



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 12, 2026 – 12:30 PM JST

PDB ID : 9XEJ / pdb_00009xej
Title : Crystal structure of ancestral NDK variant Arc1-12KR reconstructed with 12 amino acids
Authors : Yagi, S.; Tagami, S.; Akanuma, S.
Deposited on : 2025-10-28
Resolution : 3.34 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:

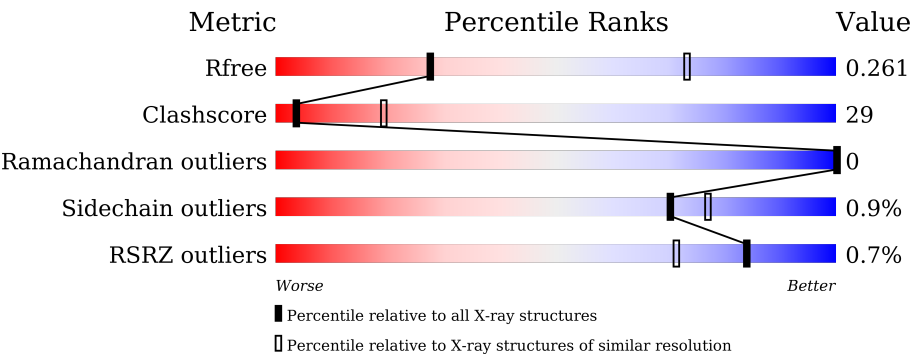
MolProbity	:	4-5-2 with Phenix2.2
Xtriage (Phenix)	:	2.2
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

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 3.34 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}	180053	1434 (3.38-3.30)
Clashscore	190562	1479 (3.38-3.30)
Ramachandran outliers	187476	1456 (3.38-3.30)
Sidechain outliers	187428	1455 (3.38-3.30)
RSRZ outliers	180081	1434 (3.38-3.30)

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 $\leq 5\%$. 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	142	59%37%..
1	B	142	54%44%.
1	C	142	% 51%46%..
1	D	142	% 57%38%..
1	E	142	60%37%.
1	F	142	% 52%44%..

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	G	142	% 57% 40% .
1	H	142	% 58% 39% ..
1	I	142	55% 39% ..
1	J	142	% 61% 35% ..
1	K	142	% 50% 46% ..
1	L	142	2% 49% 46% ..

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 12492 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.

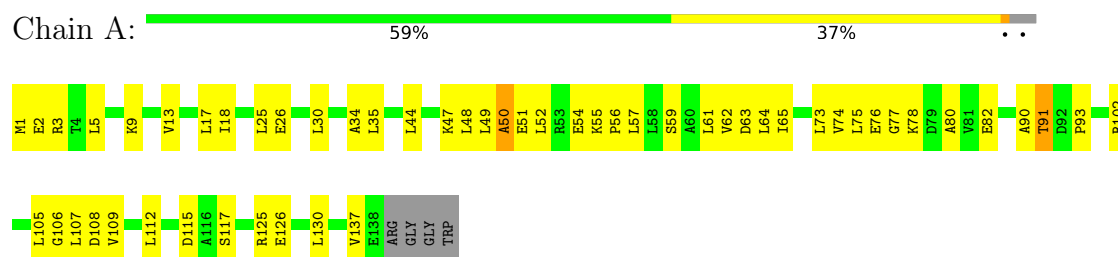
- Molecule 1 is a protein called Arc1-12KR.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	B	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	C	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	D	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	E	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	F	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	G	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	H	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	I	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	J	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	K	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			
1	L	138	Total	C	N	O	S	0	0	0
			1041	661	179	200	1			

