Full wwPDB X-ray Structure Validation Report ⓘ

Oct 25, 2023 – 03:14 AM EDT

PDB ID	:	3H1C
Title	:	Crystal structure of Polynucleotide Phosphorylase (PNPase) core bound to RNase E and Tungstate
Authors	:	Nurmohamed, S.
Deposited on	:	2009-04-11
Resolution	:	3.57 Å(reported)

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

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

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

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

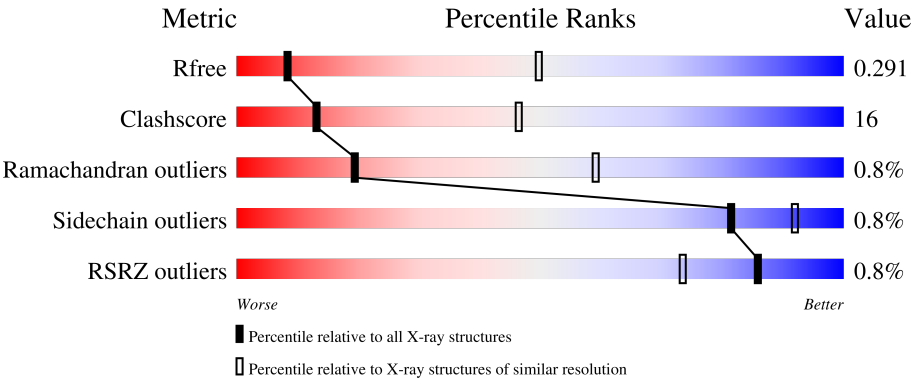
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.57 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.



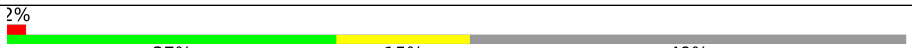
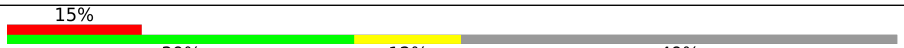
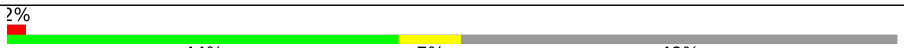
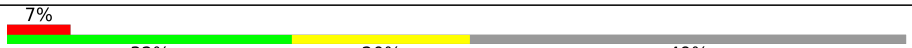
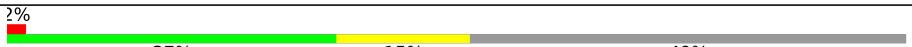
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1094 (3.66-3.50)
Clashscore	141614	1181 (3.66-3.50)
Ramachandran outliers	138981	1143 (3.66-3.50)
Sidechain outliers	138945	1143 (3.66-3.50)
RSRZ outliers	127900	1012 (3.66-3.50)

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

Mol	Chain	Length	Quality of chain
1	A	549	77% 22% ··
1	B	549	76% 23% ··
1	C	549	75% 23% ··
1	G	549	% 77% 21% ··
1	I	549	% 77% 21% ··

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	K	549	
1	M	549	
1	O	549	
1	R	549	
1	T	549	
1	V	549	
1	X	549	
2	D	41	
2	E	41	
2	F	41	
2	H	41	
2	J	41	
2	L	41	
2	N	41	
2	P	41	
2	S	41	
2	U	41	
2	W	41	
2	Y	41	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	WO4	M	551	-	-	-	X

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 51109 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Polyribonucleotide nucleotidyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	544	Total	C	N	O	S	0	0	0
			4075	2559	704	792	20			
1	B	544	Total	C	N	O	S	0	0	0
			4107	2575	717	797	18			
1	C	544	Total	C	N	O	S	0	0	0
			4121	2583	720	798	20			
1	G	543	Total	C	N	O	S	0	0	0
			4095	2571	715	789	20			
1	I	543	Total	C	N	O	S	0	0	0
			4109	2576	716	797	20			
1	K	544	Total	C	N	O	S	0	0	0
			4127	2588	721	798	20			
1	M	544	Total	C	N	O	S	0	0	0
			4116	2581	718	797	20			
1	O	544	Total	C	N	O	S	0	0	0
			4124	2584	723	798	19			
1	R	544	Total	C	N	O	S	0	0	0
			4134	2590	724	800	20			
1	T	543	Total	C	N	O	S	0	0	0
			4116	2582	720	795	19			
1	V	544	Total	C	N	O	S	0	0	0
			4118	2580	719	799	20			
1	X	544	Total	C	N	O	S	0	0	0
			4113	2581	717	795	20			

- Molecule 2 is a protein called Ribonuclease E.

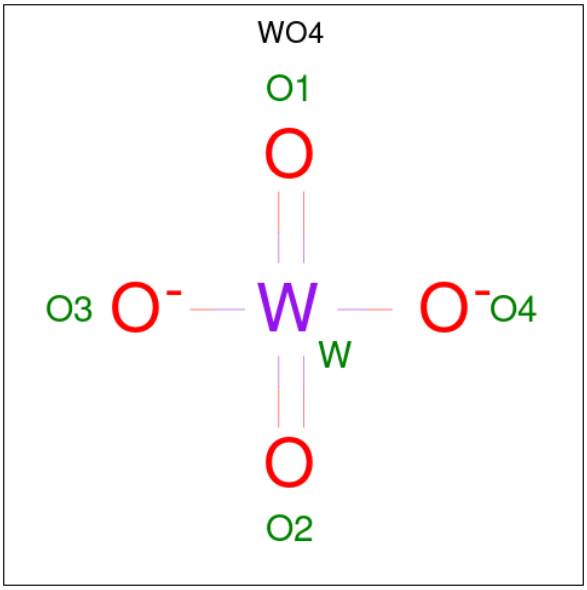
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	D	21	Total	C	N	O	0	0	0
			138	82	31	25			
2	E	21	Total	C	N	O	0	0	0
			138	82	31	25			

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	F	21	Total C N O 138 82 31 25	0	0	0
2	H	21	Total C N O 138 82 31 25	0	0	0
2	J	21	Total C N O 138 82 31 25	0	0	0
2	L	21	Total C N O 138 82 31 25	0	0	0
2	N	21	Total C N O 138 82 31 25	0	0	0
2	P	21	Total C N O 138 82 31 25	0	0	0
2	S	21	Total C N O 138 82 31 25	0	0	0
2	U	21	Total C N O 138 82 31 25	0	0	0
2	W	21	Total C N O 131 78 29 24	0	0	0
2	Y	21	Total C N O 138 82 31 25	0	0	0

- Molecule 3 is TUNGSTATE(VI)ION (three-letter code: WO4) (formula: O_4W).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O W 5 4 1	0	0

Continued on next page...

Continued from previous page...

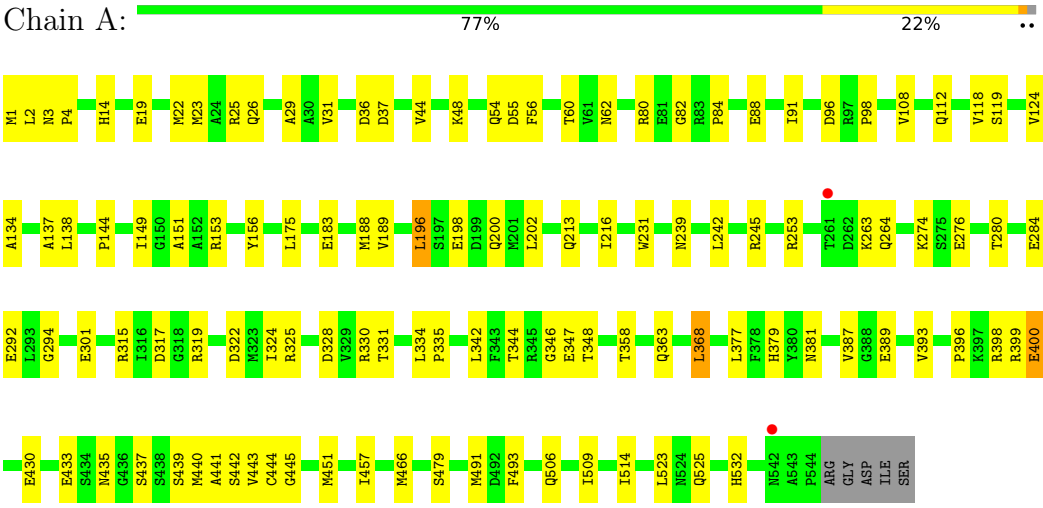
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O W 5 4 1	0	0
3	B	1	Total O W 5 4 1	0	0
3	B	1	Total O W 5 4 1	0	0
3	C	1	Total O W 5 4 1	0	0
3	G	1	Total O W 5 4 1	0	0
3	I	1	Total O W 5 4 1	0	0
3	K	1	Total O W 5 4 1	0	0
3	K	1	Total O W 5 4 1	0	0
3	M	1	Total O W 5 4 1	0	0
3	M	1	Total O W 5 4 1	0	0
3	O	1	Total O W 5 4 1	0	0
3	O	1	Total O W 5 4 1	0	0
3	R	1	Total O W 5 4 1	0	0
3	R	1	Total O W 5 4 1	0	0
3	T	1	Total O W 5 4 1	0	0
3	T	1	Total O W 5 4 1	0	0
3	V	1	Total O W 5 4 1	0	0
3	V	1	Total O W 5 4 1	0	0
3	X	1	Total O W 5 4 1	0	0
3	X	1	Total O W 5 4 1	0	0

3 Residue-property plots (i)

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

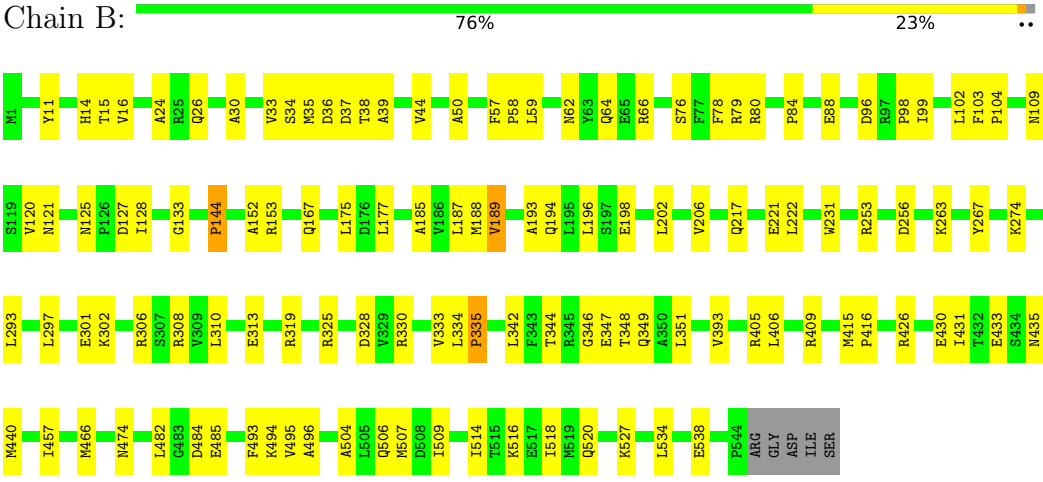
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain A:



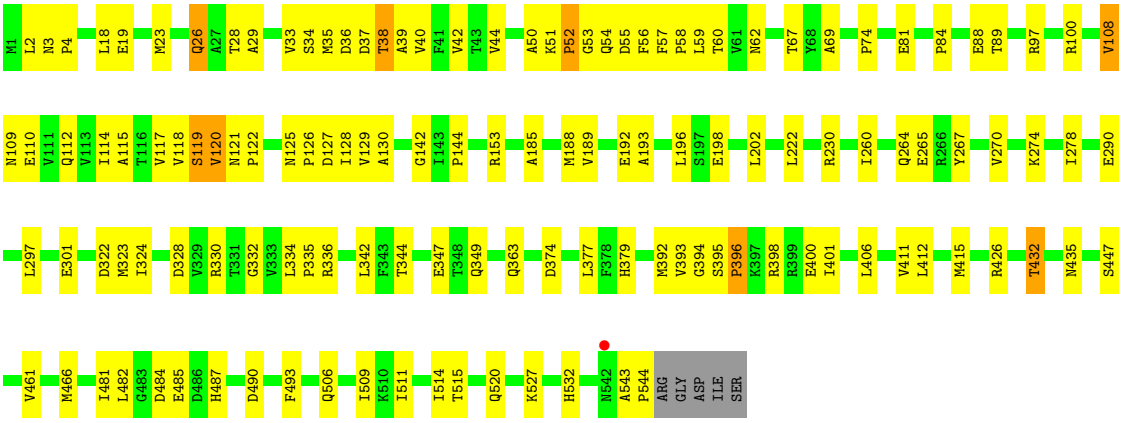
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain B:



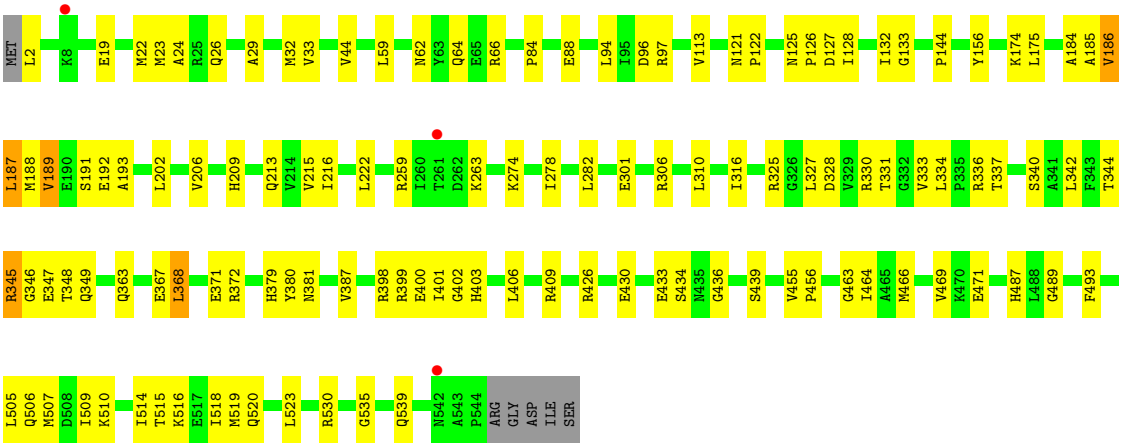
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain C:



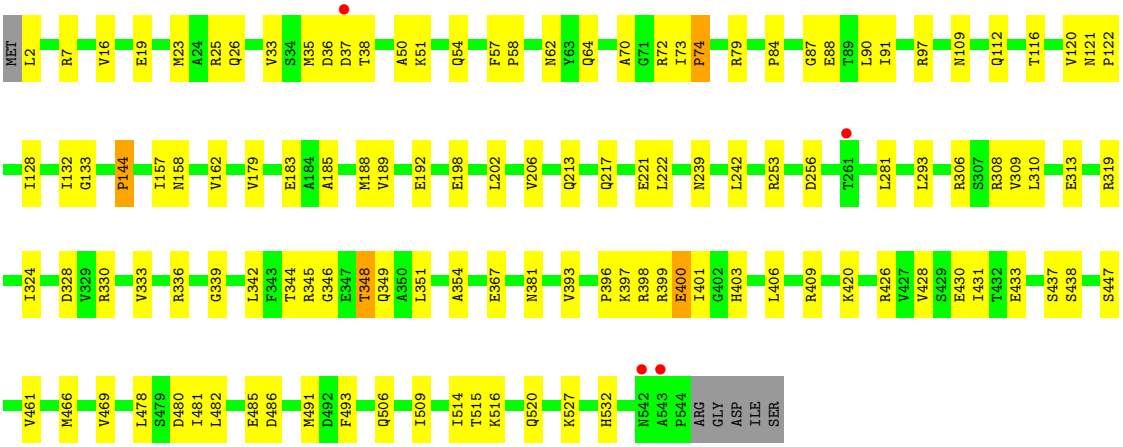
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain G:



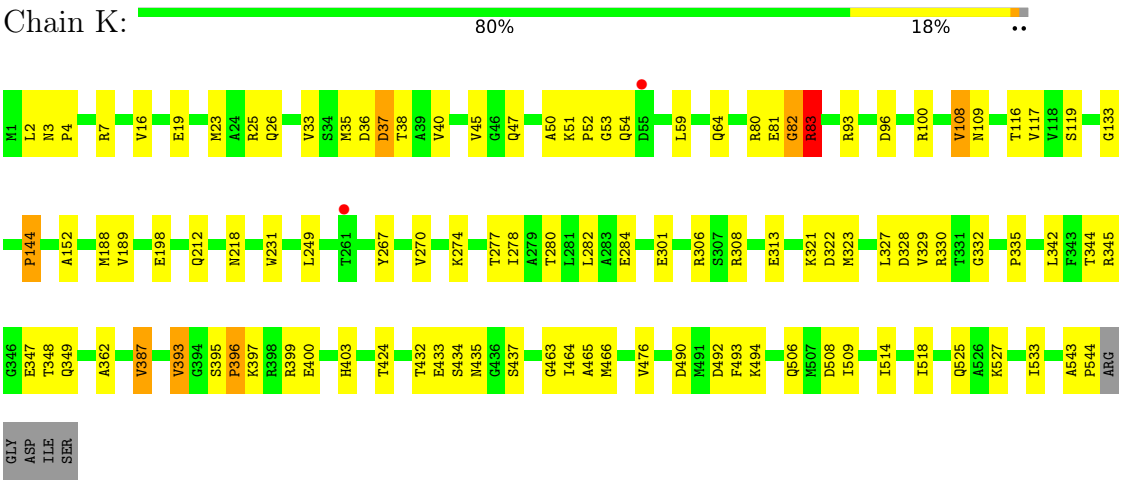
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain I:



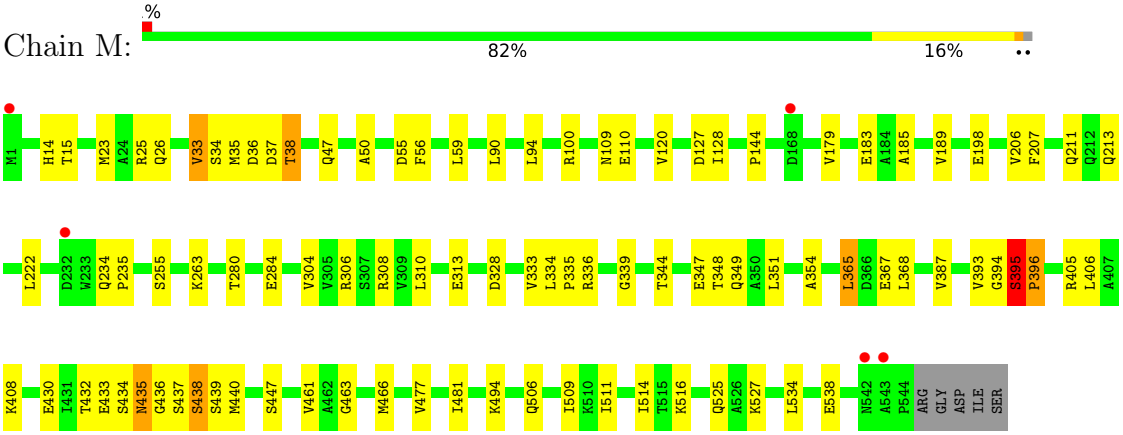
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain K:



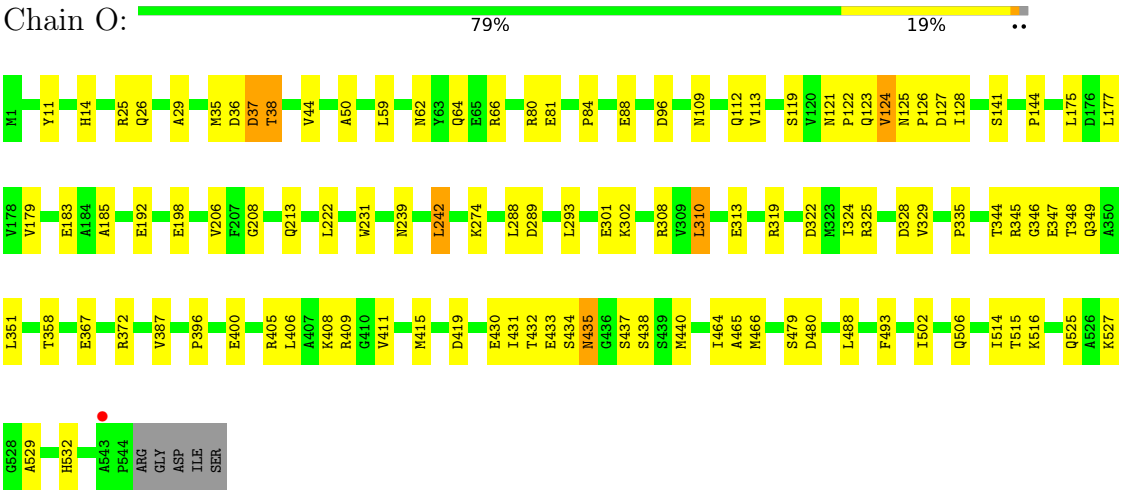
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain M:



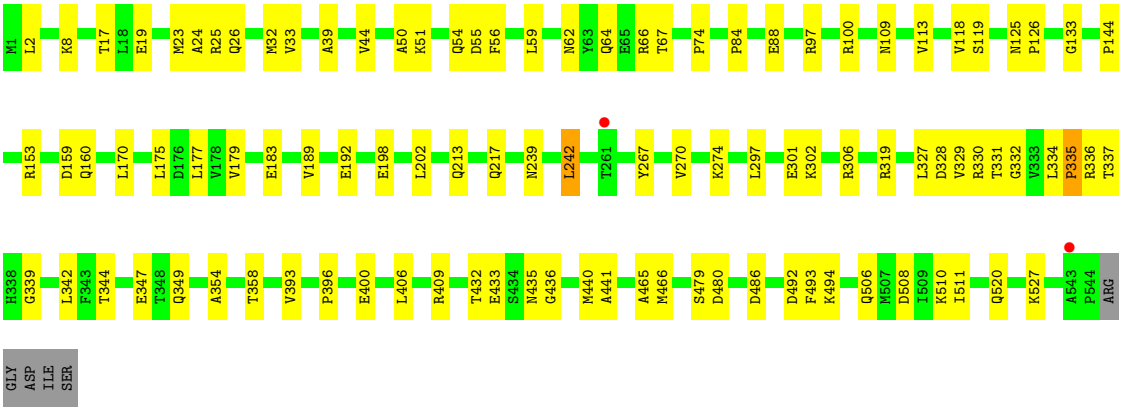
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain O:



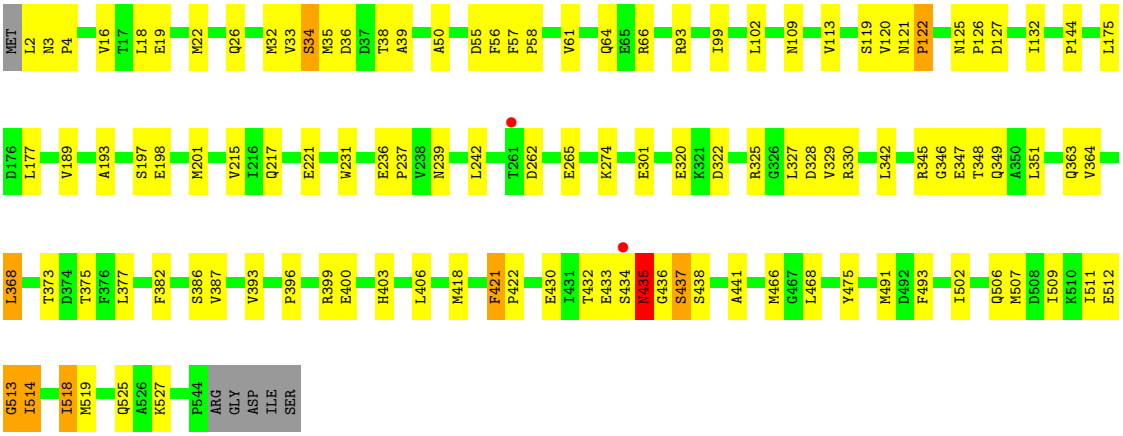
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain R:



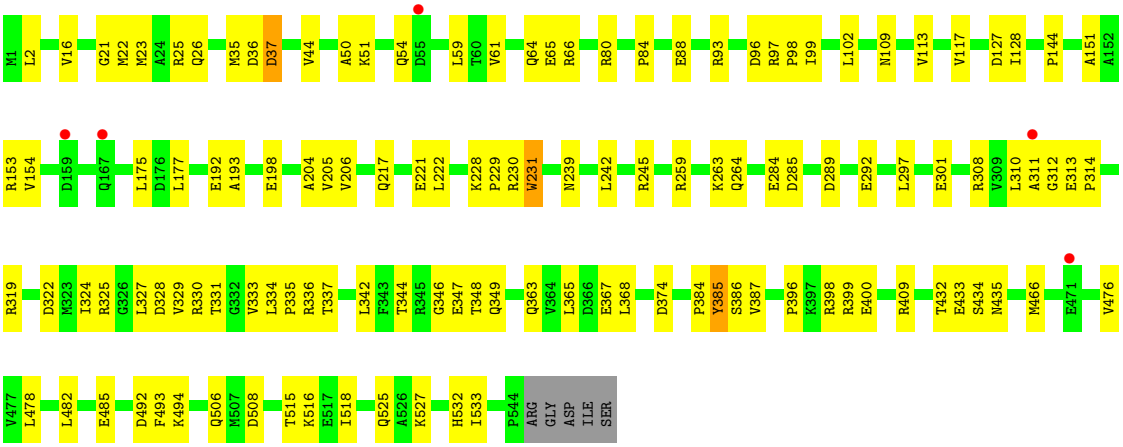
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain T:



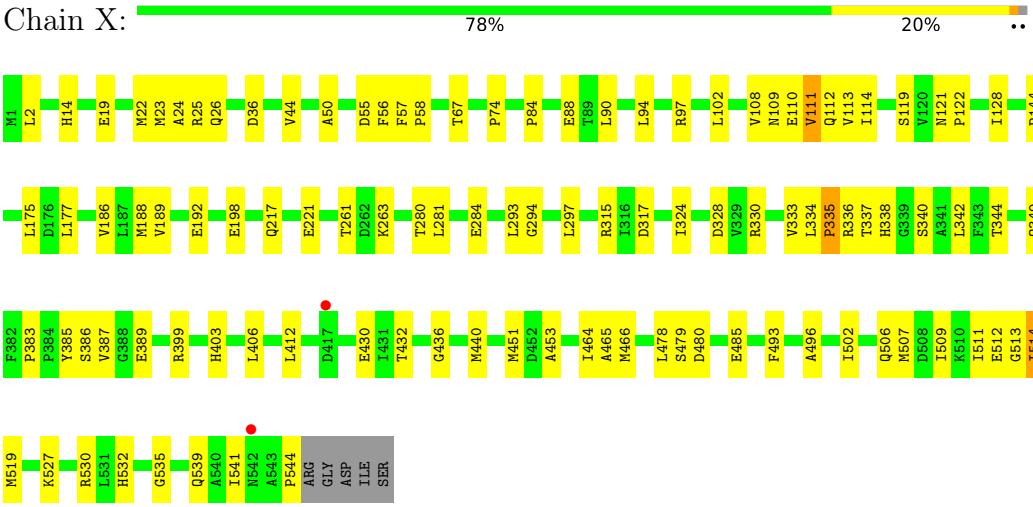
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain V:



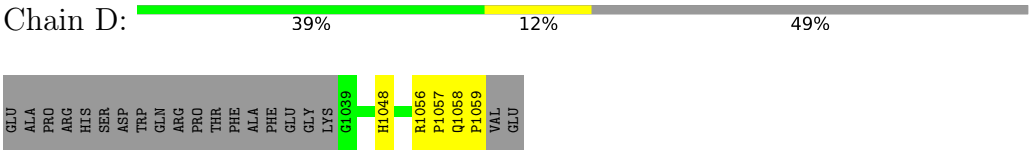
• Molecule 1: Polyribonucleotide nucleotidyltransferase

Chain X:



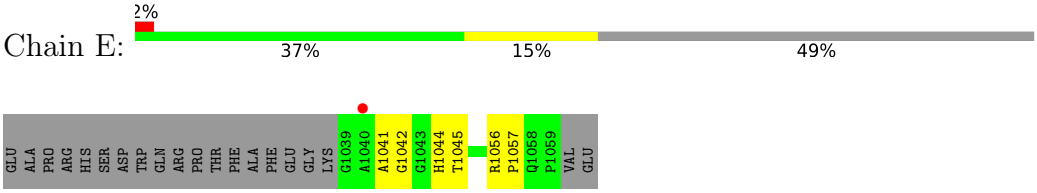
• Molecule 2: Ribonuclease E

Chain D:



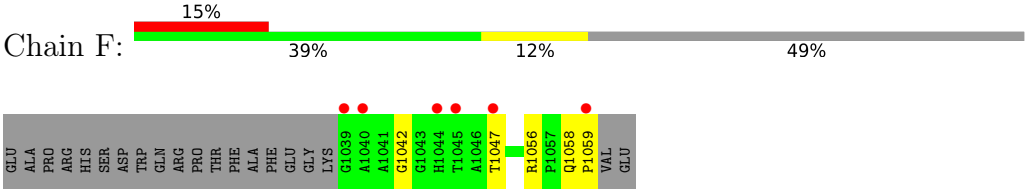
• Molecule 2: Ribonuclease E

Chain E:



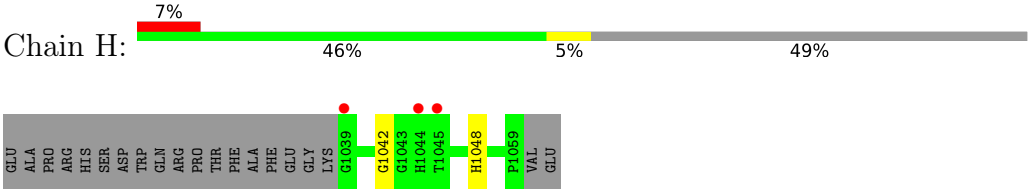
• Molecule 2: Ribonuclease E

Chain F:



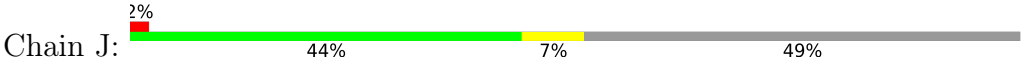
• Molecule 2: Ribonuclease E

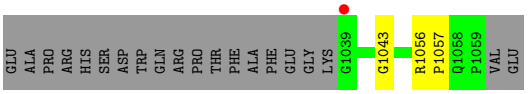
Chain H:



• Molecule 2: Ribonuclease E

Chain J:



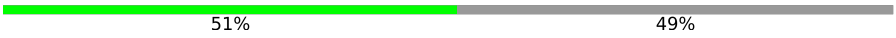


• Molecule 2: Ribonuclease E

Chain L:

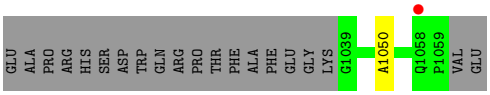
• Molecule 2: Ribonuclease E

Chain N:



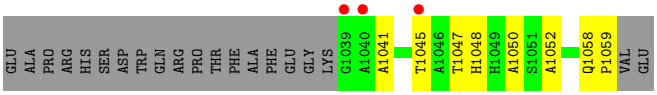
• Molecule 2: Ribonuclease E

Chain P:



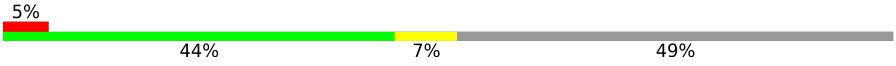
• Molecule 2: Ribonuclease E

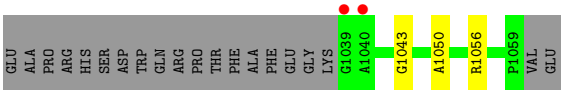
Chain S:



• Molecule 2: Ribonuclease E

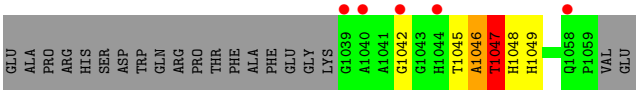
Chain U:





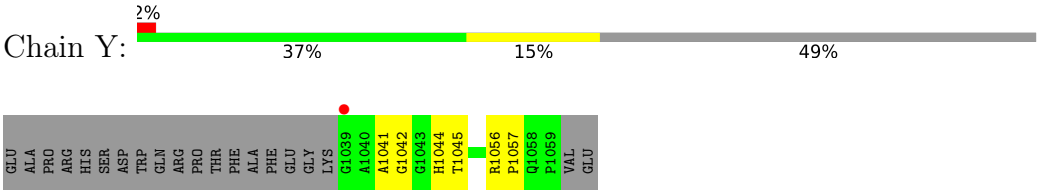
• Molecule 2: Ribonuclease E

Chain W:



• Molecule 2: Ribonuclease E

Chain Y:


2%
37%
15%
49%
GLU
ALA
PRO
ARG
HIS
SER
ASP
TRP
GLN
ARG
PRO
THR
PHE
ALA
PHE
GLU
GLY
LYS
G1039
A1040
A1041
G1042
G1043
H1044
T1045
R1056
P1057
Q1058
P1059
VAL
GLU

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	167.74Å 262.89Å 264.12Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	25.00 – 3.57 20.15 – 3.57	Depositor EDS
% Data completeness (in resolution range)	94.2 (25.00-3.57) 94.2 (20.15-3.57)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.57 (at 3.62Å)	Xtriage
Refinement program	REFMAC 5.0	Depositor
R, R_{free}	0.270 , 0.304 0.267 , 0.291	Depositor DCC
R_{free} test set	6514 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	79.4	Xtriage
Anisotropy	0.028	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 26.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.44$, $< L^2 > = 0.27$	Xtriage
Estimated twinning fraction	0.038 for -h,l,k	Xtriage
F_o,F_c correlation	0.85	EDS
Total number of atoms	51109	wwPDB-VP
Average B, all atoms (Å^2)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.16% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: WO4

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.35	0/4138	0.47	0/5621
1	B	0.30	0/4170	0.46	0/5660
1	C	0.37	0/4184	0.47	1/5675 (0.0%)
1	G	0.41	0/4158	0.51	2/5643 (0.0%)
1	I	0.38	0/4172	0.50	2/5660 (0.0%)
1	K	0.37	0/4190	0.54	4/5681 (0.1%)
1	M	0.33	0/4179	0.58	9/5668 (0.2%)
1	O	0.34	0/4187	0.47	2/5679 (0.0%)
1	R	0.30	0/4197	0.46	0/5690
1	T	0.32	0/4179	0.48	1/5667 (0.0%)
1	V	0.36	0/4180	0.47	1/5671 (0.0%)
1	X	0.30	0/4175	0.48	2/5661 (0.0%)
2	D	0.34	0/143	0.47	0/196
2	E	0.31	0/143	0.38	0/196
2	F	0.32	0/143	0.49	0/196
2	H	0.32	0/143	0.39	0/196
2	J	0.33	0/143	0.48	0/196
2	L	0.36	0/143	0.47	0/196
2	N	0.33	0/143	0.38	0/196
2	P	0.33	0/143	0.39	0/196
2	S	0.32	0/143	0.38	0/196
2	U	0.32	0/143	0.40	0/196
2	W	0.49	0/135	0.68	0/185
2	Y	0.32	0/143	0.41	0/196
All	All	0.35	0/51817	0.49	24/70317 (0.0%)

There are no bond length outliers.

All (24) bond angle outliers are listed below:

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	M	438	SER	CB-CA-C	13.85	136.42	110.10
1	M	434	SER	CB-CA-C	-13.49	84.47	110.10
1	K	37	ASP	CB-CA-C	-13.04	84.33	110.40
1	M	435	ASN	N-CA-CB	-10.55	91.60	110.60
1	M	394	GLY	N-CA-C	8.54	134.46	113.10
1	T	34	SER	CB-CA-C	8.11	125.52	110.10
1	X	336	ARG	N-CA-CB	-7.81	96.55	110.60
1	K	37	ASP	N-CA-C	7.50	131.26	111.00
1	I	70	ALA	CB-CA-C	-7.08	99.48	110.10
1	K	38	THR	N-CA-C	-6.85	92.49	111.00
1	O	434	SER	CB-CA-C	-6.62	97.52	110.10
1	C	120	VAL	CB-CA-C	-6.55	98.96	111.40
1	G	345	ARG	N-CA-C	-6.49	93.49	111.00
1	M	395	SER	N-CA-C	-6.45	93.60	111.00
1	V	37	ASP	CB-CA-C	-6.04	98.32	110.40
1	M	434	SER	N-CA-C	5.88	126.89	111.00
1	I	437	SER	N-CA-CB	5.43	118.64	110.50
1	G	345	ARG	CB-CA-C	5.41	121.22	110.40
1	K	393	VAL	N-CA-C	-5.40	96.42	111.00
1	M	395	SER	N-CA-CB	5.29	118.43	110.50
1	O	435	ASN	N-CA-CB	-5.26	101.13	110.60
1	X	335	PRO	N-CA-C	5.20	125.63	112.10
1	M	438	SER	N-CA-C	-5.10	97.23	111.00
1	M	33	VAL	CB-CA-C	-5.09	101.74	111.40

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4075	0	4044	154	0
1	B	4107	0	4096	134	0
1	C	4121	0	4126	186	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	G	4095	0	4087	168	0
1	I	4109	0	4108	138	0
1	K	4127	0	4141	148	0
1	M	4116	0	4116	98	0
1	O	4124	0	4130	119	0
1	R	4134	0	4150	101	0
1	T	4116	0	4127	160	0
1	V	4118	0	4115	173	0
1	X	4113	0	4117	176	0
2	D	138	0	125	5	0
2	E	138	0	125	8	0
2	F	138	0	125	16	0
2	H	138	0	125	2	0
2	J	138	0	125	2	0
2	L	138	0	125	8	0
2	N	138	0	125	0	0
2	P	138	0	125	1	0
2	S	138	0	125	9	0
2	U	138	0	125	4	0
2	W	131	0	115	21	0
2	Y	138	0	125	5	0
3	A	10	0	0	0	0
3	B	10	0	0	0	0
3	C	5	0	0	0	0
3	G	5	0	0	1	0
3	I	5	0	0	0	0
3	K	10	0	0	0	0
3	M	10	0	0	0	0
3	O	10	0	0	0	0
3	R	10	0	0	0	0
3	T	10	0	0	0	0
3	V	10	0	0	0	0
3	X	10	0	0	1	0
All	All	51109	0	50847	1659	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 16.

All (1659) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:310:LEU:HD21	1:I:469:VAL:CG1	1.47	1.44
1:G:26:GLN:NE2	1:K:387:VAL:HA	1.36	1.40
1:R:51:LYS:HB3	1:R:54:GLN:CG	1.52	1.36
1:O:239:ASN:ND2	1:O:242:LEU:HB2	1.40	1.35
1:V:342:LEU:HD11	1:V:349:GLN:NE2	1.40	1.32
1:R:239:ASN:ND2	1:R:242:LEU:HB2	1.44	1.31
1:M:120:VAL:CG1	1:M:368:LEU:HD11	1.59	1.30
1:T:347:GLU:HB3	1:T:435:ASN:ND2	1.43	1.30
1:C:34:SER:CB	1:C:39:ALA:HB2	1.61	1.29
1:K:51:LYS:CG	1:K:52:PRO:HD2	1.61	1.29
1:M:120:VAL:HG11	1:M:368:LEU:CD1	1.60	1.28
1:X:342:LEU:HD11	1:X:349:GLN:NE2	1.49	1.27
1:V:310:LEU:O	1:V:310:LEU:CD1	1.81	1.26
1:X:509:ILE:CB	1:X:514:ILE:HD11	1.65	1.26
1:V:342:LEU:CD1	1:V:349:GLN:HE21	1.47	1.26
1:A:196:LEU:CB	1:A:200:GLN:HE21	1.47	1.25
1:C:323:MET:CG	2:F:1056:ARG:HG3	1.67	1.25
1:T:491:MET:CE	1:T:493:PHE:HD1	1.51	1.23
1:X:509:ILE:CD1	1:X:514:ILE:HG12	1.67	1.22
1:A:491:MET:CE	1:A:493:PHE:HB2	1.69	1.21
1:I:239:ASN:ND2	1:I:242:LEU:HB2	1.53	1.21
1:K:464:ILE:HD11	1:K:533:ILE:CD1	1.69	1.21
1:T:491:MET:CE	1:T:493:PHE:CD1	2.23	1.20
1:I:73:ILE:CG2	1:I:74:PRO:HD2	1.72	1.20
1:C:323:MET:CG	2:F:1056:ARG:CG	2.21	1.20
1:T:491:MET:HE1	1:T:493:PHE:CD1	1.76	1.19
1:I:310:LEU:CD2	1:I:469:VAL:CG1	2.20	1.18
1:C:323:MET:HG2	2:F:1056:ARG:HG3	1.19	1.17
1:C:67:THR:HG21	1:C:74:PRO:HD3	1.20	1.16
1:O:14:HIS:HB3	1:O:36:ASP:HB2	1.21	1.16
1:K:395:SER:CB	1:K:396:PRO:HD2	1.73	1.16
1:K:464:ILE:HD11	1:K:533:ILE:HD12	1.19	1.16
1:X:342:LEU:CD1	1:X:349:GLN:HE21	1.58	1.16
1:T:342:LEU:HD11	1:T:349:GLN:NE2	1.59	1.16
1:X:509:ILE:CG2	1:X:514:ILE:HD11	1.75	1.15
1:X:509:ILE:HD13	1:X:514:ILE:HG12	1.19	1.15
1:M:406:LEU:HD11	1:M:506:GLN:OE1	1.45	1.14
1:K:59:LEU:HD23	1:K:100:ARG:HG2	1.17	1.14
1:T:239:ASN:ND2	1:T:242:LEU:HB2	1.60	1.14
1:T:491:MET:HE3	1:T:493:PHE:HD1	1.07	1.13
1:C:323:MET:HG2	2:F:1056:ARG:CG	1.77	1.13
1:C:324:ILE:HD11	1:C:532:HIS:CD2	1.83	1.13

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:37:ASP:O	1:C:121:ASN:HB2	1.48	1.12
1:G:310:LEU:CD1	1:G:469:VAL:HG12	1.78	1.12
1:I:420:LYS:HG3	1:O:123:GLN:HE22	1.12	1.12
1:O:349:GLN:HG3	1:O:432:THR:OG1	1.47	1.12
1:A:196:LEU:HB3	1:A:200:GLN:HE21	0.97	1.11
1:R:342:LEU:HD11	1:R:349:GLN:HE21	1.07	1.11
1:K:395:SER:HB3	1:K:396:PRO:HD2	1.27	1.11
1:C:342:LEU:HD11	1:C:349:GLN:HE21	1.14	1.11
1:I:426:ARG:NH1	1:I:428:VAL:HG21	1.66	1.11
1:T:491:MET:CE	1:T:493:PHE:HB2	1.81	1.11
1:T:50:ALA:HB2	1:T:109:ASN:OD1	1.49	1.10
1:V:310:LEU:O	1:V:310:LEU:HD13	0.93	1.10
1:A:44:VAL:HG11	1:A:138:LEU:HD23	1.32	1.10
1:K:51:LYS:CG	1:K:52:PRO:CD	2.30	1.10
1:V:177:LEU:HD22	1:V:204:ALA:CB	1.81	1.09
1:A:196:LEU:HD22	1:A:200:GLN:NE2	1.65	1.09
1:I:319:ARG:HH21	1:I:482:LEU:HD11	1.05	1.09
1:A:440:MET:O	1:A:443:VAL:HG22	1.51	1.09
1:I:310:LEU:CD2	1:I:469:VAL:HG11	1.81	1.08
1:C:342:LEU:HD11	1:C:349:GLN:NE2	1.67	1.08
1:K:274:LYS:HE3	1:K:301:GLU:OE2	1.51	1.08
1:V:311:ALA:HB3	1:V:312:GLY:CA	1.83	1.08
1:V:313:GLU:HB3	1:V:314:PRO:HD2	1.12	1.07
1:G:26:GLN:CD	1:K:387:VAL:HA	1.75	1.06
1:K:59:LEU:HD23	1:K:100:ARG:CG	1.85	1.06
1:C:323:MET:HG3	2:F:1056:ARG:CG	1.86	1.06
1:I:345:ARG:HG2	1:I:346:GLY:H	1.15	1.06
1:V:311:ALA:HB3	1:V:312:GLY:HA2	1.10	1.06
1:X:515:THR:HB	1:X:518:ILE:HG12	1.35	1.06
1:G:310:LEU:HD21	1:G:471:GLU:HG2	1.36	1.05
1:I:198:GLU:OE2	1:I:527:LYS:HD2	1.56	1.05
1:X:509:ILE:HG21	1:X:514:ILE:CD1	1.85	1.05
1:C:54:GLN:HG3	1:C:108:VAL:HG12	1.34	1.05
1:T:342:LEU:CD1	1:T:349:GLN:HE21	1.68	1.05
1:A:396:PRO:HA	1:A:400:GLU:OE1	1.56	1.05
1:K:349:GLN:HE21	1:K:432:THR:CG2	1.70	1.05
1:B:198:GLU:OE2	1:B:527:LYS:HD2	1.56	1.04
1:C:120:VAL:O	1:C:120:VAL:HG13	1.55	1.04
1:G:328:ASP:OD2	1:I:2:LEU:HD23	1.55	1.04
1:A:128:ILE:HG23	1:A:151:ALA:HB1	1.37	1.04
1:C:324:ILE:HD11	1:C:532:HIS:HD2	1.14	1.04

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:175:LEU:HD13	1:V:193:ALA:HB2	1.38	1.04
1:K:50:ALA:HB2	1:K:109:ASN:OD1	1.56	1.04
1:I:342:LEU:HD11	1:I:349:GLN:HE21	1.16	1.03
1:V:313:GLU:HB3	1:V:314:PRO:CD	1.89	1.03
1:C:198:GLU:OE2	1:C:527:LYS:HD2	1.59	1.03
1:I:37:ASP:HB3	1:I:121:ASN:HB2	1.41	1.03
1:R:51:LYS:HB3	1:R:54:GLN:HG2	1.05	1.03
1:A:451:MET:CE	1:A:457:ILE:HD11	1.88	1.02
1:R:50:ALA:HB2	1:R:109:ASN:OD1	1.57	1.02
1:V:50:ALA:HB2	1:V:109:ASN:OD1	1.59	1.02
1:T:22:MET:HE2	1:X:330:ARG:NH1	1.73	1.02
1:X:342:LEU:HD11	1:X:349:GLN:HE21	0.87	1.02
1:X:509:ILE:HB	1:X:514:ILE:HD11	1.36	1.02
1:A:91:ILE:HD12	1:A:127:ASP:OD1	1.60	1.02
1:A:196:LEU:HB3	1:A:200:GLN:NE2	1.73	1.02
1:I:319:ARG:HH21	1:I:482:LEU:CD1	1.72	1.02
1:G:26:GLN:NE2	1:K:387:VAL:CA	2.21	1.02
1:T:342:LEU:HD11	1:T:349:GLN:HE21	0.85	1.02
1:I:73:ILE:HG23	1:I:74:PRO:CD	1.89	1.01
1:M:395:SER:HB3	1:M:396:PRO:HD2	1.39	1.01
1:I:188:MET:HG2	1:I:189:VAL:N	1.75	1.01
1:C:342:LEU:CD1	1:C:349:GLN:HE21	1.73	1.01
1:A:128:ILE:HG23	1:A:151:ALA:CB	1.91	1.01
1:V:319:ARG:NH2	1:V:482:LEU:HD11	1.75	1.01
1:M:440:MET:HE3	1:M:494:LYS:NZ	1.76	1.00
1:V:311:ALA:CB	1:V:312:GLY:HA2	1.88	1.00
1:V:264:GLN:NE2	1:X:26:GLN:HA	1.76	1.00
1:A:491:MET:HE1	1:A:493:PHE:HB2	1.38	1.00
1:C:34:SER:HB2	1:C:39:ALA:HB2	1.38	1.00
1:M:185:ALA:HB1	1:M:514:ILE:HG22	1.43	1.00
1:O:50:ALA:HB2	1:O:109:ASN:OD1	1.60	1.00
1:I:202:LEU:HD22	1:I:520:GLN:HB3	1.42	1.00
1:V:177:LEU:HD22	1:V:204:ALA:HB1	1.42	1.00
1:I:73:ILE:CG2	1:I:74:PRO:CD	2.40	0.99
1:M:38:THR:HG23	1:M:120:VAL:HA	1.44	0.99
1:T:2:LEU:HD21	1:X:328:ASP:OD2	1.60	0.99
1:V:319:ARG:HH21	1:V:482:LEU:HD11	1.23	0.99
1:I:308:ARG:HG2	1:I:313:GLU:OE1	1.63	0.99
1:B:202:LEU:CD2	1:B:520:GLN:HB3	1.93	0.99
1:R:51:LYS:HB3	1:R:54:GLN:HG3	1.44	0.98
1:I:202:LEU:CD2	1:I:520:GLN:HB3	1.93	0.98

