
2:B:166:GLN:NE2	2:B:534:ILE:HG12	2.23	0.53
2:B:475:LYS:O	2:B:479:ARG:NH1	2.41	0.53
2:B:966:ILE:O	2:B:967:GLU:CB	2.57	0.53
2:A:242:TRP:CD1	2:A:310:ALA:HB2	2.44	0.53
2:A:336:LEU:O	2:A:338:ASP:N	2.42	0.53
2:A:459:LYS:HG2	2:A:460:ILE:N	2.22	0.53
2:A:923:GLU:CD	2:A:923:GLU:H	2.11	0.53
2:B:461:ILE:CG2	2:B:464:GLN:HB2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:256:ARG:NH1	2:A:278:ARG:HD3	2.24	0.53
2:A:733:LEU:HD11	2:A:789:VAL:CB	2.38	0.53
2:A:884:LYS:NZ	2:A:884:LYS:HB2	2.23	0.53
2:B:253:LYS:NZ	2:B:283:ILE:HD11	2.23	0.53
2:B:340:LYS:HZ2	2:B:341:ARG:HH12	1.55	0.53
2:B:488:LEU:HA	2:B:489:PRO:C	2.29	0.53
2:B:681:ALA:N	2:B:750:ARG:HG3	2.23	0.53
2:B:797:PHE:H	2:B:797:PHE:HD2	1.56	0.53
2:B:39:THR:HG22	2:B:40:VAL:N	2.23	0.53
2:B:79:ALA:HB2	2:B:539:TYR:HE2	1.73	0.53
2:B:336:LEU:O	2:B:338:ASP:N	2.42	0.53
2:B:620:PHE:N	2:B:620:PHE:CD1	2.76	0.53
1:C:985:A:H2’	1:C:986:C:C5	2.44	0.53
2:A:173:LYS:HD3	2:A:175:TYR:CE2	2.44	0.53
2:A:198:LEU:HD13	2:A:202:GLU:OE1	2.09	0.53
2:A:887:MET:HE2	2:A:891:MET:HG2	1.90	0.53
2:B:66:PHE:CE2	2:B:744:LEU:HB3	2.44	0.53
2:B:171:LYS:HD2	2:B:520:TRP:CZ3	2.44	0.53
2:B:384:ILE:HG22	2:B:385:LYS:N	2.20	0.53
2:B:395:GLN:HG3	2:B:396:ALA:N	2.24	0.53
2:B:860:ARG:NE	2:B:942:ILE:HA	2.20	0.53
2:B:884:LYS:O	2:B:886:SER:N	2.41	0.53
2:A:51:VAL:HG13	2:A:659:LEU:HB3	1.90	0.53
2:A:235:VAL:HA	2:A:323:MET:CE	2.38	0.53
2:A:676:TYR:HB2	2:A:697:LEU:HD23	1.91	0.53
2:A:751:THR:O	2:A:752:ALA:C	2.48	0.53
2:B:44:TYR:CD1	2:B:44:TYR:C	2.82	0.53
2:B:751:THR:O	2:B:752:ALA:C	2.47	0.53
2:B:860:ARG:HA	2:B:966:ILE:HA	1.90	0.53
1:C:988:A:C5’	2:A:528:SER:OG	2.57	0.53
1:D:902:C:C2’	1:D:903:G:H5”	2.38	0.53
2:A:150:PHE:CE2	2:A:538:TYR:HD2	2.27	0.53
2:B:54:ALA:HB1	2:B:661:PHE:CE1	2.44	0.53
2:A:17:TRP:CZ3	2:A:800:HIS:CD2	2.97	0.52
2:A:136:THR:CG2	2:A:662:ILE:HB	2.39	0.52
2:B:687:PHE:C	2:B:687:PHE:CD2	2.82	0.52
2:A:241:MET:HG3	2:A:296:VAL:HG21	1.90	0.52
2:A:528:SER:OG	2:A:529:LEU:HD12	2.09	0.52
2:A:716:VAL:O	2:A:716:VAL:HG12	2.09	0.52
2:A:766:TRP:CZ3	2:A:836:GLU:OE1	2.63	0.52
2:A:801:ILE:O	2:A:805:LEU:HG	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:733:LEU:O	2:B:737:ILE:HG13	2.09	0.52
2:B:761:MET:SD	2:B:790:TRP:HH2	2.32	0.52
2:B:781:TYR:CZ	2:B:785:THR:HG21	2.44	0.52
2:A:662:ILE:HG23	2:A:663:ASP:H	1.74	0.52
2:A:826:GLU:OE2	2:A:826:GLU:N	2.42	0.52
2:B:703:ARG:HD2	2:B:707:LEU:CD1	2.37	0.52
2:B:782:VAL:HG12	2:B:783:LEU:HD12	1.91	0.52
1:D:988:A:C8	2:B:529:LEU:HD21	2.44	0.52
2:A:188:VAL:CG2	2:A:189:VAL:H	2.07	0.52
2:B:82:ILE:HG13	2:B:153:THR:HG23	1.91	0.52
2:B:83:THR:HG23	2:B:152:THR:HB	1.91	0.52
2:B:297:ARG:NH2	2:B:297:ARG:CB	2.72	0.52
2:B:420:VAL:C	2:B:422:GLU:H	2.12	0.52
2:B:486:LYS:H	2:B:637:GLY:HA2	1.74	0.52
2:B:624:ASN:HD22	2:B:624:ASN:N	2.08	0.52
2:B:625:HIS:CD2	2:B:635:PRO:HD3	2.44	0.52
2:B:720:VAL:HG12	2:B:777:GLU:HG2	1.91	0.52
2:A:292:ILE:HD13	2:A:307:ILE:HG22	1.91	0.52
2:A:482:LEU:CD1	2:A:500:ILE:HD11	2.38	0.52
2:B:223:ILE:HD11	2:B:264:ILE:HG13	1.92	0.52
2:B:661:PHE:CE2	2:B:665:ILE:HD11	2.44	0.52
2:B:722:LEU:H	2:B:722:LEU:HD22	1.71	0.52
2:B:723:LYS:HG3	2:B:724:ASP:N	2.24	0.52
2:A:14:GLN:O	2:A:18:LEU:HB2	2.08	0.52
2:A:234:THR:O	2:A:325:VAL:HG21	2.10	0.52
2:A:752:ALA:O	2:A:755:TRP:N	2.43	0.52
2:A:860:ARG:O	2:A:860:ARG:CZ	2.58	0.52
2:B:100:LYS:O	2:B:104:ILE:HG13	2.10	0.52
2:B:356:VAL:HG21	2:B:411:LYS:HB2	1.91	0.52
2:B:764:LEU:O	2:B:768:LEU:HG	2.08	0.52
2:A:342:GLU:N	2:A:342:GLU:OE2	2.41	0.52
2:A:355:ILE:HG22	2:A:356:VAL:N	2.21	0.52
2:B:803:GLU:HG2	2:B:815:VAL:HG12	1.92	0.52
2:A:323:MET:HG3	2:A:323:MET:O	2.08	0.52
2:B:671:ASP:OD1	2:B:799:PRO:HD2	2.10	0.52
2:B:826:GLU:O	2:B:828:TRP:N	2.42	0.52
2:A:37:TYR:HD2	2:A:38:ILE:H	1.58	0.52
2:B:241:MET:HG3	2:B:296:VAL:HG21	1.91	0.52
2:B:345:ILE:CG1	2:B:346:LEU:N	2.73	0.52
2:B:676:TYR:O	2:B:679:SER:HB3	2.10	0.52
2:A:480:LYS:HG2	2:A:484:ARG:NH2	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:24:GLU:CD	2:B:147:SER:HB2	2.30	0.52
2:B:232:PRO:HD2	2:B:424:LYS:HG3	1.92	0.52
2:B:233:GLU:OE2	2:B:234:THR:N	2.42	0.52
2:B:433:GLU:HA	2:B:433:GLU:OE2	2.10	0.52
2:B:558:LYS:O	2:B:584:THR:HG22	2.10	0.52
2:A:177:VAL:HG23	2:A:466:PHE:HB2	1.92	0.51
2:A:864:TYR:CG	2:A:865:THR:N	2.77	0.51
2:B:44:TYR:C	2:B:44:TYR:HD1	2.14	0.51
2:B:266:SER:HB3	2:B:269:ALA:CB	2.41	0.51
2:B:956:GLN:O	2:B:956:GLN:HG2	2.09	0.51
2:A:44:TYR:OH	2:A:87:ILE:HG12	2.09	0.51
2:A:326:PRO:HA	2:A:332:ASP:CB	2.40	0.51
2:A:373:PHE:HD1	2:A:374:PRO:HD3	1.68	0.51
2:A:486:LYS:H	2:A:637:GLY:HA2	1.75	0.51
2:A:496:PHE:HE1	2:A:614:ILE:CG1	2.18	0.51
2:A:860:ARG:CZ	2:A:861:ALA:HA	2.39	0.51
2:B:35:LYS:HB2	2:B:601:TRP:HZ3	1.75	0.51
2:B:273:LEU:HA	2:B:276:GLN:HG3	1.92	0.51
2:B:834:ALA:O	2:B:837:GLU:OE2	2.29	0.51
2:B:915:THR:O	2:B:916:PHE:HD2	1.93	0.51
2:A:36:PHE:O	2:A:36:PHE:CD2	2.64	0.51
2:A:65:ARG:O	2:A:68:ARG:N	2.44	0.51
2:A:555:ASP:HB3	2:A:558:LYS:HG2	1.93	0.51
2:A:672:VAL:HG21	2:A:698:ARG:HG3	1.93	0.51
2:A:789:VAL:O	2:A:790:TRP:C	2.49	0.51
2:B:427:ILE:HG22	2:B:431:MET:SD	2.50	0.51
2:B:679:SER:O	2:B:750:ARG:HG2	2.10	0.51
2:B:863:ILE:HG22	2:B:953:LYS:HG2	1.92	0.51
2:A:102:ILE:HD12	2:A:102:ILE:C	2.30	0.51
2:A:148:ARG:NH1	2:A:597:GLU:OE1	2.43	0.51
2:B:62:VAL:HG21	2:B:678:MET:CE	2.39	0.51
2:B:235:VAL:HG23	2:B:236:TYR:H	1.76	0.51
2:A:488:LEU:HD22	2:A:683:HIS:HE1	1.75	0.51
2:A:722:LEU:HD23	2:A:722:LEU:O	2.10	0.51
2:B:789:VAL:O	2:B:790:TRP:C	2.49	0.51
2:B:913:GLU:O	2:B:914:ARG:O	2.29	0.51
2:B:946:PRO:HG2	2:B:953:LYS:HE2	1.92	0.51
2:A:53:HIS:O	2:A:57:TYR:HD2	1.93	0.51
2:A:268:GLU:O	2:A:271:TYR:HB3	2.11	0.51
2:A:306:ILE:CG1	2:A:307:ILE:N	2.74	0.51
2:A:423:VAL:C	2:A:425:GLU:N	2.64	0.51

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:A:630:ARG:O	2:A:632:GLU:N	2.38	0.51
2:B:44:TYR:OH	2:B:86:PRO:HD2	2.11	0.51
2:B:67:LYS:HE3	2:B:72:TYR:CE1	2.45	0.51
2:B:297:ARG:CB	2:B:297:ARG:HH21	2.24	0.51
2:B:391:GLU:HG3	2:B:394:GLU:HB2	1.93	0.51
2:B:678:MET:CE	2:B:749:THR:HG21	2.40	0.51
2:B:717:LYS:O	2:B:717:LYS:HD3	2.11	0.51
2:A:480:LYS:HA	2:A:483:GLU:OE1	2.11	0.51
2:A:803:GLU:OE1	2:A:815:VAL:HG23	2.11	0.51
2:B:547:LYS:O	2:B:550:GLN:HB3	2.10	0.51
2:B:636:LYS:HB3	2:B:636:LYS:NZ	2.25	0.51
2:B:870:LYS:O	2:B:872:LYS:N	2.43	0.51
1:C:916:C:O2’	1:C:972:U:H1’	2.10	0.51
1:D:961:C:O2	1:D:961:C:H2’	2.10	0.51
2:A:51:VAL:O	2:A:54:ALA:CB	2.56	0.51
2:A:268:GLU:H	2:A:268:GLU:CD	2.12	0.51
2:A:860:ARG:CZ	2:A:861:ALA:CA	2.89	0.51
2:A:913:GLU:O	2:A:914:ARG:O	2.29	0.51
2:B:45:LEU:HD13	2:B:130:MET:HA	1.92	0.51
2:B:793:LEU:HD23	2:B:821:PRO:HG3	1.93	0.51
1:C:949:C:C2	1:C:957:G:N2	2.79	0.51
2:A:93:ARG:HG3	2:A:93:ARG:HH11	1.74	0.51
2:A:95:LYS:O	2:A:97:ARG:N	2.44	0.51
2:A:112:PRO:CG	2:A:115:ILE:HD12	2.41	0.51
2:A:168:TRP:NE1	2:A:519:PRO:HB2	2.25	0.51
2:A:239:THR:HG21	2:A:326:PRO:HD2	1.92	0.51
2:A:690:ARG:HH11	2:A:693:GLU:CG	2.20	0.51
2:A:838:PHE:HE2	2:A:922:ASN:ND2	2.09	0.51
2:B:630:ARG:O	2:B:632:GLU:N	2.41	0.51
2:B:742:ASN:O	2:B:743:ALA:C	2.49	0.51
2:A:819:LYS:H	2:A:819:LYS:CD	2.24	0.51
2:A:871:TRP:NE1	2:A:959:PRO:HB3	2.26	0.51
2:A:873:VAL:CG1	2:A:906:ILE:HG12	2.40	0.51
2:B:200:GLU:HG2	2:B:201:GLY:N	2.26	0.51
2:B:860:ARG:CB	2:B:966:ILE:HA	2.41	0.51
1:D:902:C:H2’	1:D:903:G:H5”	1.92	0.50
2:A:332:ASP:O	2:A:333:HIS:HB2	2.11	0.50
2:A:490:GLU:OE1	2:A:493:ARG:HB2	2.11	0.50
2:A:751:THR:O	2:A:754:GLN:N	2.43	0.50
2:A:919:LYS:HD2	2:A:960:LEU:HD13	1.93	0.50
2:B:915:THR:OG1	2:B:916:PHE:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:217:ARG:HH21	2:A:222:VAL:CG1	2.24	0.50
2:A:269:ALA:O	2:A:273:LEU:HD12	2.10	0.50
2:A:880:LYS:HG3	2:A:886:SER:HA	1.92	0.50
2:A:950:LYS:H	2:A:953:LYS:NZ	2.10	0.50
2:B:51:VAL:CG2	2:B:659:LEU:HB3	2.41	0.50
2:B:160:SER:O	2:B:164:GLU:HG3	2.11	0.50
2:B:743:ALA:HB2	2:B:751:THR:CG2	2.41	0.50
2:A:135:GLU:O	2:A:138:ILE:HG22	2.11	0.50
2:A:676:TYR:HA	2:A:697:LEU:CD2	2.41	0.50
2:A:793:LEU:HD23	2:A:821:PRO:CG	2.41	0.50
2:B:51:VAL:CG2	2:B:659:LEU:HD23	2.40	0.50
2:B:51:VAL:HG21	2:B:659:LEU:HD23	1.92	0.50
2:B:148:ARG:HB3	2:B:542:SER:HB3	1.93	0.50
2:B:210:ILE:C	2:B:210:ILE:HD12	2.31	0.50
2:B:540:THR:HG21	2:B:598:PHE:HD1	1.76	0.50
2:B:730:LEU:HB3	2:B:827:TRP:CD1	2.46	0.50
1:C:941:A:O3'	2:A:699:LYS:NZ	2.32	0.50
2:A:41:ALA:HA	2:A:607:ARG:HH22	1.75	0.50
2:A:172:GLU:OE1	2:A:172:GLU:N	2.45	0.50
2:A:240:ASN:O	2:A:324:SER:HB3	2.11	0.50
2:A:275:PHE:O	2:A:277:ASP:N	2.39	0.50
2:A:871:TRP:CD2	2:A:920:ARG:NH2	2.78	0.50
2:A:884:LYS:HG3	2:A:888:GLU:HG3	1.93	0.50
2:B:94:ILE:HD11	2:B:120:GLU:N	2.27	0.50
2:B:242:TRP:HH2	2:B:332:ASP:HA	1.75	0.50
2:B:395:GLN:O	2:B:399:THR:HG23	2.10	0.50
2:B:910:LEU:C	2:B:910:LEU:HD13	2.32	0.50
2:A:235:VAL:HG23	2:A:236:TYR:N	2.26	0.50
2:A:354:ARG:HE	2:A:375:ALA:C	2.13	0.50
2:A:381:LYS:NZ	2:A:381:LYS:C	2.64	0.50
2:B:495:GLN:HG2	2:B:614:ILE:HG21	1.92	0.50
2:B:782:VAL:HG12	2:B:783:LEU:N	2.26	0.50
2:A:61:ASP:OD1	2:A:143:SER:N	2.25	0.50
2:A:72:TYR:O	2:A:74:VAL:HG23	2.11	0.50
2:A:413:PRO:CB	2:A:414:PRO:HD3	2.42	0.50
2:B:244:ASN:HB2	2:B:313:VAL:HG23	1.94	0.50
2:B:327:ALA:HB2	2:B:353:PRO:O	2.12	0.50
2:A:98:ASP:OD2	2:A:99:PRO:HD2	2.11	0.50
2:A:231:ARG:HB3	2:A:233:GLU:CD	2.32	0.50
2:A:235:VAL:HG11	2:A:431:MET:CE	2.42	0.50
2:A:389:ASP:O	2:A:390:LYS:HD3	2.12	0.50