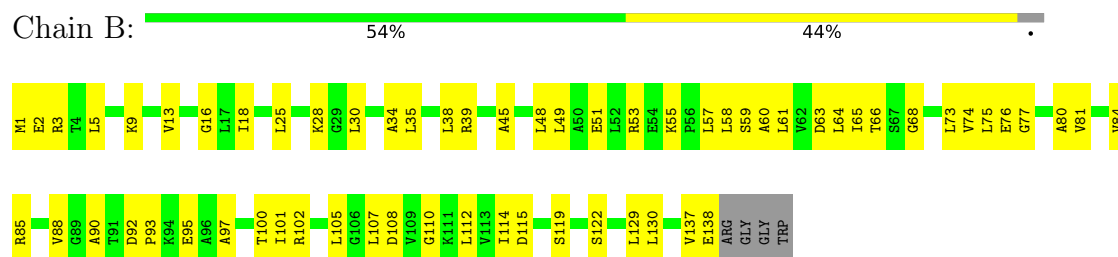
3 Residue-property plots

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

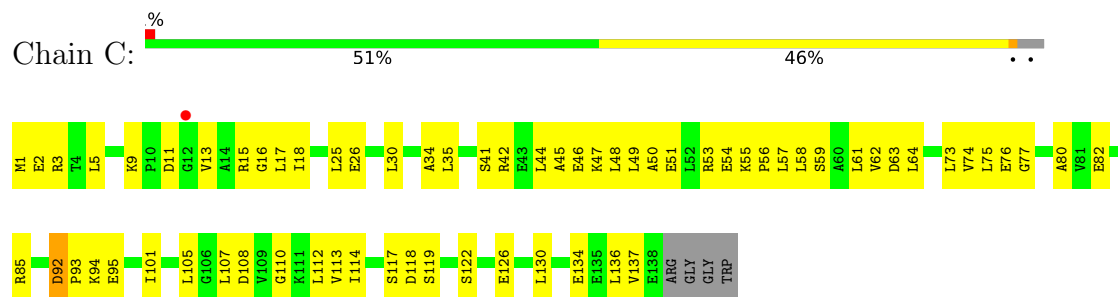
• Molecule 1: Arc1-12KR



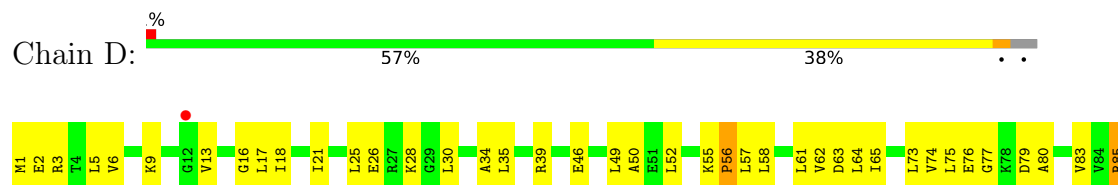
• Molecule 1: Arc1-12KR



• Molecule 1: Arc1-12KR



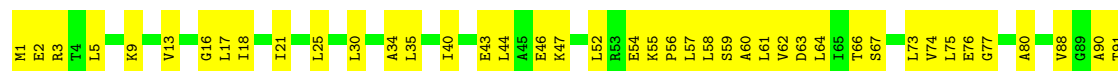
• Molecule 1: Arc1-12KR





• Molecule 1: Arc1-12KR

Chain E: 60% 37%



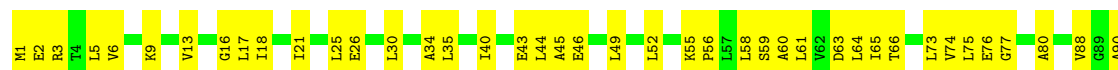
• Molecule 1: Arc1-12KR

Chain F: 52% 44%



• Molecule 1: Arc1-12KR

Chain G: 57% 40%



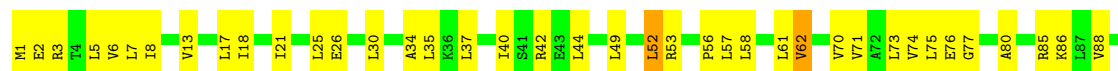
• Molecule 1: Arc1-12KR

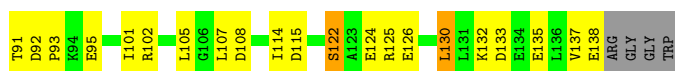
Chain H: 58% 39%



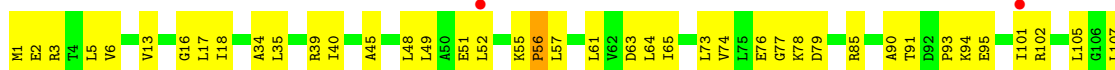
• Molecule 1: Arc1-12KR

Chain I: 55% 39%

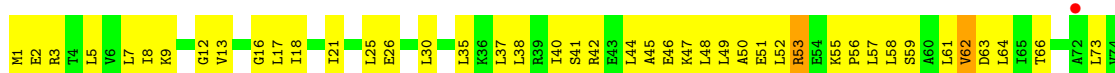




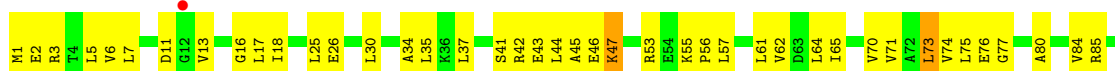
• Molecule 1: Arc1-12KR



• Molecule 1: Arc1-12KR



• Molecule 1: Arc1-12KR



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	56.00Å 114.68Å 128.77Å 90.00° 94.98° 90.00°	Depositor
Resolution (Å)	45.53 – 3.34 45.53 – 3.34	Depositor EDS
% Data completeness (in resolution range)	99.9 (45.53-3.34) 95.0 (45.53-3.34)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.48 (at 3.33Å)	Xtriage
Refinement program	PHENIX 1.14_3260	Depositor
R, R_{free}	0.232 , 0.258 0.233 , 0.261	Depositor DCC
R_{free} test set	1995 reflections (8.43%)	wwPDB-VP
Wilson B-factor (Å ²)	63.3	Xtriage
Anisotropy	0.289	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 38.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	12492	wwPDB-VP
Average B, all atoms (Å ²)	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.45% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.77	0/1046	1.13	3/1410 (0.2%)
1	B	0.82	0/1046	1.15	0/1410
1	C	0.74	0/1046	1.14	2/1410 (0.1%)
1	D	0.70	0/1046	1.18	5/1410 (0.4%)
1	E	0.73	0/1046	1.09	0/1410
1	F	0.83	0/1046	1.17	1/1410 (0.1%)
1	G	0.67	0/1046	1.11	1/1410 (0.1%)
1	H	0.66	0/1046	1.10	2/1410 (0.1%)
1	I	0.87	0/1046	1.35	7/1410 (0.5%)
1	J	0.78	0/1046	1.18	7/1410 (0.5%)
1	K	0.76	0/1046	1.15	1/1410 (0.1%)
1	L	0.73	0/1046	1.18	3/1410 (0.2%)
All	All	0.76	0/12552	1.16	32/16920 (0.2%)

There are no bond length outliers.

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	56	PRO	N-CA-C	9.26	126.53	114.68
1	I	52	LEU	N-CA-C	-6.79	101.25	110.68
1	L	94	LYS	CA-C-N	-6.66	110.55	123.13
1	L	94	LYS	C-N-CA	-6.66	110.55	123.13
1	J	112	LEU	CA-C-N	-6.07	114.62	121.85
1	J	112	LEU	C-N-CA	-6.07	114.62	121.85
1	J	56	PRO	N-CA-C	-5.72	106.60	113.98
1	J	51	GLU	CA-C-N	-5.71	113.49	121.99
1	J	51	GLU	C-N-CA	-5.71	113.49	121.99
1	I	56	PRO	CB-CA-C	-5.69	104.41	111.64
1	J	52	LEU	CA-C-N	5.66	127.87	120.28
1	J	52	LEU	C-N-CA	5.66	127.87	120.28
1	A	109	VAL	N-CA-C	-5.60	108.04	113.53
1	F	109	VAL	N-CA-C	-5.55	107.86	113.47
1	C	92	ASP	CB-CA-C	-5.51	104.71	110.17

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	I	53	ARG	N-CA-C	-5.48	105.21	111.07
1	I	62	VAL	N-CA-C	-5.41	107.85	113.10
1	D	112	LEU	CA-C-N	-5.32	115.83	121.84
1	D	112	LEU	C-N-CA	-5.32	115.83	121.84
1	H	137	VAL	CA-C-O	-5.30	118.02	122.63
1	A	91	THR	CA-CB-OG1	-5.24	101.74	109.60
1	H	66	THR	CA-CB-OG1	-5.24	101.75	109.60
1	C	48	LEU	N-CA-C	-5.23	105.58	111.28
1	D	63	ASP	N-CA-C	-5.21	106.78	113.23
1	A	50	ALA	CB-CA-C	-5.17	110.59	116.54
1	I	130	LEU	CA-C-N	-5.15	115.36	122.16
1	I	130	LEU	C-N-CA	-5.15	115.36	122.16
1	I	122	SER	N-CA-C	-5.13	105.60	111.14
1	G	92	ASP	CB-CA-C	5.12	115.69	109.85
1	L	44	LEU	N-CA-C	-5.05	105.77	111.28
1	D	124	GLU	N-CA-C	-5.03	105.79	111.28
1	K	53	ARG	CB-CA-C	5.03	117.47	109.02

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1041	0	1141	68	1
1	B	1041	0	1141	68	0
1	C	1041	0	1141	70	0
1	D	1041	0	1141	54	0
1	E	1041	0	1141	48	0
1	F	1041	0	1141	60	1
1	G	1041	0	1141	61	0
1	H	1041	0	1141	58	1
1	I	1041	0	1141	65	1
1	J	1041	0	1141	67	0
1	K	1041	0	1141	77	0
1	L	1041	0	1141	92	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	12492	0	13692	758	2

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 29.

All (758) 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:J:2:GLU:OE1	1:J:79:ASP:HA	1.49	1.09
1:K:49:LEU:HD12	1:K:62:VAL:HG23	1.36	1.07
1:A:54:GLU:C	1:A:56:PRO:HD2	1.81	1.06
1:B:88:VAL:HG13	1:B:114:ILE:CG2	1.85	1.06
1:K:49:LEU:CD1	1:K:62:VAL:HG23	1.86	1.04
1:F:45:ALA:HB1	1:F:62:VAL:HG12	1.40	1.02
1:J:107:LEU:HG	1:J:108:ASP:H	1.27	1.00
1:G:93:PRO:CG	1:G:112:LEU:CD2	2.39	0.99
1:D:107:LEU:HG	1:D:108:ASP:H	1.27	0.99
1:H:107:LEU:HG	1:H:108:ASP:H	1.27	0.99
1:A:107:LEU:HG	1:A:108:ASP:H	1.27	0.99
1:G:93:PRO:HG2	1:G:112:LEU:CD2	1.93	0.99
1:C:45:ALA:O	1:C:49:LEU:HD12	1.62	0.98
1:G:107:LEU:HG	1:G:108:ASP:H	1.27	0.98
1:J:48:LEU:CD2	1:J:129:LEU:HD23	1.94	0.98
1:A:52:LEU:HD11	1:A:61:LEU:HD12	1.46	0.97
1:I:107:LEU:HG	1:I:108:ASP:H	1.27	0.97
1:J:109:VAL:O	1:J:112:LEU:CD1	2.13	0.97
1:E:107:LEU:HG	1:E:108:ASP:H	1.27	0.97
1:B:92:ASP:HB3	1:B:95:GLU:HG2	1.45	0.97
1:C:134:GLU:OE2	1:L:1:MET:N	2.00	0.95
1:L:107:LEU:HG	1:L:108:ASP:H	1.30	0.95
1:G:93:PRO:HG2	1:G:112:LEU:HD23	1.47	0.94
1:J:2:GLU:OE1	1:J:79:ASP:CA	2.15	0.94
1:L:73:LEU:HD13	1:L:73:LEU:N	1.83	0.94
1:G:45:ALA:O	1:G:49:LEU:HD12	1.68	0.93
1:L:6:VAL:HB	1:L:73:LEU:CD2	1.97	0.93
1:H:122:SER:O	1:H:126:GLU:HG3	1.68	0.93
1:F:52:LEU:HD12	1:F:52:LEU:C	1.95	0.92
1:H:88:VAL:O	1:H:102:ARG:HG3	1.70	0.91
1:A:55:LYS:N	1:A:56:PRO:HD2	1.85	0.90
1:F:82:GLU:O	1:F:86:LYS:HG3	1.72	0.90
1:L:138:GLU:OE2	1:L:138:GLU:N	2.05	0.90