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:73:ILE:HG23	1:I:74:PRO:HD2	0.98	0.98
1:A:491:MET:HE2	1:A:493:PHE:HB2	1.38	0.97
1:T:375:THR:HG21	1:T:418:MET:CE	1.94	0.97
1:A:196:LEU:CD2	1:A:200:GLN:NE2	2.26	0.97
1:R:51:LYS:CB	1:R:54:GLN:HG2	1.94	0.97
1:B:188:MET:O	1:B:189:VAL:HG23	1.62	0.97
1:X:509:ILE:HG21	1:X:514:ILE:HD11	1.42	0.97
1:R:239:ASN:ND2	1:R:242:LEU:CB	2.28	0.97
1:T:491:MET:HE1	1:T:493:PHE:CG	1.99	0.97
1:B:319:ARG:HH21	1:B:482:LEU:HD11	1.26	0.97
1:V:342:LEU:HD11	1:V:349:GLN:HE21	0.83	0.97
1:G:310:LEU:HD12	1:G:469:VAL:HG12	1.45	0.97
1:K:387:VAL:HG23	1:K:434:SER:HB3	1.46	0.96
1:C:58:PRO:HG2	1:C:110:GLU:HG2	1.48	0.96
1:M:393:VAL:HG12	1:M:393:VAL:O	1.66	0.96
1:X:509:ILE:HG12	1:X:514:ILE:HG13	1.48	0.96
1:O:328:ASP:OD2	1:R:2:LEU:HD12	1.65	0.96
1:O:239:ASN:ND2	1:O:242:LEU:CB	2.29	0.96
1:C:54:GLN:HG3	1:C:108:VAL:CG1	1.95	0.95
1:I:213:GLN:O	1:I:217:GLN:HG2	1.66	0.95
2:L:1058:GLN:O	2:L:1058:GLN:HG2	1.65	0.95
1:G:188:MET:HG2	1:G:189:VAL:H	1.29	0.95
1:I:426:ARG:NH1	1:I:428:VAL:CG2	2.29	0.95
1:A:196:LEU:CB	1:A:200:GLN:NE2	2.26	0.95
1:A:322:ASP:HA	1:A:525:GLN:HE21	1.30	0.95
1:X:509:ILE:HG12	1:X:514:ILE:CG1	1.96	0.95
1:K:59:LEU:CD2	1:K:100:ARG:HG2	1.96	0.95
1:A:491:MET:CE	1:A:493:PHE:CD1	2.50	0.95
1:C:395:SER:HB2	1:C:396:PRO:HA	1.47	0.94
1:R:342:LEU:HD11	1:R:349:GLN:NE2	1.82	0.94
1:G:310:LEU:CD1	1:G:469:VAL:CG1	2.46	0.94
1:A:44:VAL:HG11	1:A:138:LEU:CD2	1.97	0.94
1:B:302:LYS:HE2	1:B:306:ARG:HH11	1.31	0.94
1:G:188:MET:O	1:G:189:VAL:HG23	1.68	0.94
1:I:310:LEU:CD2	1:I:469:VAL:HG12	1.87	0.94
1:I:426:ARG:HH12	1:I:428:VAL:HG21	1.28	0.94
1:X:315:ARG:HD3	1:X:478:LEU:HD23	1.50	0.94
1:K:395:SER:HB3	1:K:396:PRO:CD	1.98	0.94
1:T:22:MET:CE	1:X:330:ARG:NH1	2.30	0.94
1:V:175:LEU:CD1	1:V:193:ALA:HB2	1.97	0.93
1:C:54:GLN:CG	1:C:108:VAL:HG12	1.98	0.93

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:440:MET:HE3	1:M:494:LYS:HZ3	1.26	0.93
2:E:1041:ALA:HB3	1:C:34:SER:OG	1.69	0.93
1:G:310:LEU:HD11	1:G:469:VAL:HG12	1.50	0.93
1:G:403:HIS:CD2	1:G:439:SER:OG	2.22	0.93
1:G:403:HIS:HD2	1:G:439:SER:OG	1.52	0.93
1:I:239:ASN:HD22	1:I:242:LEU:HB2	1.30	0.93
1:T:514:ILE:HG23	1:T:518:ILE:HD11	1.50	0.93
1:X:466:MET:HE2	1:X:480:ASP:H	1.30	0.93
1:I:239:ASN:ND2	1:I:242:LEU:CB	2.32	0.92
1:A:509:ILE:HG21	1:A:514:ILE:HG13	1.49	0.92
1:I:306:ARG:O	1:I:310:LEU:HD23	1.69	0.92
1:C:51:LYS:CG	1:C:52:PRO:HD2	2.00	0.92
2:W:1046:ALA:CB	2:W:1049:HIS:HD2	1.82	0.92
1:A:491:MET:HE3	1:A:493:PHE:HD1	1.34	0.92
1:C:50:ALA:HB2	1:C:109:ASN:OD1	1.69	0.91
1:T:327:LEU:HD23	1:T:345:ARG:HG3	1.52	0.91
1:C:323:MET:CG	2:F:1056:ARG:HG2	1.97	0.91
1:I:319:ARG:NH2	1:I:482:LEU:HD11	1.86	0.91
1:X:110:GLU:O	1:X:111:VAL:HG13	1.71	0.91
1:O:464:ILE:HD12	1:O:529:ALA:HB1	1.53	0.91
1:X:464:ILE:HD11	1:X:530:ARG:HA	1.53	0.91
1:A:491:MET:HE1	1:A:493:PHE:CD1	2.05	0.91
1:G:306:ARG:O	1:G:310:LEU:HD13	1.70	0.90
1:T:491:MET:HE1	1:T:493:PHE:HB2	1.47	0.90
1:O:288:LEU:HD13	1:O:289:ASP:N	1.87	0.90
1:T:491:MET:HE2	1:T:493:PHE:HB2	1.50	0.90
1:A:330:ARG:HD2	1:A:342:LEU:HD23	1.54	0.90
1:C:395:SER:HB2	1:C:396:PRO:CA	2.01	0.90
1:I:319:ARG:NH2	1:I:482:LEU:CD1	2.34	0.90
1:I:420:LYS:HG3	1:O:123:GLN:NE2	1.86	0.90
1:V:65:GLU:HB3	1:V:368:LEU:HD22	1.54	0.90
1:B:253:ARG:HD2	1:I:256:ASP:OD2	1.71	0.90
1:A:491:MET:HE1	1:A:493:PHE:CB	2.02	0.89
1:X:509:ILE:HD13	1:X:514:ILE:CG1	2.03	0.89
1:X:186:VAL:O	1:X:514:ILE:HD13	1.71	0.89
1:I:50:ALA:HB2	1:I:109:ASN:OD1	1.73	0.89
1:A:451:MET:HE2	1:A:457:ILE:HD11	1.52	0.89
1:I:310:LEU:HD21	1:I:469:VAL:HG12	0.91	0.89
1:A:188:MET:HG2	1:A:189:VAL:N	1.85	0.89
1:V:324:ILE:HD11	1:V:532:HIS:CD2	2.07	0.89
1:X:466:MET:SD	1:X:479:SER:HA	2.13	0.89

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:509:ILE:CG1	1:X:514:ILE:CG1	2.50	0.89
1:G:23:MET:HE3	1:G:32:MET:HE2	1.54	0.89
1:C:34:SER:CB	1:C:39:ALA:CB	2.48	0.88
1:A:491:MET:CE	1:A:493:PHE:CB	2.50	0.88
1:M:368:LEU:HD13	1:M:368:LEU:O	1.73	0.88
1:V:313:GLU:CB	1:V:314:PRO:HD2	2.03	0.88
1:K:349:GLN:NE2	1:K:432:THR:CG2	2.36	0.88
1:M:406:LEU:CD1	1:M:506:GLN:OE1	2.21	0.88
1:T:349:GLN:HB3	1:T:432:THR:OG1	1.73	0.88
1:I:345:ARG:HG2	1:I:346:GLY:N	1.88	0.88
1:V:177:LEU:CD2	1:V:204:ALA:HB1	2.04	0.88
1:C:188:MET:HG2	1:C:189:VAL:N	1.88	0.88
1:G:23:MET:CE	1:G:32:MET:HE2	2.04	0.88
1:O:302:LYS:HG2	1:O:488:LEU:HD22	1.55	0.88
1:T:347:GLU:HB3	1:T:435:ASN:HD22	1.37	0.88
1:B:202:LEU:HD22	1:B:520:GLN:HB3	1.56	0.88
1:I:73:ILE:HG22	1:I:74:PRO:N	1.89	0.88
1:X:451:MET:HB3	1:X:541:ILE:HD13	1.55	0.87
1:T:491:MET:HE1	1:T:493:PHE:CB	2.03	0.87
1:K:464:ILE:CD1	1:K:533:ILE:CD1	2.52	0.87
1:T:2:LEU:CD2	1:X:328:ASP:OD2	2.21	0.87
1:T:239:ASN:HD22	1:T:242:LEU:HB2	1.39	0.87
1:V:93:ARG:HG2	1:V:97:ARG:HH21	1.38	0.87
1:B:406:LEU:CD2	1:B:506:GLN:OE1	2.22	0.87
1:R:51:LYS:CB	1:R:54:GLN:CG	2.47	0.87
1:M:477:VAL:CG1	1:M:525:GLN:OE1	2.22	0.87
1:T:120:VAL:HG11	1:T:368:LEU:HD23	1.54	0.87
1:T:328:ASP:OD2	1:V:2:LEU:HD11	1.75	0.87
1:C:185:ALA:HB1	1:C:514:ILE:HG22	1.56	0.86
1:A:2:LEU:HD21	1:A:25:ARG:NH2	1.91	0.86
1:I:239:ASN:HD22	1:I:242:LEU:CB	1.88	0.86
1:G:274:LYS:HE3	1:G:301:GLU:OE2	1.76	0.86
1:G:192:GLU:O	1:G:192:GLU:OE1	1.94	0.86
1:K:464:ILE:CD1	1:K:533:ILE:HD12	2.05	0.86
1:M:367:GLU:HG2	1:M:368:LEU:H	1.41	0.86
1:T:491:MET:HE3	1:T:493:PHE:CD1	1.99	0.85
1:A:491:MET:HE1	1:A:493:PHE:CG	2.11	0.85
1:B:319:ARG:HH21	1:B:482:LEU:CD1	1.89	0.85
1:C:192:GLU:OE2	1:C:412:LEU:HD23	1.77	0.85
1:K:395:SER:CB	1:K:396:PRO:CD	2.52	0.85
2:E:1041:ALA:HB3	1:C:34:SER:CB	2.06	0.85

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:280:THR:O	1:M:284:GLU:HG2	1.75	0.85
1:A:128:ILE:CD1	1:A:153:ARG:HB2	2.06	0.85
1:G:469:VAL:HG12	1:G:469:VAL:O	1.77	0.85
1:A:440:MET:O	1:A:443:VAL:CG2	2.25	0.85
1:R:349:GLN:HB3	1:R:432:THR:OG1	1.77	0.85
1:G:26:GLN:HE22	1:K:387:VAL:HA	1.39	0.85
1:T:491:MET:CE	1:T:493:PHE:CB	2.54	0.85
1:A:198:GLU:O	1:A:523:LEU:HD21	1.77	0.85
1:V:177:LEU:CD2	1:V:204:ALA:C	2.45	0.85
1:X:464:ILE:CG2	1:X:466:MET:HE3	2.06	0.85
1:C:34:SER:HB3	1:C:39:ALA:HB2	1.56	0.84
1:G:398:ARG:O	1:G:401:ILE:HG22	1.75	0.84
1:V:396:PRO:HA	1:V:400:GLU:OE2	1.77	0.84
1:O:302:LYS:CG	1:O:488:LEU:HD22	2.07	0.84
1:T:347:GLU:HB3	1:T:435:ASN:HD21	1.39	0.84
1:X:515:THR:CB	1:X:518:ILE:HG12	2.05	0.84
1:B:319:ARG:NH2	1:B:482:LEU:HD11	1.91	0.84
1:C:67:THR:HG21	1:C:74:PRO:CD	2.06	0.84
1:G:186:VAL:O	1:G:187:LEU:HD23	1.77	0.84
1:T:102:LEU:HD23	1:T:512:GLU:OE2	1.76	0.84
2:W:1042:GLY:HA2	1:X:19:GLU:OE1	1.78	0.84
1:G:188:MET:O	1:G:189:VAL:CG2	2.25	0.84
1:R:466:MET:HE2	1:R:480:ASP:H	1.42	0.84
1:T:375:THR:HG21	1:T:418:MET:HE2	1.59	0.84
1:V:177:LEU:HD21	1:V:204:ALA:C	1.97	0.84
1:R:393:VAL:HG12	1:R:393:VAL:O	1.75	0.84
1:O:37:ASP:CB	1:O:121:ASN:HB2	2.06	0.84
1:V:93:ARG:NH2	1:V:399:ARG:HA	1.93	0.84
1:X:509:ILE:CD1	1:X:514:ILE:CG1	2.53	0.84
1:A:491:MET:CE	1:A:493:PHE:HD1	1.88	0.83
1:K:397:LYS:HG3	1:K:400:GLU:CD	1.98	0.83
1:C:34:SER:CA	1:C:39:ALA:HB2	2.07	0.83
1:G:349:GLN:HE22	1:I:23:MET:HA	1.43	0.83
1:R:342:LEU:CD1	1:R:349:GLN:HE21	1.90	0.83
1:O:239:ASN:HD22	1:O:242:LEU:HB2	1.42	0.83
1:V:198:GLU:OE2	1:V:527:LYS:HB2	1.77	0.83
1:G:189:VAL:HG11	1:G:507:MET:CE	2.08	0.83
1:I:188:MET:CG	1:I:189:VAL:N	2.38	0.83
1:I:482:LEU:HD13	1:I:485:GLU:OE1	1.78	0.83
1:C:125:ASN:OD1	1:C:126:PRO:HD2	1.77	0.83
1:G:330:ARG:HD2	1:G:342:LEU:HD23	1.61	0.83

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:67:THR:CG2	1:C:74:PRO:HD3	2.06	0.83
1:V:324:ILE:HD12	1:V:533:ILE:HD11	1.59	0.83
1:A:62:ASN:HD22	1:C:393:VAL:CG2	1.92	0.83
1:B:319:ARG:NH2	1:B:482:LEU:CD1	2.42	0.83
1:C:323:MET:HG3	2:F:1056:ARG:HG2	1.55	0.83
1:O:274:LYS:HE2	1:O:301:GLU:OE2	1.79	0.83
1:O:464:ILE:CD1	1:O:529:ALA:HB1	2.09	0.83
1:X:451:MET:SD	1:X:541:ILE:HG23	2.18	0.83
1:B:202:LEU:HD21	1:B:520:GLN:HB3	1.61	0.82
1:A:196:LEU:CA	1:A:200:GLN:HE21	1.92	0.82
1:V:482:LEU:HD13	1:V:485:GLU:OE1	1.79	0.82
1:G:191:SER:CB	1:G:505:LEU:HB3	2.10	0.82
1:A:62:ASN:HD22	1:C:393:VAL:HG23	1.43	0.82
1:B:310:LEU:HD13	1:B:310:LEU:O	1.80	0.82
1:V:198:GLU:OE2	1:V:527:LYS:HD2	1.78	0.82
1:V:310:LEU:HD13	1:V:310:LEU:C	1.99	0.82
1:M:395:SER:HB3	1:M:396:PRO:CD	2.10	0.82
1:G:192:GLU:O	1:G:192:GLU:CD	2.17	0.82
1:G:398:ARG:C	1:G:401:ILE:HG22	2.01	0.82
1:K:322:ASP:CB	1:K:525:GLN:HE21	1.93	0.82
1:X:464:ILE:HG22	1:X:466:MET:HE3	1.61	0.82
1:M:437:SER:C	1:M:439:SER:H	1.83	0.81
2:W:1046:ALA:HB3	2:W:1049:HIS:HD2	1.43	0.81
1:A:22:MET:CE	1:C:342:LEU:HD21	2.09	0.81
1:G:278:ILE:O	1:G:282:LEU:HD13	1.79	0.81
1:A:451:MET:HE3	1:A:457:ILE:HD11	1.60	0.81
1:V:177:LEU:HD22	1:V:204:ALA:HB3	1.62	0.81
1:I:406:LEU:HD11	1:I:506:GLN:OE1	1.81	0.81
1:C:202:LEU:CD2	1:C:520:GLN:HB3	2.09	0.81
1:G:189:VAL:HB	1:G:507:MET:HB2	1.62	0.81
1:K:322:ASP:HB3	1:K:525:GLN:NE2	1.96	0.81
1:G:188:MET:HG2	1:G:189:VAL:N	1.96	0.81
1:A:196:LEU:HD22	1:A:200:GLN:HE22	1.41	0.81
1:C:37:ASP:O	1:C:38:THR:HB	1.80	0.81
1:I:202:LEU:HD22	1:I:520:GLN:CB	2.10	0.81
1:K:464:ILE:HD11	1:K:533:ILE:HD11	1.58	0.81
1:T:22:MET:HE1	1:X:330:ARG:CZ	2.09	0.80
1:R:465:ALA:O	1:R:466:MET:HE2	1.81	0.80
1:V:177:LEU:CD2	1:V:204:ALA:CB	2.58	0.80
1:C:120:VAL:O	1:C:120:VAL:CG1	2.30	0.80
1:G:186:VAL:O	1:G:187:LEU:CG	2.29	0.80

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:239:ASN:HD21	1:O:242:LEU:HB2	1.46	0.80
1:C:37:ASP:O	1:C:121:ASN:CB	2.28	0.80
1:A:128:ILE:HD12	1:A:153:ARG:HB2	1.62	0.80
1:V:93:ARG:HH22	1:V:399:ARG:HA	1.45	0.80
1:B:256:ASP:OD2	1:I:253:ARG:HD2	1.82	0.80
1:G:94:LEU:HG	1:G:188:MET:HE1	1.63	0.80
1:I:37:ASP:CB	1:I:121:ASN:HB2	2.11	0.80
2:W:1046:ALA:C	2:W:1048:HIS:N	2.33	0.80
1:X:509:ILE:CG1	1:X:514:ILE:HG12	2.12	0.80
1:C:97:ARG:NH2	1:C:506:GLN:NE2	2.28	0.79
1:G:192:GLU:HG3	1:G:409:ARG:HG2	1.64	0.79
2:W:1046:ALA:CB	2:W:1049:HIS:CD2	2.65	0.79
1:C:406:LEU:HD11	1:C:506:GLN:OE1	1.82	0.79
1:O:14:HIS:CB	1:O:36:ASP:HB2	2.09	0.79
1:B:302:LYS:HE2	1:B:306:ARG:NH1	1.98	0.79
1:C:34:SER:HB3	1:C:39:ALA:CB	2.12	0.79
1:V:335:PRO:CD	1:V:335:PRO:O	2.29	0.79
1:K:349:GLN:HE21	1:K:432:THR:HG22	1.46	0.79
1:R:198:GLU:OE2	1:R:527:LYS:HE2	1.81	0.79
1:G:186:VAL:O	1:G:187:LEU:HG	1.83	0.79
1:K:274:LYS:CE	1:K:301:GLU:OE2	2.30	0.79
1:T:347:GLU:CB	1:T:435:ASN:ND2	2.38	0.79
1:C:84:PRO:HA	1:C:88:GLU:OE1	1.83	0.78
1:C:188:MET:CG	1:C:189:VAL:N	2.46	0.78
1:I:309:VAL:HG11	1:I:478:LEU:HD11	1.66	0.78
1:A:322:ASP:HA	1:A:525:GLN:NE2	1.98	0.78
1:A:22:MET:HE3	1:C:342:LEU:HD21	1.63	0.78
1:B:349:GLN:HG2	1:B:433:GLU:HG2	1.63	0.78
1:G:64:GLN:HE22	1:G:66:ARG:HH22	1.31	0.78
1:I:328:ASP:OD2	1:K:2:LEU:HD12	1.83	0.78
1:O:349:GLN:CG	1:O:432:THR:OG1	2.29	0.78
1:V:239:ASN:HD22	1:V:242:LEU:HD12	1.49	0.78
1:C:38:THR:HB	1:C:121:ASN:N	1.99	0.78
1:R:202:LEU:CD2	1:R:520:GLN:HB3	2.14	0.78
1:G:186:VAL:O	1:G:187:LEU:CD2	2.30	0.78
1:T:342:LEU:HD21	1:V:22:MET:HE3	1.64	0.78
1:C:330:ARG:HD2	1:C:342:LEU:HD23	1.66	0.78
1:B:50:ALA:HB2	1:B:109:ASN:OD1	1.84	0.77
1:C:198:GLU:OE2	1:C:527:LYS:CD	2.31	0.77
1:V:36:ASP:O	1:V:37:ASP:HB2	1.82	0.77
1:I:342:LEU:HD11	1:I:349:GLN:NE2	1.96	0.77

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:319:ARG:NH2	1:V:482:LEU:CD1	2.46	0.77
1:R:97:ARG:NH2	1:R:506:GLN:NE2	2.32	0.77
1:X:112:GLN:HE21	1:X:114:ILE:HD11	1.49	0.77
1:G:310:LEU:HD12	1:G:469:VAL:CG1	2.12	0.77
1:V:93:ARG:HG2	1:V:97:ARG:NH2	1.98	0.77
1:C:202:LEU:HD21	1:C:520:GLN:HB3	1.65	0.77
1:I:406:LEU:CD1	1:I:506:GLN:OE1	2.33	0.77
1:M:348:THR:OG1	1:M:435:ASN:HB3	1.85	0.77
1:G:23:MET:CE	1:G:32:MET:CE	2.63	0.76
1:G:188:MET:C	1:G:189:VAL:HG23	2.05	0.76
1:M:90:LEU:O	1:M:94:LEU:HD13	1.85	0.76
1:R:466:MET:SD	1:R:479:SER:HA	2.26	0.76
1:A:44:VAL:CG1	1:A:138:LEU:HD23	2.15	0.76
1:I:198:GLU:OE2	1:I:527:LYS:CD	2.34	0.75
1:K:64:GLN:HE21	1:K:116:THR:HB	1.51	0.75
1:A:274:LYS:HE3	1:A:301:GLU:OE2	1.87	0.75
1:B:349:GLN:HE22	1:C:23:MET:HA	1.51	0.75
1:C:40:VAL:HG22	1:C:117:VAL:HG22	1.68	0.75
1:R:406:LEU:CD1	1:R:506:GLN:OE1	2.34	0.75
1:V:466:MET:HB2	1:V:493:PHE:HB3	1.66	0.75
1:M:349:GLN:HB2	1:M:432:THR:OG1	1.84	0.75
1:T:349:GLN:HE22	1:V:23:MET:HG2	1.50	0.75
1:X:515:THR:H	1:X:518:ILE:HD11	1.51	0.75
1:A:91:ILE:CD1	1:A:127:ASP:OD1	2.33	0.75
1:B:189:VAL:HB	1:B:507:MET:HB3	1.68	0.75
1:C:69:ALA:O	1:C:120:VAL:HG12	1.87	0.75
1:V:515:THR:OG1	1:V:518:ILE:HG23	1.85	0.75
1:A:188:MET:CG	1:A:189:VAL:N	2.47	0.75
1:R:239:ASN:HD22	1:R:242:LEU:HB2	1.44	0.75
1:V:264:GLN:HE21	1:X:26:GLN:HA	1.48	0.75
1:B:406:LEU:CD1	1:B:506:GLN:OE1	2.35	0.75
1:I:72:ARG:NH2	1:I:367:GLU:O	2.20	0.74
1:X:509:ILE:CB	1:X:514:ILE:CD1	2.57	0.74
1:A:188:MET:O	1:A:189:VAL:HG23	1.87	0.74
1:R:51:LYS:CG	1:R:54:GLN:HE21	2.00	0.74
1:X:315:ARG:HD2	1:X:485:GLU:OE2	1.87	0.74
1:A:19:GLU:OE1	2:F:1042:GLY:HA3	1.86	0.74
1:C:55:ASP:OD1	1:C:56:PHE:HD2	1.71	0.74
1:X:324:ILE:HD11	1:X:532:HIS:CD2	2.21	0.74
1:R:239:ASN:HD21	1:R:242:LEU:HB2	1.53	0.74
1:X:324:ILE:HD11	1:X:532:HIS:CG	2.22	0.74