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:A:781:TYR:O	2:A:785:THR:HG23	2.12	0.50
2:A:817:LEU:N	2:A:817:LEU:HD23	2.27	0.50
2:A:862:TYR:OH	2:A:926:ALA:HB1	2.11	0.50
2:A:863:ILE:CB	2:A:953:LYS:HD3	2.41	0.50
2:B:196:HIS:CD2	2:B:197:ASP:H	2.30	0.50
2:B:482:LEU:HD11	2:B:496:PHE:HB3	1.94	0.50
2:B:587:PRO:HB2	2:B:590:ILE:CG1	2.35	0.50
2:A:235:VAL:HG23	2:A:236:TYR:H	1.76	0.50
2:A:300:VAL:HG13	2:A:301:SER:N	2.27	0.50
2:A:425:GLU:O	2:A:429:LYS:HD3	2.11	0.50
2:A:569:LEU:N	2:A:569:LEU:HD12	2.26	0.50
2:A:860:ARG:HA	2:A:966:ILE:HA	1.93	0.50
2:A:931:LYS:HE2	2:A:942:ILE:HG22	1.92	0.50
2:A:947:THR:HG23	2:A:948:GLU:H	1.77	0.50
1:C:909:U:H5”	1:C:910:G:OP2	2.12	0.50
2:A:232:PRO:HD2	2:A:424:LYS:HG3	1.93	0.50
2:A:252:ALA:HB2	2:A:282:VAL:HA	1.94	0.50
2:A:292:ILE:HG13	2:A:309:PRO:HB3	1.94	0.50
2:A:382:LEU:C	2:A:384:ILE:H	2.15	0.50
2:A:474:TRP:NE1	2:A:627:ALA:HB2	2.27	0.50
2:A:855:ILE:HG23	2:A:855:ILE:O	2.10	0.50
2:B:866:ALA:HB3	2:B:869:TRP:CD1	2.47	0.50
1:C:916:C:C5’	1:C:917:C:C5	2.86	0.49
2:A:79:ALA:HB2	2:A:539:TYR:HE2	1.76	0.49
2:A:85:SER:H	2:A:86:PRO:HD3	1.78	0.49
2:A:393:LEU:C	2:A:395:GLN:H	2.15	0.49
2:A:568:PHE:HD1	2:A:598:PHE:CE2	2.30	0.49
2:B:49:LEU:HA	2:B:53:HIS:HD2	1.77	0.49
2:B:268:GLU:OE2	2:B:315:PRO:HB2	2.11	0.49
2:B:330:PRO:CD	2:B:400:ILE:HG12	2.42	0.49
2:B:871:TRP:CE3	2:B:920:ARG:NH1	2.80	0.49
2:B:921:ILE:HD12	2:B:928:ARG:NH2	2.27	0.49
2:A:45:LEU:HD13	2:A:130:MET:HB2	1.94	0.49
2:A:142:PHE:O	2:A:144:VAL:N	2.45	0.49
2:A:870:LYS:O	2:A:872:LYS:N	2.44	0.49
2:A:924:GLU:OE1	2:A:927:LEU:HD22	2.13	0.49
2:B:175:TYR:CE1	2:B:474:TRP:HB2	2.47	0.49
2:B:185:TRP:CD1	2:B:186:ASP:N	2.81	0.49
2:B:587:PRO:O	2:B:591:ILE:HG12	2.12	0.49
2:B:966:ILE:O	2:B:966:ILE:HG13	2.12	0.49
2:A:41:ALA:HB2	2:A:607:ARG:HH21	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:111:VAL:HG22	2:A:128:TYR:CE2	2.31	0.49
2:A:697:LEU:O	2:A:701:ILE:HG12	2.12	0.49
2:A:878:SER:CB	2:A:915:THR:HG22	2.42	0.49
2:B:196:HIS:HD2	2:B:197:ASP:H	1.58	0.49
2:B:282:VAL:CG1	2:B:283:ILE:N	2.72	0.49
2:B:662:ILE:HG23	2:B:663:ASP:N	2.25	0.49
2:A:616:ASN:HB2	2:A:620:PHE:CE2	2.47	0.49
2:A:717:LYS:HD2	2:A:777:GLU:OE2	2.12	0.49
2:A:894:SER:C	2:A:896:ILE:N	2.65	0.49
2:B:42:PHE:O	2:B:42:PHE:CD1	2.65	0.49
2:B:95:LYS:O	2:B:97:ARG:N	2.45	0.49
2:B:297:ARG:HB3	2:B:297:ARG:CZ	2.41	0.49
2:B:354:ARG:HD2	2:B:376:VAL:HG12	1.95	0.49
2:B:455:ARG:HG2	2:B:455:ARG:HH11	1.78	0.49
2:B:746:GLU:OE1	2:B:748:ARG:HD2	2.13	0.49
2:B:846:ILE:HD12	2:B:938:LEU:HD21	1.94	0.49
2:B:907:VAL:O	2:B:910:LEU:HB3	2.12	0.49
1:C:958:U:H6	1:C:958:U:H3’	1.78	0.49
2:A:467:ILE:HG21	2:A:469:TYR:CZ	2.47	0.49
2:A:691:ARG:HH11	2:A:691:ARG:CG	2.26	0.49
2:B:185:TRP:HZ2	2:B:190:GLY:HA2	1.75	0.49
2:B:273:LEU:HB3	2:B:280:ILE:HD11	1.94	0.49
2:B:423:VAL:C	2:B:425:GLU:N	2.66	0.49
2:A:218:GLU:HG3	2:A:219:ASN:N	2.28	0.49
2:B:79:ALA:O	2:B:80:TRP:CE3	2.65	0.49
2:B:488:LEU:HD12	2:B:606:TRP:CZ3	2.46	0.49
2:B:724:ASP:HB2	2:B:929:GLU:OE2	2.11	0.49
2:B:741:THR:HA	2:B:820:TRP:CH2	2.47	0.49
2:A:66:PHE:CZ	2:A:70:GLN:OE1	2.66	0.49
2:A:214:PHE:CE2	2:A:298:ASN:HA	2.48	0.49
2:A:240:ASN:HA	2:A:305:VAL:HB	1.93	0.49
2:A:730:LEU:HD22	2:A:827:TRP:HZ2	1.78	0.49
2:A:947:THR:CG2	2:A:948:GLU:N	2.75	0.49
2:B:298:ASN:HD22	2:B:299:PRO:CD	2.25	0.49
2:B:889:GLU:HG3	2:B:889:GLU:O	2.11	0.49
1:C:910:G:C6	1:C:911:C:N4	2.81	0.49
1:C:941:A:H2’	1:C:942:U:C6	2.48	0.49
2:A:184:ARG:NH1	2:A:195:ASP:OD2	2.46	0.49
2:A:184:ARG:NH2	2:A:202:GLU:O	2.45	0.49
2:A:691:ARG:NH1	2:A:691:ARG:HG2	2.26	0.49
2:A:871:TRP:CZ3	2:A:918:VAL:HA	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:22:ILE:CG1	2:B:817:LEU:HD21	2.42	0.49
2:B:151:TYR:CE1	2:B:156:PHE:HD1	2.30	0.49
2:B:163:ILE:O	2:B:166:GLN:HB3	2.13	0.49
2:B:393:LEU:C	2:B:395:GLN:H	2.16	0.49
2:B:474:TRP:CZ2	2:B:623:PHE:HB3	2.47	0.49
1:D:935:C:H5'	1:D:936:U:H5"	1.95	0.49
2:A:227:ALA:CA	2:A:321:VAL:HG23	2.31	0.49
2:A:826:GLU:N	2:A:826:GLU:CD	2.63	0.49
2:B:172:GLU:OE1	2:B:172:GLU:N	2.46	0.49
2:B:212:ILE:HD13	2:B:431:MET:HE1	1.94	0.49
2:B:213:LYS:HB3	2:B:213:LYS:HZ2	1.77	0.49
2:B:540:THR:HG21	2:B:598:PHE:HB2	1.93	0.49
2:B:751:THR:O	2:B:754:GLN:N	2.45	0.49
2:B:860:ARG:HH22	2:B:861:ALA:C	2.16	0.49
2:B:922:ASN:O	2:B:925:LYS:N	2.44	0.49
2:A:196:HIS:CD2	2:A:197:ASP:N	2.81	0.49
2:A:237:GLY:C	2:A:325:VAL:HG22	2.33	0.49
2:A:311:GLU:HG2	2:A:389:ASP:OD2	2.12	0.49
2:A:840:ARG:O	2:A:843:MET:HB2	2.12	0.49
2:B:37:TYR:HD2	2:B:38:ILE:H	1.60	0.49
2:B:45:LEU:HD13	2:B:130:MET:HB2	1.95	0.49
2:B:760:ILE:HD12	2:B:790:TRP:CD1	2.48	0.49
2:B:868:ASP:O	2:B:869:TRP:C	2.52	0.49
2:A:355:ILE:HD12	2:A:412:VAL:CG1	2.43	0.48
2:A:570:GLU:O	2:A:595:LYS:HE2	2.13	0.48
2:A:782:VAL:HG12	2:A:783:LEU:N	2.28	0.48
2:A:836:GLU:HA	2:A:839:ILE:HD11	1.94	0.48
2:B:65:ARG:O	2:B:68:ARG:N	2.46	0.48
2:B:166:GLN:CG	2:B:534:ILE:HD11	2.43	0.48
2:B:256:ARG:CZ	2:B:277:ASP:OD2	2.61	0.48
2:B:676:TYR:CZ	2:B:680:LEU:HD11	2.48	0.48
2:B:728:TRP:C	2:B:730:LEU:N	2.67	0.48
2:B:834:ALA:O	2:B:837:GLU:CD	2.52	0.48
1:D:953:A:O2'	2:B:849:ILE:HG23	2.12	0.48
2:A:65:ARG:HG2	2:A:143:SER:OG	2.13	0.48
2:A:165:TRP:CD1	2:A:561:PRO:HA	2.44	0.48
2:A:880:LYS:HG3	2:A:886:SER:HB3	1.95	0.48
2:A:933:PHE:HD1	2:A:933:PHE:O	1.95	0.48
2:B:67:LYS:HD2	2:B:70:GLN:NE2	2.28	0.48
2:B:282:VAL:CG1	2:B:283:ILE:H	2.25	0.48
2:B:375:ALA:O	2:B:377:GLU:N	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:389:ASP:C	2:B:390:LYS:HD3	2.33	0.48
2:A:126:VAL:CG1	2:A:126:VAL:O	2.60	0.48
2:A:242:TRP:HZ3	2:A:332:ASP:CG	2.17	0.48
2:A:289:GLU:O	2:A:292:ILE:HB	2.13	0.48
2:A:388:LYS:CD	2:A:389:ASP:HB2	2.42	0.48
2:A:467:ILE:HG13	2:A:508:CYS:CB	2.43	0.48
2:A:488:LEU:CD1	2:A:606:TRP:CH2	2.92	0.48
2:A:931:LYS:HE2	2:A:942:ILE:O	2.13	0.48
2:B:35:LYS:HD2	2:B:35:LYS:C	2.34	0.48
2:B:275:PHE:C	2:B:277:ASP:H	2.17	0.48
2:B:382:LEU:C	2:B:384:ILE:H	2.16	0.48
2:B:496:PHE:CE1	2:B:614:ILE:HG23	2.49	0.48
2:B:614:ILE:N	2:B:615:PRO:CD	2.75	0.48
2:B:741:THR:O	2:B:745:GLU:HG2	2.13	0.48
1:C:954:G:N2	2:A:961:LYS:HG3	2.29	0.48
2:A:42:PHE:CD1	2:A:42:PHE:O	2.66	0.48
2:A:170:LEU:O	2:A:176:ILE:HG12	2.13	0.48
2:A:227:ALA:HA	2:A:321:VAL:O	2.12	0.48
2:A:256:ARG:HG3	2:A:257:LYS:H	1.78	0.48
2:A:501:ASP:O	2:A:503:LEU:N	2.39	0.48
2:A:725:ILE:CD1	2:A:770:ARG:HE	2.26	0.48
2:A:784:ARG:HH22	2:A:810:GLY:N	2.11	0.48
2:A:871:TRP:C	2:A:875:GLU:OE2	2.52	0.48
2:B:42:PHE:CD1	2:B:81:HIS:HB2	2.49	0.48
2:B:79:ALA:N	2:B:539:TYR:OH	2.46	0.48
2:B:256:ARG:HG3	2:B:257:LYS:N	2.28	0.48
2:B:340:LYS:HB3	2:B:341:ARG:HH11	1.77	0.48
2:B:351:ILE:H	2:B:351:ILE:CD1	2.16	0.48
2:B:429:LYS:O	2:B:433:GLU:CG	2.52	0.48
2:B:505:LYS:H	2:B:505:LYS:HD2	1.78	0.48
2:B:601:TRP:HA	2:B:601:TRP:CE3	2.48	0.48
2:B:677:ILE:HG22	2:B:678:MET:N	2.28	0.48
2:B:775:ASP:C	2:B:775:ASP:OD1	2.51	0.48
1:C:916:C:H2'	1:C:972:U:O3'	2.12	0.48
2:A:631:GLU:C	2:A:633:HIS:H	2.16	0.48
2:A:725:ILE:HD13	2:A:770:ARG:HE	1.78	0.48
2:A:742:ASN:O	2:A:743:ALA:C	2.51	0.48
2:A:855:ILE:HG13	2:A:856:GLU:HG2	1.95	0.48
2:A:964:ILE:HD11	2:A:966:ILE:HG23	1.96	0.48
2:B:37:TYR:CD2	2:B:38:ILE:N	2.82	0.48
2:B:327:ALA:HB1	2:B:354:ARG:CB	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:500:ILE:HG23	2:B:623:PHE:CZ	2.49	0.48
2:B:501:ASP:O	2:B:503:LEU:N	2.41	0.48
2:B:752:ALA:O	2:B:755:TRP:N	2.46	0.48
2:B:894:SER:C	2:B:896:ILE:N	2.66	0.48
1:D:917:C:H6	1:D:917:C:O5’	1.96	0.48
2:A:41:ALA:CA	2:A:607:ARG:NH2	2.77	0.48
2:A:162:PHE:HA	2:A:564:PHE:CE2	2.49	0.48
2:A:198:LEU:HD22	2:A:202:GLU:CA	2.43	0.48
2:A:705:TYR:CD2	2:A:805:LEU:HD11	2.48	0.48
2:B:126:VAL:CG1	2:B:126:VAL:O	2.61	0.48
2:B:354:ARG:HD2	2:B:376:VAL:CG1	2.42	0.48
2:B:377:GLU:O	2:B:378:GLU:HB2	2.13	0.48
2:B:464:GLN:NE2	2:B:507:ALA:HB1	2.28	0.48
2:B:732:ARG:HB3	2:B:732:ARG:HH11	1.77	0.48
2:A:449:ILE:N	2:A:449:ILE:CD1	2.75	0.48
2:A:892:LYS:O	2:A:892:LYS:HG2	2.13	0.48
2:B:471:ASN:ND2	2:B:471:ASN:C	2.66	0.48
1:C:920:G:H1’	1:C:969:G:H21	1.78	0.48
1:D:958:U:O5’	1:D:958:U:H6	1.97	0.48
2:A:860:ARG:C	2:A:860:ARG:CZ	2.82	0.48
2:A:868:ASP:O	2:A:869:TRP:C	2.52	0.48
2:B:48:HIS:HB2	2:B:109:TYR:CD1	2.48	0.48
2:B:171:LYS:CG	2:B:176:ILE:HD12	2.42	0.48
2:B:345:ILE:O	2:B:346:LEU:HB2	2.13	0.48
2:B:356:VAL:HB	2:B:409:ILE:O	2.14	0.48
2:B:423:VAL:HA	2:B:426:ALA:HB3	1.95	0.48
2:B:623:PHE:O	2:B:624:ASN:C	2.52	0.48
1:C:941:A:H4’	2:A:699:LYS:NZ	2.29	0.48
1:D:970:A:O2’	1:D:971:A:O5’	2.32	0.48
2:A:792:ARG:HH21	2:A:792:ARG:CG	2.15	0.48
2:A:860:ARG:NH2	2:A:861:ALA:C	2.67	0.48
2:B:53:HIS:O	2:B:57:TYR:CD2	2.67	0.48
2:B:112:PRO:O	2:B:113:GLU:C	2.52	0.48
2:B:198:LEU:HD23	2:B:448:VAL:HG13	1.95	0.48
2:B:420:VAL:HG12	2:B:424:LYS:NZ	2.28	0.48
2:B:560:THR:HB	2:B:561:PRO:HD2	1.95	0.48
2:B:732:ARG:HB3	2:B:732:ARG:NH1	2.29	0.48
2:B:894:SER:O	2:B:896:ILE:N	2.47	0.48
2:A:953:LYS:NZ	2:A:953:LYS:CB	2.76	0.48
2:A:956:GLN:O	2:A:956:GLN:HG2	2.14	0.48
2:B:710:GLN:O	2:B:713:GLU:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:55:ARG:O	2:A:59:ILE:HG13	2.14	0.47
2:A:188:VAL:HG23	2:A:190:GLY:H	1.79	0.47
2:A:419:PRO:O	2:A:422:GLU:HB2	2.14	0.47
2:A:846:ILE:O	2:A:850:ILE:HG13	2.14	0.47
2:A:877:VAL:C	2:A:879:GLU:H	2.16	0.47
2:B:276:GLN:O	2:B:277:ASP:HB3	2.14	0.47
2:B:568:PHE:C	2:B:569:LEU:HD12	2.34	0.47
2:B:793:LEU:HD23	2:B:821:PRO:CG	2.44	0.47
1:C:958:U:H3’	1:C:958:U:C6	2.49	0.47
1:D:984:C:H6	1:D:984:C:H5’	1.79	0.47
2:A:279:GLU:OE1	2:A:281:GLU:OE1	2.32	0.47
2:A:671:ASP:OD1	2:A:799:PRO:HD2	2.13	0.47
2:A:717:LYS:HD2	2:A:718:GLY:O	2.14	0.47
2:A:770:ARG:CD	2:A:933:PHE:HE2	2.19	0.47
2:A:827:TRP:O	2:A:827:TRP:HD1	1.95	0.47
2:B:233:GLU:HA	2:B:427:ILE:CD1	2.33	0.47
2:B:646:LEU:HD12	2:B:689:TRP:HB3	1.96	0.47
2:B:704:PHE:HE1	2:B:790:TRP:CD2	2.31	0.47
1:C:986:C:H5	2:A:181:HIS:HE2	1.56	0.47
2:A:42:PHE:CE1	2:A:81:HIS:HB2	2.48	0.47
2:A:112:PRO:O	2:A:113:GLU:C	2.53	0.47
2:A:375:ALA:O	2:A:377:GLU:N	2.40	0.47
2:A:714:TYR:HD1	2:A:780:ARG:CG	2.27	0.47
2:A:746:GLU:O	2:A:748:ARG:HG3	2.14	0.47
2:A:767:TYR:CE2	2:A:782:VAL:HG11	2.49	0.47
2:A:854:LYS:HE2	2:A:967:GLU:CD	2.34	0.47
2:B:68:ARG:HB2	2:B:74:VAL:HG11	1.96	0.47
2:B:340:LYS:CB	2:B:341:ARG:HH11	2.28	0.47
2:B:701:ILE:O	2:B:704:PHE:HB3	2.13	0.47
1:C:922:C:H4’	1:C:923:A:C5’	2.44	0.47
2:A:37:TYR:HD2	2:A:38:ILE:N	2.12	0.47
2:A:53:HIS:O	2:A:57:TYR:CD2	2.67	0.47
2:A:145:ASP:OD1	2:A:145:ASP:O	2.32	0.47
2:A:238:VAL:HA	2:A:325:VAL:HG22	1.96	0.47
2:A:568:PHE:HB2	2:A:569:LEU:HD12	1.96	0.47
2:A:695:GLY:O	2:A:698:ARG:HB3	2.15	0.47
2:B:326:PRO:HA	2:B:332:ASP:CB	2.44	0.47
2:B:725:ILE:CD1	2:B:770:ARG:HE	2.27	0.47
2:B:734:ASN:HD21	2:B:823:PRO:HA	1.75	0.47
2:A:198:LEU:CD2	2:A:202:GLU:HA	2.44	0.47
2:A:609:SER:OG	2:A:610:GLY:N	2.46	0.47