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:49:LEU:HA	1:G:52:LEU:HD12	1.53	0.90
1:K:3:ARG:HH22	1:K:138:GLU:CG	1.85	0.89
1:C:93:PRO:HD2	1:C:108:ASP:O	1.73	0.89
1:E:93:PRO:HB2	1:E:107:LEU:O	1.73	0.89
1:C:54:GLU:HG3	1:C:57:LEU:HD21	1.53	0.88
1:B:88:VAL:HG13	1:B:114:ILE:HG21	1.50	0.88
1:A:9:LYS:HD3	1:A:64:LEU:HD21	1.54	0.88
1:A:54:GLU:HB3	1:A:57:LEU:HD13	1.56	0.88
1:I:5:LEU:HD21	1:I:130:LEU:HD12	1.55	0.88
1:K:5:LEU:HD21	1:K:7:LEU:CD1	2.04	0.87
1:E:17:LEU:HD13	1:E:105:LEU:HD22	1.56	0.87
1:J:17:LEU:HD13	1:J:105:LEU:HD22	1.56	0.87
1:D:17:LEU:HD13	1:D:105:LEU:HD22	1.56	0.87
1:E:93:PRO:HG2	1:E:108:ASP:C	1.99	0.87
1:B:53:ARG:HG2	1:B:53:ARG:O	1.73	0.86
1:J:48:LEU:HD23	1:J:129:LEU:HD23	1.54	0.86
1:L:84:VAL:O	1:L:88:VAL:HG23	1.75	0.86
1:D:85:ARG:HD2	1:D:118:ASP:OD1	1.74	0.86
1:L:117:SER:HB3	1:L:126:GLU:OE2	1.75	0.86
1:G:17:LEU:HD13	1:G:105:LEU:HD22	1.56	0.86
1:J:109:VAL:O	1:J:112:LEU:HD11	1.73	0.85
1:G:58:LEU:HD13	1:G:58:LEU:O	1.77	0.85
1:D:9:LYS:HD3	1:D:64:LEU:HD21	1.58	0.85
1:I:17:LEU:HD13	1:I:105:LEU:HD22	1.56	0.85
1:C:45:ALA:O	1:C:49:LEU:CD1	2.23	0.85
1:C:54:GLU:OE2	1:C:54:GLU:HA	1.73	0.85
1:K:49:LEU:HD12	1:K:62:VAL:CG2	2.05	0.85
1:K:62:VAL:O	1:K:66:THR:HG22	1.76	0.85
1:A:17:LEU:HD13	1:A:105:LEU:HD22	1.56	0.85
1:B:102:ARG:NH1	1:B:114:ILE:O	2.10	0.85
1:C:92:ASP:OD2	1:C:94:LYS:HG2	1.75	0.85
1:H:17:LEU:HD13	1:H:105:LEU:HD22	1.57	0.84
1:F:52:LEU:HD12	1:F:52:LEU:O	1.76	0.84
1:G:34:ALA:HB2	1:G:136:LEU:HD23	1.59	0.84
1:L:73:LEU:HD13	1:L:73:LEU:H	1.42	0.84
1:G:34:ALA:CB	1:G:136:LEU:HD23	2.08	0.84
1:L:6:VAL:HB	1:L:73:LEU:HD22	1.59	0.84
1:B:92:ASP:CB	1:B:95:GLU:HG2	2.08	0.84
1:A:9:LYS:HD3	1:A:64:LEU:CD2	2.08	0.83
1:A:90:ALA:O	1:A:102:ARG:NE	2.11	0.83
1:G:40:ILE:O	1:G:66:THR:HG22	1.78	0.83

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:57:LEU:HD12	1:L:57:LEU:O	1.79	0.82
1:L:108:ASP:OD1	1:L:109:VAL:N	2.11	0.82
1:I:37:LEU:HD12	1:I:70:VAL:O	1.79	0.82
1:L:55:LYS:N	1:L:56:PRO:HD2	1.94	0.82
1:J:1:MET:SD	1:J:1:MET:N	2.50	0.82
1:D:85:ARG:CD	1:D:118:ASP:OD1	2.28	0.81
1:F:45:ALA:CB	1:F:62:VAL:HG12	2.09	0.81
1:C:93:PRO:CD	1:C:108:ASP:O	2.29	0.81
1:B:88:VAL:HG13	1:B:114:ILE:HG23	1.62	0.80
1:K:48:LEU:HD23	1:K:129:LEU:HD12	1.64	0.80
1:J:34:ALA:HB2	1:J:136:LEU:HD22	1.63	0.80
1:C:117:SER:HB3	1:C:126:GLU:OE2	1.81	0.80
1:E:47:LYS:O	1:E:125:ARG:NH1	2.13	0.80
1:D:9:LYS:NZ	1:D:112:LEU:HD12	1.98	0.79
1:L:57:LEU:HD12	1:L:61:LEU:HD21	1.64	0.79
1:L:57:LEU:HD12	1:L:61:LEU:CD2	2.12	0.79
1:F:44:LEU:HD21	1:F:130:LEU:HD23	1.63	0.79
1:A:55:LYS:N	1:A:56:PRO:CD	2.45	0.79
1:G:55:LYS:N	1:G:56:PRO:CD	2.46	0.79
1:B:90:ALA:O	1:B:102:ARG:NE	2.16	0.78
1:E:90:ALA:O	1:E:102:ARG:NH1	2.13	0.78
1:L:61:LEU:HD22	1:L:61:LEU:H	1.48	0.78
1:B:39:ARG:NH1	1:B:68:GLY:HA2	1.98	0.78
1:K:3:ARG:HH22	1:K:138:GLU:HG3	1.47	0.78
1:L:1:MET:N	1:L:1:MET:SD	2.57	0.78
1:I:102:ARG:NH2	1:I:115:ASP:OD2	2.17	0.77
1:K:1:MET:SD	1:K:1:MET:N	2.57	0.77
1:K:51:GLU:HG3	1:K:52:LEU:H	1.50	0.77
1:L:6:VAL:HB	1:L:73:LEU:HD21	1.66	0.76
1:B:138:GLU:OE2	1:B:138:GLU:N	2.18	0.76
1:C:119:SER:OG	1:C:122:SER:OG	2.04	0.76
1:A:93:PRO:HG2	1:A:112:LEU:HD23	1.67	0.76
1:C:101:ILE:O	1:C:105:LEU:HB2	1.85	0.76
1:I:1:MET:SD	1:I:1:MET:N	2.57	0.76
1:J:3:ARG:CD	1:J:127:ILE:HD13	2.15	0.76
1:J:90:ALA:O	1:J:102:ARG:NH1	2.17	0.76
1:A:44:LEU:HD12	1:A:44:LEU:O	1.86	0.75
1:K:3:ARG:HH22	1:K:138:GLU:HG2	1.52	0.75
1:B:58:LEU:HD13	1:B:58:LEU:O	1.86	0.75
1:B:48:LEU:O	1:B:51:GLU:OE1	2.05	0.75
1:K:49:LEU:HD11	1:K:62:VAL:HG23	1.69	0.75