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:387:VAL:CG2	1:K:434:SER:HB3	2.17	0.74
1:T:125:ASN:ND2	1:T:127:ASP:CG	2.41	0.74
1:T:382:PHE:HE1	1:T:434:SER:HG	1.26	0.74
1:A:108:VAL:HG12	1:A:108:VAL:O	1.87	0.74
1:R:97:ARG:NH2	1:R:506:GLN:HE22	1.86	0.74
1:G:189:VAL:HG11	1:G:507:MET:HE3	1.67	0.74
1:K:349:GLN:HE21	1:K:432:THR:CB	2.00	0.74
1:B:406:LEU:HD22	1:B:506:GLN:OE1	1.86	0.73
1:K:395:SER:HB2	1:K:396:PRO:HD2	1.70	0.73
1:X:466:MET:CE	1:X:480:ASP:H	2.01	0.73
1:A:196:LEU:CD2	1:A:200:GLN:HE22	1.96	0.73
2:S:1045:THR:HG22	2:S:1045:THR:O	1.88	0.73
1:R:239:ASN:HD22	1:R:242:LEU:CB	1.96	0.73
1:R:406:LEU:HD11	1:R:506:GLN:OE1	1.88	0.73
1:V:198:GLU:OE2	1:V:527:LYS:CB	2.36	0.73
1:K:198:GLU:OE2	1:K:527:LYS:HD2	1.89	0.73
1:V:65:GLU:CB	1:V:368:LEU:HD22	2.19	0.73
1:B:198:GLU:OE2	1:B:527:LYS:CD	2.35	0.73
1:C:274:LYS:HE2	1:C:301:GLU:OE2	1.86	0.73
1:M:349:GLN:CB	1:M:432:THR:OG1	2.37	0.73
1:V:335:PRO:O	1:V:335:PRO:HD2	1.89	0.73
1:C:38:THR:HB	1:C:121:ASN:H	1.52	0.72
1:C:395:SER:CB	1:C:396:PRO:HA	2.13	0.72
1:K:93:ARG:HH12	1:K:399:ARG:HG2	1.54	0.72
1:T:342:LEU:HD21	1:V:22:MET:CE	2.19	0.72
1:X:406:LEU:CD1	1:X:506:GLN:OE1	2.37	0.72
1:X:315:ARG:HD3	1:X:478:LEU:CD2	2.19	0.72
1:T:93:ARG:HH12	1:T:399:ARG:HG2	1.54	0.72
1:A:347:GLU:OE2	1:A:435:ASN:ND2	2.22	0.72
1:T:93:ARG:NH1	1:T:399:ARG:HG2	2.04	0.72
1:G:64:GLN:NE2	1:G:66:ARG:NH2	2.38	0.72
2:W:1047:THR:O	2:W:1048:HIS:CG	2.43	0.72
1:B:328:ASP:OD2	1:C:2:LEU:HD12	1.89	0.71
1:C:37:ASP:O	1:C:38:THR:CB	2.38	0.71
1:K:322:ASP:CB	1:K:525:GLN:NE2	2.52	0.71
1:V:117:VAL:HG11	1:V:368:LEU:HD21	1.72	0.71
1:B:302:LYS:CE	1:B:306:ARG:HH11	2.02	0.71
1:K:397:LYS:HG3	1:K:400:GLU:OE1	1.89	0.71
1:O:349:GLN:HE22	1:R:23:MET:HA	1.53	0.71
1:V:245:ARG:NH2	1:V:284:GLU:OE1	2.22	0.71
1:B:125:ASN:HD22	1:B:167:GLN:NE2	1.88	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:112:GLN:NE2	1:X:114:ILE:HD11	2.05	0.71
1:A:396:PRO:CA	1:A:400:GLU:OE1	2.38	0.71
1:B:14:HIS:HB2	1:B:35:MET:HE2	1.71	0.71
1:M:440:MET:CE	1:M:494:LYS:NZ	2.53	0.71
1:X:387:VAL:HG23	1:X:389:GLU:HG2	1.72	0.71
1:B:34:SER:HB3	1:B:39:ALA:HA	1.72	0.71
1:T:93:ARG:HH12	1:T:399:ARG:CG	2.03	0.71
1:O:302:LYS:HG2	1:O:488:LEU:CD2	2.20	0.71
1:O:62:ASN:ND2	1:O:112:GLN:HE21	1.89	0.71
1:C:324:ILE:CD1	1:C:532:HIS:HD2	1.99	0.70
1:M:25:ARG:HB2	1:R:433:GLU:OE2	1.91	0.70
1:T:382:PHE:CE1	1:T:434:SER:OG	2.42	0.70
2:W:1046:ALA:C	2:W:1048:HIS:H	1.93	0.70
1:K:36:ASP:O	1:K:37:ASP:HB2	1.91	0.70
1:B:310:LEU:HD13	1:B:310:LEU:C	2.11	0.70
1:T:514:ILE:HG23	1:T:518:ILE:CD1	2.20	0.70
1:I:73:ILE:CG2	1:I:74:PRO:N	2.49	0.70
1:T:435:ASN:OD1	1:T:435:ASN:C	2.30	0.70
1:O:344:THR:OG1	1:O:349:GLN:HB3	1.91	0.70
1:G:23:MET:HE1	1:G:32:MET:CE	2.22	0.70
1:G:23:MET:HE1	1:G:32:MET:HE3	1.73	0.70
1:K:33:VAL:HG21	1:K:133:GLY:HA2	1.73	0.70
1:M:393:VAL:O	1:M:393:VAL:CG1	2.40	0.70
1:T:198:GLU:OE2	1:T:527:LYS:HE2	1.91	0.70
1:V:175:LEU:HD13	1:V:193:ALA:CB	2.21	0.70
1:X:509:ILE:HG21	1:X:514:ILE:HD12	1.72	0.70
1:A:188:MET:CG	1:A:189:VAL:H	2.04	0.70
1:A:202:LEU:HD12	1:A:523:LEU:HD22	1.74	0.70
2:E:1041:ALA:CB	1:C:34:SER:OG	2.40	0.70
1:C:51:LYS:CB	1:C:54:GLN:HB2	2.22	0.70
1:V:330:ARG:NH1	2:W:1049:HIS:HB2	2.07	0.70
1:X:464:ILE:CD1	1:X:530:ARG:HA	2.22	0.70
1:B:202:LEU:HD22	1:B:520:GLN:CB	2.22	0.69
1:O:239:ASN:HD22	1:O:242:LEU:CB	2.01	0.69
1:T:327:LEU:HD23	1:T:345:ARG:CG	2.22	0.69
1:G:401:ILE:HG23	1:G:402:GLY:N	2.08	0.69
1:K:93:ARG:NH1	1:K:399:ARG:HG2	2.06	0.69
1:I:319:ARG:NH2	1:I:482:LEU:HD12	2.07	0.69
1:T:342:LEU:CD2	1:V:22:MET:HE1	2.23	0.69
1:V:93:ARG:NH2	1:V:398:ARG:O	2.24	0.69
1:T:274:LYS:HE3	1:T:301:GLU:OE2	1.92	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:437:SER:O	1:M:439:SER:N	2.24	0.69
1:R:302:LYS:O	1:R:306:ARG:HG2	1.92	0.69
1:K:349:GLN:NE2	1:K:432:THR:HG21	2.08	0.69
1:R:347:GLU:OE2	1:R:435:ASN:ND2	2.25	0.69
1:T:466:MET:HB2	1:T:493:PHE:HB3	1.75	0.69
1:M:368:LEU:HD13	1:M:368:LEU:C	2.13	0.69
1:K:47:GLN:O	1:K:231:TRP:CH2	2.45	0.69
1:G:175:LEU:HD12	1:G:193:ALA:HB2	1.75	0.69
1:G:493:PHE:CE2	1:G:523:LEU:HD23	2.28	0.69
1:M:367:GLU:HG2	1:M:368:LEU:N	2.07	0.69
1:B:16:VAL:HG22	1:B:35:MET:HG2	1.75	0.68
1:X:464:ILE:CG2	1:X:466:MET:CE	2.70	0.68
1:X:44:VAL:HG22	1:X:113:VAL:HG22	1.75	0.68
1:O:288:LEU:CD1	1:O:289:ASP:O	2.41	0.68
1:V:128:ILE:CD1	1:V:153:ARG:HB2	2.22	0.68
1:X:192:GLU:OE2	1:X:412:LEU:HD23	1.93	0.68
1:A:44:VAL:HG21	1:A:138:LEU:CD2	2.23	0.68
2:H:1042:GLY:HA3	1:I:19:GLU:OE1	1.93	0.68
1:I:188:MET:O	1:I:189:VAL:HG23	1.94	0.68
1:O:464:ILE:CD1	1:O:529:ALA:CB	2.72	0.68
1:X:451:MET:SD	1:X:541:ILE:CG2	2.82	0.68
1:I:202:LEU:HD21	1:I:520:GLN:HB3	1.75	0.68
1:V:264:GLN:NE2	1:X:26:GLN:CA	2.55	0.68
1:A:264:GLN:NE2	1:B:26:GLN:O	2.26	0.68
1:I:37:ASP:HB3	1:I:121:ASN:CB	2.22	0.68
2:L:1058:GLN:O	2:L:1058:GLN:CG	2.40	0.68
1:O:198:GLU:OE2	1:O:527:LYS:HD2	1.93	0.68
1:V:324:ILE:CD1	1:V:533:ILE:HD11	2.24	0.68
1:K:466:MET:HB2	1:K:493:PHE:HB3	1.76	0.67
1:X:518:ILE:HG13	1:X:519:MET:N	2.07	0.67
1:G:192:GLU:HG3	1:G:409:ARG:CG	2.24	0.67
1:R:239:ASN:ND2	1:R:242:LEU:CD1	2.57	0.67
1:V:65:GLU:CG	1:V:368:LEU:HD22	2.24	0.67
1:R:202:LEU:HD21	1:R:520:GLN:HB3	1.74	0.67
1:X:517:GLU:HG2	1:X:518:ILE:N	2.08	0.67
1:B:330:ARG:HD2	1:B:342:LEU:HD23	1.75	0.67
1:T:125:ASN:ND2	1:T:127:ASP:OD2	2.27	0.67
1:T:349:GLN:CB	1:T:432:THR:OG1	2.43	0.67
1:A:96:ASP:C	1:A:96:ASP:OD1	2.30	0.67
1:R:239:ASN:HD22	1:R:242:LEU:CD1	2.06	0.67
1:T:342:LEU:CD2	1:V:22:MET:CE	2.73	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:509:ILE:CG1	1:X:514:ILE:HD11	2.25	0.67
1:X:515:THR:H	1:X:518:ILE:CD1	2.07	0.67
1:G:189:VAL:HG11	1:G:507:MET:HE2	1.75	0.67
1:V:324:ILE:HD12	1:V:533:ILE:CD1	2.24	0.66
1:X:507:MET:SD	1:X:509:ILE:HD11	2.35	0.66
1:O:349:GLN:HG3	1:O:432:THR:HG1	1.57	0.66
1:T:22:MET:CE	1:X:330:ARG:CZ	2.71	0.66
1:B:64:GLN:HE22	1:B:66:ARG:HH21	1.43	0.66
1:M:477:VAL:HG12	1:M:525:GLN:OE1	1.94	0.66
1:X:466:MET:CE	1:X:479:SER:HA	2.25	0.66
1:B:127:ASP:OD2	1:B:153:ARG:NH1	2.29	0.66
1:T:382:PHE:HE1	1:T:434:SER:OG	1.78	0.66
1:G:310:LEU:HD21	1:G:471:GLU:CG	2.22	0.66
1:R:84:PRO:HA	1:R:88:GLU:OE1	1.95	0.66
1:V:324:ILE:CD1	1:V:533:ILE:CD1	2.74	0.66
1:G:64:GLN:NE2	1:G:66:ARG:HH22	1.91	0.66
1:K:387:VAL:HG12	1:K:387:VAL:O	1.93	0.66
1:B:33:VAL:O	1:B:34:SER:HB3	1.96	0.66
1:G:514:ILE:HG23	1:G:514:ILE:O	1.96	0.66
1:T:387:VAL:HG13	1:T:434:SER:HB3	1.77	0.66
1:T:396:PRO:HA	1:T:400:GLU:OE1	1.95	0.66
1:V:333:VAL:HG12	1:V:333:VAL:O	1.94	0.66
1:M:308:ARG:HG2	1:M:313:GLU:OE1	1.95	0.66
1:T:34:SER:HB3	1:T:39:ALA:HB2	1.78	0.66
1:G:466:MET:HB2	1:G:493:PHE:HB3	1.78	0.66
1:V:349:GLN:HE22	1:X:23:MET:HG2	1.61	0.66
1:T:513:GLY:O	1:T:514:ILE:C	2.34	0.66
2:E:1042:GLY:HA3	1:C:19:GLU:OE1	1.95	0.65
1:G:121:ASN:OD1	1:G:122:PRO:HD2	1.96	0.65
1:I:426:ARG:CZ	1:I:428:VAL:HG21	2.26	0.65
1:X:387:VAL:HG21	1:X:389:GLU:OE2	1.96	0.65
1:I:188:MET:O	1:I:189:VAL:CG2	2.43	0.65
1:I:426:ARG:CZ	1:I:428:VAL:CG2	2.74	0.65
1:O:464:ILE:HD13	1:O:529:ALA:CB	2.25	0.65
1:V:128:ILE:HD11	1:V:153:ARG:HB2	1.78	0.65
1:X:334:LEU:HB2	1:X:340:SER:HB3	1.79	0.65
1:G:26:GLN:CD	1:K:387:VAL:CA	2.61	0.65
1:O:64:GLN:HE22	1:O:66:ARG:HH21	1.43	0.65
1:R:349:GLN:CB	1:R:432:THR:OG1	2.43	0.65
1:M:306:ARG:O	1:M:310:LEU:HG	1.96	0.65
1:V:284:GLU:O	1:V:285:ASP:OD1	2.15	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:398:ARG:HA	1:G:401:ILE:CG2	2.27	0.65
1:B:125:ASN:HD22	1:B:167:GLN:HE22	1.43	0.65
1:I:73:ILE:HG22	1:I:74:PRO:CD	2.23	0.65
1:A:91:ILE:HD12	1:A:127:ASP:CG	2.17	0.65
2:F:1058:GLN:OE1	2:F:1058:GLN:N	2.30	0.65
1:G:345:ARG:NH1	1:G:464:ILE:HG22	2.12	0.65
1:T:201:MET:HG3	1:T:502:ILE:HD12	1.77	0.65
1:V:177:LEU:CD2	1:V:204:ALA:O	2.44	0.65
1:C:406:LEU:CD1	1:C:506:GLN:OE1	2.44	0.65
1:R:202:LEU:HD22	1:R:520:GLN:HB3	1.79	0.65
1:T:435:ASN:OD1	1:T:436:GLY:N	2.30	0.65
1:G:368:LEU:HD12	1:G:368:LEU:O	1.97	0.64
1:G:493:PHE:HE2	1:G:523:LEU:HD23	1.61	0.64
1:A:44:VAL:CG1	1:A:138:LEU:CD2	2.75	0.64
1:V:324:ILE:HD11	1:V:532:HIS:HD2	1.59	0.64
1:V:330:ARG:HH11	2:W:1049:HIS:HB2	1.62	0.64
1:V:432:THR:HG22	1:X:24:ALA:H	1.63	0.64
1:C:188:MET:CG	1:C:189:VAL:H	2.09	0.64
1:V:64:GLN:HE22	1:V:66:ARG:NH2	1.95	0.64
1:C:347:GLU:OE1	1:C:435:ASN:ND2	2.30	0.64
1:M:437:SER:C	1:M:439:SER:N	2.50	0.64
1:X:315:ARG:CD	1:X:478:LEU:HD23	2.23	0.64
1:B:440:MET:CE	1:B:496:ALA:HB2	2.28	0.64
1:G:184:ALA:O	1:G:185:ALA:HB2	1.96	0.64
1:X:515:THR:O	1:X:518:ILE:HG13	1.98	0.64
1:A:128:ILE:HG23	1:A:151:ALA:HB3	1.79	0.64
1:C:58:PRO:HG2	1:C:110:GLU:CG	2.27	0.64
1:V:64:GLN:NE2	1:V:66:ARG:NH2	2.46	0.64
1:B:263:LYS:HB2	1:B:347:GLU:OE2	1.98	0.64
1:C:38:THR:CB	1:C:120:VAL:HA	2.27	0.64
1:C:55:ASP:OD1	1:C:56:PHE:N	2.30	0.64
1:I:64:GLN:HA	1:I:88:GLU:OE2	1.98	0.64
1:T:436:GLY:O	1:T:437:SER:C	2.34	0.64
1:C:509:ILE:HD13	1:C:514:ILE:HD13	1.79	0.64
1:O:288:LEU:HD13	1:O:289:ASP:O	1.98	0.64
1:O:406:LEU:CD1	1:O:506:GLN:OE1	2.46	0.64
1:T:197:SER:O	1:T:201:MET:HG2	1.98	0.64
1:T:406:LEU:CD1	1:T:506:GLN:OE1	2.46	0.64
1:A:406:LEU:HD23	1:A:439:SER:HB2	1.80	0.63
1:M:395:SER:CB	1:M:396:PRO:HD2	2.23	0.63
1:X:315:ARG:HH11	1:X:478:LEU:HD23	1.62	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:189:VAL:O	1:G:506:GLN:HA	1.98	0.63
1:G:327:LEU:HD23	1:G:345:ARG:HG3	1.79	0.63
1:I:188:MET:CG	1:I:189:VAL:H	2.09	0.63
1:M:511:ILE:HD12	1:M:511:ILE:O	1.97	0.63
1:O:36:ASP:O	1:O:37:ASP:CB	2.46	0.63
2:W:1046:ALA:HB1	2:W:1049:HIS:CD2	2.32	0.63
1:A:491:MET:HE2	1:A:493:PHE:CB	2.22	0.63
1:K:52:PRO:HD2	1:K:53:GLY:H	1.63	0.63
1:K:188:MET:HG2	1:K:189:VAL:N	2.12	0.63
1:M:50:ALA:HB2	1:M:109:ASN:OD1	1.98	0.63
1:C:127:ASP:OD2	1:C:153:ARG:NH2	2.31	0.63
1:T:518:ILE:HG13	1:T:519:MET:N	2.11	0.63
1:X:128:ILE:CD1	1:X:153:ARG:HB2	2.29	0.63
1:M:367:GLU:CG	1:M:368:LEU:H	2.10	0.63
1:O:288:LEU:HD13	1:O:288:LEU:C	2.19	0.63
1:R:198:GLU:OE2	1:R:527:LYS:CE	2.46	0.63
1:R:349:GLN:CG	1:R:432:THR:OG1	2.46	0.63
1:A:196:LEU:CA	1:A:200:GLN:NE2	2.59	0.63
1:C:3:ASN:ND2	1:K:3:ASN:ND2	2.46	0.63
1:K:50:ALA:HB2	1:K:109:ASN:CG	2.19	0.63
1:K:397:LYS:HD2	1:K:400:GLU:OE2	1.98	0.63
1:M:395:SER:CB	1:M:396:PRO:CD	2.73	0.63
1:G:185:ALA:O	1:G:209:HIS:NE2	2.32	0.63
1:K:327:LEU:HB2	2:L:1052:ALA:HB3	1.80	0.63
1:R:62:ASN:OD1	1:R:62:ASN:O	2.16	0.63
1:T:349:GLN:NE2	1:V:23:MET:HG2	2.13	0.63
1:A:317:ASP:OD2	1:A:319:ARG:NE	2.30	0.62
1:B:514:ILE:HG13	1:B:518:ILE:HD11	1.79	0.62
1:C:38:THR:OG1	1:C:120:VAL:HA	1.99	0.62
1:G:64:GLN:HE22	1:G:66:ARG:NH2	1.97	0.62
1:M:477:VAL:HG11	1:M:525:GLN:OE1	1.98	0.62
1:A:399:ARG:O	1:A:402:GLY:N	2.32	0.62
1:C:38:THR:HA	1:C:119:SER:O	1.99	0.62
1:M:387:VAL:HA	1:O:26:GLN:NE2	2.14	0.62
1:T:406:LEU:HD12	1:T:506:GLN:OE1	2.00	0.62
1:X:55:ASP:OD1	1:X:56:PHE:N	2.32	0.62
1:B:64:GLN:NE2	1:B:66:ARG:HH21	1.97	0.62
1:C:34:SER:HA	1:C:39:ALA:HB2	1.79	0.62
1:G:263:LYS:NZ	1:I:26:GLN:HE22	1.96	0.62
1:K:52:PRO:CD	1:K:53:GLY:H	2.12	0.62
1:T:491:MET:CE	1:T:493:PHE:CG	2.71	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:464:ILE:HD11	1:X:530:ARG:CA	2.28	0.62
1:C:466:MET:HB2	1:C:493:PHE:HB3	1.81	0.62
1:K:7:ARG:NE	1:K:218:ASN:OD1	2.32	0.62
1:V:59:LEU:HD23	1:V:96:ASP:OD1	1.98	0.62
1:A:315:ARG:HD3	1:A:319:ARG:O	1.99	0.62
1:O:348:THR:HG21	1:O:437:SER:O	2.00	0.62
1:O:50:ALA:CB	1:O:109:ASN:OD1	2.41	0.62
1:T:93:ARG:NH1	1:T:399:ARG:CG	2.61	0.62
1:A:188:MET:O	1:A:189:VAL:CG2	2.47	0.62
1:G:306:ARG:NH2	1:G:471:GLU:OE2	2.33	0.62
1:K:349:GLN:HE21	1:K:432:THR:HB	1.63	0.62
1:T:18:LEU:HG	1:T:33:VAL:HG22	1.81	0.62
1:T:375:THR:HG21	1:T:418:MET:HE1	1.80	0.62
1:C:260:ILE:HG21	1:C:265:GLU:HG2	1.82	0.62
1:I:64:GLN:HE21	1:I:116:THR:HB	1.64	0.62
1:T:102:LEU:CD2	1:T:512:GLU:OE2	2.48	0.62
1:V:239:ASN:ND2	1:V:242:LEU:HG	2.15	0.62
1:X:406:LEU:HD11	1:X:506:GLN:OE1	2.00	0.62
1:M:387:VAL:O	1:O:26:GLN:NE2	2.33	0.61
1:G:387:VAL:HA	1:I:26:GLN:NE2	2.15	0.61
1:M:90:LEU:O	1:M:94:LEU:CD1	2.48	0.61
1:B:76:SER:O	1:B:79:ARG:NH1	2.34	0.61
1:K:464:ILE:CD1	1:K:533:ILE:HD11	2.25	0.61
1:R:492:ASP:HB3	1:R:508:ASP:HB2	1.82	0.61
1:X:97:ARG:HB3	1:X:188:MET:SD	2.39	0.61
1:A:62:ASN:HB2	1:C:393:VAL:HG21	1.81	0.61
1:O:387:VAL:O	1:R:26:GLN:NE2	2.33	0.61
1:R:239:ASN:ND2	1:R:242:LEU:HD12	2.16	0.61
1:T:491:MET:HE2	1:T:493:PHE:CB	2.25	0.61
1:X:515:THR:CA	1:X:518:ILE:HG12	2.31	0.61
1:B:59:LEU:HD23	1:B:96:ASP:OD1	2.01	0.61
1:T:34:SER:CB	1:T:39:ALA:HB2	2.31	0.61
1:V:21:GLY:O	1:V:25:ARG:HG2	2.01	0.61
1:G:398:ARG:O	1:G:401:ILE:CG2	2.47	0.61
1:K:349:GLN:HG3	1:K:432:THR:HB	1.81	0.61
1:K:399:ARG:O	1:K:403:HIS:CD2	2.54	0.61
1:T:19:GLU:OE1	2:Y:1042:GLY:HA3	2.01	0.61
1:B:466:MET:HB2	1:B:493:PHE:HB3	1.82	0.60
1:O:11:TYR:HD2	1:O:35:MET:HE2	1.65	0.60
1:I:466:MET:HB2	1:I:493:PHE:HB3	1.82	0.60
1:A:381:ASN:ND2	1:A:430:GLU:OE2	2.32	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:466:MET:HB2	1:A:493:PHE:HB3	1.83	0.60
2:F:1058:GLN:CD	2:F:1058:GLN:H	2.05	0.60
1:K:393:VAL:HG13	1:K:393:VAL:O	2.01	0.60
1:K:397:LYS:CG	1:K:400:GLU:CD	2.68	0.60
1:R:334:LEU:HD12	1:R:337:THR:HG21	1.83	0.60
1:C:51:LYS:HB2	1:C:54:GLN:HB2	1.82	0.60
1:T:239:ASN:ND2	1:T:242:LEU:CB	2.53	0.60
1:T:348:THR:HG23	1:T:435:ASN:OD1	2.01	0.60
1:C:51:LYS:HB3	1:C:54:GLN:HB2	1.82	0.60
1:G:398:ARG:HA	1:G:401:ILE:HG21	1.82	0.60
1:I:38:THR:HG23	1:I:120:VAL:HA	1.84	0.60
1:O:308:ARG:HG3	1:O:313:GLU:OE1	2.01	0.60
1:R:51:LYS:CB	1:R:54:GLN:HG3	2.24	0.60
1:I:239:ASN:HD21	1:I:242:LEU:HB2	1.58	0.60
1:O:64:GLN:HE22	1:O:66:ARG:NH2	2.00	0.60
1:R:466:MET:CE	1:R:480:ASP:H	2.12	0.60
1:V:16:VAL:HG22	1:V:35:MET:HG3	1.84	0.60
1:A:393:VAL:CG1	1:B:62:ASN:ND2	2.65	0.60
1:I:36:ASP:O	1:I:37:ASP:HB2	2.00	0.60
1:O:239:ASN:HD22	1:O:242:LEU:CD1	2.15	0.60
2:F:1058:GLN:O	2:F:1059:PRO:C	2.40	0.59
1:I:345:ARG:CG	1:I:346:GLY:N	2.56	0.59
1:C:89:THR:HG22	1:C:398:ARG:HG3	1.83	0.59
1:G:310:LEU:HD11	1:G:469:VAL:CG1	2.20	0.59
1:B:274:LYS:HE3	1:B:301:GLU:OE2	2.02	0.59
1:C:58:PRO:CG	1:C:110:GLU:HG2	2.29	0.59
1:I:399:ARG:HG2	1:I:403:HIS:CE1	2.38	0.59
1:K:198:GLU:OE2	1:K:527:LYS:CD	2.50	0.59
1:M:14:HIS:CG	1:M:35:MET:HE2	2.37	0.59
1:V:198:GLU:OE2	1:V:527:LYS:CD	2.49	0.59
1:X:509:ILE:CG1	1:X:514:ILE:CD1	2.79	0.59
1:O:62:ASN:HD22	1:O:112:GLN:HE21	1.48	0.59
1:T:342:LEU:HD23	1:V:22:MET:HE1	1.84	0.59
1:K:96:ASP:OD1	1:K:100:ARG:HD2	2.01	0.59
1:O:239:ASN:ND2	1:O:242:LEU:HD12	2.17	0.59
1:T:327:LEU:CD2	1:T:345:ARG:HG3	2.30	0.59
1:T:386:SER:HB2	1:T:434:SER:HB2	1.84	0.59
1:X:464:ILE:CD1	1:X:530:ARG:CA	2.81	0.59
1:G:263:LYS:NZ	1:I:26:GLN:NE2	2.50	0.59
1:K:51:LYS:CG	1:K:52:PRO:HD3	2.28	0.59
1:A:22:MET:HE1	1:C:342:LEU:HD21	1.84	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:196:LEU:HA	1:A:200:GLN:NE2	2.17	0.59
1:G:403:HIS:CD2	1:G:439:SER:HG	2.17	0.59
1:M:365:LEU:CD1	1:M:365:LEU:H	2.15	0.59
1:T:34:SER:HA	1:T:38:THR:O	2.03	0.59
1:G:509:ILE:HD13	1:G:514:ILE:CD1	2.33	0.59
1:K:64:GLN:O	1:K:64:GLN:HG3	2.03	0.59
1:X:334:LEU:HB2	1:X:337:THR:HG22	1.85	0.59
1:X:464:ILE:HG22	1:X:465:ALA:N	2.16	0.59
1:A:22:MET:HE1	1:C:342:LEU:CD2	2.33	0.58
1:X:97:ARG:CZ	1:X:188:MET:SD	2.91	0.58
1:X:440:MET:SD	1:X:496:ALA:HB2	2.43	0.58
1:T:348:THR:HA	1:T:433:GLU:O	2.02	0.58
1:X:334:LEU:HD12	1:X:337:THR:HG21	1.83	0.58
1:B:14:HIS:CG	1:B:35:MET:HE2	2.39	0.58
1:K:51:LYS:HB3	1:K:54:GLN:HG3	1.83	0.58
1:K:347:GLU:OE1	1:K:435:ASN:ND2	2.24	0.58
1:V:335:PRO:O	1:V:335:PRO:CG	2.50	0.58
1:X:464:ILE:CG2	1:X:465:ALA:N	2.66	0.58
1:A:239:ASN:HD22	1:A:242:LEU:HD12	1.68	0.58
1:O:64:GLN:NE2	1:O:66:ARG:NH2	2.51	0.58
1:O:322:ASP:HA	1:O:525:GLN:HE21	1.68	0.58
1:O:349:GLN:NE2	1:R:24:ALA:H	2.00	0.58
1:X:324:ILE:HD11	1:X:532:HIS:HB3	1.85	0.58
1:B:14:HIS:CD2	1:B:35:MET:HE2	2.38	0.58
1:X:509:ILE:HB	1:X:514:ILE:CD1	2.23	0.58
1:G:403:HIS:HD2	1:G:439:SER:HG	1.49	0.58
1:K:330:ARG:HD2	1:K:342:LEU:HD23	1.86	0.58
1:M:348:THR:HG21	1:M:438:SER:H	1.68	0.58
2:S:1058:GLN:NE2	2:S:1059:PRO:HD2	2.19	0.58
1:T:348:THR:CG2	1:T:436:GLY:H	2.16	0.58
1:V:264:GLN:HE21	1:X:26:GLN:CA	2.13	0.58
1:A:188:MET:HG2	1:A:189:VAL:H	1.56	0.58
1:G:349:GLN:NE2	1:I:23:MET:HA	2.17	0.58
1:I:185:ALA:HB1	1:I:514:ILE:HG22	1.86	0.58
1:T:349:GLN:CG	1:T:432:THR:OG1	2.52	0.58
1:B:482:LEU:HD13	1:B:485:GLU:OE1	2.04	0.58
1:O:288:LEU:HD11	1:O:293:LEU:HG	1.86	0.58
1:X:14:HIS:ND1	1:X:36:ASP:OD2	2.35	0.58
1:X:110:GLU:O	1:X:111:VAL:CG1	2.48	0.58
1:B:406:LEU:HD21	1:B:506:GLN:OE1	2.02	0.58
1:C:89:THR:CG2	1:C:398:ARG:HG3	2.34	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:64:GLN:HE22	1:R:66:ARG:HH21	1.52	0.58
1:B:62:ASN:OD1	1:B:62:ASN:O	2.21	0.58
1:T:368:LEU:H	1:T:368:LEU:CD1	2.17	0.58
1:V:347:GLU:OE2	1:V:435:ASN:ND2	2.37	0.58
1:A:196:LEU:CG	1:A:200:GLN:NE2	2.66	0.57
1:B:406:LEU:HD13	1:B:506:GLN:OE1	2.03	0.57
1:C:125:ASN:HD22	1:C:153:ARG:HH22	1.51	0.57
1:G:186:VAL:HG23	1:G:514:ILE:HG21	1.84	0.57
1:X:465:ALA:O	1:X:466:MET:HE2	2.04	0.57
1:G:306:ARG:HH21	1:G:471:GLU:CD	2.07	0.57
1:G:399:ARG:NH2	3:G:550:WO4:O4	2.37	0.57
1:T:22:MET:HE2	1:X:330:ARG:HH11	1.66	0.57
1:T:386:SER:CB	1:T:434:SER:HB2	2.34	0.57
1:B:308:ARG:HG2	1:B:313:GLU:OE1	2.04	0.57
1:M:14:HIS:CD2	1:M:35:MET:CE	2.87	0.57
1:V:432:THR:CG2	1:X:24:ALA:H	2.18	0.57
2:W:1046:ALA:O	2:W:1048:HIS:N	2.37	0.57
1:X:514:ILE:HD12	1:X:514:ILE:H	1.70	0.57
1:A:291:ASN:O	1:A:294:GLY:N	2.37	0.57
1:A:322:ASP:OD1	2:D:1056:ARG:HG2	2.04	0.57
1:K:464:ILE:HG22	1:K:465:ALA:N	2.20	0.57
1:M:263:LYS:HB2	1:M:347:GLU:OE2	2.05	0.57
1:V:177:LEU:HD21	1:V:205:VAL:N	2.19	0.57
1:X:436:GLY:O	3:X:550:WO4:O2	2.21	0.57
1:K:47:GLN:O	1:K:231:TRP:HH2	1.85	0.57
1:K:399:ARG:HB3	1:K:403:HIS:CD2	2.40	0.57
1:X:515:THR:HG22	1:X:516:LYS:N	2.18	0.57
1:A:128:ILE:HD11	1:A:153:ARG:HB2	1.86	0.57
1:I:16:VAL:HG22	1:I:35:MET:HG2	1.85	0.57
1:I:447:SER:HB2	1:I:461:VAL:HG12	1.87	0.57
1:R:97:ARG:CZ	1:R:506:GLN:NE2	2.67	0.57
1:T:19:GLU:HB3	1:T:32:MET:HB3	1.85	0.57
1:B:84:PRO:HA	1:B:88:GLU:OE1	2.04	0.57
1:O:347:GLU:HB2	1:O:435:ASN:HD22	1.70	0.57
1:T:125:ASN:OD1	1:T:126:PRO:HD2	2.05	0.57
1:V:239:ASN:HD22	1:V:242:LEU:CD1	2.17	0.57
1:X:128:ILE:HD11	1:X:153:ARG:HB2	1.86	0.57
1:B:188:MET:O	1:B:189:VAL:CG2	2.47	0.57
1:G:188:MET:C	1:G:189:VAL:CG2	2.73	0.57
1:K:348:THR:HG22	1:K:435:ASN:H	1.69	0.57
1:A:322:ASP:CA	1:A:525:GLN:HE21	2.12	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:97:ARG:NH2	1:C:506:GLN:HE21	2.02	0.56
1:A:44:VAL:HG21	1:A:138:LEU:HD23	1.85	0.56
1:G:399:ARG:O	1:G:403:HIS:ND1	2.37	0.56
1:I:62:ASN:ND2	1:I:112:GLN:HE21	2.02	0.56
1:M:440:MET:HE3	1:M:494:LYS:HG2	1.87	0.56
1:B:310:LEU:HD21	1:B:474:ASN:OD1	2.06	0.56
1:G:328:ASP:OD2	1:I:2:LEU:CD2	2.44	0.56
1:G:401:ILE:HG23	1:G:402:GLY:H	1.69	0.56
1:I:310:LEU:HD23	1:I:469:VAL:HG11	1.79	0.56
1:O:175:LEU:HD11	1:O:177:LEU:HD23	1.86	0.56
1:R:297:LEU:O	1:R:301:GLU:HG3	2.06	0.56
1:T:399:ARG:O	1:T:403:HIS:CD2	2.58	0.56
1:X:128:ILE:HG23	1:X:151:ALA:CB	2.35	0.56
1:X:324:ILE:HD11	1:X:532:HIS:CB	2.35	0.56
1:X:381:ASN:ND2	1:X:430:GLU:OE2	2.38	0.56
1:X:385:TYR:HE2	1:X:432:THR:HA	1.69	0.56
1:B:328:ASP:HB3	1:B:344:THR:HB	1.86	0.56
1:M:14:HIS:CG	1:M:35:MET:CE	2.88	0.56
1:A:37:ASP:OD1	1:C:336:ARG:HG2	2.06	0.56
1:B:33:VAL:HG12	1:B:34:SER:N	2.20	0.56
1:A:406:LEU:HD23	1:A:439:SER:CB	2.36	0.56
2:D:1058:GLN:HG3	2:D:1059:PRO:C	2.26	0.56
1:C:3:ASN:OD1	1:C:3:ASN:O	2.23	0.56
1:K:397:LYS:CD	1:K:400:GLU:OE2	2.53	0.56
1:T:175:LEU:HD11	1:T:177:LEU:HD23	1.87	0.56
1:V:335:PRO:O	1:V:336:ARG:HB2	2.05	0.56
1:A:442:SER:O	1:A:445:GLY:N	2.39	0.56
1:C:34:SER:CA	1:C:39:ALA:CB	2.81	0.56
1:O:310:LEU:HD12	1:O:310:LEU:O	2.06	0.56
1:T:320:GLU:OE1	2:U:1056:ARG:NH2	2.39	0.56
1:V:263:LYS:HD2	1:V:435:ASN:CG	2.25	0.56
2:W:1046:ALA:HB3	2:W:1049:HIS:CD2	2.33	0.56
1:C:395:SER:HB2	1:C:396:PRO:CB	2.35	0.56
1:I:121:ASN:OD1	1:I:122:PRO:HD2	2.06	0.56
1:V:50:ALA:CB	1:V:109:ASN:OD1	2.44	0.56
1:C:51:LYS:CG	1:C:52:PRO:CD	2.81	0.56
1:G:535:GLY:O	1:G:539:GLN:HG3	2.06	0.56
1:T:387:VAL:CG1	1:T:434:SER:HB3	2.35	0.56
1:R:50:ALA:CB	1:R:109:ASN:OD1	2.43	0.56
1:R:465:ALA:O	1:R:466:MET:CE	2.54	0.56
1:X:515:THR:CG2	1:X:516:LYS:N	2.69	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:393:VAL:O	1:R:393:VAL:CG1	2.48	0.55
1:K:349:GLN:NE2	1:K:432:THR:HG22	2.12	0.55
1:M:333:VAL:HG13	1:M:334:LEU:HG	1.87	0.55
1:T:198:GLU:OE2	1:T:527:LYS:CE	2.54	0.55
1:C:332:GLY:HA3	2:F:1047:THR:HG22	1.88	0.55
1:O:64:GLN:NE2	1:O:66:ARG:HH21	2.04	0.55
1:O:302:LYS:HG3	1:O:488:LEU:HD22	1.86	0.55
1:O:322:ASP:HA	1:O:525:GLN:NE2	2.21	0.55
1:M:23:MET:HG2	1:R:349:GLN:HE22	1.72	0.55
1:M:440:MET:CE	1:M:494:LYS:HZ3	2.11	0.55
1:O:239:ASN:ND2	1:O:242:LEU:CD1	2.69	0.55
1:A:108:VAL:O	1:A:108:VAL:CG1	2.54	0.55
1:V:128:ILE:HG23	1:V:151:ALA:CB	2.36	0.55
1:K:328:ASP:HB3	1:K:344:THR:HB	1.87	0.55
1:V:322:ASP:HA	1:V:525:GLN:HE21	1.71	0.55
1:X:507:MET:HG2	1:X:509:ILE:HD12	1.89	0.55
1:X:102:LEU:HD23	1:X:512:GLU:OE2	2.06	0.55
1:C:396:PRO:HA	1:C:400:GLU:OE1	2.06	0.55
1:G:191:SER:N	1:G:505:LEU:O	2.32	0.55
1:R:466:MET:HB2	1:R:493:PHE:HB3	1.89	0.55
1:T:363:GLN:OE1	1:T:377:LEU:CD2	2.55	0.55
1:A:368:LEU:HD12	1:A:368:LEU:O	2.07	0.55
1:B:14:HIS:CB	1:B:35:MET:HE2	2.37	0.55
1:B:125:ASN:ND2	1:B:167:GLN:NE2	2.55	0.55
1:R:466:MET:CE	1:R:479:SER:HA	2.37	0.55
1:T:421:PHE:HB3	1:T:422:PRO:HA	1.88	0.55
1:T:514:ILE:CG2	1:T:518:ILE:HD11	2.31	0.55
1:A:31:VAL:HG22	1:A:137:ALA:HB2	1.89	0.55
1:B:34:SER:HB2	1:B:38:THR:O	2.07	0.55
1:R:33:VAL:HG21	1:R:133:GLY:HA2	1.88	0.55
1:X:464:ILE:HG21	1:X:466:MET:CE	2.37	0.55
1:K:47:GLN:O	1:K:231:TRP:CZ3	2.60	0.54
1:M:328:ASP:HB3	1:M:344:THR:HB	1.89	0.54
1:V:217:GLN:O	1:V:221:GLU:HG2	2.07	0.54
1:A:334:LEU:HD11	1:B:118:VAL:HG22	1.89	0.54
1:A:451:MET:HE3	1:A:457:ILE:CD1	2.35	0.54
1:K:188:MET:CG	1:K:189:VAL:N	2.69	0.54
1:O:345:ARG:O	1:O:345:ARG:HG2	2.06	0.54
1:A:441:ALA:O	1:A:444:CYS:N	2.41	0.54
1:B:34:SER:CB	1:B:39:ALA:HA	2.37	0.54
1:B:98:PRO:O	1:B:187:LEU:HD13	2.07	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:34:SER:HA	1:C:39:ALA:CB	2.37	0.54
1:G:310:LEU:CD2	1:G:471:GLU:HG2	2.24	0.54
1:I:84:PRO:HA	1:I:88:GLU:OE1	2.08	0.54
1:X:330:ARG:HD2	1:X:342:LEU:HD23	1.89	0.54
1:A:406:LEU:HD22	1:A:506:GLN:OE1	2.07	0.54
1:C:54:GLN:HG2	1:C:108:VAL:HG12	1.89	0.54
1:K:59:LEU:CD2	1:K:100:ARG:CG	2.68	0.54
1:R:153:ARG:HH21	1:R:170:LEU:CD1	2.21	0.54
1:V:175:LEU:HD12	1:V:193:ALA:HB2	1.86	0.54
1:K:274:LYS:CE	1:K:301:GLU:CD	2.75	0.54
1:R:153:ARG:HH21	1:R:170:LEU:HD13	1.72	0.54
1:A:328:ASP:HB3	1:A:344:THR:HB	1.90	0.54
1:M:365:LEU:H	1:M:365:LEU:HD13	1.71	0.54
1:O:349:GLN:NE2	1:O:432:THR:OG1	2.40	0.54
1:C:97:ARG:HH22	1:C:506:GLN:NE2	2.03	0.54
1:T:239:ASN:HD22	1:T:242:LEU:CB	2.13	0.54
1:K:308:ARG:HG2	1:K:313:GLU:OE1	2.08	0.54
1:K:349:GLN:HG2	1:K:433:GLU:HB2	1.89	0.54
1:M:183:GLU:HG3	1:M:213:GLN:HE22	1.73	0.54
1:B:440:MET:HE3	1:B:496:ALA:HB2	1.89	0.54
1:M:440:MET:CE	1:M:494:LYS:HZ2	2.21	0.54
1:A:263:LYS:NZ	1:B:26:GLN:HE22	2.06	0.54
1:C:40:VAL:O	1:C:42:VAL:HG23	2.08	0.54
1:G:398:ARG:CA	1:G:401:ILE:HG22	2.37	0.54
1:I:158:ASN:HD22	1:O:419:ASP:HB3	1.72	0.54
1:X:509:ILE:CG2	1:X:514:ILE:CD1	2.51	0.54
1:O:387:VAL:HA	1:R:26:GLN:NE2	2.23	0.53
2:E:1044:HIS:CD2	2:E:1045:THR:HG23	2.43	0.53
1:G:333:VAL:H	1:G:340:SER:HB2	1.73	0.53
1:G:433:GLU:OE2	1:I:25:ARG:HB2	2.07	0.53
1:K:387:VAL:O	1:K:387:VAL:CG1	2.56	0.53
1:X:128:ILE:HG23	1:X:151:ALA:HB3	1.90	0.53
1:G:24:ALA:H	1:K:432:THR:CG2	2.22	0.53
1:B:14:HIS:HB2	1:B:35:MET:CE	2.39	0.53
1:G:514:ILE:O	1:G:514:ILE:CG2	2.57	0.53
1:A:1:MET:C	1:A:2:LEU:HD12	2.29	0.53
1:V:177:LEU:HD21	1:V:204:ALA:O	2.06	0.53
1:V:336:ARG:HB2	1:X:119:SER:OG	2.09	0.53
1:A:437:SER:OG	1:A:440:MET:CG	2.57	0.53
1:G:84:PRO:HA	1:G:88:GLU:OE1	2.09	0.53
1:G:306:ARG:O	1:G:310:LEU:CD1	2.51	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:406:LEU:HD11	1:O:506:GLN:OE1	2.07	0.53
1:T:38:THR:HG23	1:T:119:SER:O	2.09	0.53
1:K:82:GLY:O	1:K:83:ARG:C	2.47	0.53
1:R:153:ARG:NH2	1:R:170:LEU:HD13	2.24	0.53
1:V:259:ARG:HE	1:V:308:ARG:HH21	1.57	0.53
1:V:363:GLN:NE2	1:V:365:LEU:HD21	2.24	0.53
1:X:50:ALA:HA	1:X:109:ASN:OD1	2.09	0.53
1:B:333:VAL:HG13	1:B:334:LEU:HG	1.89	0.53
1:M:336:ARG:HB2	1:O:119:SER:HB2	1.90	0.53
1:T:38:THR:HG23	1:T:120:VAL:HA	1.91	0.53
1:V:330:ARG:HB2	1:V:342:LEU:HB3	1.91	0.53
1:G:263:LYS:HZ3	1:I:26:GLN:HE22	1.56	0.52
1:B:440:MET:CE	1:B:495:VAL:O	2.57	0.52
1:G:62:ASN:ND2	1:K:393:VAL:HG12	2.24	0.52
1:O:351:LEU:HB3	1:O:430:GLU:HB2	1.91	0.52
2:W:1042:GLY:CA	1:X:19:GLU:OE1	2.55	0.52
1:K:393:VAL:O	1:K:393:VAL:CG1	2.57	0.52
1:C:51:LYS:CB	1:C:52:PRO:HD2	2.39	0.52
1:G:514:ILE:HG13	1:G:518:ILE:HD11	1.90	0.52
1:V:492:ASP:HB3	1:V:508:ASP:HB2	1.90	0.52
1:X:387:VAL:CG2	1:X:389:GLU:OE2	2.57	0.52
1:A:437:SER:OG	1:A:440:MET:HG2	2.09	0.52
1:R:486:ASP:O	1:R:510:LYS:HE3	2.10	0.52
1:M:349:GLN:HB3	1:M:432:THR:OG1	2.08	0.52
1:X:2:LEU:HD11	1:X:22:MET:HG3	1.92	0.52
1:X:188:MET:HG2	1:X:189:VAL:N	2.23	0.52
1:A:80:ARG:HB2	1:C:379:HIS:CE1	2.45	0.52
1:B:302:LYS:CE	1:B:306:ARG:NH1	2.69	0.52
1:G:202:LEU:CD2	1:G:520:GLN:OE1	2.58	0.52
1:K:50:ALA:O	1:K:51:LYS:C	2.48	0.52
1:V:177:LEU:HD23	1:V:204:ALA:O	2.08	0.52
1:V:230:ARG:O	1:V:231:TRP:C	2.48	0.52
1:K:322:ASP:HB2	1:K:525:GLN:HE21	1.71	0.52
1:M:349:GLN:HB2	1:M:432:THR:HG1	1.74	0.52
1:V:384:PRO:C	1:V:386:SER:H	2.12	0.52
1:X:383:PRO:HB2	1:X:385:TYR:CE1	2.45	0.52
1:A:491:MET:HE3	1:A:493:PHE:CD1	2.20	0.52
1:I:481:ILE:HD12	1:I:486:ASP:CA	2.40	0.52
1:O:37:ASP:O	1:O:38:THR:C	2.48	0.52
1:X:515:THR:O	1:X:518:ILE:CG1	2.58	0.52
1:C:322:ASP:OD1	2:F:1056:ARG:HD2	2.10	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:33:VAL:HG21	1:G:133:GLY:HA2	1.92	0.52
1:G:487:HIS:O	1:G:510:LYS:NZ	2.43	0.52
1:V:329:VAL:O	2:W:1049:HIS:HA	2.10	0.52
1:A:253:ARG:NH1	1:A:276:GLU:OE2	2.36	0.51
1:A:348:THR:HA	1:A:433:GLU:HG3	1.92	0.51
1:B:37:ASP:HB2	1:B:121:ASN:HB2	1.92	0.51
1:G:24:ALA:H	1:K:349:GLN:HE22	1.58	0.51
1:I:349:GLN:NE2	1:K:23:MET:HG2	2.26	0.51
1:M:198:GLU:OE2	1:M:527:LYS:HE2	2.10	0.51
1:M:336:ARG:NH1	1:O:121:ASN:OD1	2.41	0.51
1:R:406:LEU:HD12	1:R:506:GLN:OE1	2.08	0.51
1:T:509:ILE:HG12	1:T:514:ILE:HG13	1.92	0.51
1:X:14:HIS:HB3	1:X:36:ASP:OD2	2.10	0.51
1:A:112:GLN:NE2	1:C:393:VAL:HG23	2.25	0.51
1:B:189:VAL:HB	1:B:507:MET:CB	2.40	0.51
1:M:120:VAL:HG21	1:M:368:LEU:HD12	1.92	0.51
1:T:34:SER:HB3	1:T:39:ALA:CB	2.40	0.51
1:V:331:THR:HB	2:W:1048:HIS:HB2	1.91	0.51
1:B:267:TYR:OH	1:B:484:ASP:OD1	2.20	0.51
1:T:144:PRO:HD3	1:T:231:TRP:HB2	1.91	0.51
1:V:64:GLN:NE2	1:V:66:ARG:HH21	2.08	0.51
1:X:509:ILE:CG2	1:X:511:ILE:O	2.59	0.51
1:I:481:ILE:HD12	1:I:486:ASP:HA	1.91	0.51
1:M:34:SER:CB	2:S:1041:ALA:HB3	2.41	0.51
1:M:47:GLN:OE1	1:M:110:GLU:HB3	2.11	0.51
1:T:330:ARG:HD2	1:T:342:LEU:HD23	1.92	0.51
2:Y:1044:HIS:CD2	2:Y:1045:THR:HG23	2.44	0.51
1:A:324:ILE:HD11	1:A:532:HIS:HD2	1.76	0.51
1:I:330:ARG:HD2	1:I:342:LEU:HD23	1.92	0.51
1:X:383:PRO:CB	1:X:385:TYR:CE1	2.93	0.51
1:C:74:PRO:HB3	1:C:81:GLU:OE2	2.11	0.51
1:C:192:GLU:OE2	1:C:412:LEU:CD2	2.55	0.51
1:G:202:LEU:HD22	1:G:520:GLN:OE1	2.10	0.51
1:I:51:LYS:HB3	1:I:54:GLN:HB2	1.91	0.51
1:K:387:VAL:HG22	1:K:434:SER:O	2.11	0.51
1:R:239:ASN:HD22	1:R:242:LEU:HD13	1.74	0.51
1:V:433:GLU:OE2	1:X:25:ARG:HB2	2.10	0.51
1:X:334:LEU:HB2	1:X:337:THR:CG2	2.40	0.51
1:X:464:ILE:HG21	1:X:466:MET:HE3	1.91	0.51
1:X:466:MET:HB2	1:X:493:PHE:HB3	1.93	0.51
1:C:125:ASN:ND2	1:C:127:ASP:CG	2.64	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:158:ASN:ND2	1:O:419:ASP:HB3	2.25	0.51
1:K:52:PRO:CG	1:K:53:GLY:N	2.74	0.51
1:K:323:MET:HB3	2:L:1056:ARG:HG2	1.93	0.51
1:O:406:LEU:CD2	1:O:440:MET:CE	2.89	0.51
1:B:34:SER:HB3	1:B:39:ALA:CA	2.40	0.51
1:O:464:ILE:HG12	1:O:465:ALA:N	2.26	0.51
1:B:187:LEU:O	1:B:509:ILE:HD12	2.11	0.51
1:I:339:GLY:HA3	1:I:354:ALA:HB3	1.92	0.51
1:T:262:ASP:HB3	1:T:265:GLU:HG2	1.92	0.51
1:T:509:ILE:HG21	1:T:514:ILE:CG1	2.41	0.51
1:X:509:ILE:HG22	1:X:511:ILE:H	1.75	0.51
1:B:310:LEU:C	1:B:310:LEU:CD1	2.78	0.50
1:G:278:ILE:O	1:G:282:LEU:CD1	2.56	0.50
1:I:328:ASP:HB3	1:I:344:THR:HB	1.93	0.50
1:I:431:ILE:HG12	1:I:438:SER:HB2	1.93	0.50
1:O:325:ARG:HD2	1:O:346:GLY:HA3	1.92	0.50
1:T:35:MET:O	1:T:36:ASP:C	2.47	0.50
1:V:324:ILE:CD1	1:V:533:ILE:HD12	2.40	0.50
1:V:325:ARG:HD2	1:V:346:GLY:HA3	1.93	0.50
1:B:440:MET:HE1	1:B:496:ALA:HB2	1.91	0.50
1:B:496:ALA:HB3	1:B:504:ALA:HB3	1.93	0.50
1:O:288:LEU:HD12	1:O:293:LEU:HD11	1.92	0.50
1:T:26:GLN:NE2	1:X:263:LYS:HD3	2.26	0.50
1:T:99:ILE:HA	1:T:102:LEU:HD12	1.93	0.50
1:A:2:LEU:CD2	1:A:25:ARG:NH2	2.68	0.50
1:A:119:SER:HB2	1:C:336:ARG:HB2	1.93	0.50
1:G:192:GLU:CG	1:G:409:ARG:HB3	2.41	0.50
1:M:348:THR:OG1	1:M:435:ASN:CB	2.59	0.50
1:R:328:ASP:HB3	1:R:344:THR:HB	1.92	0.50
1:X:406:LEU:CD2	1:X:440:MET:CE	2.89	0.50
1:K:35:MET:HG3	1:K:35:MET:O	2.12	0.50
1:X:333:VAL:O	1:X:335:PRO:HD3	2.12	0.50
1:X:507:MET:HG2	1:X:509:ILE:CD1	2.41	0.50
1:C:121:ASN:OD1	1:C:122:PRO:HD2	2.12	0.50
1:C:330:ARG:HB3	1:C:342:LEU:HB3	1.92	0.50
1:G:387:VAL:O	1:I:26:GLN:NE2	2.45	0.50
1:I:381:ASN:ND2	1:I:430:GLU:OE2	2.36	0.50
1:K:82:GLY:O	1:K:83:ARG:O	2.30	0.50
1:T:132:ILE:HD12	1:T:215:VAL:HG11	1.94	0.50
1:V:331:THR:HB	2:W:1047:THR:HG22	1.92	0.50
1:G:519:MET:O	1:G:523:LEU:HG	2.12	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:351:LEU:HB3	1:I:430:GLU:HB2	1.92	0.50
1:M:440:MET:HE3	1:M:494:LYS:CD	2.42	0.50
1:O:192:GLU:OE1	1:O:409:ARG:HG2	2.12	0.50
1:M:365:LEU:HD22	1:M:365:LEU:O	2.11	0.50
1:M:509:ILE:HG12	1:M:514:ILE:HD12	1.94	0.50
1:T:347:GLU:CB	1:T:435:ASN:HD21	2.17	0.50
1:K:52:PRO:CD	1:K:53:GLY:N	2.73	0.50
1:B:494:LYS:HB2	1:B:506:GLN:HB3	1.94	0.49
1:C:330:ARG:CD	1:C:342:LEU:HD23	2.40	0.49
1:G:345:ARG:O	1:G:346:GLY:C	2.48	0.49
1:I:345:ARG:HB3	1:I:348:THR:OG1	2.12	0.49
1:K:36:ASP:O	1:K:37:ASP:CB	2.58	0.49
1:M:437:SER:CB	1:M:440:MET:HB2	2.42	0.49
1:T:217:GLN:O	1:T:221:GLU:HG2	2.11	0.49
1:T:513:GLY:O	1:T:514:ILE:O	2.30	0.49
1:G:380:TYR:CE2	1:G:400:GLU:HA	2.48	0.49
1:O:302:LYS:CG	1:O:488:LEU:CD2	2.82	0.49
1:O:329:VAL:HB	2:P:1050:ALA:HB3	1.94	0.49
1:V:432:THR:HG22	1:X:24:ALA:N	2.28	0.49
1:B:78:PHE:O	1:B:79:ARG:HB2	2.13	0.49
1:C:188:MET:O	1:C:189:VAL:HG23	2.12	0.49
1:G:185:ALA:HB1	1:G:514:ILE:HG22	1.94	0.49
1:M:433:GLU:OE2	1:O:25:ARG:HB2	2.13	0.49
1:V:61:VAL:HG22	1:V:113:VAL:HB	1.94	0.49
1:V:319:ARG:HH21	1:V:482:LEU:CD1	2.08	0.49
1:G:186:VAL:HG23	1:G:514:ILE:HD13	1.94	0.49
1:K:464:ILE:CG2	1:K:465:ALA:N	2.75	0.49
1:M:36:ASP:O	1:M:37:ASP:OD1	2.30	0.49
1:R:319:ARG:HH12	1:R:480:ASP:HB3	1.78	0.49
1:T:438:SER:O	1:T:441:ALA:N	2.46	0.49
1:V:59:LEU:CD2	1:V:96:ASP:OD1	2.60	0.49
1:V:154:VAL:HB	1:V:177:LEU:HB3	1.95	0.49
1:A:324:ILE:HD11	1:A:532:HIS:CD2	2.47	0.49
1:G:263:LYS:HZ1	1:I:26:GLN:NE2	2.09	0.49
1:M:207:PHE:O	1:M:211:GLN:HG2	2.12	0.49
1:X:50:ALA:CA	1:X:109:ASN:OD1	2.61	0.49
1:X:509:ILE:HG22	1:X:511:ILE:O	2.12	0.49
1:A:118:VAL:HG11	1:C:334:LEU:HD22	1.95	0.49
1:K:347:GLU:O	1:K:433:GLU:HB3	2.12	0.49
1:M:368:LEU:CD1	1:M:368:LEU:C	2.80	0.49
1:B:188:MET:HA	1:B:507:MET:O	2.13	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:395:SER:HB2	1:C:396:PRO:HB3	1.93	0.49
1:G:192:GLU:HG2	1:G:409:ARG:HB3	1.93	0.49
1:G:371:GLU:O	1:G:372:ARG:HB2	2.12	0.49
1:I:217:GLN:O	1:I:221:GLU:HG2	2.13	0.49
1:I:333:VAL:HG23	2:J:1043:GLY:HA2	1.94	0.49
1:R:336:ARG:HG3	1:R:336:ARG:O	2.13	0.49
1:V:64:GLN:HE22	1:V:66:ARG:HH21	1.59	0.49
1:A:54:GLN:HB3	1:A:108:VAL:CG1	2.43	0.48
1:A:322:ASP:CA	1:A:525:GLN:NE2	2.71	0.48
1:B:175:LEU:HD11	1:B:177:LEU:HD23	1.94	0.48
1:G:19:GLU:HB3	1:G:32:MET:HB3	1.94	0.48
1:M:14:HIS:CD2	1:M:35:MET:HE3	2.47	0.48
1:M:447:SER:HB2	1:M:461:VAL:HG12	1.95	0.48
1:O:411:VAL:HG12	1:O:415:MET:HG2	1.95	0.48
2:W:1045:THR:O	2:W:1047:THR:N	2.43	0.48
1:A:26:GLN:OE1	1:C:264:GLN:HG3	2.13	0.48
1:O:37:ASP:O	1:O:38:THR:O	2.30	0.48
1:R:274:LYS:HG2	1:R:297:LEU:HD13	1.94	0.48
1:V:99:ILE:HA	1:V:102:LEU:HD12	1.93	0.48
1:V:482:LEU:HD12	1:V:482:LEU:N	2.27	0.48
1:G:401:ILE:CG2	1:G:402:GLY:N	2.73	0.48
1:I:397:LYS:O	1:I:398:ARG:C	2.52	0.48
1:K:395:SER:O	1:K:396:PRO:C	2.50	0.48
1:O:406:LEU:HD22	1:O:440:MET:CE	2.43	0.48
1:V:93:ARG:CG	1:V:97:ARG:HH21	2.18	0.48
1:G:132:ILE:HD12	1:G:215:VAL:HG11	1.95	0.48
1:I:128:ILE:O	1:I:132:ILE:HD12	2.13	0.48
1:O:29:ALA:HB2	1:O:141:SER:HA	1.95	0.48
1:T:363:GLN:OE1	1:T:377:LEU:HD21	2.13	0.48
1:B:125:ASN:ND2	1:B:167:GLN:HE22	2.11	0.48
1:B:193:ALA:HB1	1:B:196:LEU:HD12	1.96	0.48
1:B:206:VAL:HG21	1:B:516:LYS:HE3	1.95	0.48
1:I:33:VAL:HG21	1:I:133:GLY:HA2	1.95	0.48
1:K:332:GLY:HA3	2:L:1047:THR:HG22	1.95	0.48
1:V:44:VAL:HG22	1:V:113:VAL:HG22	1.96	0.48
1:A:183:GLU:HG3	1:A:213:GLN:HE22	1.77	0.48
1:A:330:ARG:HB2	1:A:342:LEU:HB3	1.95	0.48
1:G:94:LEU:HG	1:G:188:MET:CE	2.37	0.48
1:I:87:GLY:HA2	1:I:90:LEU:HD12	1.96	0.48
1:R:349:GLN:HG2	1:R:432:THR:OG1	2.12	0.48
1:B:416:PRO:HD3	1:B:457:ILE:HA	1.96	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:193:ALA:HB1	1:C:196:LEU:HD13	1.95	0.48
1:G:59:LEU:HD23	1:G:96:ASP:OD1	2.14	0.48
1:I:482:LEU:HD12	1:I:482:LEU:N	2.28	0.48
1:V:263:LYS:HD2	1:V:435:ASN:HB2	1.95	0.48
1:A:156:TYR:HB2	1:A:175:LEU:HB3	1.95	0.48
1:B:14:HIS:HB3	1:B:36:ASP:OD1	2.13	0.48
1:C:202:LEU:HD22	1:C:520:GLN:HB3	1.94	0.48
1:I:188:MET:C	1:I:189:VAL:HG23	2.34	0.48
1:T:329:VAL:HB	2:U:1050:ALA:HB3	1.95	0.48
1:V:198:GLU:CD	1:V:527:LYS:HD2	2.34	0.48
1:V:263:LYS:HE2	1:V:435:ASN:OD1	2.14	0.48
1:X:399:ARG:O	1:X:403:HIS:CD2	2.67	0.48
1:A:479:SER:OG	1:A:525:GLN:NE2	2.47	0.48
1:G:336:ARG:NE	1:I:37:ASP:OD2	2.45	0.48
1:R:329:VAL:HB	2:S:1050:ALA:HB3	1.96	0.48
1:V:206:VAL:HG21	1:V:516:LYS:HE2	1.94	0.48
1:A:509:ILE:HG21	1:A:514:ILE:CG1	2.32	0.48
1:K:349:GLN:NE2	1:K:432:THR:HB	2.27	0.48
1:K:399:ARG:O	1:K:403:HIS:HD2	1.96	0.48
1:M:15:THR:O	1:M:35:MET:HA	2.13	0.48
1:V:365:LEU:HD11	1:V:374:ASP:OD2	2.14	0.48
1:X:466:MET:HE2	1:X:480:ASP:N	2.12	0.48
1:B:99:ILE:HA	1:B:102:LEU:HD12	1.95	0.47
1:G:406:LEU:HD11	1:G:506:GLN:OE1	2.14	0.47
1:K:397:LYS:CD	1:K:400:GLU:CD	2.83	0.47
1:V:432:THR:CG2	1:X:24:ALA:N	2.77	0.47
1:A:363:GLN:OE1	1:A:377:LEU:CD2	2.62	0.47
1:G:26:GLN:NE2	1:K:387:VAL:C	2.67	0.47
1:G:64:GLN:CD	1:G:66:ARG:HH12	2.17	0.47
1:K:45:VAL:O	1:K:45:VAL:HG13	2.13	0.47
1:O:84:PRO:HA	1:O:88:GLU:OE1	2.14	0.47
1:V:177:LEU:HD23	1:V:204:ALA:HB1	1.95	0.47
1:B:15:THR:O	1:B:35:MET:O	2.32	0.47
1:B:274:LYS:HG2	1:B:297:LEU:HD13	1.96	0.47
1:C:33:VAL:O	1:C:39:ALA:HB1	2.13	0.47
1:C:38:THR:HA	1:C:119:SER:C	2.35	0.47
1:G:206:VAL:HG21	1:G:516:LYS:HE3	1.96	0.47
1:K:81:GLU:O	1:K:82:GLY:O	2.32	0.47
1:T:19:GLU:OE1	2:Y:1042:GLY:CA	2.61	0.47
1:T:93:ARG:HH12	1:T:399:ARG:HG3	1.78	0.47
1:A:399:ARG:O	1:A:400:GLU:C	2.51	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:381:ASN:ND2	1:G:430:GLU:OE2	2.47	0.47
1:T:393:VAL:HG12	1:T:393:VAL:O	2.13	0.47
1:V:51:LYS:HB2	1:V:54:GLN:HB2	1.97	0.47
1:A:202:LEU:HB2	1:A:523:LEU:HD22	1.97	0.47
2:D:1058:GLN:N	2:D:1059:PRO:HA	2.29	0.47
1:B:426:ARG:HH12	1:C:67:THR:HG22	1.79	0.47
1:C:342:LEU:HD12	1:C:349:GLN:HE21	1.73	0.47
1:R:125:ASN:OD1	1:R:126:PRO:HD2	2.15	0.47
1:B:482:LEU:HD12	1:B:482:LEU:N	2.29	0.47
1:T:386:SER:OG	1:T:434:SER:HB2	2.14	0.47
1:V:336:ARG:HB2	1:X:119:SER:HG	1.80	0.47
1:V:494:LYS:HB2	1:V:506:GLN:HB3	1.96	0.47
1:B:406:LEU:HD11	1:B:506:GLN:OE1	2.15	0.47
2:E:1041:ALA:N	1:C:34:SER:OG	2.48	0.47
1:G:509:ILE:HD13	1:G:514:ILE:HD13	1.97	0.47
1:I:192:GLU:OE1	1:I:409:ARG:HG2	2.15	0.47
1:O:324:ILE:HD11	1:O:532:HIS:CD2	2.49	0.47
1:V:342:LEU:CD1	1:V:349:GLN:NE2	2.25	0.47
1:B:185:ALA:HB1	1:B:514:ILE:HG22	1.97	0.47
1:G:24:ALA:H	1:K:349:GLN:NE2	2.13	0.47
1:G:278:ILE:HG22	1:G:282:LEU:HD13	1.97	0.47
1:G:515:THR:OG1	1:G:518:ILE:HG12	2.14	0.47
1:I:399:ARG:O	1:I:401:ILE:N	2.48	0.47
1:M:405:ARG:HD3	1:M:408:LYS:HD3	1.96	0.47
1:O:464:ILE:HD13	1:O:529:ALA:HB3	1.96	0.47
1:T:16:VAL:HG22	1:T:35:MET:HG3	1.97	0.47
1:B:34:SER:HB3	1:B:39:ALA:CB	2.44	0.47
1:M:34:SER:HB3	2:S:1041:ALA:HB3	1.96	0.47
1:O:206:VAL:HG21	1:O:516:LYS:HE3	1.97	0.47
1:A:440:MET:O	1:A:441:ALA:C	2.53	0.47
1:B:33:VAL:HG21	1:B:133:GLY:HA2	1.97	0.47
1:C:188:MET:O	1:C:189:VAL:CG2	2.63	0.47
1:C:328:ASP:HB3	1:C:344:THR:HB	1.96	0.47
1:I:206:VAL:HG21	1:I:516:LYS:HE3	1.96	0.47
1:K:16:VAL:HG22	1:K:35:MET:HB3	1.97	0.47
1:K:509:ILE:HD13	1:K:514:ILE:HG13	1.96	0.47
1:R:175:LEU:HD11	1:R:177:LEU:HD23	1.97	0.47
1:R:339:GLY:HA3	1:R:354:ALA:HB3	1.97	0.47
1:V:328:ASP:HB2	1:V:344:THR:HB	1.96	0.47
1:X:217:GLN:O	1:X:221:GLU:HG2	2.15	0.47
1:C:323:MET:HG3	2:F:1056:ARG:CD	2.41	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:349:GLN:CB	1:M:432:THR:HG1	2.26	0.46
1:O:466:MET:HB2	1:O:493:PHE:HB3	1.97	0.46
1:X:198:GLU:OE2	1:X:527:LYS:HE2	2.15	0.46
1:C:543:ALA:HA	1:C:544:PRO:HD3	1.62	0.46
1:G:2:LEU:HD22	1:K:328:ASP:OD2	2.15	0.46
1:T:175:LEU:HD13	1:T:193:ALA:HB2	1.97	0.46
1:K:249:LEU:HD23	1:K:277:THR:HG23	1.97	0.46
1:R:183:GLU:HG3	1:R:213:GLN:HE22	1.80	0.46
1:R:198:GLU:CD	1:R:527:LYS:HE2	2.36	0.46
1:V:36:ASP:O	1:V:37:ASP:CB	2.54	0.46
1:V:128:ILE:HG23	1:V:151:ALA:HB1	1.96	0.46
1:B:349:GLN:NE2	1:C:23:MET:HA	2.26	0.46
1:K:144:PRO:HD3	1:K:231:TRP:HB2	1.98	0.46
1:O:406:LEU:CD2	1:O:440:MET:HE1	2.45	0.46
1:R:179:VAL:HG23	1:R:189:VAL:HG22	1.97	0.46
1:T:322:ASP:HA	1:T:525:GLN:HE21	1.80	0.46
1:X:14:HIS:CB	1:X:36:ASP:OD2	2.64	0.46
1:X:67:THR:HG21	1:X:74:PRO:HB3	1.98	0.46
1:B:440:MET:HE2	1:B:495:VAL:O	2.16	0.46
1:C:323:MET:SD	2:F:1056:ARG:HG3	2.54	0.46
1:G:44:VAL:HG22	1:G:113:VAL:HG22	1.98	0.46
1:K:280:THR:O	1:K:284:GLU:HG3	2.16	0.46
1:M:440:MET:HB3	1:M:463:GLY:O	2.16	0.46
1:R:332:GLY:HA3	2:S:1047:THR:HG22	1.96	0.46
2:W:1046:ALA:O	2:W:1047:THR:C	2.53	0.46
1:B:34:SER:HA	1:B:38:THR:O	2.16	0.46
2:E:1041:ALA:HB3	1:C:34:SER:HB3	1.93	0.46
1:I:87:GLY:O	1:I:91:ILE:HD12	2.15	0.46
1:M:179:VAL:HG23	1:M:189:VAL:HG22	1.98	0.46
1:R:465:ALA:HA	1:R:494:LYS:HA	1.98	0.46
1:A:393:VAL:HG11	1:B:62:ASN:ND2	2.30	0.46
1:G:348:THR:HG23	1:G:434:SER:HA	1.97	0.46
1:M:494:LYS:HB2	1:M:506:GLN:HB3	1.98	0.46
1:O:144:PRO:HD3	1:O:231:TRP:HB2	1.97	0.46
1:V:333:VAL:HG13	2:W:1042:GLY:O	2.16	0.46
1:A:196:LEU:HB3	1:A:200:GLN:HG3	1.98	0.46
1:C:53:GLY:O	1:C:54:GLN:C	2.54	0.46
1:C:120:VAL:HG22	1:C:121:ASN:N	2.30	0.46
1:I:128:ILE:H	1:I:128:ILE:HG13	1.63	0.46
1:V:228:LYS:HB3	1:V:229:PRO:HD2	1.97	0.46
1:G:330:ARG:HB2	1:G:342:LEU:HB3	1.97	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:379:HIS:HD2	1:G:426:ARG:HE	1.62	0.46
1:I:406:LEU:CG	1:I:506:GLN:OE1	2.64	0.46
1:V:385:TYR:C	1:V:385:TYR:CD2	2.90	0.46
1:X:515:THR:HB	1:X:518:ILE:CG1	2.25	0.46
1:X:518:ILE:HG13	1:X:519:MET:H	1.81	0.46
1:B:14:HIS:CD2	1:B:35:MET:CE	2.99	0.46
1:C:54:GLN:HG3	1:C:108:VAL:HG11	1.89	0.46
1:C:435:ASN:HD21	1:C:482:LEU:HD23	1.81	0.46
1:G:156:TYR:HB2	1:G:175:LEU:HB3	1.98	0.46
1:V:127:ASP:OD2	1:V:153:ARG:NH2	2.49	0.46
1:V:367:GLU:HG2	1:V:368:LEU:N	2.30	0.46
1:C:3:ASN:ND2	1:K:3:ASN:CB	2.79	0.45
1:G:398:ARG:HA	1:G:401:ILE:HG22	1.94	0.45
1:T:509:ILE:HG21	1:T:514:ILE:HG13	1.97	0.45
1:C:398:ARG:O	1:C:401:ILE:N	2.50	0.45
1:G:125:ASN:HA	1:G:126:PRO:HD3	1.85	0.45
1:G:401:ILE:CG2	1:G:402:GLY:H	2.28	0.45
1:O:431:ILE:HG12	1:O:438:SER:HB2	1.98	0.45
1:R:59:LEU:HD23	1:R:100:ARG:HE	1.80	0.45
1:X:280:THR:O	1:X:284:GLU:HG2	2.16	0.45
1:A:325:ARG:HD2	1:A:346:GLY:HA3	1.99	0.45
1:B:348:THR:HG22	1:B:435:ASN:H	1.82	0.45
1:I:399:ARG:CG	1:I:403:HIS:CE1	2.99	0.45
1:K:96:ASP:OD1	1:K:100:ARG:CD	2.64	0.45
1:O:185:ALA:HB1	1:O:514:ILE:HG22	1.98	0.45
1:T:330:ARG:HD3	2:U:1043:GLY:O	2.16	0.45
1:G:62:ASN:HD22	1:K:393:VAL:HG12	1.81	0.45
1:G:64:GLN:NE2	1:G:66:ARG:CZ	2.79	0.45
1:I:342:LEU:CD1	1:I:349:GLN:HE21	2.06	0.45
1:K:397:LYS:HD3	1:K:400:GLU:HG3	1.97	0.45
1:T:239:ASN:HD22	1:T:242:LEU:CD1	2.30	0.45
1:A:322:ASP:OD1	1:A:322:ASP:C	2.53	0.45
1:V:177:LEU:HD11	1:V:205:VAL:HG22	1.99	0.45
1:G:325:ARG:HH22	1:G:436:GLY:HA3	1.81	0.45
1:R:440:MET:O	1:R:441:ALA:HB3	2.16	0.45
1:V:264:GLN:NE2	1:X:26:GLN:O	2.50	0.45
1:X:509:ILE:HD13	1:X:514:ILE:CD1	2.45	0.45
1:A:48:LYS:HA	1:A:231:TRP:CZ3	2.52	0.45
1:I:345:ARG:HD3	1:I:480:ASP:OD2	2.17	0.45
1:X:535:GLY:O	1:X:539:GLN:HG3	2.16	0.45
1:B:175:LEU:HD13	1:B:193:ALA:HB2	1.99	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:347:GLU:OE2	1:B:435:ASN:ND2	2.50	0.45
1:G:188:MET:O	1:G:189:VAL:HG22	2.14	0.45
1:G:406:LEU:CD1	1:G:506:GLN:OE1	2.64	0.45
1:G:463:GLY:HA2	1:G:530:ARG:HG2	1.96	0.45
1:V:396:PRO:CA	1:V:400:GLU:OE2	2.56	0.45
1:X:188:MET:CG	1:X:189:VAL:N	2.79	0.45
1:X:192:GLU:OE2	1:X:412:LEU:CD2	2.63	0.45
1:X:513:GLY:O	1:X:514:ILE:C	2.55	0.45
1:B:288:LEU:HD13	1:B:293:LEU:HD21	1.99	0.45
1:G:29:ALA:HB3	1:G:44:VAL:HB	1.99	0.45
1:G:345:ARG:NH1	1:G:464:ILE:CG2	2.79	0.45
1:G:489:GLY:O	1:G:510:LYS:CE	2.65	0.45
1:M:466:MET:CE	1:M:477:VAL:HG12	2.47	0.45
1:O:464:ILE:CG1	1:O:465:ALA:N	2.79	0.45
1:T:421:PHE:HB3	1:T:422:PRO:CA	2.46	0.45
1:V:239:ASN:ND2	1:V:242:LEU:CG	2.79	0.45
1:V:319:ARG:HH22	1:V:482:LEU:CD1	2.29	0.45
1:V:349:GLN:NE2	1:X:23:MET:HG2	2.29	0.45
1:X:517:GLU:HG2	1:X:518:ILE:H	1.77	0.45
1:A:55:ASP:OD1	1:A:56:PHE:HD1	2.00	0.45
1:K:349:GLN:NE2	1:K:432:THR:CB	2.76	0.45
1:M:440:MET:HE3	1:M:494:LYS:CG	2.47	0.45
1:B:24:ALA:HB3	1:B:30:ALA:CB	2.47	0.44
1:B:325:ARG:HD2	1:B:346:GLY:HA3	1.99	0.44
2:E:1056:ARG:HB3	2:E:1057:PRO:HD2	1.98	0.44
1:C:35:MET:SD	1:C:129:VAL:HG22	2.56	0.44
1:I:393:VAL:O	1:I:393:VAL:HG12	2.16	0.44
1:K:54:GLN:OE1	1:K:108:VAL:O	2.35	0.44
1:M:120:VAL:HG21	1:M:368:LEU:CD1	2.47	0.44
1:O:288:LEU:CD1	1:O:288:LEU:C	2.85	0.44
1:A:14:HIS:HB3	1:A:36:ASP:HB2	1.99	0.44
1:A:19:GLU:OE1	2:F:1042:GLY:CA	2.63	0.44
1:B:11:TYR:OH	1:B:152:ALA:HB2	2.17	0.44
1:I:396:PRO:HA	1:I:400:GLU:OE1	2.17	0.44
1:A:363:GLN:OE1	1:A:377:LEU:HD21	2.17	0.44
1:G:259:ARG:O	1:G:259:ARG:HG2	2.17	0.44
1:O:367:GLU:OE1	1:O:372:ARG:NH2	2.50	0.44
1:X:315:ARG:HD2	1:X:485:GLU:CD	2.38	0.44
1:A:23:MET:HB3	1:C:432:THR:HG21	1.99	0.44
1:C:3:ASN:HD22	1:K:3:ASN:CB	2.31	0.44
1:K:52:PRO:HG2	1:K:53:GLY:N	2.33	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:514:ILE:HA	1:K:518:ILE:HD11	2.00	0.44
1:O:14:HIS:ND1	1:O:36:ASP:CG	2.71	0.44
1:O:59:LEU:HD23	1:O:96:ASP:OD1	2.18	0.44
1:T:61:VAL:HG22	1:T:113:VAL:HB	1.99	0.44
1:V:327:LEU:O	1:V:328:ASP:OD1	2.36	0.44
1:B:328:ASP:OD2	1:C:2:LEU:HB2	2.18	0.44
1:B:344:THR:HG23	1:B:349:GLN:HB3	1.98	0.44
1:B:405:ARG:O	1:B:409:ARG:HG2	2.18	0.44
1:C:142:GLY:HA2	1:C:230:ARG:HD3	1.99	0.44
1:C:396:PRO:CA	1:C:400:GLU:OE1	2.65	0.44
1:I:183:GLU:HG3	1:I:213:GLN:HE22	1.82	0.44
1:K:152:ALA:HB2	1:K:212:GLN:HB3	2.00	0.44
1:V:239:ASN:ND2	1:V:242:LEU:CD1	2.81	0.44
1:X:515:THR:HB	1:X:518:ILE:CG2	2.47	0.44
1:A:331:THR:HB	2:D:1048:HIS:HB2	1.98	0.44
1:C:363:GLN:HB3	1:C:374:ASP:HB3	1.99	0.44
1:I:158:ASN:OD1	1:I:158:ASN:O	2.35	0.44
1:T:330:ARG:NH1	2:U:1043:GLY:O	2.51	0.44
1:X:57:PHE:HA	1:X:58:PRO:HD3	1.88	0.44
1:K:347:GLU:O	1:K:433:GLU:OE1	2.36	0.44
2:S:1045:THR:O	2:S:1045:THR:CG2	2.60	0.44
1:T:468:LEU:HD11	1:T:475:TYR:HB2	1.99	0.44
1:X:328:ASP:HB3	1:X:344:THR:HB	2.00	0.44
1:A:134:ALA:O	1:A:138:LEU:HD12	2.18	0.44
1:C:51:LYS:CB	1:C:52:PRO:CD	2.96	0.44
1:G:97:ARG:NH1	1:G:188:MET:HE2	2.32	0.44
1:G:509:ILE:HD13	1:G:514:ILE:HD12	1.98	0.44
1:M:436:GLY:HA3	1:M:481:ILE:O	2.18	0.44
1:O:351:LEU:HD21	1:R:118:VAL:HG21	2.00	0.44
1:V:128:ILE:HG23	1:V:151:ALA:HB3	1.99	0.44
1:V:365:LEU:CD1	1:V:374:ASP:OD2	2.65	0.44
1:V:482:LEU:CD1	1:V:482:LEU:N	2.81	0.44
1:C:3:ASN:ND2	1:K:3:ASN:HB2	2.33	0.44
1:I:324:ILE:HD11	1:I:532:HIS:HD2	1.83	0.44
1:M:127:ASP:OD1	1:M:128:ILE:N	2.51	0.44
1:O:14:HIS:ND1	1:O:36:ASP:OD2	2.50	0.44
1:R:239:ASN:HD21	1:R:242:LEU:HD12	1.83	0.44
1:B:57:PHE:HA	1:B:58:PRO:HD3	1.88	0.43
1:G:2:LEU:HD21	1:G:22:MET:HG3	2.01	0.43
1:X:338:HIS:O	1:X:453:ALA:HA	2.18	0.43
1:A:347:GLU:CG	1:A:435:ASN:HD22	2.30	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:188:MET:HG2	1:C:189:VAL:H	1.70	0.43
1:C:377:LEU:HB2	1:C:426:ARG:HA	2.00	0.43
1:M:120:VAL:CB	1:M:368:LEU:HD11	2.42	0.43
1:O:11:TYR:CD2	1:O:35:MET:HE2	2.49	0.43
1:T:3:ASN:HA	1:T:4:PRO:HD3	1.86	0.43
1:T:368:LEU:H	1:T:368:LEU:HD13	1.83	0.43
1:V:289:ASP:OD2	1:V:292:GLU:HG3	2.18	0.43
1:A:196:LEU:HB3	1:A:200:GLN:CG	2.49	0.43
1:A:441:ALA:O	1:A:444:CYS:HB2	2.19	0.43
1:B:38:THR:HA	1:B:120:VAL:HA	1.99	0.43
1:B:263:LYS:NZ	1:C:26:GLN:HE22	2.17	0.43
1:B:351:LEU:HB3	1:B:430:GLU:HB2	2.00	0.43
1:G:192:GLU:HB2	1:G:409:ARG:HD3	2.00	0.43
1:I:7:ARG:HB2	1:I:222:LEU:HD12	2.00	0.43
1:I:319:ARG:HH22	1:I:482:LEU:HD12	1.80	0.43
1:O:14:HIS:HB3	1:O:36:ASP:CB	2.16	0.43
1:X:315:ARG:NH1	1:X:478:LEU:HB3	2.33	0.43
1:X:334:LEU:CB	1:X:337:THR:HG22	2.48	0.43
1:A:2:LEU:HD12	1:A:2:LEU:N	2.34	0.43
1:A:245:ARG:HH12	1:A:288:LEU:HD11	1.83	0.43
1:C:18:LEU:HD23	1:C:33:VAL:HG22	2.00	0.43
1:V:230:ARG:O	1:V:231:TRP:O	2.37	0.43
1:V:263:LYS:HD2	1:V:435:ASN:CB	2.49	0.43
1:X:175:LEU:HD11	1:X:177:LEU:HD23	2.00	0.43
1:A:441:ALA:O	1:A:442:SER:C	2.56	0.43
1:R:44:VAL:HG22	1:R:113:VAL:HG22	1.99	0.43
1:R:335:PRO:HG2	1:R:336:ARG:H	1.83	0.43
1:T:387:VAL:O	1:V:26:GLN:NE2	2.51	0.43
1:V:297:LEU:O	1:V:301:GLU:HG3	2.18	0.43
1:B:33:VAL:CG1	1:B:34:SER:N	2.82	0.43
1:B:348:THR:HG21	1:B:436:GLY:H	1.83	0.43
1:C:50:ALA:CB	1:C:109:ASN:OD1	2.54	0.43
1:C:62:ASN:HB2	1:C:114:ILE:HG22	2.00	0.43
1:I:97:ARG:NH2	1:I:188:MET:SD	2.91	0.43
1:O:62:ASN:ND2	1:O:112:GLN:NE2	2.64	0.43
1:O:344:THR:OG1	1:O:349:GLN:CB	2.61	0.43
1:O:396:PRO:HA	1:O:400:GLU:OE1	2.18	0.43
1:R:55:ASP:OD1	1:R:56:PHE:N	2.51	0.43
1:X:90:LEU:O	1:X:94:LEU:HG	2.19	0.43
1:C:484:ASP:O	1:C:487:HIS:N	2.52	0.43
1:K:463:GLY:O	1:K:464:ILE:HD13	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:59:LEU:HB3	1:M:100:ARG:HH21	1.84	0.43
1:M:339:GLY:HA3	1:M:354:ALA:HB3	2.00	0.43
1:O:288:LEU:HD12	1:O:293:LEU:CD1	2.49	0.43
1:O:433:GLU:OE2	1:R:25:ARG:HB2	2.18	0.43
1:T:386:SER:C	1:T:434:SER:H	2.21	0.43
1:B:534:LEU:O	1:B:538:GLU:HG3	2.19	0.43
1:C:3:ASN:HA	1:C:4:PRO:HD3	1.94	0.43
1:C:57:PHE:HA	1:C:58:PRO:HD3	1.88	0.43
1:C:481:ILE:HA	1:C:485:GLU:OE1	2.18	0.43
1:G:316:ILE:H	1:G:316:ILE:HD12	1.84	0.43
1:I:482:LEU:CD1	1:I:482:LEU:N	2.82	0.43
1:O:198:GLU:HG3	1:O:502:ILE:HD11	2.01	0.43
1:X:97:ARG:NE	1:X:188:MET:SD	2.92	0.43
2:Y:1056:ARG:HA	2:Y:1057:PRO:HD3	1.91	0.43
1:A:23:MET:O	1:C:349:GLN:OE1	2.37	0.43
1:B:144:PRO:HD3	1:B:231:TRP:HB2	1.99	0.43
1:C:37:ASP:O	1:C:38:THR:CG2	2.66	0.43
1:C:127:ASP:OD1	1:C:128:ILE:N	2.51	0.43
1:C:202:LEU:HD22	1:C:520:GLN:CB	2.49	0.43
1:C:392:MET:C	1:C:394:GLY:N	2.72	0.43
1:C:411:VAL:HG12	1:C:415:MET:HG2	2.00	0.43
1:G:185:ALA:HB1	1:G:514:ILE:CG2	2.49	0.43
1:I:281:LEU:HD13	1:I:293:LEU:HD22	2.01	0.43
1:X:198:GLU:OE2	1:X:527:LYS:CE	2.67	0.43
1:X:324:ILE:CD1	1:X:532:HIS:HB3	2.49	0.43
1:A:188:MET:C	1:A:189:VAL:HG23	2.38	0.43
1:C:509:ILE:CD1	1:C:514:ILE:HD13	2.45	0.43
1:R:331:THR:HB	2:S:1048:HIS:HB2	2.01	0.43
1:T:399:ARG:O	1:T:403:HIS:HD2	2.02	0.43
1:A:291:ASN:O	1:A:292:GLU:C	2.57	0.42
1:C:274:LYS:CE	1:C:301:GLU:OE2	2.61	0.42
1:R:64:GLN:NE2	1:R:66:ARG:HH21	2.13	0.42
1:T:322:ASP:HA	1:T:525:GLN:NE2	2.34	0.42
1:X:261:THR:HG23	1:X:317:ASP:HA	2.00	0.42
1:X:281:LEU:HD13	1:X:293:LEU:HD22	2.00	0.42
1:A:322:ASP:O	2:D:1057:PRO:HD3	2.18	0.42
1:K:494:LYS:HB2	1:K:506:GLN:HB3	2.01	0.42
1:M:351:LEU:HB3	1:M:430:GLU:HB2	2.00	0.42
1:R:213:GLN:O	1:R:217:GLN:HG3	2.18	0.42
1:T:93:ARG:NH1	1:T:399:ARG:HG3	2.34	0.42
1:B:482:LEU:CD1	1:B:482:LEU:N	2.82	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3:ASN:ND2	1:K:3:ASN:CG	2.72	0.42
1:G:489:GLY:O	1:G:510:LYS:HE3	2.19	0.42
1:K:64:GLN:O	1:K:64:GLN:CG	2.67	0.42
1:M:534:LEU:O	1:M:538:GLU:HG3	2.19	0.42
1:O:121:ASN:OD1	1:O:122:PRO:HD2	2.20	0.42
1:O:308:ARG:CG	1:O:313:GLU:OE1	2.66	0.42
1:T:437:SER:O	1:T:437:SER:OG	2.35	0.42
1:A:44:VAL:CG2	1:A:138:LEU:CD2	2.95	0.42
1:B:431:ILE:HD12	1:B:438:SER:HB3	2.01	0.42
1:C:202:LEU:CD2	1:C:520:GLN:CB	2.90	0.42
1:I:157:ILE:O	1:I:158:ASN:OD1	2.36	0.42
1:K:50:ALA:CB	1:K:109:ASN:OD1	2.47	0.42
1:K:329:VAL:HB	2:L:1050:ALA:HB3	2.01	0.42
1:M:511:ILE:HD12	1:M:511:ILE:C	2.39	0.42
1:O:179:VAL:HG11	1:O:208:GLY:HA3	2.02	0.42
1:V:84:PRO:HA	1:V:88:GLU:OE1	2.19	0.42
1:C:40:VAL:CG1	1:C:115:ALA:HB1	2.50	0.42
1:C:40:VAL:HG11	1:C:130:ALA:HB2	2.00	0.42
1:O:349:GLN:HG2	1:O:433:GLU:HB2	2.00	0.42
1:T:34:SER:HA	1:T:39:ALA:HA	2.02	0.42
1:V:97:ARG:N	1:V:98:PRO:HD2	2.35	0.42
1:V:264:GLN:NE2	1:X:26:GLN:C	2.72	0.42
1:V:476:VAL:HG12	1:V:478:LEU:HD12	1.99	0.42
1:X:451:MET:HG2	1:X:544:PRO:HG3	2.01	0.42
1:A:4:PRO:HB3	1:A:22:MET:HB2	2.01	0.42
1:C:37:ASP:O	1:C:121:ASN:N	2.53	0.42
1:G:213:GLN:HA	1:G:216:ILE:HD12	2.01	0.42
1:K:278:ILE:O	1:K:282:LEU:HG	2.19	0.42
1:O:44:VAL:HG22	1:O:113:VAL:HG22	2.01	0.42
1:G:278:ILE:CG2	1:G:282:LEU:HD13	2.50	0.42
1:T:189:VAL:HB	1:T:507:MET:HB3	2.01	0.42
1:V:192:GLU:HB3	1:V:409:ARG:HD3	2.02	0.42
1:G:24:ALA:H	1:K:432:THR:HG22	1.83	0.42
1:K:47:GLN:C	1:K:231:TRP:HH2	2.23	0.42
1:K:347:GLU:O	1:K:433:GLU:CB	2.68	0.42
1:O:183:GLU:HG3	1:O:213:GLN:HE22	1.85	0.42
1:R:125:ASN:HA	1:R:126:PRO:HD3	1.88	0.42
1:X:121:ASN:OD1	1:X:122:PRO:HD2	2.20	0.42
1:C:297:LEU:O	1:C:301:GLU:HG3	2.20	0.42
1:G:328:ASP:HB3	1:G:344:THR:HB	2.01	0.42
1:G:367:GLU:HG2	1:G:368:LEU:N	2.34	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:40:VAL:HG22	1:K:117:VAL:HG22	2.02	0.42
1:T:363:GLN:OE1	1:T:377:LEU:HD22	2.19	0.42
1:T:368:LEU:HD13	1:T:368:LEU:N	2.34	0.42
1:T:509:ILE:HG22	1:T:511:ILE:H	1.85	0.42
1:V:239:ASN:HD21	1:V:242:LEU:HG	1.84	0.42
1:V:348:THR:HB	1:V:435:ASN:H	1.84	0.42
1:V:385:TYR:HD2	1:V:385:TYR:O	2.03	0.42
1:B:263:LYS:HD3	1:C:26:GLN:NE2	2.34	0.42
1:C:198:GLU:CD	1:C:527:LYS:HD2	2.33	0.42
1:R:159:ASP:O	1:R:160:GLN:OE1	2.38	0.42
1:T:121:ASN:HA	1:T:122:PRO:HD3	1.93	0.42
1:B:281:LEU:HD13	1:B:293:LEU:HD22	2.02	0.41
1:B:319:ARG:NH2	1:B:482:LEU:HD12	2.32	0.41
1:K:543:ALA:HA	1:K:544:PRO:HD3	1.94	0.41
1:M:481:ILE:H	1:M:481:ILE:HG13	1.65	0.41
1:O:479:SER:OG	1:O:525:GLN:NE2	2.52	0.41
1:T:348:THR:CG2	1:T:436:GLY:N	2.83	0.41
1:T:364:VAL:HG22	1:T:373:THR:HG22	2.02	0.41
1:A:379:HIS:CD2	1:B:80:ARG:HE	2.38	0.41
1:C:3:ASN:HD22	1:K:3:ASN:HB2	1.83	0.41
1:C:29:ALA:HB3	1:C:44:VAL:HB	2.01	0.41
1:I:157:ILE:HD12	1:I:162:VAL:HG21	2.02	0.41
1:I:426:ARG:NH1	1:I:428:VAL:HG23	2.28	0.41
1:K:323:MET:HB3	2:L:1056:ARG:CG	2.50	0.41
1:M:55:ASP:OD1	1:M:56:PHE:N	2.53	0.41
1:O:37:ASP:CB	1:O:121:ASN:CB	2.91	0.41
1:O:405:ARG:HD3	1:O:408:LYS:HD3	2.02	0.41
1:V:230:ARG:C	1:V:231:TRP:O	2.55	0.41
1:X:198:GLU:HG3	1:X:502:ILE:HD11	2.02	0.41
1:G:24:ALA:N	1:K:432:THR:CG2	2.82	0.41
1:G:128:ILE:H	1:G:128:ILE:HG13	1.67	0.41
1:I:433:GLU:OE2	1:K:25:ARG:HB2	2.19	0.41
1:K:4:PRO:HB3	1:K:19:GLU:OE2	2.20	0.41
1:M:234:GLN:HA	1:M:235:PRO:HD3	1.95	0.41
1:R:39:ALA:HB3	1:R:119:SER:HB3	2.02	0.41
1:C:490:ASP:HB3	1:C:511:ILE:HG12	2.03	0.41
1:G:363:GLN:HB3	1:I:79:ARG:HG3	2.03	0.41
1:M:439:SER:HB3	1:M:494:LYS:NZ	2.35	0.41
1:O:80:ARG:HG2	1:O:81:GLU:N	2.35	0.41
1:O:127:ASP:OD1	1:O:128:ILE:N	2.53	0.41
1:V:324:ILE:HD13	1:V:533:ILE:CD1	2.48	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:128:ILE:HG23	1:X:151:ALA:HB1	2.02	0.41
1:A:213:GLN:HA	1:A:216:ILE:HD12	2.02	0.41
1:C:60:THR:HG23	1:C:112:GLN:HG3	2.02	0.41
1:G:334:LEU:HB2	1:G:337:THR:HG22	2.03	0.41
1:K:267:TYR:HA	1:K:270:VAL:HG12	2.03	0.41
1:K:345:ARG:HH21	1:K:437:SER:HB3	1.85	0.41
1:O:319:ARG:HH12	1:O:480:ASP:HB3	1.86	0.41
1:R:67:THR:OG1	1:R:74:PRO:HD3	2.20	0.41
1:T:2:LEU:HD11	1:T:22:MET:SD	2.60	0.41
1:T:349:GLN:HG2	1:T:432:THR:OG1	2.21	0.41
1:V:310:LEU:CD1	1:V:310:LEU:C	2.68	0.41
1:X:84:PRO:HA	1:X:88:GLU:OE1	2.20	0.41
1:X:315:ARG:NH1	1:X:478:LEU:HD23	2.32	0.41
1:A:84:PRO:HA	1:A:88:GLU:OE1	2.21	0.41
1:B:426:ARG:NH1	1:C:67:THR:CG2	2.84	0.41
1:G:174:LYS:O	1:G:193:ALA:HB1	2.21	0.41
1:I:399:ARG:C	1:I:401:ILE:N	2.72	0.41
2:J:1056:ARG:HA	2:J:1057:PRO:HD3	1.95	0.41
1:M:14:HIS:CG	1:M:35:MET:HE3	2.55	0.41
1:T:26:GLN:OE1	1:X:386:SER:O	2.38	0.41
1:T:38:THR:HG22	1:T:39:ALA:N	2.35	0.41
1:T:325:ARG:HD2	1:T:346:GLY:HA3	2.03	0.41
1:T:351:LEU:HB3	1:T:430:GLU:HB2	2.02	0.41
1:V:334:LEU:HD23	1:V:334:LEU:HA	1.84	0.41
1:A:280:THR:O	1:A:284:GLU:HG2	2.21	0.41
1:C:447:SER:HB2	1:C:461:VAL:HG12	2.02	0.41
1:T:64:GLN:NE2	1:T:66:ARG:NH2	2.69	0.41
1:A:29:ALA:HB3	1:A:44:VAL:HB	2.02	0.41
1:A:98:PRO:HB2	1:A:149:ILE:HD13	2.03	0.41
1:B:440:MET:HE1	1:B:495:VAL:C	2.41	0.41
1:K:306:ARG:NH2	1:K:490:ASP:OD2	2.54	0.41
1:O:14:HIS:ND1	1:O:36:ASP:CB	2.83	0.41
1:O:38:THR:OG1	1:O:124:VAL:HG23	2.20	0.41
1:O:464:ILE:CG1	1:O:465:ALA:H	2.34	0.41
1:R:202:LEU:HD22	1:R:520:GLN:CB	2.50	0.41
1:T:2:LEU:HD23	1:X:328:ASP:OD2	2.14	0.41
1:T:236:GLU:HA	1:T:237:PRO:HD3	1.96	0.41
1:V:65:GLU:OE2	1:V:368:LEU:HD23	2.21	0.41
1:A:387:VAL:O	1:B:26:GLN:NE2	2.54	0.41
1:B:44:VAL:HG22	1:B:113:VAL:HG22	2.02	0.41
1:B:393:VAL:O	1:B:393:VAL:HG13	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:455:VAL:HA	1:G:456:PRO:HD3	1.87	0.41
1:I:57:PHE:HA	1:I:58:PRO:HD3	1.90	0.41
1:I:179:VAL:HG23	1:I:189:VAL:HG22	2.03	0.41
1:I:491:MET:HB3	1:I:509:ILE:HG23	2.03	0.41
1:K:362:ALA:HB2	1:K:424:THR:HG21	2.03	0.41
1:K:492:ASP:HB3	1:K:508:ASP:HB2	2.03	0.41
2:L:1058:GLN:H	2:L:1058:GLN:CD	2.23	0.41
1:O:288:LEU:HD13	1:O:289:ASP:C	2.41	0.41
1:T:57:PHE:HA	1:T:58:PRO:HD3	1.89	0.41
1:T:396:PRO:HG3	1:V:80:ARG:NH1	2.36	0.41
2:W:1047:THR:O	2:W:1048:HIS:ND1	2.54	0.41
1:X:294:GLY:HA2	1:X:297:LEU:HD12	2.02	0.41
1:A:37:ASP:OD1	1:A:37:ASP:O	2.39	0.41
1:K:321:LYS:HE3	1:K:476:VAL:HG13	2.03	0.41
1:R:19:GLU:HB3	1:R:32:MET:HB3	2.02	0.41
1:R:330:ARG:HB2	1:R:342:LEU:HB3	2.02	0.41
1:R:396:PRO:HA	1:R:400:GLU:OE1	2.21	0.41
1:A:399:ARG:O	1:A:401:ILE:N	2.53	0.40
1:B:128:ILE:H	1:B:128:ILE:HG13	1.77	0.40
1:B:334:LEU:HA	1:B:335:PRO:HD3	1.94	0.40
1:C:28:THR:OG1	1:C:44:VAL:O	2.37	0.40
1:C:55:ASP:OD1	1:C:56:PHE:CD2	2.61	0.40
1:C:69:ALA:HA	1:C:119:SER:HA	2.03	0.40
1:C:509:ILE:HD13	1:C:514:ILE:CD1	2.47	0.40
1:O:125:ASN:HA	1:O:126:PRO:HD3	1.89	0.40
1:R:192:GLU:HB3	1:R:409:ARG:HD3	2.01	0.40
1:T:55:ASP:OD1	1:T:56:PHE:N	2.54	0.40
1:A:387:VAL:HG23	1:A:389:GLU:HG2	2.03	0.40
1:G:127:ASP:OD1	1:G:128:ILE:N	2.53	0.40
1:V:330:ARG:HD3	2:W:1049:HIS:HB3	2.03	0.40
1:V:384:PRO:C	1:V:386:SER:N	2.74	0.40
1:X:335:PRO:CG	2:Y:1041:ALA:HB2	2.52	0.40
1:X:515:THR:C	1:X:518:ILE:HG12	2.41	0.40
1:C:278:ILE:HG21	1:C:290:GLU:HG3	2.04	0.40
1:G:331:THR:HB	2:H:1048:HIS:HB2	2.03	0.40
1:G:398:ARG:CA	1:G:401:ILE:CG2	2.97	0.40
1:I:345:ARG:O	1:I:346:GLY:C	2.58	0.40
1:R:267:TYR:HA	1:R:270:VAL:HG12	2.03	0.40
1:T:26:GLN:NE2	1:X:263:LYS:CD	2.84	0.40
1:T:368:LEU:CD1	1:T:368:LEU:N	2.82	0.40
1:B:127:ASP:OD1	1:B:128:ILE:N	2.54	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:217:GLN:O	1:B:221:GLU:HG2	2.22	0.40
1:G:346:GLY:O	1:G:347:GLU:CB	2.70	0.40
1:I:309:VAL:HG13	1:I:478:LEU:HD21	2.04	0.40
1:I:336:ARG:HB3	1:K:119:SER:HB2	2.04	0.40
1:M:206:VAL:HG21	1:M:516:LYS:HE3	2.04	0.40
1:M:255:SER:HA	1:M:304:VAL:HG11	2.03	0.40
1:M:440:MET:HE3	1:M:494:LYS:CE	2.50	0.40
1:R:8:LYS:HB3	1:R:17:THR:HG23	2.02	0.40
1:V:334:LEU:O	1:V:337:THR:HG22	2.21	0.40
1:X:2:LEU:HD22	1:X:25:ARG:NE	2.36	0.40
1:A:60:THR:HG23	1:A:112:GLN:HG3	2.02	0.40
1:B:103:PHE:HA	1:B:104:PRO:HD3	1.95	0.40
1:C:59:LEU:HD23	1:C:100:ARG:HE	1.87	0.40
1:C:188:MET:HE2	1:C:188:MET:HB3	1.93	0.40
1:C:267:TYR:HA	1:C:270:VAL:HG12	2.04	0.40
1:R:327:LEU:HB2	2:S:1052:ALA:HB3	2.03	0.40
1:V:387:VAL:CG1	1:V:434:SER:HB3	2.52	0.40
1:V:387:VAL:HA	1:X:26:GLN:CD	2.41	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	542/549 (99%)	496 (92%)	40 (7%)	6 (1%)	14	53
1	B	542/549 (99%)	508 (94%)	30 (6%)	4 (1%)	22	62
1	C	542/549 (99%)	497 (92%)	39 (7%)	6 (1%)	14	53
1	G	541/549 (98%)	500 (92%)	38 (7%)	3 (1%)	25	64
1	I	541/549 (98%)	502 (93%)	36 (7%)	3 (1%)	25	64
1	K	542/549 (99%)	502 (93%)	34 (6%)	6 (1%)	14	53