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:A:710:GLN:C	2:A:712:ALA:N	2.68	0.47
2:A:964:ILE:CD1	2:A:966:ILE:HG23	2.45	0.47
2:B:400:ILE:HD12	2:B:400:ILE:C	2.34	0.47
2:B:729:MET:HE3	2:B:763:ASP:C	2.35	0.47
2:A:12:LYS:HZ2	2:A:16:ARG:NH1	2.12	0.47
2:A:267:LYS:O	2:A:270:ALA:HB3	2.14	0.47
2:A:546:ASN:O	2:A:550:GLN:HB2	2.14	0.47
2:A:871:TRP:CH2	2:A:919:LYS:HE3	2.47	0.47
2:A:922:ASN:O	2:A:925:LYS:N	2.47	0.47
2:A:942:ILE:C	2:A:943:ILE:HG13	2.35	0.47
2:A:944:ILE:HG22	2:A:945:ASN:H	1.78	0.47
2:B:45:LEU:HD13	2:B:130:MET:CA	2.45	0.47
2:B:58:THR:HG22	2:B:678:MET:HE1	1.96	0.47
2:B:85:SER:N	2:B:86:PRO:CD	2.77	0.47
2:B:277:ASP:O	2:B:277:ASP:CG	2.50	0.47
2:B:830:GLU:HG3	2:B:831:THR:N	2.29	0.47
2:A:75:LEU:CD1	2:A:77:PRO:HD3	2.44	0.47
2:A:99:PRO:O	2:A:102:ILE:HG13	2.14	0.47
2:A:318:ALA:HA	2:A:440:MET:SD	2.55	0.47
2:A:518:LEU:HD12	2:A:524:TRP:CB	2.44	0.47
2:A:835:GLU:O	2:A:838:PHE:HB3	2.15	0.47
2:A:866:ALA:HB3	2:A:955:LYS:HZ1	1.78	0.47
2:A:877:VAL:CG2	2:A:906:ILE:HG23	2.45	0.47
2:A:894:SER:O	2:A:896:ILE:N	2.47	0.47
2:B:83:THR:CG2	2:B:153:THR:HG22	2.44	0.47
2:B:150:PHE:CD1	2:B:151:TYR:O	2.58	0.47
2:B:212:ILE:CD1	2:B:235:VAL:CG1	2.93	0.47
2:B:216:LEU:CD1	2:B:294:LYS:HB3	2.43	0.47
2:B:256:ARG:CG	2:B:257:LYS:H	2.23	0.47
2:B:393:LEU:HG	2:B:397:THR:OG1	2.14	0.47
2:B:395:GLN:HG3	2:B:396:ALA:H	1.80	0.47
2:B:540:THR:HG21	2:B:598:PHE:CD1	2.50	0.47
2:B:554:LEU:HD12	2:B:586:ILE:HD11	1.97	0.47
2:B:860:ARG:NH1	2:B:861:ALA:HA	2.30	0.47
2:B:862:TYR:HB3	2:B:964:ILE:HB	1.95	0.47
2:B:864:TYR:CG	2:B:865:THR:N	2.82	0.47
2:B:951:GLY:HA3	2:B:965:PHE:CE1	2.49	0.47
1:C:919:G:C6	1:C:969:G:C6	3.03	0.47
1:C:957:G:O2’	1:C:958:U:H5’	2.15	0.47
2:A:241:MET:HG3	2:A:296:VAL:CG2	2.45	0.47
2:A:348:LYS:HB3	2:A:348:LYS:HZ2	1.77	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:423:VAL:HA	2:A:426:ALA:HB3	1.96	0.47
2:A:558:LYS:HB3	2:A:584:THR:CA	2.34	0.47
2:A:728:TRP:C	2:A:730:LEU:N	2.68	0.47
2:A:767:TYR:HE2	2:A:783:LEU:HD11	1.79	0.47
2:A:830:GLU:HG3	2:A:831:THR:N	2.30	0.47
2:B:135:GLU:HA	2:B:138:ILE:HG22	1.97	0.47
2:B:238:VAL:HG13	2:B:238:VAL:O	2.15	0.47
2:B:519:PRO:HG2	2:B:520:TRP:CE3	2.49	0.47
2:B:690:ARG:HB2	2:B:693:GLU:HG3	1.97	0.47
1:D:914:A:H2'	1:D:915:G:O4'	2.15	0.47
2:A:16:ARG:CG	2:A:16:ARG:NH1	2.77	0.47
2:A:59:ILE:HB	2:A:60:PRO:CD	2.45	0.47
2:A:210:ILE:HG22	2:A:439:ILE:HG23	1.97	0.47
2:A:314:ASP:HB3	2:A:317:ASN:HB3	1.95	0.47
2:A:327:ALA:HB2	2:A:353:PRO:O	2.15	0.47
2:A:461:ILE:HG21	2:A:464:GLN:HB2	1.97	0.47
2:A:747:PHE:N	2:A:747:PHE:CD1	2.83	0.47
2:A:825:GLU:OE2	2:A:825:GLU:O	2.33	0.47
2:A:860:ARG:NH1	2:A:860:ARG:O	2.47	0.47
2:A:880:LYS:HG3	2:A:886:SER:CA	2.45	0.47
2:B:402:LYS:O	2:B:405:TYR:HB3	2.15	0.47
2:B:793:LEU:HD21	2:B:821:PRO:CG	2.43	0.47
2:B:958:MET:HE1	2:B:959:PRO:HD2	1.95	0.47
2:A:93:ARG:O	2:A:98:ASP:HB2	2.15	0.47
2:A:168:TRP:CE2	2:A:519:PRO:HB2	2.49	0.47
2:A:215:GLU:O	2:A:296:VAL:HA	2.15	0.47
2:A:354:ARG:HH11	2:A:354:ARG:HG3	1.80	0.47
2:A:544:HIS:H	2:A:544:HIS:HD2	1.59	0.47
2:A:576:LYS:O	2:A:580:LEU:HD13	2.15	0.47
2:A:800:HIS:O	2:A:802:CYS:N	2.48	0.47
2:B:63:ILE:O	2:B:67:LYS:HG2	2.15	0.47
2:B:167:PHE:HA	2:B:170:LEU:CG	2.44	0.47
2:B:521:ASP:N	2:B:522:PRO:HD3	2.30	0.47
1:D:980:C:H2'	1:D:981:C:H6	1.79	0.46
2:A:75:LEU:HD23	2:A:601:TRP:CE2	2.50	0.46
2:A:243:VAL:HG22	2:A:292:ILE:HD11	1.95	0.46
2:A:275:PHE:C	2:A:277:ASP:H	2.18	0.46
2:A:331:PHE:CD1	2:A:334:VAL:HG21	2.51	0.46
2:A:587:PRO:O	2:A:591:ILE:HG12	2.15	0.46
2:B:164:GLU:O	2:B:165:TRP:C	2.54	0.46
2:B:259:LYS:HE2	2:B:261:GLU:OE1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:482:LEU:CD1	2:B:496:PHE:HB3	2.45	0.46
1:D:953:A:C2	2:B:966:ILE:HG12	2.50	0.46
2:A:196:HIS:HD2	2:A:197:ASP:H	1.64	0.46
2:A:213:LYS:NZ	2:A:213:LYS:HB3	2.30	0.46
2:A:238:VAL:HG11	2:A:298:ASN:HB2	1.97	0.46
2:A:268:GLU:HG3	2:A:316:ASP:HA	1.97	0.46
2:A:381:LYS:HZ2	2:A:382:LEU:HD12	1.80	0.46
2:A:457:VAL:HG23	2:A:458:ILE:N	2.31	0.46
2:A:544:HIS:O	2:A:547:LYS:HB3	2.14	0.46
2:A:626:VAL:HG12	2:A:634:TRP:CE2	2.50	0.46
2:A:772:GLU:OE1	2:A:936:LYS:HE3	2.15	0.46
2:B:45:LEU:CD1	2:B:80:TRP:HB3	2.40	0.46
2:B:495:GLN:HE21	2:B:614:ILE:CG2	2.27	0.46
2:B:558:LYS:HG3	2:B:584:THR:O	2.14	0.46
2:B:698:ARG:HH11	2:B:698:ARG:HG3	1.80	0.46
2:B:733:LEU:CD1	2:B:737:ILE:HD11	2.45	0.46
2:B:766:TRP:HH2	2:B:836:GLU:OE1	1.97	0.46
2:B:860:ARG:CB	2:B:966:ILE:HG22	2.40	0.46
2:A:42:PHE:CE1	2:A:81:HIS:CG	3.04	0.46
2:A:150:PHE:CD1	2:A:150:PHE:C	2.88	0.46
2:A:164:GLU:O	2:A:165:TRP:C	2.53	0.46
2:A:768:LEU:O	2:A:769:ARG:C	2.53	0.46
2:B:67:LYS:O	2:B:72:TYR:HD1	1.99	0.46
2:B:418:LYS:HB3	2:B:419:PRO:HD2	1.97	0.46
2:B:436:ILE:HG22	2:B:436:ILE:O	2.16	0.46
2:B:546:ASN:O	2:B:550:GLN:HB2	2.15	0.46
2:B:616:ASN:HD22	2:B:617:HIS:H	1.60	0.46
2:B:829:ASN:OD1	2:B:832:ILE:HG13	2.16	0.46
2:B:834:ALA:CA	2:B:837:GLU:OE2	2.60	0.46
2:B:933:PHE:CD1	2:B:933:PHE:C	2.89	0.46
2:A:204:VAL:HG23	2:A:204:VAL:O	2.16	0.46
2:A:297:ARG:HB3	2:A:297:ARG:CZ	2.45	0.46
2:A:355:ILE:HG23	2:A:412:VAL:HG11	1.97	0.46
2:A:412:VAL:HG23	2:A:414:PRO:CD	2.39	0.46
2:A:717:LYS:NZ	2:A:719:ASN:HB2	2.29	0.46
2:A:933:PHE:HE1	2:A:937:GLU:HB2	1.81	0.46
2:B:418:LYS:HG3	2:B:422:GLU:OE2	2.16	0.46
2:A:210:ILE:HD11	2:A:232:PRO:CG	2.37	0.46
2:A:393:LEU:C	2:A:395:GLN:N	2.69	0.46
2:A:455:ARG:HD3	2:A:456:ALA:N	2.30	0.46
2:A:728:TRP:CE3	2:A:729:MET:N	2.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:809:LEU:O	2:A:810:GLY:C	2.54	0.46
2:A:918:VAL:HG11	2:A:920:ARG:HD2	1.97	0.46
1:C:956:G:O2'	1:C:957:G:H5'	2.16	0.46
2:A:50:HIS:H	2:A:53:HIS:CD2	2.34	0.46
2:A:327:ALA:HB1	2:A:354:ARG:CB	2.46	0.46
2:A:860:ARG:NH1	2:A:861:ALA:CA	2.69	0.46
2:A:911:ILE:O	2:A:911:ILE:HG13	2.15	0.46
2:B:204:VAL:HG11	2:B:443:PHE:HB3	1.97	0.46
2:B:238:VAL:HB	2:B:323:MET:HE1	1.96	0.46
2:B:722:LEU:HG	2:B:727:ARG:NH1	2.31	0.46
1:D:954:G:O6	2:B:963:ALA:HA	2.16	0.46
2:A:356:VAL:HB	2:A:409:ILE:O	2.16	0.46
2:A:678:MET:N	2:A:678:MET:SD	2.88	0.46
2:A:872:LYS:HA	2:A:875:GLU:OE2	2.15	0.46
2:B:734:ASN:ND2	2:B:824:VAL:H	1.94	0.46
2:B:789:VAL:O	2:B:791:VAL:N	2.49	0.46
2:B:789:VAL:O	2:B:792:ARG:N	2.49	0.46
2:A:93:ARG:HG2	2:A:451:ARG:HH21	1.80	0.46
2:A:183:VAL:HG13	2:A:184:ARG:O	2.16	0.46
2:A:424:LYS:NZ	2:A:424:LYS:HB2	2.31	0.46
2:A:806:TRP:CB	2:A:815:VAL:HG22	2.45	0.46
2:A:863:ILE:HG22	2:A:953:LYS:CG	2.44	0.46
2:B:65:ARG:O	2:B:68:ARG:HB3	2.16	0.46
2:B:459:LYS:HZ2	2:B:461:ILE:CD1	2.29	0.46
2:B:557:GLU:O	2:B:559:LEU:N	2.49	0.46
2:B:631:GLU:C	2:B:633:HIS:H	2.17	0.46
2:B:717:LYS:HD3	2:B:717:LYS:C	2.36	0.46
2:B:722:LEU:HD23	2:B:722:LEU:N	2.30	0.46
2:B:824:VAL:O	2:B:825:GLU:C	2.53	0.46
2:B:839:ILE:C	2:B:839:ILE:HD12	2.36	0.46
2:B:877:VAL:C	2:B:879:GLU:H	2.18	0.46
2:B:918:VAL:CG1	2:B:920:ARG:HD2	2.46	0.46
2:A:64:ALA:O	2:A:68:ARG:HB2	2.16	0.46
2:A:232:PRO:HG2	2:A:428:ALA:HB2	1.98	0.46
2:A:731:HIS:HD2	2:A:828:TRP:HA	1.80	0.46
2:B:328:HIS:O	2:B:329:ALA:C	2.53	0.46
2:B:476:GLU:OE1	2:B:476:GLU:HA	2.16	0.46
2:B:710:GLN:C	2:B:712:ALA:N	2.69	0.46
2:A:159:PHE:O	2:A:162:PHE:HB3	2.16	0.46
2:A:173:LYS:HB3	2:A:175:TYR:CE2	2.51	0.46
2:A:230:LEU:CD2	2:A:230:LEU:N	2.76	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:382:LEU:HD12	2:A:382:LEU:N	2.31	0.46
2:A:395:GLN:HG3	2:A:396:ALA:H	1.81	0.46
2:A:489:PRO:HD3	2:A:683:HIS:HB3	1.98	0.46
2:A:624:ASN:HD22	2:A:624:ASN:N	2.07	0.46
2:A:660:ASN:HB2	2:A:663:ASP:HB2	1.94	0.46
2:B:70:GLN:HB3	2:B:72:TYR:CD1	2.51	0.46
2:B:234:THR:O	2:B:325:VAL:HG21	2.16	0.46
2:B:516:THR:O	2:B:526:ILE:HG13	2.15	0.46
2:B:641:ASN:C	2:B:641:ASN:ND2	2.69	0.46
1:C:949:C:C2	1:C:957:G:C2	3.04	0.45
2:A:183:VAL:O	2:A:184:ARG:C	2.54	0.45
2:A:297:ARG:O	2:A:299:PRO:HD3	2.16	0.45
2:A:393:LEU:O	2:A:395:GLN:N	2.49	0.45
2:A:545:ILE:HG12	2:A:594:MET:HE3	1.98	0.45
2:A:903:VAL:HG12	2:A:906:ILE:HG13	1.97	0.45
2:B:231:ARG:HB3	2:B:233:GLU:OE2	2.17	0.45
2:B:882:ASP:O	2:B:883:PHE:HB3	2.15	0.45
2:A:51:VAL:CG2	2:A:52:GLY:N	2.79	0.45
2:A:741:THR:O	2:A:745:GLU:HG2	2.17	0.45
2:A:855:ILE:O	2:A:856:GLU:HB2	2.15	0.45
2:B:292:ILE:HG13	2:B:309:PRO:HB3	1.98	0.45
2:B:505:LYS:HD2	2:B:505:LYS:N	2.30	0.45
2:B:914:ARG:HE	2:B:915:THR:N	2.13	0.45
1:D:919:G:H1'	1:D:970:A:C2	2.52	0.45
2:A:23:PHE:CD2	2:A:143:SER:HA	2.51	0.45
2:A:166:GLN:HB2	2:A:534:ILE:HD11	1.97	0.45
2:A:186:ASP:HB3	2:A:191:THR:CG2	2.41	0.45
2:A:328:HIS:O	2:A:329:ALA:C	2.54	0.45
2:A:950:LYS:HG2	2:A:953:LYS:HZ1	1.82	0.45
2:B:9:ILE:HD13	2:B:804:GLU:HG2	1.97	0.45
2:B:535:TYR:CE1	2:B:536:MET:SD	3.10	0.45
2:B:928:ARG:C	2:B:930:ALA:N	2.69	0.45
1:C:918:U:H2'	1:C:918:U:O2	2.15	0.45
1:D:905:G:H5'	1:D:905:G:H8	1.82	0.45
2:A:61:ASP:OD2	2:A:674:ARG:NH2	2.45	0.45
2:A:155:LEU:C	2:A:157:PRO:HD3	2.37	0.45
2:A:211:ILE:HG21	2:A:319:THR:CG2	2.46	0.45
2:A:464:GLN:NE2	2:A:465:TRP:O	2.49	0.45
2:A:742:ASN:O	2:A:744:LEU:N	2.50	0.45
2:B:136:THR:CG2	2:B:661:PHE:HD2	2.26	0.45
2:B:412:VAL:H	2:B:416:GLU:HG2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:485:MET:SD	2:B:635:PRO:HB2	2.57	0.45
2:A:17:TRP:CZ2	2:A:803:GLU:HG3	2.52	0.45
2:B:266:SER:O	2:B:269:ALA:HB3	2.16	0.45
2:B:306:ILE:HG12	2:B:307:ILE:N	2.31	0.45
2:B:411:LYS:HA	2:B:416:GLU:CD	2.37	0.45
2:B:676:TYR:HA	2:B:697:LEU:CD2	2.46	0.45
2:B:729:MET:HA	2:B:729:MET:CE	2.47	0.45
2:B:953:LYS:HB3	2:B:953:LYS:NZ	2.30	0.45
1:D:944:C:H2'	1:D:945:C:H6	1.81	0.45
2:A:294:LYS:N	2:A:294:LYS:HD2	2.32	0.45
2:A:377:GLU:CD	2:A:377:GLU:C	2.75	0.45
2:A:544:HIS:CD2	2:A:544:HIS:N	2.85	0.45
2:A:582:LYS:H	2:A:582:LYS:HD2	1.81	0.45
2:A:713:GLU:O	2:A:714:TYR:C	2.53	0.45
2:A:838:PHE:HE2	2:A:922:ASN:HD21	1.63	0.45
2:B:142:PHE:O	2:B:144:VAL:N	2.49	0.45
2:B:231:ARG:HB3	2:B:233:GLU:CD	2.37	0.45
2:B:342:GLU:N	2:B:342:GLU:OE2	2.50	0.45
2:B:393:LEU:C	2:B:395:GLN:N	2.70	0.45
2:B:393:LEU:CD1	2:B:396:ALA:HB3	2.46	0.45