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3:ARG:HD3	1:J:127:ILE:HD13	1.69	0.75
1:L:93:PRO:HB2	1:L:107:LEU:O	1.85	0.74
1:D:1:MET:SD	1:D:1:MET:N	2.57	0.74
1:G:45:ALA:O	1:G:49:LEU:CD1	2.35	0.74
1:C:137:VAL:HG12	1:D:39:ARG:HH21	1.52	0.74
1:F:1:MET:SD	1:F:1:MET:N	2.57	0.74
1:I:137:VAL:HG13	1:J:39:ARG:NH2	2.03	0.74
1:L:57:LEU:CD1	1:L:61:LEU:HD21	2.17	0.74
1:B:88:VAL:CG1	1:B:114:ILE:HG23	2.18	0.74
1:L:61:LEU:HD22	1:L:61:LEU:N	2.03	0.73
1:H:43:GLU:O	1:H:46:GLU:N	2.16	0.73
1:G:117:SER:OG	1:G:126:GLU:OE2	2.05	0.73
1:A:1:MET:SD	1:A:1:MET:N	2.57	0.72
1:L:11:ASP:CG	1:L:111:LYS:HG3	2.14	0.72
1:F:94:LYS:HG3	1:F:95:GLU:HG2	1.71	0.72
1:G:93:PRO:CG	1:G:112:LEU:HD21	2.18	0.72
1:G:34:ALA:HB2	1:G:136:LEU:CD2	2.19	0.72
1:E:93:PRO:CG	1:E:108:ASP:O	2.38	0.72
1:D:79:ASP:O	1:D:83:VAL:HG23	1.90	0.71
1:K:88:VAL:HG13	1:K:114:ILE:CG2	2.20	0.71
1:F:52:LEU:HD21	1:F:58:LEU:HB2	1.72	0.71
1:C:11:ASP:O	1:C:15:ARG:HG3	1.88	0.71
1:D:61:LEU:O	1:D:65:ILE:HG22	1.90	0.71
1:G:1:MET:SD	1:G:1:MET:N	2.57	0.71
1:C:119:SER:HG	1:C:122:SER:CB	2.03	0.71
1:H:1:MET:SD	1:H:1:MET:N	2.57	0.71
1:I:91:THR:O	1:I:93:PRO:HD3	1.91	0.71
1:H:49:LEU:O	1:H:49:LEU:CD1	2.39	0.71
1:E:9:LYS:HE3	1:E:115:ASP:HB2	1.72	0.70
1:G:90:ALA:O	1:G:102:ARG:NH1	2.24	0.70
1:A:93:PRO:CG	1:A:112:LEU:CD2	2.69	0.70
1:C:137:VAL:HG12	1:D:39:ARG:NH2	2.06	0.70
1:B:88:VAL:CG1	1:B:114:ILE:CG2	2.67	0.70
1:L:93:PRO:HG2	1:L:108:ASP:O	1.91	0.70
1:D:85:ARG:NE	1:D:118:ASP:OD1	2.24	0.70
1:G:93:PRO:CD	1:G:112:LEU:HD21	2.21	0.70
1:B:2:GLU:OE1	1:B:80:ALA:N	2.25	0.70
1:E:57:LEU:O	1:E:61:LEU:HG	1.92	0.69
1:G:65:ILE:HG12	1:G:65:ILE:O	1.92	0.69
1:J:48:LEU:HD23	1:J:129:LEU:CD2	2.21	0.69
1:B:92:ASP:HB3	1:B:95:GLU:CG	2.20	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:57:LEU:O	1:C:61:LEU:HD23	1.93	0.69
1:K:12:GLY:HA3	1:K:113:VAL:HG23	1.74	0.69
1:I:102:ARG:NH2	1:I:115:ASP:CG	2.50	0.69
1:D:9:LYS:HZ2	1:D:112:LEU:HD12	1.56	0.69
1:G:2:GLU:OE1	1:G:80:ALA:N	2.26	0.69
1:A:2:GLU:OE1	1:A:80:ALA:N	2.26	0.69
1:H:2:GLU:OE1	1:H:80:ALA:N	2.26	0.69
1:B:88:VAL:O	1:B:102:ARG:HG3	1.92	0.69
1:C:2:GLU:OE1	1:C:80:ALA:N	2.26	0.69
1:C:63:ASP:OD2	1:E:125:ARG:NH2	2.24	0.69
1:G:88:VAL:O	1:G:102:ARG:HD2	1.92	0.69
1:K:2:GLU:OE1	1:K:80:ALA:N	2.26	0.69
1:D:90:ALA:O	1:D:102:ARG:NH1	2.23	0.69
1:G:55:LYS:H	1:G:56:PRO:HD3	1.57	0.69
1:A:54:GLU:HB3	1:A:57:LEU:CD1	2.23	0.68
1:B:58:LEU:HD13	1:B:58:LEU:C	2.18	0.68
1:D:3:ARG:HG2	1:D:76:GLU:HG2	1.76	0.68
1:K:3:ARG:HG2	1:K:76:GLU:HG2	1.75	0.68
1:A:54:GLU:CB	1:A:57:LEU:HD13	2.22	0.68
1:A:117:SER:OG	1:A:126:GLU:OE2	2.11	0.68
1:L:85:ARG:HD2	1:L:118:ASP:HA	1.75	0.68
1:B:3:ARG:HG2	1:B:76:GLU:HG2	1.76	0.68
1:I:2:GLU:OE1	1:I:80:ALA:N	2.26	0.68
1:C:93:PRO:HG2	1:C:108:ASP:O	1.93	0.68
1:E:2:GLU:OE1	1:E:80:ALA:N	2.26	0.68
1:C:1:MET:SD	1:C:1:MET:N	2.57	0.68
1:L:2:GLU:OE1	1:L:80:ALA:N	2.26	0.68
1:A:3:ARG:HG2	1:A:76:GLU:HG2	1.76	0.68
1:I:7:LEU:HG	1:I:70:VAL:HG11	1.76	0.68
1:G:3:ARG:HG2	1:G:76:GLU:HG2	1.75	0.68
1:J:55:LYS:N	1:J:56:PRO:CD	2.57	0.68
1:E:93:PRO:CG	1:E:108:ASP:C	2.67	0.68
1:E:3:ARG:HG2	1:E:76:GLU:HG2	1.75	0.67
1:L:3:ARG:HG2	1:L:76:GLU:HG2	1.76	0.67
1:H:3:ARG:HG2	1:H:76:GLU:HG2	1.76	0.67
1:H:88:VAL:HG13	1:H:114:ILE:CG2	2.24	0.67
1:C:113:VAL:HG23	1:C:114:ILE:HG22	1.76	0.67
1:C:3:ARG:HG2	1:C:76:GLU:HG2	1.75	0.67
1:J:3:ARG:HD3	1:J:74:VAL:HG11	1.76	0.67
1:E:1:MET:SD	1:E:1:MET:N	2.57	0.67
1:L:127:ILE:HG23	1:L:131:LEU:HD12	1.75	0.67