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	M	542/549 (99%)	501 (92%)	37 (7%)	4 (1%)	22	62
1	O	542/549 (99%)	507 (94%)	32 (6%)	3 (1%)	25	64
1	R	542/549 (99%)	505 (93%)	33 (6%)	4 (1%)	22	62
1	T	541/549 (98%)	499 (92%)	36 (7%)	6 (1%)	14	53
1	V	542/549 (99%)	506 (93%)	33 (6%)	3 (1%)	25	64
1	X	542/549 (99%)	510 (94%)	29 (5%)	3 (1%)	25	64
2	D	19/41 (46%)	19 (100%)	0	0	100	100
2	E	19/41 (46%)	19 (100%)	0	0	100	100
2	F	19/41 (46%)	17 (90%)	2 (10%)	0	100	100
2	H	19/41 (46%)	19 (100%)	0	0	100	100
2	J	19/41 (46%)	18 (95%)	1 (5%)	0	100	100
2	L	19/41 (46%)	19 (100%)	0	0	100	100
2	N	19/41 (46%)	17 (90%)	2 (10%)	0	100	100
2	P	19/41 (46%)	18 (95%)	1 (5%)	0	100	100
2	S	19/41 (46%)	19 (100%)	0	0	100	100
2	U	19/41 (46%)	18 (95%)	1 (5%)	0	100	100
2	W	19/41 (46%)	13 (68%)	4 (21%)	2 (10%)	0	7
2	Y	19/41 (46%)	19 (100%)	0	0	100	100
All	All	6729/7080 (95%)	6248 (93%)	428 (6%)	53 (1%)	19	59