2:B:711:PHE:HE1	2:B:783:LEU:HD23	1.82	0.45
2:B:713:GLU:OE2	2:B:713:GLU:CA	2.65	0.45
1:C:960:C:H4'	1:C:961:C:OP2	2.17	0.45
2:A:80:TRP:CD1	2:A:130:MET:HG3	2.51	0.45
2:A:557:GLU:O	2:A:559:LEU:N	2.49	0.45
2:B:55:ARG:HD2	2:B:687:PHE:CD1	2.51	0.45
2:B:83:THR:HG22	2:B:153:THR:HG22	1.97	0.45
2:B:123:ILE:HD11	2:B:155:LEU:CD1	2.47	0.45
2:B:232:PRO:HG2	2:B:428:ALA:HB2	1.99	0.45
2:B:252:ALA:HB2	2:B:282:VAL:HA	1.99	0.45
2:B:730:LEU:HD23	2:B:730:LEU:HA	1.84	0.45
2:B:742:ASN:O	2:B:745:GLU:N	2.50	0.45
2:B:921:ILE:HB	2:B:928:ARG:HH22	1.77	0.45
2:A:93:ARG:HG3	2:A:93:ARG:NH1	2.32	0.45
2:A:112:PRO:HB2	2:A:115:ILE:HG13	1.99	0.45
2:A:210:ILE:O	2:A:210:ILE:HG13	2.16	0.45
2:A:211:ILE:HG21	2:A:319:THR:HG21	1.99	0.45
2:A:211:ILE:HA	2:A:227:ALA:O	2.17	0.45
2:A:218:GLU:OE2	2:A:294:LYS:HE2	2.16	0.45
2:A:277:ASP:HB2	2:A:460:ILE:HB	1.99	0.45
2:A:341:ARG:HG2	2:A:341:ARG:HH11	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:426:ALA:HA	2:A:429:LYS:CE	2.31	0.45
2:A:717:LYS:C	2:A:717:LYS:CD	2.83	0.45
2:B:51:VAL:O	2:B:54:ALA:CB	2.62	0.45
2:B:54:ALA:CB	2:B:661:PHE:CD1	3.00	0.45
1:C:916:C:H5’	1:C:917:C:H5	1.66	0.45
1:C:939:A:H4’	1:C:939:A:OP1	2.16	0.45
1:D:921:U:OP2	1:D:922:C:H3’	2.17	0.45
2:A:61:ASP:OD2	2:A:674:ARG:NH1	2.48	0.45
2:A:266:SER:O	2:A:269:ALA:HB3	2.17	0.45
2:A:482:LEU:C	2:A:482:LEU:CD2	2.85	0.45
2:A:831:THR:O	2:A:835:GLU:CG	2.65	0.45
2:A:840:ARG:HE	2:A:840:ARG:HB3	1.60	0.45
2:B:7:LYS:HB2	2:B:7:LYS:HZ3	1.81	0.45
2:B:227:ALA:HA	2:B:321:VAL:O	2.15	0.45
2:B:245:PRO:O	2:B:288:GLY:HA3	2.17	0.45
2:B:387:GLN:HE21	2:B:387:GLN:HA	1.82	0.45
2:B:387:GLN:HG3	2:B:388:LYS:N	2.32	0.45
2:B:731:HIS:HE1	2:B:833:GLU:OE1	2.00	0.45
2:B:766:TRP:HZ3	2:B:836:GLU:CG	2.30	0.45
2:B:950:LYS:H	2:B:953:LYS:NZ	2.15	0.45
2:A:250:VAL:HG12	2:A:285:GLU:HG3	1.99	0.45
2:A:463:ASP:O	2:A:464:GLN:C	2.55	0.45
2:A:568:PHE:CB	2:A:569:LEU:HD12	2.46	0.45
2:A:728:TRP:HE3	2:A:729:MET:CA	2.29	0.45
2:B:28:ARG:HG3	2:B:28:ARG:NH1	2.30	0.45
2:B:682:GLU:OE1	2:B:748:ARG:NH1	2.49	0.45
2:B:713:GLU:O	2:B:714:TYR:C	2.55	0.45
2:B:890:LEU:O	2:B:892:LYS:N	2.50	0.45
2:B:911:ILE:O	2:B:911:ILE:HG13	2.16	0.45
1:D:960:C:H4’	1:D:961:C:H5”	1.98	0.44
2:A:94:ILE:HD11	2:A:120:GLU:CA	2.46	0.44
2:A:518:LEU:HD12	2:A:524:TRP:HB3	1.98	0.44
2:A:553:LYS:NZ	2:A:553:LYS:HB3	2.32	0.44
2:A:800:HIS:C	2:A:802:CYS:N	2.70	0.44
2:A:800:HIS:C	2:A:802:CYS:H	2.21	0.44
2:A:902:GLU:C	2:A:904:ALA:H	2.21	0.44
2:A:916:PHE:HB3	2:A:917:ASP:H	1.67	0.44
2:B:373:PHE:N	2:B:374:PRO:CD	2.80	0.44
2:B:860:ARG:HB3	2:B:966:ILE:CG2	2.40	0.44
2:A:26:ASN:C	2:A:28:ARG:HH21	2.20	0.44
2:A:67:LYS:HE2	2:A:70:GLN:HE22	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:42:PHE:CD1	2:B:42:PHE:N	2.85	0.44
2:B:215:GLU:O	2:B:296:VAL:HA	2.17	0.44
2:B:429:LYS:HB3	2:B:429:LYS:HZ2	1.82	0.44
2:B:511:LYS:HE3	2:B:524:TRP:CE2	2.51	0.44
2:B:714:TYR:CD2	2:B:714:TYR:N	2.73	0.44
2:A:31:PRO:HD2	2:A:34:LYS:HG3	1.98	0.44
2:A:69:MET:HB3	2:A:818:ALA:O	2.17	0.44
2:A:85:SER:N	2:A:86:PRO:CD	2.77	0.44
2:A:119:PHE:C	2:A:121:ASP:N	2.69	0.44
2:A:482:LEU:O	2:A:493:ARG:NH1	2.50	0.44
2:A:768:LEU:O	2:A:770:ARG:N	2.49	0.44
2:B:57:TYR:O	2:B:60:PRO:CG	2.62	0.44
2:B:170:LEU:CB	2:B:176:ILE:HD11	2.41	0.44
2:B:211:ILE:O	2:B:211:ILE:HG13	2.16	0.44
2:B:234:THR:HA	2:B:355:ILE:CD1	2.47	0.44
2:B:476:GLU:HA	2:B:479:ARG:NH1	2.32	0.44
2:B:809:LEU:O	2:B:810:GLY:C	2.56	0.44
2:B:860:ARG:NH1	2:B:860:ARG:O	2.50	0.44
2:B:902:GLU:C	2:B:904:ALA:H	2.21	0.44
2:A:234:THR:HB	2:A:325:VAL:HG21	1.99	0.44
2:A:400:ILE:C	2:A:400:ILE:HD12	2.37	0.44
2:A:432:LEU:HD11	2:A:439:ILE:CG1	2.45	0.44
2:A:730:LEU:CA	2:A:827:TRP:HE1	2.30	0.44
2:A:766:TRP:O	2:A:770:ARG:N	2.47	0.44
2:B:150:PHE:CD1	2:B:150:PHE:C	2.90	0.44
2:B:186:ASP:OD2	2:B:188:VAL:HG13	2.18	0.44
2:B:518:LEU:HD22	2:B:520:TRP:CZ2	2.52	0.44
2:B:742:ASN:N	2:B:742:ASN:ND2	2.65	0.44
2:A:703:ARG:HG2	2:A:761:MET:CE	2.48	0.44
2:A:872:LYS:HA	2:A:872:LYS:HZ2	1.83	0.44
2:A:878:SER:HB2	2:A:914:ARG:HB2	1.99	0.44
2:A:933:PHE:CE1	2:A:937:GLU:HB2	2.51	0.44
2:B:340:LYS:HG2	2:B:341:ARG:NH1	2.32	0.44
2:B:490:GLU:C	2:B:492:ARG:H	2.21	0.44
2:B:679:SER:HA	2:B:753:VAL:HG11	2.00	0.44
2:B:718:GLY:O	2:B:720:VAL:HG13	2.18	0.44
2:B:750:ARG:HE	2:B:750:ARG:HB3	1.50	0.44
2:B:783:LEU:HD12	2:B:783:LEU:N	2.33	0.44
2:B:846:ILE:HG12	2:B:964:ILE:HD12	1.94	0.44
2:B:866:ALA:H	2:B:955:LYS:HZ1	1.57	0.44
1:D:902:C:H2’	1:D:903:G:C4’	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:972:U:H5"	1:D:973:C:OP2	2.18	0.44
2:A:518:LEU:HD22	2:A:520:TRP:CZ2	2.53	0.44
2:A:789:VAL:O	2:A:791:VAL:N	2.50	0.44
2:B:216:LEU:O	2:B:216:LEU:HG	2.17	0.44
2:B:330:PRO:HD3	2:B:400:ILE:HG12	2.00	0.44
2:B:393:LEU:O	2:B:395:GLN:N	2.51	0.44
2:B:725:ILE:HG21	2:B:771:THR:HG21	1.99	0.44
2:B:768:LEU:O	2:B:769:ARG:C	2.55	0.44
1:C:957:G:C2	1:C:958:U:C2	3.06	0.44
2:A:50:HIS:CE1	2:A:53:HIS:CE1	3.06	0.44
2:A:244:ASN:HB2	2:A:313:VAL:HG23	1.99	0.44
2:A:862:TYR:HB2	2:A:964:ILE:HA	1.99	0.44
2:B:218:GLU:CD	2:B:219:ASN:ND2	2.70	0.44
2:B:261:GLU:HB2	2:B:263:TRP:HE1	1.81	0.44
2:B:339:LEU:HD13	2:B:339:LEU:N	2.33	0.44
2:B:449:ILE:HG23	2:B:454:ASN:O	2.18	0.44
2:B:908:GLN:HE22	2:B:958:MET:HG3	1.83	0.44
1:D:937:C:O2	1:D:937:C:H2'	2.18	0.44
2:A:863:ILE:CG2	2:A:953:LYS:HD3	2.48	0.44
2:B:75:LEU:HD22	2:B:601:TRP:CD1	2.53	0.44
2:B:104:ILE:HG21	2:B:653:LYS:HD3	1.99	0.44
2:B:168:TRP:NE1	2:B:519:PRO:HB2	2.33	0.44
2:B:250:VAL:HG12	2:B:285:GLU:HG3	2.00	0.44
2:B:463:ASP:O	2:B:464:GLN:C	2.56	0.44
2:B:729:MET:HE2	2:B:729:MET:HB2	1.78	0.44
1:D:953:A:H1'	2:B:849:ILE:CG2	2.48	0.44
2:A:243:VAL:HG23	2:A:244:ASN:N	2.33	0.44
2:A:803:GLU:HA	2:A:815:VAL:HG21	1.98	0.44
2:B:58:THR:HA	2:B:142:PHE:HE1	1.83	0.44
2:B:79:ALA:HB2	2:B:539:TYR:CE2	2.51	0.44
2:B:331:PHE:O	2:B:334:VAL:HG23	2.17	0.44
2:B:739:GLU:HB3	2:B:755:TRP:CD1	2.53	0.44
1:C:937:C:H2'	1:C:938:A:O4'	2.18	0.43
1:C:941:A:H4'	2:A:699:LYS:HZ1	1.82	0.43
1:C:958:U:C6	1:C:958:U:C3'	3.01	0.43
1:C:972:U:H5'	1:C:973:C:OP2	2.18	0.43
1:D:923:A:HO2'	1:D:924:A:P	2.40	0.43
2:A:49:LEU:HD22	2:A:137:PHE:HE1	1.83	0.43
2:A:238:VAL:HG13	2:A:238:VAL:O	2.16	0.43
2:A:245:PRO:O	2:A:288:GLY:HA3	2.18	0.43
2:A:636:LYS:HB3	2:A:636:LYS:NZ	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:703:ARG:HG3	2:A:707:LEU:CD1	2.47	0.43
2:A:767:TYR:CE2	2:A:783:LEU:HD11	2.52	0.43
2:A:824:VAL:CG1	2:A:827:TRP:CE3	3.00	0.43
2:A:966:ILE:O	2:A:966:ILE:HG13	2.17	0.43
2:B:57:TYR:O	2:B:60:PRO:HD2	2.17	0.43
2:B:267:LYS:O	2:B:270:ALA:HB3	2.18	0.43
2:B:459:LYS:HZ2	2:B:461:ILE:HD13	1.82	0.43
2:B:711:PHE:CE1	2:B:783:LEU:HD23	2.53	0.43
2:B:724:ASP:OD2	2:B:928:ARG:HD3	2.18	0.43
2:B:738:LYS:NZ	2:B:738:LYS:HB3	2.33	0.43
2:A:81:HIS:HD2	2:A:152:THR:HG21	1.83	0.43
2:A:83:THR:O	2:A:528:SER:HB3	2.17	0.43
2:A:381:LYS:HB3	2:A:381:LYS:HZ2	1.83	0.43
2:A:420:VAL:HG12	2:A:424:LYS:HZ1	1.82	0.43
2:A:675:LEU:CD1	2:A:697:LEU:HD21	2.48	0.43
2:A:677:ILE:HD11	2:A:689:TRP:HZ3	1.83	0.43
2:A:701:ILE:O	2:A:704:PHE:HB3	2.16	0.43
2:A:890:LEU:O	2:A:892:LYS:N	2.51	0.43
2:A:921:ILE:O	2:A:924:GLU:HB3	2.17	0.43
2:B:331:PHE:HD1	2:B:334:VAL:HG21	1.83	0.43
2:B:355:ILE:HG23	2:B:412:VAL:CG1	2.49	0.43
2:B:742:ASN:O	2:B:744:LEU:N	2.51	0.43
2:A:58:THR:HG22	2:A:62:VAL:CG2	2.49	0.43
2:A:75:LEU:C	2:A:75:LEU:CD1	2.84	0.43
2:A:166:GLN:NE2	2:A:534:ILE:HG12	2.33	0.43
2:A:244:ASN:HD22	2:A:313:VAL:HG23	1.82	0.43
2:A:490:GLU:C	2:A:492:ARG:H	2.22	0.43
2:A:824:VAL:HB	2:A:827:TRP:CE3	2.53	0.43
2:B:188:VAL:HG23	2:B:190:GLY:H	1.84	0.43
2:B:339:LEU:HD22	2:B:340:LYS:HG3	2.00	0.43
2:B:449:ILE:HG22	2:B:450:SER:N	2.33	0.43
2:B:618:LEU:HD23	2:B:618:LEU:HA	1.88	0.43
2:B:911:ILE:O	2:B:912:LYS:HG3	2.18	0.43
1:C:985:A:H61	2:A:504:ASP:CB	2.24	0.43
1:D:917:C:C2	1:D:918:U:C5	3.06	0.43
2:A:919:LYS:H	2:A:919:LYS:HE2	1.82	0.43
2:B:163:ILE:HD13	2:B:163:ILE:HA	1.92	0.43
2:B:210:ILE:HG22	2:B:439:ILE:HG12	1.99	0.43
2:B:373:PHE:N	2:B:373:PHE:CD1	2.86	0.43
2:B:412:VAL:HG23	2:B:414:PRO:HD2	2.00	0.43
2:B:577:GLU:OE1	2:B:592:HIS:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:644:GLY:HA2	2:B:687:PHE:O	2.18	0.43
2:B:860:ARG:HH12	2:B:861:ALA:HA	1.83	0.43
2:B:877:VAL:HG22	2:B:906:ILE:HG23	2.01	0.43
1:C:988:A:N7	2:A:529:LEU:HD21	2.33	0.43
2:A:446:LYS:H	2:A:446:LYS:HD2	1.84	0.43
2:A:460:ILE:N	2:A:460:ILE:HD12	2.33	0.43
2:A:623:PHE:O	2:A:624:ASN:C	2.56	0.43
2:A:884:LYS:C	2:A:886:SER:N	2.72	0.43
2:B:119:PHE:C	2:B:121:ASP:N	2.70	0.43
2:B:310:ALA:HB1	2:B:312:PHE:CE1	2.53	0.43
1:C:964:G:O2'	1:C:965:G:H5'	2.18	0.43
2:A:27:ILE:HG12	2:A:28:ARG:CZ	2.49	0.43
2:A:45:LEU:CD1	2:A:80:TRP:HB3	2.47	0.43
2:A:183:VAL:O	2:A:183:VAL:CG1	2.65	0.43
2:A:330:PRO:CD	2:A:400:ILE:HG12	2.48	0.43
2:A:508:CYS:O	2:A:508:CYS:SG	2.77	0.43
2:B:62:VAL:HG21	2:B:678:MET:HE2	1.98	0.43
2:B:114:GLU:OE1	2:B:114:GLU:HA	2.18	0.43
2:B:171:LYS:HD2	2:B:520:TRP:CE3	2.54	0.43
2:B:198:LEU:H	2:B:198:LEU:CD1	2.29	0.43
2:B:340:LYS:CE	2:B:341:ARG:HH12	2.32	0.43
2:B:401:TYR:OH	2:B:424:LYS:HE3	2.19	0.43
1:C:955:G:P	2:A:961:LYS:HZ3	2.40	0.43
2:A:138:ILE:HD12	2:A:138:ILE:HA	1.87	0.43
2:A:273:LEU:HD21	2:A:440:MET:HG3	2.00	0.43
2:A:703:ARG:O	2:A:707:LEU:HD12	2.18	0.43
2:A:728:TRP:O	2:A:730:LEU:N	2.51	0.43
2:A:960:LEU:N	2:A:960:LEU:CD2	2.81	0.43
2:B:45:LEU:HD11	2:B:130:MET:HG3	2.00	0.43
2:B:183:VAL:O	2:B:184:ARG:C	2.57	0.43
2:B:211:ILE:HA	2:B:227:ALA:O	2.19	0.43
2:B:546:ASN:HD22	2:B:546:ASN:HA	1.59	0.43
2:B:573:SER:HB2	2:B:576:LYS:HG2	2.00	0.43
2:B:922:ASN:ND2	2:B:923:GLU:N	2.63	0.43
2:B:923:GLU:HB2	2:B:945:ASN:HD21	1.84	0.43
1:C:986:C:O3'	2:A:510:ARG:HD2	2.19	0.43
1:D:976:C:O2'	1:D:977:G:H5'	2.18	0.43
2:A:36:PHE:O	2:A:38:ILE:HG22	2.18	0.43
2:A:94:ILE:HD12	2:A:94:ILE:C	2.39	0.43
2:A:128:TYR:O	2:A:128:TYR:CD1	2.71	0.43
2:A:198:LEU:HD22	2:A:202:GLU:CB	2.49	0.43