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:3:ARG:HG2	1:I:76:GLU:HG2	1.76	0.67
1:C:93:PRO:CG	1:C:108:ASP:O	2.43	0.67
1:F:101:ILE:HG23	1:F:105:LEU:HD12	1.77	0.66
1:H:43:GLU:CG	1:H:44:LEU:N	2.58	0.66
1:L:73:LEU:N	1:L:73:LEU:CD1	2.55	0.66
1:K:9:LYS:HE3	1:K:115:ASP:HB2	1.76	0.66
1:L:55:LYS:N	1:L:56:PRO:CD	2.58	0.66
1:F:3:ARG:HG2	1:F:76:GLU:HG2	1.76	0.66
1:L:34:ALA:O	1:L:73:LEU:HA	1.95	0.65
1:G:34:ALA:CB	1:G:136:LEU:CD2	2.74	0.65
1:E:93:PRO:HG3	1:E:108:ASP:O	1.97	0.65
1:H:43:GLU:HG2	1:H:44:LEU:H	1.61	0.65
1:F:17:LEU:HD13	1:F:105:LEU:HD22	1.76	0.65
1:F:52:LEU:C	1:F:52:LEU:CD1	2.68	0.65
1:K:42:ARG:NH2	1:K:63:ASP:OD1	2.30	0.65
1:L:84:VAL:HG12	1:L:88:VAL:CG2	2.27	0.65
1:G:107:LEU:HG	1:G:108:ASP:N	2.06	0.65
1:A:91:THR:HA	1:A:102:ARG:HH11	1.61	0.65
1:D:55:LYS:CG	1:D:56:PRO:HD3	2.27	0.65
1:J:107:LEU:HG	1:J:108:ASP:N	2.06	0.65
1:C:92:ASP:CG	1:C:94:LYS:HG2	2.21	0.65
1:B:93:PRO:HG2	1:B:108:ASP:C	2.22	0.64
1:H:49:LEU:O	1:H:49:LEU:HD12	1.97	0.64
1:B:1:MET:SD	1:B:1:MET:N	2.57	0.64
1:I:107:LEU:HG	1:I:108:ASP:N	2.06	0.64
1:K:48:LEU:CD2	1:K:129:LEU:HD12	2.27	0.64
1:L:7:LEU:HD22	1:L:70:VAL:CG1	2.26	0.64
1:H:43:GLU:HG2	1:H:44:LEU:N	2.12	0.64
1:B:38:LEU:HD23	1:B:38:LEU:H	1.62	0.64
1:B:95:GLU:HA	1:B:95:GLU:OE2	1.98	0.64
1:D:107:LEU:HG	1:D:108:ASP:N	2.06	0.64
1:B:28:LYS:O	1:C:107:LEU:HB2	1.98	0.64
1:L:61:LEU:O	1:L:65:ILE:HG22	1.97	0.64
1:A:93:PRO:CG	1:A:112:LEU:HD23	2.28	0.63
1:L:73:LEU:HD22	1:L:73:LEU:O	1.98	0.63
1:J:125:ARG:O	1:J:129:LEU:HB2	1.98	0.63
1:A:107:LEU:CG	1:A:108:ASP:H	2.01	0.63
1:G:107:LEU:CG	1:G:108:ASP:H	2.09	0.63
1:L:61:LEU:CD2	1:L:61:LEU:H	2.12	0.63
1:F:52:LEU:HD11	1:F:55:LYS:HA	1.81	0.63
1:B:55:LYS:HE2	1:B:57:LEU:HD12	1.81	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:93:PRO:HG2	1:D:108:ASP:O	1.98	0.62
1:F:93:PRO:HG2	1:F:108:ASP:O	1.99	0.62
1:I:58:LEU:HA	1:I:61:LEU:HB2	1.81	0.62
1:C:11:ASP:OD2	1:C:64:LEU:HD11	1.99	0.62
1:F:93:PRO:HB2	1:F:107:LEU:HA	1.80	0.62
1:B:64:LEU:HD21	1:B:110:GLY:O	2.00	0.62
1:G:55:LYS:N	1:G:56:PRO:HD3	2.12	0.62
1:I:124:GLU:HG2	1:I:124:GLU:O	1.99	0.62
1:A:52:LEU:HD11	1:A:61:LEU:CD1	2.25	0.61
1:H:45:ALA:O	1:H:49:LEU:HD11	2.00	0.61
1:H:137:VAL:O	1:H:137:VAL:HG23	2.00	0.61
1:J:3:ARG:CD	1:J:127:ILE:CD1	2.78	0.61
1:A:1:MET:HB2	1:A:77:GLY:O	2.01	0.61
1:B:1:MET:HB2	1:B:77:GLY:O	2.01	0.61
1:F:1:MET:HB2	1:F:77:GLY:O	2.01	0.61
1:D:1:MET:HB2	1:D:77:GLY:O	2.01	0.61
1:J:109:VAL:O	1:J:112:LEU:HD12	1.99	0.61
1:E:1:MET:HB2	1:E:77:GLY:O	2.01	0.61
1:F:40:ILE:O	1:F:66:THR:HG22	2.00	0.61
1:L:34:ALA:HB3	1:L:74:VAL:HB	1.81	0.61
1:A:107:LEU:HG	1:A:108:ASP:N	2.05	0.61
1:A:137:VAL:HG12	1:A:137:VAL:O	2.01	0.61
1:D:2:GLU:OE1	1:D:80:ALA:N	2.33	0.61
1:F:49:LEU:N	1:F:49:LEU:HD12	2.15	0.61
1:G:6:VAL:CG1	1:G:114:ILE:HD11	2.31	0.61
1:L:1:MET:HB2	1:L:77:GLY:O	2.00	0.61
1:G:1:MET:HB2	1:G:77:GLY:O	2.01	0.61
1:I:138:GLU:OE2	1:I:138:GLU:N	2.31	0.61
1:K:3:ARG:NH2	1:K:138:GLU:CG	2.61	0.61
1:K:44:LEU:HD21	1:K:130:LEU:HD23	1.83	0.61
1:F:53:ARG:O	1:F:54:GLU:HB2	2.00	0.61
1:H:58:LEU:CD1	1:H:62:VAL:HG23	2.31	0.61
1:I:92:ASP:CG	1:I:95:GLU:HG2	2.25	0.61
1:K:45:ALA:HB1	1:K:62:VAL:HG22	1.83	0.61
1:F:137:VAL:HG12	1:F:137:VAL:O	2.01	0.60
1:H:36:LYS:HD3	1:H:38:LEU:HD23	1.83	0.60
1:I:1:MET:HB2	1:I:77:GLY:O	2.01	0.60
1:L:119:SER:OG	1:L:122:SER:OG	2.18	0.60
1:C:1:MET:HB2	1:C:77:GLY:O	2.00	0.60
1:H:62:VAL:HG12	1:H:62:VAL:O	2.01	0.60
1:G:93:PRO:HG3	1:G:112:LEU:CD2	2.28	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:5:LEU:HD21	1:K:7:LEU:HD13	1.82	0.60
1:B:92:ASP:CG	1:B:95:GLU:HG2	2.25	0.60
1:E:93:PRO:CB	1:E:107:LEU:O	2.48	0.60
1:K:42:ARG:HA	1:K:45:ALA:HB3	1.83	0.60
1:L:93:PRO:CB	1:L:107:LEU:O	2.49	0.60
1:H:1:MET:HB2	1:H:77:GLY:O	2.01	0.60
1:J:3:ARG:NH1	1:J:76:GLU:OE2	2.34	0.60
1:K:1:MET:HB2	1:K:77:GLY:O	2.00	0.60
1:A:59:SER:HB2	1:F:46:GLU:OE2	2.01	0.60
1:A:90:ALA:O	1:A:102:ARG:NH1	2.34	0.60
1:D:137:VAL:HG12	1:D:137:VAL:O	2.01	0.60
1:E:137:VAL:HG12	1:E:137:VAL:O	2.01	0.60
1:E:91:THR:HA	1:E:102:ARG:NH1	2.16	0.60
1:F:2:GLU:OE1	1:F:80:ALA:N	2.35	0.60
1:K:57:LEU:O	1:K:58:LEU:C	2.41	0.59
1:I:137:VAL:HG13	1:J:39:ARG:HH21	1.67	0.59
1:C:134:GLU:OE2	1:L:1:MET:CA	2.50	0.59
1:C:26:GLU:OE1	1:D:16:GLY:HA2	2.03	0.59
1:D:55:LYS:HG2	1:D:56:PRO:HD3	1.85	0.59
1:D:46:GLU:O	1:D:50:ALA:HB2	2.03	0.59
1:I:92:ASP:OD1	1:I:95:GLU:HG2	2.03	0.59
1:K:3:ARG:NH2	1:K:138:GLU:HG3	2.16	0.59
1:K:90:ALA:O	1:K:102:ARG:NH1	2.36	0.59
1:J:45:ALA:O	1:J:49:LEU:HG	2.02	0.59
1:G:3:ARG:NE	1:G:76:GLU:OE2	2.36	0.58
1:H:107:LEU:CG	1:H:108:ASP:H	2.09	0.58
1:D:9:LYS:HD3	1:D:64:LEU:CD2	2.31	0.58
1:J:109:VAL:C	1:J:112:LEU:HD12	2.28	0.58
1:L:65:ILE:HG12	1:L:65:ILE:O	2.04	0.58
1:A:9:LYS:CD	1:A:64:LEU:HD21	2.30	0.58
1:A:91:THR:HA	1:A:102:ARG:NH1	2.18	0.58