All (53) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	38	THR
1	G	187	LEU
1	G	189	VAL
1	O	37	ASP
1	O	38	THR
1	R	335	PRO
1	T	514	ILE
1	A	196	LEU
1	B	189	VAL
1	K	82	GLY
1	K	387	VAL
1	M	395	SER
1	T	437	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	398	ARG
1	C	335	PRO
1	I	400	GLU
1	M	396	PRO
1	T	421	PHE
2	W	1047	THR
1	A	335	PRO
1	B	335	PRO
1	G	144	PRO
1	K	396	PRO
1	T	435	ASN
1	A	400	GLU
1	B	194	GLN
1	C	52	PRO
1	K	83	ARG
1	V	231	TRP
1	V	385	TYR
2	W	1046	ALA
1	X	144	PRO
1	C	36	ASP
1	C	144	PRO
1	C	396	PRO
1	R	144	PRO
1	O	335	PRO
1	X	111	VAL
1	X	514	ILE
1	I	74	PRO
1	M	144	PRO
1	R	436	GLY
1	A	82	GLY
1	I	144	PRO
1	R	511	ILE
1	T	122	PRO
1	T	513	GLY
1	V	144	PRO
1	A	144	PRO
1	B	144	PRO
1	K	335	PRO
1	M	335	PRO
1	K	144	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	426/446 (96%)	422 (99%)	4 (1%)	78 90
1	B	432/446 (97%)	430 (100%)	2 (0%)	88 95
1	C	436/446 (98%)	429 (98%)	7 (2%)	62 83
1	G	429/446 (96%)	426 (99%)	3 (1%)	84 93
1	I	435/446 (98%)	432 (99%)	3 (1%)	84 93
1	K	437/446 (98%)	433 (99%)	4 (1%)	78 90
1	M	434/446 (97%)	429 (99%)	5 (1%)	71 87
1	O	436/446 (98%)	430 (99%)	6 (1%)	67 85
1	R	439/446 (98%)	437 (100%)	2 (0%)	88 95
1	T	435/446 (98%)	432 (99%)	3 (1%)	84 93
1	V	435/446 (98%)	434 (100%)	1 (0%)	93 98
1	X	433/446 (97%)	430 (99%)	3 (1%)	84 93
2	D	11/28 (39%)	11 (100%)	0	100 100
2	E	11/28 (39%)	11 (100%)	0	100 100
2	F	11/28 (39%)	11 (100%)	0	100 100
2	H	11/28 (39%)	11 (100%)	0	100 100
2	J	11/28 (39%)	11 (100%)	0	100 100
2	L	11/28 (39%)	11 (100%)	0	100 100
2	N	11/28 (39%)	11 (100%)	0	100 100
2	P	11/28 (39%)	11 (100%)	0	100 100
2	S	11/28 (39%)	11 (100%)	0	100 100
2	U	11/28 (39%)	11 (100%)	0	100 100
2	W	9/28 (32%)	8 (89%)	1 (11%)	6 31
2	Y	11/28 (39%)	11 (100%)	0	100 100
All	All	5337/5688 (94%)	5293 (99%)	44 (1%)	81 92