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:A:742:ASN:O	2:A:745:GLU:N	2.52	0.43
2:B:173:LYS:HD2	2:B:175:TYR:CE2	2.54	0.43
2:B:218:GLU:O	2:B:219:ASN:C	2.56	0.43
2:B:337:GLU:HG2	2:B:337:GLU:O	2.18	0.43
2:B:379:VAL:O	2:B:383:GLY:HA3	2.19	0.43
2:B:481:ALA:O	2:B:484:ARG:N	2.34	0.43
1:D:969:G:O2'	1:D:970:A:H5'	2.18	0.43
2:A:37:TYR:CE2	2:A:39:THR:CG2	3.01	0.43
2:A:182:ARG:O	2:A:183:VAL:CB	2.66	0.43
2:A:246:ASN:OD1	2:A:247:ALA:N	2.52	0.43
2:A:380:ASN:O	2:A:384:ILE:HG13	2.19	0.43
2:A:566:TYR:OH	2:A:572:PHE:HD1	2.01	0.43
2:B:25:PRO:HD2	2:B:145:ASP:OD2	2.19	0.43
2:B:33:GLU:OE2	2:B:33:GLU:N	2.39	0.43
2:B:273:LEU:CB	2:B:280:ILE:HD11	2.49	0.43
2:B:343:THR:HG23	2:B:344:GLU:HG2	2.00	0.43
2:B:539:TYR:HA	2:B:542:SER:HB2	2.01	0.43
2:B:646:LEU:O	2:B:647:GLU:HB2	2.19	0.43
2:B:728:TRP:HZ3	2:B:729:MET:CE	2.32	0.43
2:B:803:GLU:CG	2:B:815:VAL:HG12	2.49	0.43
2:B:864:TYR:OH	2:B:871:TRP:HZ2	2.02	0.43
2:B:953:LYS:O	2:B:954:LYS:C	2.57	0.43
2:A:214:PHE:HA	2:A:299:PRO:CG	2.49	0.43
2:A:231:ARG:O	2:A:234:THR:OG1	2.36	0.43
2:A:511:LYS:HE2	2:A:524:TRP:CE2	2.53	0.43
2:A:544:HIS:HE1	2:A:593:GLU:OE2	2.01	0.43
2:B:98:ASP:OD2	2:B:99:PRO:HD2	2.19	0.43
2:B:231:ARG:O	2:B:234:THR:OG1	2.37	0.43
2:B:471:ASN:OD1	2:B:473:GLU:HG2	2.18	0.43
2:B:560:THR:O	2:B:563:PHE:HB3	2.19	0.43
1:C:941:A:H2'	1:C:942:U:H6	1.84	0.42
1:C:964:G:N2	1:C:975:C:C2	2.86	0.42
1:D:920:G:H5"	1:D:921:U:C5	2.48	0.42
2:A:184:ARG:HD3	2:A:198:LEU:HD21	2.01	0.42
2:A:198:LEU:HD23	2:A:448:VAL:HG13	2.01	0.42
2:A:232:PRO:O	2:A:427:ILE:HG21	2.19	0.42
2:A:311:GLU:OE2	2:A:335:ALA:HB2	2.19	0.42
2:A:384:ILE:CG2	2:A:385:LYS:H	2.19	0.42
2:A:470:GLY:O	2:A:471:ASN:C	2.57	0.42
2:A:475:LYS:HE3	2:A:500:ILE:O	2.19	0.42
2:A:521:ASP:N	2:A:522:PRO:HD3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:884:LYS:HB2	2:A:884:LYS:HZ3	1.82	0.42
2:B:22:ILE:HD12	2:B:22:ILE:HA	1.82	0.42
2:B:223:ILE:HG23	2:B:223:ILE:O	2.19	0.42
2:B:373:PHE:HB2	2:B:374:PRO:HD3	2.02	0.42
2:B:374:PRO:HG3	2:B:379:VAL:CG2	2.49	0.42
2:B:614:ILE:HA	2:B:618:LEU:HB2	2.01	0.42
2:B:680:LEU:C	2:B:750:ARG:HG3	2.39	0.42
2:B:698:ARG:O	2:B:701:ILE:HB	2.18	0.42
2:B:737:ILE:HG22	2:B:823:PRO:HD3	2.00	0.42
2:B:840:ARG:O	2:B:844:GLU:HG3	2.18	0.42
1:C:958:U:H2’	1:C:959:U:O5’	2.19	0.42
1:D:916:C:O2’	1:D:972:U:O3’	2.36	0.42
1:D:958:U:H2’	1:D:959:U:O5’	2.19	0.42
2:A:314:ASP:HA	2:A:315:PRO:HD3	1.89	0.42
2:A:675:LEU:CD1	2:A:697:LEU:HD11	2.48	0.42
2:A:714:TYR:CD2	2:A:714:TYR:N	2.88	0.42
2:A:786:LEU:C	2:A:786:LEU:HD23	2.40	0.42
2:A:854:LYS:HG3	2:A:855:ILE:H	1.83	0.42
2:A:890:LEU:C	2:A:892:LYS:N	2.72	0.42
2:A:959:PRO:C	2:A:960:LEU:CD2	2.87	0.42
2:B:54:ALA:HB2	2:B:661:PHE:CD1	2.54	0.42
2:B:355:ILE:CG2	2:B:410:PHE:CE1	3.02	0.42
2:B:706:GLU:O	2:B:709:SER:HB2	2.19	0.42
2:B:872:LYS:HD3	2:B:872:LYS:HA	1.88	0.42
1:C:960:C:C2	1:C:971:A:H1’	2.54	0.42
2:A:244:ASN:ND2	2:A:313:VAL:HG23	2.34	0.42
2:A:469:TYR:CE2	2:A:620:PHE:CD1	3.07	0.42
2:A:774:ARG:HG2	2:A:775:ASP:N	2.34	0.42
2:B:159:PHE:O	2:B:162:PHE:HB3	2.19	0.42
2:B:165:TRP:HZ2	2:B:565:ASP:OD2	2.02	0.42
2:B:827:TRP:O	2:B:827:TRP:HD1	2.02	0.42
2:B:884:LYS:O	2:B:885:SER:C	2.57	0.42
1:D:953:A:HO2’	1:D:954:G:H8	1.62	0.42
2:A:218:GLU:O	2:A:219:ASN:C	2.57	0.42
2:A:373:PHE:N	2:A:374:PRO:CD	2.83	0.42
2:A:572:PHE:HE1	2:A:595:LYS:HB3	1.85	0.42
2:A:614:ILE:HA	2:A:618:LEU:HB2	2.02	0.42
2:A:691:ARG:CG	2:A:691:ARG:NH1	2.80	0.42
2:A:860:ARG:NH2	2:A:862:TYR:CB	2.77	0.42
2:B:388:LYS:H	2:B:390:LYS:HE2	1.84	0.42
2:B:720:VAL:CG1	2:B:777:GLU:HG2	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:985:A:O3'	1:C:986:C:C6	2.72	0.42
2:A:160:SER:HB3	2:A:516:THR:HG23	2.01	0.42
2:A:191:THR:HA	2:A:192:PRO:HD3	1.88	0.42
2:A:195:ASP:C	2:A:202:GLU:OE1	2.57	0.42
2:A:724:ASP:C	2:A:726:ASP:N	2.73	0.42
2:A:733:LEU:HD11	2:A:789:VAL:CG2	2.48	0.42
2:B:225:LEU:HD12	2:B:264:ILE:O	2.20	0.42
2:B:800:HIS:O	2:B:802:CYS:N	2.53	0.42
2:B:819:LYS:HD2	2:B:819:LYS:N	2.34	0.42
1:C:982:C:O5'	1:C:982:C:H6	2.02	0.42
1:D:922:C:H4'	1:D:923:A:C5'	2.46	0.42
2:A:37:TYR:OH	2:A:536:MET:O	2.30	0.42
2:A:211:ILE:HG12	2:A:438:GLU:O	2.20	0.42
2:A:256:ARG:NH1	2:A:278:ARG:NH1	2.68	0.42
2:A:911:ILE:HG13	2:A:912:LYS:HG3	2.02	0.42
2:B:581:GLU:HG3	2:B:586:ILE:O	2.20	0.42
2:B:616:ASN:O	2:B:619:THR:N	2.52	0.42
1:D:922:C:H5"	1:D:923:A:OP1	2.20	0.42
2:A:83:THR:HA	2:A:153:THR:HG22	2.02	0.42
2:A:145:ASP:OD1	2:A:147:SER:N	2.52	0.42
2:A:276:GLN:HE21	2:A:276:GLN:HB3	1.62	0.42
2:A:379:VAL:O	2:A:383:GLY:HA3	2.19	0.42
2:A:730:LEU:HD23	2:A:730:LEU:HA	1.90	0.42
2:A:767:TYR:OH	2:A:782:VAL:HG21	2.19	0.42
2:A:947:THR:CG2	2:A:948:GLU:H	2.33	0.42
2:B:176:ILE:HD13	2:B:520:TRP:CH2	2.55	0.42
2:B:469:TYR:HB2	2:B:504:ASP:O	2.20	0.42
2:B:470:GLY:O	2:B:471:ASN:C	2.58	0.42
2:B:645:THR:OG1	2:B:688:ASP:OD1	2.28	0.42
2:B:721:GLU:HA	2:B:721:GLU:OE2	2.19	0.42
2:B:728:TRP:O	2:B:730:LEU:N	2.53	0.42
2:B:764:LEU:HD13	2:B:786:LEU:CD1	2.48	0.42
2:B:766:TRP:O	2:B:770:ARG:N	2.45	0.42
2:B:890:LEU:C	2:B:892:LYS:N	2.71	0.42
2:A:544:HIS:HE1	2:A:593:GLU:CD	2.23	0.42
2:A:560:THR:O	2:A:563:PHE:N	2.52	0.42
2:A:711:PHE:N	2:A:711:PHE:CD1	2.88	0.42
2:A:931:LYS:NZ	2:A:935:GLU:OE2	2.42	0.42
2:B:129:PHE:HA	2:B:132:ALA:HB3	2.01	0.42
2:B:478:ALA:HB2	2:B:623:PHE:CD1	2.55	0.42
2:B:661:PHE:O	2:B:665:ILE:HG13	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:775:ASP:OD1	2:B:775:ASP:O	2.38	0.42
2:B:921:ILE:HD12	2:B:928:ARG:HH12	1.85	0.42
1:C:927:G:C6	1:C:928:C:C4	3.08	0.42
1:C:953:A:C5'	1:C:954:G:OP1	2.68	0.42
2:A:12:LYS:HZ1	2:A:16:ARG:HH22	1.67	0.42
2:A:67:LYS:HA	2:A:70:GLN:HB2	2.01	0.42
2:A:181:HIS:ND1	2:A:182:ARG:O	2.52	0.42
2:A:519:PRO:HG2	2:A:520:TRP:CE3	2.55	0.42
2:B:147:SER:OG	2:B:543:ARG:HG3	2.20	0.42
2:B:152:THR:HG22	2:B:159:PHE:CE1	2.55	0.42
2:B:277:ASP:OD2	2:B:462:HIS:CE1	2.73	0.42
2:B:317:ASN:O	2:B:318:ALA:HB3	2.20	0.42
2:B:576:LYS:O	2:B:580:LEU:HD13	2.20	0.42
2:B:714:TYR:CD1	2:B:780:ARG:HD3	2.55	0.42
2:B:725:ILE:CD1	2:B:770:ARG:NE	2.82	0.42
2:B:871:TRP:CD2	2:B:920:ARG:NH2	2.80	0.42
1:D:923:A:O2'	1:D:924:A:OP2	2.30	0.42
2:A:290:LYS:HE3	2:A:290:LYS:HB3	1.95	0.42
2:A:347:GLU:CD	2:A:347:GLU:C	2.78	0.42
2:A:402:LYS:O	2:A:403:ALA:C	2.58	0.42
2:A:418:LYS:HB3	2:A:422:GLU:OE2	2.20	0.42
2:A:434:LYS:HB3	2:A:436:ILE:CG1	2.46	0.42
2:A:708:ILE:HD12	2:A:791:VAL:CG2	2.49	0.42
2:A:887:MET:CE	2:A:891:MET:HG2	2.49	0.42
2:A:924:GLU:HA	2:A:927:LEU:HB3	2.02	0.42
2:B:32:LYS:HA	2:B:600:TYR:CE1	2.55	0.42
2:B:567:ILE:HG21	2:B:594:MET:HE3	2.01	0.42
2:B:734:ASN:HD22	2:B:734:ASN:HA	1.51	0.42
2:B:800:HIS:C	2:B:802:CYS:N	2.72	0.42
1:C:923:A:O2'	1:C:924:A:OP2	2.34	0.41
1:C:926:G:O2'	1:C:927:G:H5'	2.20	0.41
1:D:903:G:H2'	1:D:904:G:O4'	2.20	0.41
1:D:953:A:N1	2:B:966:ILE:HG12	2.35	0.41
2:A:87:ILE:O	2:A:90:ILE:HB	2.20	0.41
2:A:123:ILE:HD11	2:A:155:LEU:HD11	2.02	0.41
2:A:235:VAL:HG11	2:A:431:MET:HE3	2.02	0.41
2:B:325:VAL:N	2:B:332:ASP:OD2	2.51	0.41
2:B:553:LYS:HE3	2:B:553:LYS:HB3	1.80	0.41
2:B:671:ASP:HB3	2:B:798:THR:HG22	2.02	0.41
1:C:976:C:C2'	1:C:977:G:H5'	2.50	0.41
2:A:711:PHE:O	2:A:784:ARG:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:824:VAL:O	2:A:825:GLU:C	2.57	0.41
2:B:412:VAL:O	2:B:416:GLU:OE1	2.37	0.41
2:B:677:ILE:HD13	2:B:677:ILE:HA	1.85	0.41
2:B:728:TRP:HE3	2:B:729:MET:N	2.18	0.41
2:B:768:LEU:O	2:B:770:ARG:N	2.52	0.41
2:B:803:GLU:CD	2:B:815:VAL:HG12	2.41	0.41
2:B:824:VAL:HG12	2:B:825:GLU:N	2.35	0.41
2:B:825:GLU:O	2:B:825:GLU:CG	2.68	0.41
1:C:970:A:O2’	1:C:971:A:O5’	2.38	0.41
1:D:988:A:N7	2:B:529:LEU:HD21	2.36	0.41
2:A:9:ILE:HD13	2:A:804:GLU:HG2	2.02	0.41
2:A:236:TYR:CE2	2:A:414:PRO:HG2	2.55	0.41
2:A:250:VAL:CG1	2:A:285:GLU:HG3	2.50	0.41
2:A:264:ILE:O	2:A:264:ILE:HG22	2.18	0.41
2:A:341:ARG:HD3	2:A:341:ARG:N	2.36	0.41
2:A:691:ARG:O	2:A:694:VAL:CG1	2.64	0.41
2:A:871:TRP:CE3	2:A:920:ARG:NH2	2.88	0.41
2:B:263:TRP:N	2:B:263:TRP:CD1	2.88	0.41
2:B:264:ILE:HG23	2:B:286:PHE:CE2	2.55	0.41
2:B:289:GLU:OE2	2:B:289:GLU:N	2.53	0.41
2:B:934:MET:O	2:B:938:LEU:HD13	2.21	0.41
2:A:12:LYS:NZ	2:A:16:ARG:HH22	2.18	0.41
2:A:148:ARG:HB3	2:A:542:SER:HB3	2.02	0.41
2:A:459:LYS:CG	2:A:460:ILE:N	2.83	0.41
2:A:499:ILE:HG12	2:A:615:PRO:HA	2.02	0.41
2:A:710:GLN:O	2:A:711:PHE:C	2.57	0.41
2:A:909:LYS:NZ	2:A:913:GLU:O	2.52	0.41
2:B:173:LYS:HD2	2:B:175:TYR:HE2	1.85	0.41
2:B:212:ILE:CD1	2:B:235:VAL:HG12	2.47	0.41
2:B:510:ARG:HA	2:B:510:ARG:HE	1.84	0.41
2:B:730:LEU:O	2:B:827:TRP:NE1	2.53	0.41
2:B:847:LYS:HE3	2:B:847:LYS:HB2	1.89	0.41
1:C:987:C:H5	2:A:506:LYS:NZ	2.18	0.41
2:A:16:ARG:NH1	2:A:16:ARG:HG3	2.36	0.41
2:A:45:LEU:HD13	2:A:130:MET:CB	2.51	0.41
2:A:61:ASP:O	2:A:64:ALA:N	2.53	0.41
2:A:317:ASN:O	2:A:318:ALA:HB3	2.21	0.41
2:A:395:GLN:HG3	2:A:396:ALA:N	2.34	0.41
2:A:410:PHE:CZ	2:A:412:VAL:HG21	2.54	0.41
2:A:574:GLU:HA	2:A:577:GLU:OE1	2.20	0.41
2:A:767:TYR:OH	2:A:782:VAL:HG11	2.21	0.41