1:H:88:VAL:HG13	1:H:114:ILE:HG23	1.84	0.58
1:A:3:ARG:NE	1:A:76:GLU:OE2	2.36	0.58
1:H:45:ALA:O	1:H:49:LEU:CD1	2.52	0.58
1:H:107:LEU:HG	1:H:108:ASP:N	2.05	0.58
1:K:61:LEU:O	1:K:61:LEU:HD12	2.04	0.58
1:K:62:VAL:O	1:K:62:VAL:HG13	2.01	0.58
1:J:48:LEU:CD2	1:J:129:LEU:CD2	2.76	0.58
1:K:137:VAL:HG12	1:K:137:VAL:O	2.01	0.58
1:B:48:LEU:HD23	1:B:129:LEU:HD12	1.85	0.58
1:I:88:VAL:HG13	1:I:114:ILE:HG23	1.85	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:9:LYS:NZ	1:C:112:LEU:HD12	2.19	0.57
1:K:118:ASP:OD1	1:K:118:ASP:N	2.34	0.57
1:A:93:PRO:HD3	1:A:112:LEU:HD21	1.84	0.57
1:C:92:ASP:OD2	1:C:94:LYS:CG	2.52	0.57
1:K:88:VAL:O	1:K:102:ARG:HG3	2.04	0.57
1:D:65:ILE:O	1:D:65:ILE:HG12	2.04	0.57
1:D:49:LEU:HB3	1:D:58:LEU:HD11	1.85	0.57
1:C:64:LEU:O	1:C:64:LEU:HD12	2.05	0.57
1:E:107:LEU:HG	1:E:108:ASP:N	2.06	0.57
1:L:105:LEU:O	1:L:113:VAL:HG11	2.05	0.57
1:I:102:ARG:HH22	1:I:115:ASP:CG	2.11	0.56
1:A:30:LEU:HD13	1:A:75:LEU:HD13	1.88	0.56
1:E:107:LEU:CG	1:E:108:ASP:H	2.09	0.56
1:G:26:GLU:OE1	1:H:16:GLY:HA2	2.06	0.56
1:L:57:LEU:O	1:L:61:LEU:HD23	2.04	0.56
1:B:49:LEU:HD13	1:B:61:LEU:HB3	1.87	0.56
1:C:119:SER:OG	1:C:122:SER:CB	2.53	0.56
1:D:107:LEU:CG	1:D:108:ASP:H	2.09	0.56
1:F:30:LEU:HD13	1:F:75:LEU:HD13	1.88	0.56
1:G:64:LEU:HD12	1:G:64:LEU:O	2.06	0.56
1:H:5:LEU:HD21	1:H:130:LEU:HD12	1.87	0.56
1:L:101:ILE:HG23	1:L:105:LEU:HD12	1.88	0.56
1:G:49:LEU:HD12	1:G:49:LEU:N	2.20	0.56
1:K:64:LEU:HD12	1:K:64:LEU:O	2.05	0.56
1:L:5:LEU:HD21	1:L:130:LEU:HD12	1.88	0.56
1:L:7:LEU:HD22	1:L:70:VAL:HG11	1.86	0.56
1:L:30:LEU:HD13	1:L:75:LEU:HD13	1.87	0.56
1:B:3:ARG:NE	1:B:76:GLU:OE2	2.36	0.56
1:B:30:LEU:HD13	1:B:75:LEU:HD13	1.87	0.56
1:D:5:LEU:HD21	1:D:130:LEU:HD12	1.88	0.56
1:E:5:LEU:HD21	1:E:130:LEU:HD12	1.88	0.56
1:B:5:LEU:HD21	1:B:130:LEU:HD12	1.88	0.56
1:D:30:LEU:HD13	1:D:75:LEU:HD13	1.87	0.56
1:G:30:LEU:HD13	1:G:75:LEU:HD13	1.88	0.56
1:B:45:ALA:O	1:B:49:LEU:HG	2.06	0.55
1:B:81:VAL:O	1:B:85:ARG:HG3	2.05	0.55
1:H:51:GLU:OE2	1:H:51:GLU:HA	2.07	0.55
1:C:5:LEU:HD21	1:C:130:LEU:HD12	1.88	0.55
1:C:64:LEU:HD22	1:C:110:GLY:O	2.05	0.55
1:E:30:LEU:HD13	1:E:75:LEU:HD13	1.88	0.55
1:F:3:ARG:NE	1:F:76:GLU:OE2	2.35	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:9:LYS:HE3	1:F:115:ASP:HB2	1.88	0.55
1:A:5:LEU:HD21	1:A:130:LEU:HD12	1.88	0.55
1:C:30:LEU:HD13	1:C:75:LEU:HD13	1.87	0.55
1:C:44:LEU:HD12	1:C:44:LEU:O	2.06	0.55
1:K:30:LEU:HD13	1:K:75:LEU:HD13	1.88	0.55
1:I:3:ARG:NE	1:I:76:GLU:OE2	2.36	0.55
1:I:44:LEU:O	1:I:44:LEU:HD12	2.07	0.55
1:L:107:LEU:HG	1:L:108:ASP:N	2.09	0.55
1:C:47:LYS:HA	1:C:50:ALA:HB2	1.87	0.55
1:E:44:LEU:HD12	1:E:44:LEU:O	2.07	0.55
1:L:11:ASP:CG	1:L:111:LYS:CG	2.80	0.55
1:A:90:ALA:O	1:A:102:ARG:CZ	2.54	0.55
1:D:49:LEU:CD1	1:D:61:LEU:HB3	2.37	0.55
1:H:64:LEU:O	1:H:64:LEU:HD12	2.06	0.55
1:I:30:LEU:HD13	1:I:75:LEU:HD13	1.88	0.55
1:G:5:LEU:HD21	1:G:130:LEU:HD12	1.88	0.55
1:K:3:ARG:NE	1:K:76:GLU:OE2	2.36	0.55
1:I:92:ASP:OD1	1:I:95:GLU:CG	2.56	0.54
1:F:44:LEU:HD12	1:F:44:LEU:O	2.07	0.54
1:D:119:SER:OG	1:D:122:SER:OG	2.16	0.54
1:F:5:LEU:HD21	1:F:130:LEU:HD12	1.88	0.54
1:H:30:LEU:HD13	1:H:75:LEU:HD13	1.88	0.54
1:L:3:ARG:NE	1:L:76:GLU:OE2	2.36	0.54
1:K:55:LYS:HB3	1:K:56:PRO:HD3	1.90	0.54
1:L:124:GLU:O	1:L:124:GLU:HG2	2.07	0.54
1:G:93:PRO:HG3	1:G:112:LEU:HD22	1.89	0.54
1:I:92:ASP:O	1:I:95:GLU:N	2.35	0.54
1:J:94:LYS:HG3	1:J:95:GLU:HG2	1.89	0.54
1:K:17:LEU:HD13	1:K:105:LEU:HD22	1.90	0.54
1:B:97:ALA:O	1:B:100:THR:OG1	2.25	0.54
1:C:9:LYS:HZ2	1:C:112:LEU:HD12	1.72	0.54
1:C:92:ASP:OD2	1:C:94:LYS:N	2.41	0.53
1:I:132:LYS:O	1:I:135:GLU:N	2.39	0.53
1:C:54:GLU:CG	1:C:57:LEU:HD21	2.31	0.53
1:F:64:LEU:HD12	1:F:64:LEU:O	2.08	0.53
1:B:66:THR:O	1:B:66:THR:HG22	2.09	0.53
1:D:125:ARG:O	1:D:128:SER:OG	2.19	0.53
1:E:3:ARG:NE	1:E:76:GLU:OE2	2.36	0.53
1:I:6:VAL:CG1	1:I:114:ILE:HD11	2.38	0.53
1:G:118:ASP:OD1	1:G:118:ASP:N	2.33	0.53
1:J:3:ARG:HG2	1:J:127:ILE:HD11	1.90	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:3:ARG:HD2	1:J:127:ILE:CD1	2.39	0.53
1:L:107:LEU:H	1:L:107:LEU:HD23	1.73	0.53
1:D:3:ARG:NE	1:D:76:GLU:OE2	2.36	0.53
1:L:41:SER:O	1:L:45:ALA:HB2	2.09	0.53
1:K:88:VAL:HG13	1:K:114:ILE:HG21	1.90	0.53
1:C:42:ARG:HD2	1:C:62:VAL:HG11	1.92	0.52
1:I:57:LEU:HD23	1:I:57:LEU:H	1.75	0.52
1:J:109:VAL:C	1:J:112:LEU:CD1	2.80	0.52
1:B:107:LEU:HG	1:B:108:ASP:H	1.74	0.52
1:C:85:ARG:HD2	1:C:118:ASP:HA	1.90	0.52
1:G:44:LEU:O	1:G:44:LEU:HD12	2.09	0.52
1:B:60:ALA:O	1:B:64:LEU:HB2	2.09	0.52
1:I:132:LYS:O	1:I:135:GLU:HB2	2.09	0.52
1:K:38:LEU:HD23	1:K:38:LEU:H	1.75	0.52
1:L:55:LYS:H	1:L:56:PRO:HD2	1.71	0.52
1:D:49:LEU:CB	1:D:58:LEU:HD11	2.39	0.52
1:F:107:LEU:C	1:F:107:LEU:HD12	2.35	0.52
1:A:54:GLU:C	1:A:56:PRO:CD	2.68	0.52