All (44) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	ASN
1	A	124	VAL
1	A	358	THR
1	A	368	LEU
1	B	222	LEU
1	B	415	MET
1	C	26	GLN
1	C	108	VAL
1	C	118	VAL
1	C	119	SER
1	C	222	LEU
1	C	432	THR
1	C	515	THR
1	G	186	VAL
1	G	222	LEU
1	G	368	LEU
1	I	144	PRO
1	I	348	THR
1	I	515	THR
1	K	26	GLN
1	K	80	ARG
1	K	83	ARG
1	K	108	VAL
1	M	26	GLN
1	M	33	VAL
1	M	38	THR
1	M	222	LEU
1	M	365	LEU
1	O	124	VAL
1	O	222	LEU
1	O	242	LEU
1	O	310	LEU
1	O	358	THR
1	O	515	THR
1	R	242	LEU
1	R	358	THR
1	T	368	LEU
1	T	435	ASN
1	T	518	ILE
1	V	222	LEU
2	W	1047	THR
1	X	108	VAL
1	X	365	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	X	518	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (95) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	54	GLN
1	A	62	ASN
1	A	200	GLN
1	A	239	ASN
1	A	379	HIS
1	A	435	ASN
1	A	525	GLN
1	A	532	HIS
1	B	26	GLN
1	B	62	ASN
1	B	64	GLN
1	B	167	GLN
1	B	234	GLN
1	B	264	GLN
1	B	349	GLN
1	B	525	GLN
1	C	3	ASN
1	C	26	GLN
1	C	125	ASN
1	C	167	GLN
1	C	349	GLN
1	C	532	HIS
1	G	62	ASN
1	G	64	GLN
1	G	167	GLN
1	G	349	GLN
1	G	403	HIS
1	G	532	HIS
1	I	26	GLN
1	I	62	ASN
1	I	64	GLN
1	I	158	ASN
1	I	239	ASN
1	I	264	GLN
1	I	349	GLN
1	I	379	HIS
1	I	403	HIS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	I	532	HIS
2	J	1044	HIS
1	K	3	ASN
1	K	62	ASN
1	K	64	GLN
1	K	349	GLN
1	K	525	GLN
1	K	532	HIS
1	M	14	HIS
1	M	167	GLN
1	M	213	GLN
1	M	403	HIS
1	M	532	HIS
1	O	26	GLN
1	O	62	ASN
1	O	64	GLN
1	O	123	GLN
1	O	209	HIS
1	O	239	ASN
1	O	298	HIS
1	O	349	GLN
1	O	435	ASN
1	O	525	GLN
1	O	532	HIS
1	R	26	GLN
1	R	54	GLN
1	R	64	GLN
1	R	160	GLN
1	R	213	GLN
1	R	239	ASN
1	R	349	GLN
1	R	435	ASN
1	R	525	GLN
1	R	532	HIS
2	S	1058	GLN
1	T	10	GLN
1	T	62	ASN
1	T	64	GLN
1	T	160	GLN
1	T	200	GLN
1	T	239	ASN
1	T	349	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	T	403	HIS
1	T	525	GLN
1	T	532	HIS
1	V	62	ASN
1	V	64	GLN
1	V	167	GLN
1	V	239	ASN
1	V	264	GLN
1	V	349	GLN
1	V	525	GLN
1	V	532	HIS
2	W	1049	HIS
1	X	112	GLN
1	X	209	HIS
1	X	349	GLN
1	X	532	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