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:B:182:ARG:O	2:B:183:VAL:CB	2.69	0.41
2:B:506:LYS:HE3	2:B:527:GLU:OE1	2.21	0.41
2:B:570:GLU:OE1	2:B:576:LYS:HG3	2.20	0.41
2:B:774:ARG:CG	2:B:775:ASP:N	2.84	0.41
1:C:960:C:H2'	1:C:971:A:H1'	2.03	0.41
1:D:902:C:H2'	1:D:903:G:C5'	2.51	0.41
2:A:540:THR:HG21	2:A:598:PHE:CD1	2.55	0.41
2:A:544:HIS:CE1	2:A:593:GLU:OE2	2.73	0.41
2:A:711:PHE:HA	2:A:714:TYR:CE2	2.56	0.41
2:B:196:HIS:CD2	2:B:197:ASP:N	2.89	0.41
2:B:241:MET:HG3	2:B:296:VAL:CG2	2.51	0.41
2:B:725:ILE:HD13	2:B:770:ARG:NE	2.36	0.41
2:B:884:LYS:C	2:B:886:SER:N	2.73	0.41
1:C:920:G:OP1	1:C:920:G:C4'	2.68	0.41
2:A:7:LYS:HB2	2:A:7:LYS:HZ3	1.85	0.41
2:A:412:VAL:H	2:A:416:GLU:HG2	1.86	0.41
2:A:612:ASP:OD1	2:A:613:LEU:HD23	2.21	0.41
2:A:614:ILE:N	2:A:615:PRO:CD	2.83	0.41
2:A:950:LYS:H	2:A:953:LYS:HZ3	1.68	0.41
2:B:136:THR:HG23	2:B:662:ILE:HB	2.02	0.41
2:B:856:GLU:O	2:B:857:ASN:O	2.38	0.41
2:B:863:ILE:HG13	2:B:945:ASN:HA	2.03	0.41
2:B:880:LYS:O	2:B:881:ARG:C	2.59	0.41
1:D:944:C:OP1	2:B:765:ARG:HD3	2.20	0.41
2:A:116:LEU:C	2:A:116:LEU:HD23	2.41	0.41
2:A:181:HIS:HD2	2:A:466:PHE:CE1	2.38	0.41
2:A:382:LEU:C	2:A:384:ILE:N	2.74	0.41
2:A:405:TYR:HE2	2:A:424:LYS:HZ3	1.68	0.41
2:A:626:VAL:HG12	2:A:634:TRP:CD2	2.56	0.41
2:A:676:TYR:O	2:A:679:SER:HB3	2.21	0.41
2:A:793:LEU:HD23	2:A:821:PRO:HG3	2.03	0.41
2:A:884:LYS:O	2:A:885:SER:C	2.58	0.41
2:B:65:ARG:HA	2:B:68:ARG:HH11	1.81	0.41
2:B:276:GLN:HE21	2:B:460:ILE:HD11	1.86	0.41
2:B:471:ASN:C	2:B:471:ASN:HD22	2.23	0.41
2:B:623:PHE:O	2:B:626:VAL:HG22	2.21	0.41
2:B:860:ARG:HH21	2:B:860:ARG:HB2	1.86	0.41
1:C:914:A:H1'	1:C:925:A:N1	2.36	0.41
1:C:958:U:C2'	1:C:959:U:O5'	2.68	0.41
1:D:925:A:H2'	1:D:926:G:O4'	2.21	0.41
2:A:112:PRO:HD2	2:A:115:ILE:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:175:TYR:CE1	2:A:474:TRP:HB2	2.56	0.41
2:A:293:GLY:O	2:A:295:TYR:CD1	2.74	0.41
2:A:406:HIS:ND1	2:A:421:GLN:OE1	2.54	0.41
2:A:467:ILE:CG1	2:A:508:CYS:HB3	2.50	0.41
2:A:644:GLY:HA2	2:A:687:PHE:O	2.20	0.41
2:A:714:TYR:CE1	2:A:780:ARG:HG2	2.56	0.41
2:A:831:THR:O	2:A:834:ALA:HB3	2.21	0.41
2:A:872:LYS:O	2:A:876:VAL:CG2	2.65	0.41
2:A:872:LYS:HA	2:A:875:GLU:CD	2.41	0.41
2:A:882:ASP:C	2:A:883:PHE:HD1	2.24	0.41
2:B:560:THR:HB	2:B:561:PRO:CD	2.51	0.41
2:B:652:SER:HG	2:B:655:LYS:HB2	1.85	0.41
2:B:725:ILE:HB	2:B:929:GLU:OE1	2.20	0.41
2:B:749:THR:O	2:B:750:ARG:C	2.57	0.41
2:B:846:ILE:HD12	2:B:938:LEU:CD2	2.51	0.41
2:B:849:ILE:HD12	2:B:964:ILE:CD1	2.51	0.41
2:B:944:ILE:HG22	2:B:945:ASN:N	2.36	0.41
2:B:964:ILE:HG13	2:B:965:PHE:N	2.34	0.41
2:A:135:GLU:O	2:A:139:ARG:HB2	2.21	0.41
2:A:168:TRP:CZ3	2:A:520:TRP:CE3	3.09	0.41
2:A:173:LYS:CB	2:A:175:TYR:CE2	3.04	0.41
2:A:232:PRO:O	2:A:235:VAL:HG22	2.21	0.41
2:A:252:ALA:HB1	2:A:281:GLU:O	2.21	0.41
2:B:412:VAL:O	2:B:413:PRO:C	2.60	0.41
2:B:488:LEU:HA	2:B:488:LEU:HD23	1.81	0.41
2:B:771:THR:HB	2:B:774:ARG:HD3	2.03	0.41
2:B:786:LEU:HD23	2:B:786:LEU:C	2.41	0.41
2:B:846:ILE:HA	2:B:849:ILE:HD12	2.03	0.41
2:B:870:LYS:HE3	2:B:905:LYS:CE	2.40	0.41
1:C:980:C:H2’	1:C:981:C:H6	1.86	0.40
1:C:986:C:C2	2:A:507:ALA:N	2.89	0.40
2:A:9:ILE:O	2:A:12:LYS:HB3	2.22	0.40
2:A:345:ILE:O	2:A:346:LEU:HB2	2.20	0.40
2:A:581:GLU:HG3	2:A:586:ILE:O	2.21	0.40
2:B:152:THR:HG22	2:B:159:PHE:CZ	2.56	0.40
2:B:155:LEU:C	2:B:157:PRO:HD3	2.42	0.40
2:B:240:ASN:O	2:B:324:SER:HB3	2.21	0.40
2:B:334:VAL:HG13	2:B:388:LYS:O	2.20	0.40
2:B:381:LYS:HD2	2:B:381:LYS:C	2.40	0.40
2:B:482:LEU:HD23	2:B:482:LEU:C	2.41	0.40
2:B:704:PHE:HD1	2:B:790:TRP:CH2	2.39	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:914:ARG:HH21	2:B:915:THR:CG2	2.27	0.40
2:B:914:ARG:CZ	2:B:915:THR:O	2.69	0.40
2:B:914:ARG:NH2	2:B:915:THR:HG23	2.29	0.40
2:B:949:ASP:HB2	2:B:954:LYS:CE	2.45	0.40
2:A:9:ILE:O	2:A:10:GLU:C	2.60	0.40
2:A:232:PRO:CG	2:A:428:ALA:HB2	2.51	0.40
2:A:339:LEU:N	2:A:339:LEU:HD13	2.36	0.40
2:A:646:LEU:O	2:A:647:GLU:CB	2.69	0.40
2:A:713:GLU:O	2:A:714:TYR:O	2.40	0.40
2:A:733:LEU:HD11	2:A:789:VAL:HB	2.02	0.40
2:A:803:GLU:HA	2:A:803:GLU:OE1	2.20	0.40
2:A:824:VAL:CG1	2:A:825:GLU:N	2.84	0.40
2:A:914:ARG:HH21	2:A:915:THR:C	2.25	0.40
2:B:497:GLU:O	2:B:500:ILE:N	2.54	0.40
2:A:50:HIS:H	2:A:53:HIS:HD2	1.68	0.40
2:A:173:LYS:HD3	2:A:175:TYR:HE2	1.86	0.40
2:A:441:TYR:O	2:A:442:GLU:OE2	2.40	0.40
2:A:959:PRO:O	2:A:960:LEU:HB2	2.20	0.40
2:B:13:TRP:CZ2	2:B:803:GLU:HB3	2.53	0.40
2:B:186:ASP:CB	2:B:193:LEU:HD11	2.42	0.40
2:B:216:LEU:HB2	2:B:296:VAL:HG12	2.04	0.40
2:B:337:GLU:O	2:B:339:LEU:HD12	2.21	0.40
2:B:461:ILE:HB	2:B:464:GLN:HB2	2.03	0.40
2:B:597:GLU:O	2:B:600:TYR:N	2.53	0.40
2:B:783:LEU:CD1	2:B:783:LEU:N	2.84	0.40
2:B:871:TRP:HZ3	2:B:918:VAL:HA	1.87	0.40
2:B:915:THR:O	2:B:916:PHE:CD2	2.74	0.40
2:A:14:GLN:HG3	2:A:14:GLN:H	1.61	0.40
2:A:77:PRO:HG3	2:A:539:TYR:CD1	2.56	0.40
2:A:217:ARG:HE	2:A:217:ARG:HB3	1.62	0.40
2:A:497:GLU:O	2:A:500:ILE:N	2.54	0.40
2:A:518:LEU:C	2:A:520:TRP:H	2.24	0.40
2:A:918:VAL:HG11	2:A:920:ARG:NH1	2.37	0.40
2:A:953:LYS:O	2:A:954:LYS:C	2.59	0.40
2:B:48:HIS:NE2	2:B:132:ALA:HB1	2.36	0.40
2:B:70:GLN:HB3	2:B:72:TYR:CE1	2.56	0.40
2:B:349:TYR:O	2:B:349:TYR:CG	2.74	0.40
2:B:555:ASP:OD2	2:B:557:GLU:HB2	2.22	0.40
2:B:718:GLY:O	2:B:719:ASN:C	2.60	0.40
2:B:849:ILE:HD12	2:B:964:ILE:HD11	2.04	0.40
2:A:96:ASN:N	2:A:96:ASN:ND2	2.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:330:PRO:HD3	2:A:400:ILE:HG12	2.04	0.40
2:A:559:LEU:HA	2:A:563:PHE:CD2	2.57	0.40
2:A:867:GLU:N	2:A:867:GLU:OE1	2.38	0.40
2:B:44:TYR:O	2:B:46:SER:N	2.54	0.40
2:B:525:VAL:O	2:B:525:VAL:HG13	2.22	0.40
2:B:646:LEU:O	2:B:647:GLU:CB	2.69	0.40
2:B:724:ASP:C	2:B:726:ASP:N	2.75	0.40
2:B:780:ARG:O	2:B:781:TYR:C	2.59	0.40
2:B:919:LYS:NZ	2:B:960:LEU:HD11	2.36	0.40
2:B:921:ILE:O	2:B:924:GLU:CB	2.69	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
2	A	944/967 (98%)	630 (67%)	211 (22%)	103 (11%)	0 2
2	B	944/967 (98%)	632 (67%)	208 (22%)	104 (11%)	0 2
All	All	1888/1934 (98%)	1262 (67%)	419 (22%)	207 (11%)	0 2