1:C:55:LYS:N	1:C:56:PRO:CD	2.73	0.52
1:H:3:ARG:NE	1:H:76:GLU:OE2	2.36	0.52
1:K:16:GLY:HA2	1:L:26:GLU:OE1	2.09	0.52
1:F:44:LEU:HD21	1:F:130:LEU:CD2	2.36	0.52
1:B:51:GLU:O	1:B:51:GLU:HG2	2.08	0.52
1:G:49:LEU:HD12	1:G:49:LEU:H	1.75	0.52
1:H:88:VAL:HG21	1:H:116:ALA:HB2	1.91	0.52
1:L:41:SER:O	1:L:45:ALA:CB	2.58	0.52
1:L:84:VAL:HG12	1:L:88:VAL:HG21	1.91	0.52
1:D:57:LEU:O	1:D:61:LEU:HG	2.09	0.52
1:K:117:SER:HB3	1:K:126:GLU:OE2	2.10	0.51
1:A:82:GLU:O	1:A:82:GLU:HG2	2.10	0.51
1:C:3:ARG:NE	1:C:76:GLU:OE2	2.36	0.51
1:D:9:LYS:CD	1:D:64:LEU:HD21	2.35	0.51
1:G:93:PRO:HD3	1:G:112:LEU:HD21	1.90	0.51
1:A:26:GLU:OE1	1:B:16:GLY:HA2	2.11	0.51
1:A:9:LYS:HE3	1:A:115:ASP:HB2	1.92	0.51
1:K:38:LEU:HD23	1:K:38:LEU:N	2.25	0.51
1:K:40:ILE:CG2	1:K:45:ALA:HB2	2.41	0.51
1:B:57:LEU:O	1:B:61:LEU:HD23	2.10	0.51
1:K:40:ILE:HG22	1:K:45:ALA:HB2	1.93	0.51
1:L:42:ARG:O	1:L:46:GLU:N	2.36	0.51
1:A:64:LEU:O	1:A:64:LEU:HD12	2.10	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:62:VAL:O	1:K:66:THR:CG2	2.56	0.51
1:A:57:LEU:O	1:A:61:LEU:HG	2.11	0.51
1:F:49:LEU:N	1:F:49:LEU:CD1	2.73	0.51
1:H:4:THR:OG1	1:H:117:SER:HB2	2.11	0.51
1:L:11:ASP:OD1	1:L:111:LYS:CG	2.59	0.51
1:L:107:LEU:CG	1:L:108:ASP:H	2.07	0.51
1:J:119:SER:HB2	1:J:122:SER:HB3	1.93	0.51
1:E:67:SER:O	1:E:67:SER:OG	2.28	0.51
1:I:133:ASP:C	1:I:135:GLU:H	2.18	0.51
1:E:88:VAL:HG13	1:E:114:ILE:CG2	2.41	0.50
1:F:90:ALA:O	1:F:102:ARG:NH1	2.39	0.50
1:G:6:VAL:HG13	1:G:114:ILE:HD11	1.92	0.50
1:F:93:PRO:HB3	1:F:106:GLY:O	2.10	0.50
1:J:3:ARG:HD2	1:J:127:ILE:HD13	1.91	0.50
1:C:118:ASP:OD1	1:C:118:ASP:N	2.26	0.50
1:H:38:LEU:HD12	1:H:38:LEU:C	2.36	0.50
1:K:57:LEU:O	1:K:59:SER:N	2.44	0.50
1:A:93:PRO:HG2	1:A:108:ASP:O	2.12	0.50
1:H:58:LEU:HD11	1:H:62:VAL:CG2	2.40	0.50
1:K:82:GLU:OE1	1:K:85:ARG:NH1	2.44	0.50
1:B:58:LEU:C	1:B:58:LEU:CD1	2.85	0.50
1:F:49:LEU:HD23	1:F:61:LEU:HB3	1.94	0.50
1:G:9:LYS:HE3	1:G:115:ASP:HB2	1.94	0.50
1:A:93:PRO:CD	1:A:112:LEU:HD21	2.42	0.50
1:C:134:GLU:OE2	1:L:1:MET:HA	2.12	0.50
1:F:85:ARG:HD2	1:F:118:ASP:HA	1.93	0.50
1:I:49:LEU:HA	1:I:52:LEU:HB2	1.93	0.50
1:D:9:LYS:HZ1	1:D:112:LEU:HD12	1.71	0.49
1:E:40:ILE:O	1:E:66:THR:HG22	2.12	0.49
1:L:6:VAL:CB	1:L:73:LEU:HD21	2.40	0.49
1:L:7:LEU:HD22	1:L:70:VAL:HG12	1.92	0.49
1:H:94:LYS:HG3	1:H:95:GLU:HG2	1.94	0.49
1:A:106:GLY:O	1:D:28:LYS:NZ	2.45	0.49
1:B:64:LEU:HD12	1:B:64:LEU:O	2.12	0.49
1:G:101:ILE:HG23	1:G:105:LEU:HD12	1.95	0.49
1:H:44:LEU:O	1:H:48:LEU:HB2	2.13	0.49
1:L:11:ASP:OD1	1:L:111:LYS:HG2	2.11	0.49
1:L:84:VAL:HG12	1:L:88:VAL:HG23	1.95	0.49
1:K:3:ARG:NH2	1:K:138:GLU:HG2	2.22	0.49
1:L:85:ARG:HD2	1:L:118:ASP:CA	2.43	0.49
1:A:50:ALA:CB	1:A:125:ARG:HH22	2.25	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:49:LEU:CD2	1:F:61:LEU:HB3	2.42	0.49
1:I:133:ASP:C	1:I:135:GLU:N	2.70	0.49
1:J:101:ILE:HG23	1:J:105:LEU:HD12	1.95	0.49
1:F:58:LEU:HA	1:F:61:LEU:HB2	1.95	0.48
1:I:101:ILE:HG23	1:I:105:LEU:HD12	1.95	0.48
1:J:85:ARG:HD2	1:J:118:ASP:HA	1.95	0.48
1:L:42:ARG:CZ	1:L:62:VAL:HG11	2.43	0.48
1:C:46:GLU:O	1:C:50:ALA:HB2	2.13	0.48
1:D:101:ILE:HG23	1:D:105:LEU:HD12	1.95	0.48
1:F:45:ALA:CB	1:F:62:VAL:CG1	2.88	0.48
1:L:57:LEU:O	1:L:61:LEU:CD2	2.60	0.48
1:I:107:LEU:CG	1:I:108:ASP:H	2.09	0.48
1:L:17:LEU:HD13	1:L:105:LEU:HD22	1.94	0.48
1:A:49:LEU:HD21	1:A:61:LEU:HB3	1.96	0.48
1:K:88:VAL:HG13	1:K:114:ILE:HG23	1.94	0.48
1:B:38:LEU:HD23	1:B:38:LEU:N	2.27	0.48
1:G:59:SER:O	1:G:63:ASP:N	2.30	0.48
1:H:101:ILE:HG23	1:H:105:LEU:HD12	1.95	0.48
1:J:3:ARG:HG3	1:J:74:VAL:CG1	2.44	0.48
1:K:41:SER:O	1:K:42:ARG:C	2.57	0.48
1:D:49:LEU:N	1:D:49:LEU:HD23	2.27	0.48
1:D:58:LEU:O	1:D:62:VAL:N	2.37	0.48
1:H:58:LEU:HD12	1:H:62:VAL:HG23	1.95	0.48
1:E:55:LYS:O	1:E:57:LEU:N	2.47	0.48
1:K:64:LEU:HD22	1:K:110:GLY:O	2.14	0.48
1:I:70:VAL:HG12	1:I:71:VAL:H	1.79	0.47
1:K:42:ARG:O	1:K:45:ALA:N	2.47	0.47
1:L:92:ASP:CG	1:L:95:GLU:HG2	2.39	0.47
1:C:57:LEU:HD23	1:C:57:LEU:H	1.78	0.47
1:I:35:LEU:HD21	1:J:35:LEU:HD21	1.95	0.47
1:E:101:ILE:HG23	1:E:105:LEU:HD12	1.95	0.47
1:B:28:LYS:HG3	1:C:107:LEU:HD13	1.96	0.47
1:H:93:PRO:HA	1:H:96:ALA:HB3	1.95	0.47
1:L:55:LYS:H	1:L:56:PRO:CD	2.25	0.47
1:A:52:LEU:HD23	1:A:52:LEU:HA	1.65	0.47
1:I:25:LEU:HD13	1:I:75:LEU:HD11	1.97	0.47
1:C:25:LEU:HD13	1:C:75:LEU:HD11	1.97	0.47
1:F:119:SER:HB3	1:F:121:GLU:OE2	2.15	0.47
1:A:65:ILE:HG22	1:A:65:ILE:O	2.13	0.47
1:C:34:ALA:HB2	1:C:136:LEU:HD22	1.97	0.47
1:C:54:GLU:HG3	1:C:57:LEU:CD2	2.35	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:35:LEU:HD13	1:K:73:LEU:HD13	1.97	0.47
1:E:35:LEU:HD13	1:E:73:LEU:HD13	1.97	0.47
1:L:34:ALA:HB2	1:L:136:LEU:HD22	1.96	0.47
1:A:25:LEU:HD13	1:A:75:LEU:HD11	1.97	0.46
1:E:64:LEU:C	1:E:64:LEU:HD12	2.39	0.46
1:H:35:LEU:HD13	1:H:73:LEU:HD13	1.97	0.46