21 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	WO4	B	551	-	2,4,4	12.57	2 (100%)	-		
3	WO4	I	550	-	2,4,4	12.56	2 (100%)	-		
3	WO4	G	550	-	2,4,4	12.56	2 (100%)	-		
3	WO4	X	550	-	2,4,4	12.57	2 (100%)	-		
3	WO4	M	551	-	2,4,4	12.57	2 (100%)	-		
3	WO4	V	550	-	2,4,4	12.58	2 (100%)	-		
3	WO4	A	550	-	2,4,4	12.58	2 (100%)	-		
3	WO4	V	551	-	2,4,4	12.57	2 (100%)	-		
3	WO4	T	551	-	2,4,4	12.59	2 (100%)	-		
3	WO4	O	550	-	2,4,4	12.59	2 (100%)	-		
3	WO4	O	551	-	2,4,4	12.58	2 (100%)	-		
3	WO4	A	551	-	2,4,4	12.58	2 (100%)	-		
3	WO4	R	550	-	2,4,4	12.57	2 (100%)	-		
3	WO4	M	550	-	2,4,4	11.54	2 (100%)	-		
3	WO4	R	551	-	2,4,4	12.58	2 (100%)	-		
3	WO4	K	550	-	2,4,4	12.55	2 (100%)	-		
3	WO4	C	550	-	2,4,4	12.56	2 (100%)	-		
3	WO4	K	551	-	2,4,4	12.57	2 (100%)	-		
3	WO4	T	550	-	2,4,4	12.57	2 (100%)	-		
3	WO4	X	551	-	2,4,4	12.59	2 (100%)	-		
3	WO4	B	550	-	2,4,4	12.60	2 (100%)	-		

All (42) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	550	WO4	W-O2	12.61	2.04	1.74
3	X	551	WO4	W-O2	12.60	2.04	1.74
3	A	550	WO4	W-O2	12.60	2.04	1.74
3	T	551	WO4	W-O2	12.60	2.04	1.74
3	O	550	WO4	W-O2	12.60	2.04	1.74
3	O	551	WO4	W-O2	12.59	2.04	1.74
3	A	551	WO4	W-O2	12.59	2.04	1.74
3	R	550	WO4	W-O1	12.59	2.04	1.74
3	T	551	WO4	W-O1	12.59	2.04	1.74
3	O	550	WO4	W-O1	12.59	2.04	1.74
3	B	550	WO4	W-O1	12.59	2.04	1.74
3	V	550	WO4	W-O1	12.59	2.04	1.74

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	551	WO4	W-O1	12.59	2.04	1.74
3	X	551	WO4	W-O1	12.59	2.04	1.74
3	R	551	WO4	W-O2	12.58	2.04	1.74
3	V	550	WO4	W-O2	12.58	2.04	1.74
3	I	550	WO4	W-O1	12.58	2.04	1.74
3	R	551	WO4	W-O1	12.58	2.04	1.74
3	V	551	WO4	W-O1	12.58	2.04	1.74
3	X	550	WO4	W-O1	12.58	2.04	1.74
3	M	551	WO4	W-O1	12.58	2.04	1.74
3	K	551	WO4	W-O2	12.57	2.04	1.74
3	O	551	WO4	W-O1	12.57	2.04	1.74
3	T	550	WO4	W-O2	12.57	2.04	1.74
3	C	550	WO4	W-O1	12.57	2.04	1.74
3	M	551	WO4	W-O2	12.57	2.04	1.74
3	T	550	WO4	W-O1	12.57	2.04	1.74
3	K	550	WO4	W-O1	12.57	2.04	1.74
3	G	550	WO4	W-O1	12.56	2.04	1.74
3	A	550	WO4	W-O1	12.56	2.04	1.74
3	K	551	WO4	W-O1	12.56	2.04	1.74
3	A	551	WO4	W-O1	12.56	2.04	1.74
3	X	550	WO4	W-O2	12.56	2.04	1.74
3	C	550	WO4	W-O2	12.56	2.04	1.74
3	G	550	WO4	W-O2	12.56	2.04	1.74
3	B	551	WO4	W-O2	12.55	2.04	1.74
3	V	551	WO4	W-O2	12.55	2.04	1.74
3	R	550	WO4	W-O2	12.55	2.04	1.74
3	I	550	WO4	W-O2	12.53	2.04	1.74
3	K	550	WO4	W-O2	12.53	2.04	1.74
3	M	550	WO4	W-O2	11.55	2.02	1.74
3	M	550	WO4	W-O1	11.54	2.02	1.74

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	G	550	WO4	1	0
3	X	550	WO4	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	544/549 (99%)	-0.28	2 (0%) 92 86	15, 50, 83, 103	1 (0%)
1	B	544/549 (99%)	-0.36	0 100 100	9, 39, 76, 101	1 (0%)
1	C	544/549 (99%)	-0.30	1 (0%) 95 91	14, 48, 83, 106	1 (0%)
1	G	543/549 (98%)	-0.29	3 (0%) 89 80	20, 51, 83, 111	1 (0%)
1	I	543/549 (98%)	-0.33	4 (0%) 87 77	14, 40, 76, 98	1 (0%)
1	K	544/549 (99%)	-0.34	2 (0%) 92 86	13, 43, 82, 115	1 (0%)
1	M	544/549 (99%)	-0.21	5 (0%) 84 71	20, 54, 89, 110	1 (0%)
1	O	544/549 (99%)	-0.33	1 (0%) 95 91	8, 41, 79, 97	1 (0%)
1	R	544/549 (99%)	-0.27	2 (0%) 92 86	13, 46, 83, 101	1 (0%)
1	T	543/549 (98%)	-0.28	2 (0%) 92 86	20, 53, 84, 108	1 (0%)
1	V	544/549 (99%)	-0.21	5 (0%) 84 71	19, 62, 92, 105	1 (0%)
1	X	544/549 (99%)	-0.22	2 (0%) 92 86	20, 52, 85, 100	1 (0%)
2	D	21/41 (51%)	0.54	0 100 100	44, 80, 95, 96	0
2	E	21/41 (51%)	0.50	1 (4%) 30 18	34, 69, 98, 104	0
2	F	21/41 (51%)	1.18	6 (28%) 0 0	70, 92, 111, 117	0
2	H	21/41 (51%)	0.64	3 (14%) 2 1	62, 95, 107, 109	0
2	J	21/41 (51%)	0.32	1 (4%) 30 18	43, 70, 85, 91	0
2	L	21/41 (51%)	0.30	0 100 100	49, 78, 103, 107	0
2	N	21/41 (51%)	0.32	0 100 100	64, 84, 97, 97	0
2	P	21/41 (51%)	0.26	1 (4%) 30 18	33, 73, 93, 98	0
2	S	21/41 (51%)	0.80	3 (14%) 2 1	64, 96, 117, 120	0
2	U	21/41 (51%)	0.62	2 (9%) 8 4	49, 91, 107, 111	0
2	W	21/41 (51%)	1.42	5 (23%) 0 0	78, 111, 130, 134	0
2	Y	21/41 (51%)	0.38	1 (4%) 30 18	62, 90, 101, 103	0

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
All	All	6777/7080 (95%)	-0.25	52 (0%)	86	73	8, 49, 88, 134	12 (0%)

All (52) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	W	1044	HIS	4.8
1	C	542	ASN	3.9
2	U	1039	GLY	3.5
2	H	1045	THR	3.4
2	W	1039	GLY	3.2
1	V	311	ALA	3.1
2	F	1045	THR	3.1
2	H	1039	GLY	3.0
2	F	1059	PRO	3.0
1	T	261	THR	3.0
1	K	261	THR	2.9
2	S	1039	GLY	2.9
2	W	1058	GLN	2.9
2	J	1039	GLY	2.8
1	T	434	SER	2.7
1	A	542	ASN	2.7
2	P	1058	GLN	2.7
2	F	1040	ALA	2.7
2	F	1039	GLY	2.7
1	K	55	ASP	2.7
2	Y	1039	GLY	2.7
1	G	542	ASN	2.6
1	I	37	ASP	2.5
2	E	1040	ALA	2.5
1	R	261	THR	2.5
2	S	1045	THR	2.5
1	R	543	ALA	2.5
1	X	542	ASN	2.4
2	F	1044	HIS	2.4
2	S	1040	ALA	2.4
1	I	542	ASN	2.3
2	U	1040	ALA	2.3
1	M	1	MET	2.3
2	H	1044	HIS	2.3
1	M	542	ASN	2.2
1	M	543	ALA	2.2
1	M	232	ASP	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	X	417	ASP	2.2
1	M	168	ASP	2.2
1	V	55	ASP	2.2
1	V	471	GLU	2.2
2	W	1040	ALA	2.1
2	W	1042	GLY	2.1
1	I	543	ALA	2.1
1	G	261	THR	2.1
1	A	261	THR	2.1
2	F	1047	THR	2.1
1	I	261	THR	2.0
1	V	167	GLN	2.0
1	G	8	LYS	2.0
1	O	543	ALA	2.0
1	V	159	ASP	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	WO4	M	551	5/5	0.73	0.52	131,133,133,137	5
3	WO4	M	550	5/5	0.78	0.39	112,113,118,118	5
3	WO4	V	550	5/5	0.80	0.35	107,108,112,113	5
3	WO4	T	551	5/5	0.81	0.35	113,114,117,119	5
3	WO4	K	550	5/5	0.83	0.34	78,79,82,88	5
3	WO4	G	550	5/5	0.86	0.30	79,79,88,93	5
3	WO4	A	551	5/5	0.87	0.36	103,105,108,113	5
3	WO4	C	550	5/5	0.88	0.28	80,84,89,90	5

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	WO4	K	551	5/5	0.89	0.33	96,97,101,108	5
3	WO4	B	550	5/5	0.90	0.23	72,73,77,82	5
3	WO4	T	550	5/5	0.90	0.37	103,104,113,115	5
3	WO4	O	550	5/5	0.91	0.24	100,100,105,109	5
3	WO4	V	551	5/5	0.91	0.33	102,102,105,109	5
3	WO4	B	551	5/5	0.92	0.32	88,89,93,97	5
3	WO4	R	551	5/5	0.92	0.34	86,88,95,98	5
3	WO4	X	550	5/5	0.92	0.24	94,99,99,100	5
3	WO4	A	550	5/5	0.93	0.23	84,86,88,93	5
3	WO4	O	551	5/5	0.93	0.25	71,75,80,87	5
3	WO4	R	550	5/5	0.93	0.26	106,107,111,116	5
3	WO4	X	551	5/5	0.94	0.43	88,90,91,93	5
3	WO4	I	550	5/5	0.95	0.23	89,90,91,91	5

6.5 Other polymers (i)

There are no such residues in this entry.