All (207) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A	74	VAL
2	A	110	LYS
2	A	143	SER
2	A	183	VAL
2	A	188	VAL
2	A	276	GLN
2	A	333	HIS
2	A	347	GLU

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Mol	Chain	Res	Type
2	A	377	GLU
2	A	378	GLU
2	A	552	GLY
2	A	630	ARG
2	A	714	TYR
2	A	854	LYS
2	A	867	GLU
2	A	871	TRP
2	A	883	PHE
2	A	913	GLU
2	A	914	ARG
2	A	929	GLU
2	A	953	LYS
2	B	45	LEU
2	B	74	VAL
2	B	110	LYS
2	B	183	VAL
2	B	188	VAL
2	B	276	GLN
2	B	333	HIS
2	B	347	GLU
2	B	377	GLU
2	B	378	GLU
2	B	552	GLY
2	B	630	ARG
2	B	714	TYR
2	B	854	LYS
2	B	867	GLU
2	B	871	TRP
2	B	883	PHE
2	B	913	GLU
2	B	914	ARG
2	B	929	GLU
2	B	953	LYS
2	A	45	LEU
2	A	113	GLU
2	A	181	HIS
2	A	201	GLY
2	A	219	ASN
2	A	301	SER
2	A	343	THR
2	A	374	PRO

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Mol	Chain	Res	Type
2	A	376	VAL
2	A	415	TYR
2	A	464	GLN
2	A	494	ALA
2	A	502	TRP
2	A	528	SER
2	A	529	LEU
2	A	568	PHE
2	A	616	ASN
2	A	711	PHE
2	A	782	VAL
2	A	857	ASN
2	A	868	ASP
2	A	869	TRP
2	A	885	SER
2	A	900	GLY
2	A	921	ILE
2	A	922	ASN
2	A	950	LYS
2	A	954	LYS
2	A	955	LYS
2	B	113	GLU
2	B	143	SER
2	B	181	HIS
2	B	201	GLY
2	B	219	ASN
2	B	301	SER
2	B	343	THR
2	B	374	PRO
2	B	376	VAL
2	B	415	TYR
2	B	464	GLN
2	B	502	TRP
2	B	528	SER
2	B	529	LEU
2	B	568	PHE
2	B	616	ASN
2	B	782	VAL
2	B	857	ASN
2	B	868	ASP
2	B	869	TRP
2	B	885	SER

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Mol	Chain	Res	Type
2	B	900	GLY
2	B	921	ILE
2	B	922	ASN
2	B	950	LYS
2	B	954	LYS
2	B	955	LYS
2	A	73	ASN
2	A	223	ILE
2	A	240	ASN
2	A	453	GLY
2	A	482	LEU
2	A	558	LYS
2	A	631	GLU
2	A	775	ASP
2	A	825	GLU
2	A	895	GLU
2	A	911	ILE
2	B	73	ASN
2	B	96	ASN
2	B	220	GLY
2	B	223	ILE
2	B	240	ASN
2	B	453	GLY
2	B	494	ALA
2	B	558	LYS
2	B	631	GLU
2	B	711	PHE
2	B	775	ASP
2	B	825	GLU
2	B	891	MET
2	B	895	GLU
2	B	911	ILE
2	A	85	SER
2	A	96	ASN
2	A	117	TRP
2	A	220	GLY
2	A	283	ILE
2	A	421	GLN
2	A	542	SER
2	A	623	PHE
2	A	670	ALA
2	A	719	ASN

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Mol	Chain	Res	Type
2	A	856	GLU
2	A	881	ARG
2	A	891	MET
2	A	903	VAL
2	A	907	VAL
2	B	85	SER
2	B	117	TRP
2	B	421	GLN
2	B	482	LEU
2	B	623	PHE
2	B	670	ALA
2	B	719	ASN
2	B	790	TRP
2	B	856	GLU
2	B	881	ARG
2	B	903	VAL
2	B	907	VAL
2	A	157	PRO
2	A	337	GLU
2	A	339	LEU
2	A	394	GLU
2	A	452	PHE
2	A	519	PRO
2	A	790	TRP
2	A	878	SER
2	A	898	LYS
2	B	157	PRO
2	B	283	ILE
2	B	339	LEU
2	B	403	ALA
2	B	452	PHE
2	B	519	PRO
2	B	540	THR
2	B	542	SER
2	B	743	ALA
2	B	878	SER
2	A	303	ASP
2	A	403	ALA
2	A	743	ALA
2	A	813	GLY
2	B	337	GLU
2	B	394	GLU

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Mol	Chain	Res	Type
2	B	495	GLN
2	A	945	ASN
2	A	946	PRO
2	B	945	ASN
2	B	946	PRO
2	A	88	VAL
2	A	471	ASN
2	A	522	PRO
2	A	823	PRO
2	B	471	ASN
2	B	522	PRO
2	B	789	VAL
2	A	302	GLY
2	A	353	PRO
2	A	355	ILE
2	A	384	ILE
2	B	222	VAL
2	B	302	GLY
2	B	353	PRO
2	B	355	ILE
2	B	384	ILE
2	A	115	ILE
2	A	222	VAL
2	A	329	ALA
2	A	330	PRO
2	B	88	VAL
2	B	115	ILE
2	B	329	ALA
2	B	330	PRO
2	B	813	GLY
2	B	823	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	A	841/857 (98%)	731 (87%)	110 (13%)	4	18
2	B	841/857 (98%)	752 (89%)	89 (11%)	6	27
All	All	1682/1714 (98%)	1483 (88%)	199 (12%)	5	22

All (199) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	16	ARG
2	A	28	ARG
2	A	29	ASP
2	A	35	LYS
2	A	37	TYR
2	A	38	ILE
2	A	42	PHE
2	A	70	GLN
2	A	75	LEU
2	A	77	PRO
2	A	107	ASP
2	A	124	ASN
2	A	135	GLU
2	A	138	ILE
2	A	139	ARG
2	A	157	PRO
2	A	172	GLU
2	A	173	LYS
2	A	183	VAL
2	A	196	HIS
2	A	203	ASP
2	A	213	LYS
2	A	217	ARG
2	A	230	LEU
2	A	233	GLU
2	A	234	THR
2	A	239	THR
2	A	246	ASN
2	A	276	GLN
2	A	278	ARG
2	A	289	GLU
2	A	294	LYS

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Mol	Chain	Res	Type
2	A	317	ASN
2	A	331	PHE
2	A	339	LEU
2	A	341	ARG
2	A	347	GLU
2	A	349	TYR
2	A	373	PHE
2	A	381	LYS
2	A	433	GLU
2	A	446	LYS
2	A	455	ARG
2	A	463	ASP
2	A	492	ARG
2	A	527	GLU
2	A	529	LEU
2	A	531	ASP
2	A	536	MET
2	A	540	THR
2	A	551	GLU
2	A	562	GLU
2	A	569	LEU
2	A	590	ILE
2	A	602	TYR
2	A	616	ASN
2	A	624	ASN
2	A	625	HIS
2	A	636	LYS
2	A	640	VAL
2	A	645	THR
2	A	649	GLN
2	A	658	VAL
2	A	678	MET
2	A	679	SER
2	A	685	SER
2	A	691	ARG
2	A	700	GLN
2	A	703	ARG
2	A	707	LEU
2	A	720	VAL
2	A	722	LEU
2	A	727	ARG
2	A	732	ARG

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Mol	Chain	Res	Type
2	A	733	LEU
2	A	744	LEU
2	A	747	PHE
2	A	771	THR
2	A	776	ASP
2	A	784	ARG
2	A	792	ARG
2	A	809	LEU
2	A	815	VAL
2	A	817	LEU
2	A	819	LYS
2	A	820	TRP
2	A	823	PRO
2	A	825	GLU
2	A	826	GLU
2	A	828	TRP
2	A	829	ASN
2	A	852	VAL
2	A	860	ARG
2	A	862	TYR
2	A	869	TRP
2	A	872	LYS
2	A	879	GLU
2	A	881	ARG
2	A	884	LYS
2	A	910	LEU
2	A	916	PHE
2	A	917	ASP
2	A	919	LYS
2	A	922	ASN
2	A	923	GLU
2	A	932	GLU
2	A	933	PHE
2	A	942	ILE
2	A	953	LYS
2	A	964	ILE
2	B	7	LYS
2	B	18	LEU
2	B	42	PHE
2	B	44	TYR
2	B	70	GLN
2	B	97	ARG

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Mol	Chain	Res	Type
2	B	139	ARG
2	B	151	TYR
2	B	172	GLU
2	B	196	HIS
2	B	197	ASP
2	B	203	ASP
2	B	213	LYS
2	B	218	GLU
2	B	230	LEU
2	B	233	GLU
2	B	234	THR
2	B	271	TYR
2	B	276	GLN
2	B	285	GLU
2	B	298	ASN
2	B	303	ASP
2	B	331	PHE
2	B	332	ASP
2	B	338	ASP
2	B	339	LEU
2	B	341	ARG
2	B	347	GLU
2	B	381	LYS
2	B	405	TYR
2	B	415	TYR
2	B	429	LYS
2	B	451	ARG
2	B	471	ASN
2	B	479	ARG
2	B	504	ASP
2	B	505	LYS
2	B	510	ARG
2	B	511	LYS
2	B	528	SER
2	B	533	THR
2	B	536	MET
2	B	540	THR
2	B	546	ASN
2	B	547	LYS
2	B	551	GLU
2	B	557	GLU
2	B	565	ASP

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Mol	Chain	Res	Type
2	B	599	GLU
2	B	602	TYR
2	B	607	ARG
2	B	624	ASN
2	B	625	HIS
2	B	630	ARG
2	B	641	ASN
2	B	649	GLN
2	B	650	LYS
2	B	658	VAL
2	B	674	ARG
2	B	675	LEU
2	B	690	ARG
2	B	703	ARG
2	B	714	TYR
2	B	722	LEU
2	B	726	ASP
2	B	729	MET
2	B	734	ASN
2	B	744	LEU
2	B	748	ARG
2	B	750	ARG
2	B	812	GLU
2	B	819	LYS
2	B	820	TRP
2	B	825	GLU
2	B	826	GLU
2	B	828	TRP
2	B	829	ASN
2	B	855	ILE
2	B	860	ARG
2	B	869	TRP
2	B	885	SER
2	B	886	SER
2	B	889	GLU
2	B	917	ASP
2	B	919	LYS
2	B	920	ARG
2	B	940	ILE
2	B	953	LYS
2	B	964	ILE

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

Mol	Chain	Res	Type
2	A	5	ASN
2	A	53	HIS
2	A	70	GLN
2	A	73	ASN
2	A	81	HIS
2	A	96	ASN
2	A	124	ASN
2	A	166	GLN
2	A	196	HIS
2	A	219	ASN
2	A	276	GLN
2	A	317	ASN
2	A	421	GLN
2	A	447	ASN
2	A	464	GLN
2	A	544	HIS
2	A	546	ASN
2	A	616	ASN
2	A	624	ASN
2	A	625	HIS
2	A	683	HIS
2	A	731	HIS
2	A	742	ASN
2	A	800	HIS
2	A	922	ASN
2	B	53	HIS
2	B	70	GLN
2	B	73	ASN
2	B	124	ASN
2	B	166	GLN
2	B	196	HIS
2	B	276	GLN
2	B	298	ASN
2	B	317	ASN
2	B	387	GLN
2	B	421	GLN
2	B	447	ASN
2	B	471	ASN
2	B	495	GLN
2	B	546	ASN
2	B	616	ASN
2	B	731	HIS

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Mol	Chain	Res	Type
2	B	734	ASN
2	B	742	ASN
2	B	908	GLN
2	B	922	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	C	87/88 (98%)	24 (27%)	7 (8%)
1	D	87/88 (98%)	22 (25%)	8 (9%)
All	All	174/176 (98%)	46 (26%)	15 (8%)

All (46) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	C	907	G
1	C	908	U
1	C	910	G
1	C	916	C
1	C	917	C
1	C	918	U
1	C	919	G
1	C	920	G
1	C	921	U
1	C	922	C
1	C	923	A
1	C	924	A
1	C	936	U
1	C	937	C
1	C	952	U
1	C	953	A
1	C	954	G
1	C	961	C
1	C	968	C
1	C	971	A
1	C	972	U
1	C	983	G
1	C	987	C
1	C	988	A
1	D	903	G
1	D	905	G

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Mol	Chain	Res	Type
1	D	908	U
1	D	909	U
1	D	910	G
1	D	917	C
1	D	918	U
1	D	919	G
1	D	920	G
1	D	921	U
1	D	923	A
1	D	924	A
1	D	936	U
1	D	952	U
1	D	961	C
1	D	971	A
1	D	972	U
1	D	973	C
1	D	984	C
1	D	985	A
1	D	987	C
1	D	988	A

All (15) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	C	907	G
1	C	922	C
1	C	923	A
1	C	953	A
1	C	960	C
1	C	970	A
1	C	972	U
1	D	907	G
1	D	920	G
1	D	922	C
1	D	923	A
1	D	953	A
1	D	960	C
1	D	970	A
1	D	972	U

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides 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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	C	88/88 (100%)	0.20	4 (4%)	33	21	53, 78, 126, 149	0
1	D	88/88 (100%)	0.41	7 (7%)	12	7	53, 91, 146, 150	0
2	A	948/967 (98%)	-0.09	26 (2%)	54	40	8, 59, 131, 150	0
2	B	948/967 (98%)	0.26	53 (5%)	24	14	48, 102, 149, 150	0
All	All	2072/2110 (98%)	0.10	90 (4%)	35	23	8, 82, 143, 150	0

All (90) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	A	407	LYS	5.3
1	D	936	U	5.3
2	B	524	TRP	5.1
1	D	939	A	4.9
2	B	236	TYR	4.9
2	B	386	SER	4.7
2	B	862	TYR	4.6
2	A	456	ALA	4.1
2	B	403	ALA	3.9
2	B	920	ARG	3.8
2	A	457	VAL	3.8
2	B	895	GLU	3.7
2	A	406	HIS	3.6
2	B	891	MET	3.6
2	B	869	TRP	3.6
2	B	265	VAL	3.6
2	A	869	TRP	3.5
2	A	455	ARG	3.5
2	B	583	LYS	3.4
1	D	909	U	3.4
2	B	457	VAL	3.3

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Mol	Chain	Res	Type	RSRZ
2	B	291	LEU	3.2
2	B	167	PHE	3.2
1	D	988	A	3.2
2	B	310	ALA	3.2
2	B	405	TYR	3.2
2	A	915	THR	3.1
2	B	887	MET	3.1
2	A	586	ILE	3.1
1	D	986	C	3.0
2	B	280	ILE	3.0
2	B	255	ARG	2.9
2	B	784	ARG	2.9
2	A	291	LEU	2.9
2	A	404	GLU	2.9
2	A	450	SER	2.8
2	B	300	VAL	2.8
2	B	387	GLN	2.8
2	B	929	GLU	2.8
2	B	938	LEU	2.7
2	B	966	ILE	2.7
2	B	263	TRP	2.7
1	D	907	G	2.6
2	B	264	ILE	2.6
2	B	399	THR	2.6
2	B	883	PHE	2.6
2	B	238	VAL	2.6
2	A	447	ASN	2.6
2	A	191	THR	2.5
2	B	865	THR	2.5
2	A	448	VAL	2.5
2	A	917	ASP	2.5
2	B	455	ARG	2.5
2	B	381	LYS	2.5
1	C	987	C	2.4
2	B	355	ILE	2.4
2	A	862	TYR	2.4
2	B	242	TRP	2.4
1	C	986	C	2.3
2	B	870	LYS	2.3
2	A	868	ASP	2.3
2	A	449	ILE	2.3
2	A	502	TRP	2.3

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Mol	Chain	Res	Type	RSRZ
2	B	453	GLY	2.3
2	B	919	LYS	2.3
2	B	353	PRO	2.3
2	B	400	ILE	2.3
2	B	964	ILE	2.2
2	B	279	GLU	2.2
2	A	584	THR	2.2
2	B	286	PHE	2.2
2	B	323	MET	2.2
1	D	940	G	2.2
2	B	404	GLU	2.2
2	B	352	ASP	2.1
2	B	251	LYS	2.1
2	B	409	ILE	2.1
2	B	458	ILE	2.1
2	B	354	ARG	2.1
2	B	967	GLU	2.1
1	C	939	A	2.1
2	B	319	THR	2.1
2	A	190	GLY	2.1
2	A	195	ASP	2.1
2	A	452	PHE	2.0
1	C	988	A	2.0
2	A	206	ILE	2.0
2	A	194	GLY	2.0
2	B	464	GLN	2.0
2	A	890	LEU	2.0

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

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

6.3 Carbohydrates ⓘ

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.