1:A:93:PRO:CD	1:A:112:LEU:CD2	2.93	0.46
1:E:59:SER:O	1:E:60:ALA:C	2.58	0.46
1:F:25:LEU:HD13	1:F:75:LEU:HD11	1.97	0.46
1:G:35:LEU:HD13	1:G:73:LEU:HD13	1.97	0.46
1:J:55:LYS:H	1:J:56:PRO:CD	2.28	0.46
1:L:25:LEU:HD13	1:L:75:LEU:HD11	1.97	0.46
1:A:9:LYS:HZ2	1:A:112:LEU:HD12	1.79	0.46
1:A:35:LEU:HD13	1:A:73:LEU:HD13	1.97	0.46
1:C:101:ILE:HG21	1:C:114:ILE:HG21	1.97	0.46
1:F:35:LEU:HD13	1:F:73:LEU:HD13	1.97	0.46
1:G:16:GLY:HA2	1:H:26:GLU:OE1	2.15	0.46
1:I:137:VAL:O	1:I:137:VAL:HG12	2.14	0.46
1:J:5:LEU:HG	1:J:6:VAL:N	2.29	0.46
1:G:43:GLU:HA	1:G:46:GLU:HG3	1.97	0.46
1:J:55:LYS:H	1:J:56:PRO:HD3	1.79	0.46
1:K:37:LEU:HB2	1:L:35:LEU:HB3	1.97	0.46
1:B:92:ASP:HB3	1:B:95:GLU:HB2	1.98	0.46
1:B:102:ARG:HD3	1:B:112:LEU:HD22	1.98	0.46
1:C:58:LEU:O	1:C:61:LEU:N	2.49	0.46
1:E:43:GLU:HA	1:E:46:GLU:HG3	1.98	0.46
1:J:40:ILE:CD1	1:J:65:ILE:HD11	2.46	0.46
1:A:49:LEU:CD2	1:A:61:LEU:HD12	2.46	0.46
1:K:38:LEU:N	1:K:38:LEU:CD2	2.79	0.46
1:A:48:LEU:HD23	1:A:48:LEU:HA	1.80	0.46
1:B:35:LEU:HD13	1:B:73:LEU:HD13	1.98	0.46
1:D:13:VAL:HG13	1:D:18:ILE:HD11	1.98	0.46
1:E:54:GLU:O	1:E:54:GLU:HG2	2.15	0.46
1:H:38:LEU:HD12	1:H:38:LEU:O	2.16	0.46
1:B:13:VAL:HG13	1:B:18:ILE:HD11	1.98	0.46
1:C:53:ARG:CG	1:C:53:ARG:O	2.64	0.46
1:B:25:LEU:HD13	1:B:75:LEU:HD11	1.97	0.46
1:D:25:LEU:HD13	1:D:75:LEU:HD11	1.97	0.46
1:D:35:LEU:HD13	1:D:73:LEU:HD13	1.97	0.46
1:I:57:LEU:HD23	1:I:57:LEU:N	2.30	0.46
1:K:25:LEU:HD13	1:K:75:LEU:HD11	1.97	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:53:ARG:NH1	1:K:53:ARG:HB2	2.31	0.46
1:A:59:SER:CB	1:F:46:GLU:OE2	2.65	0.45
1:C:35:LEU:HD13	1:C:73:LEU:HD13	1.97	0.45
1:F:39:ARG:HH21	1:F:39:ARG:HG3	1.81	0.45
1:F:52:LEU:HD22	1:F:61:LEU:HD12	1.99	0.45
1:G:25:LEU:HD13	1:G:75:LEU:HD11	1.97	0.45
1:I:35:LEU:HD13	1:I:73:LEU:HD13	1.98	0.45
1:J:3:ARG:HD3	1:J:74:VAL:CG1	2.46	0.45
1:J:55:LYS:HB3	1:J:55:LYS:HE2	1.69	0.45
1:K:58:LEU:HD12	1:K:58:LEU:O	2.16	0.45
1:L:92:ASP:OD1	1:L:92:ASP:O	2.34	0.45
1:E:25:LEU:HD13	1:E:75:LEU:HD11	1.97	0.45
1:G:13:VAL:HG13	1:G:18:ILE:HD11	1.98	0.45
1:L:84:VAL:O	1:L:88:VAL:CG2	2.57	0.45
1:B:59:SER:O	1:B:63:ASP:OD2	2.34	0.45
1:E:55:LYS:O	1:E:56:PRO:C	2.59	0.45
1:F:13:VAL:HG13	1:F:18:ILE:HD11	1.98	0.45
1:J:34:ALA:CB	1:J:136:LEU:HD22	2.42	0.45
1:L:92:ASP:O	1:L:95:GLU:N	2.40	0.45
1:A:91:THR:O	1:A:91:THR:OG1	2.34	0.45
1:B:65:ILE:O	1:B:65:ILE:HG13	2.16	0.45
1:D:57:LEU:O	1:D:61:LEU:HB2	2.16	0.45
1:H:25:LEU:HD13	1:H:75:LEU:HD11	1.97	0.45
1:J:13:VAL:HG13	1:J:18:ILE:HD11	1.98	0.45
1:J:64:LEU:O	1:J:64:LEU:HG	2.17	0.45
1:J:35:LEU:HD13	1:J:73:LEU:HD13	1.97	0.45
1:L:13:VAL:HG13	1:L:18:ILE:HD11	1.98	0.45
1:A:44:LEU:HD21	1:A:130:LEU:HD23	1.98	0.45
1:F:125:ARG:O	1:F:129:LEU:HG	2.16	0.45
1:A:13:VAL:HG13	1:A:18:ILE:HD11	1.98	0.45
1:C:58:LEU:O	1:C:59:SER:C	2.59	0.45
1:E:13:VAL:HG13	1:E:18:ILE:HD11	1.98	0.45
1:F:125:ARG:O	1:F:128:SER:OG	2.21	0.45
1:H:13:VAL:HG13	1:H:18:ILE:HD11	1.98	0.45
1:I:7:LEU:HG	1:I:70:VAL:CG1	2.46	0.45
1:A:54:GLU:CA	1:A:56:PRO:HD2	2.43	0.45
1:L:42:ARG:HE	1:L:42:ARG:HB3	1.60	0.45
1:L:107:LEU:HD23	1:L:107:LEU:N	2.32	0.45
1:H:39:ARG:HE	1:H:39:ARG:HB2	1.46	0.44
1:H:57:LEU:HD21	1:J:63:ASP:O	2.17	0.44
1:A:49:LEU:CD1	1:A:62:VAL:HG22	2.47	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:95:GLU:HG3	1:C:95:GLU:O	2.17	0.44
1:K:13:VAL:HG13	1:K:18:ILE:HD11	1.98	0.44
1:C:134:GLU:HB3	1:L:1:MET:HG3	1.99	0.44
1:I:13:VAL:HG13	1:I:18:ILE:HD11	1.98	0.44
1:I:49:LEU:O	1:I:52:LEU:N	2.50	0.44
1:L:64:LEU:HD12	1:L:64:LEU:O	2.17	0.44
1:B:95:GLU:OE2	1:B:95:GLU:CA	2.64	0.44
1:H:49:LEU:O	1:H:49:LEU:HD13	2.15	0.44
1:I:6:VAL:HG13	1:I:114:ILE:HD11	2.00	0.44
1:I:58:LEU:O	1:I:58:LEU:HG	2.16	0.44
1:L:57:LEU:O	1:L:57:LEU:CD1	2.58	0.44
1:I:40:ILE:HG23	1:I:44:LEU:HD23	2.00	0.44
1:J:55:LYS:C	1:J:57:LEU:N	2.75	0.44
1:L:43:GLU:HG3	1:L:47:LYS:HD3	2.00	0.44
1:B:107:LEU:HG	1:B:108:ASP:N	2.32	0.44
1:D:3:ARG:NH2	1:D:76:GLU:OE2	2.51	0.44
1:J:1:MET:HB2	1:J:77:GLY:O	2.17	0.44
1:E:52:LEU:N	1:E:52:LEU:HD23	2.32	0.44
1:I:132:LYS:HB2	1:I:135:GLU:HG3	2.00	0.44
1:F:55:LYS:N	1:F:56:PRO:HD2	2.32	0.44
1:C:101:ILE:HG23	1:C:105:LEU:HD22	2.00	0.43
1:E:16:GLY:HA2	1:F:26:GLU:OE1	2.18	0.43
1:J:34:ALA:HB2	1:J:136:LEU:CD2	2.42	0.43
1:A:9:LYS:NZ	1:A:112:LEU:HD12	2.33	0.43
1:A:90:ALA:C	1:A:102:ARG:HH11	2.26	0.43
1:E:59:SER:O	1:E:63:ASP:N	2.47	0.43
1:G:34:ALA:HB1	1:G:136:LEU:HD23	1.94	0.43
1:J:107:LEU:CG	1:J:108:ASP:N	2.76	0.43
1:K:42:ARG:HD3	1:K:62:VAL:CG1	2.49	0.43
1:K:90:ALA:C	1:K:102:ARG:NH1	2.76	0.43
1:B:3:ARG:NH2	1:B:76:GLU:OE2	2.51	0.43
1:I:26:GLU:OE1	1:J:16:GLY:HA2	2.17	0.43
1:I:126:GLU:H	1:I:126:GLU:HG3	1.61	0.43
1:J:40:ILE:HD12	1:J:65:ILE:HD11	2.00	0.43
1:K:108:ASP:HB2	1:K:111:LYS:HB2	2.01	0.43
1:L:37:LEU:HD13	1:L:71:VAL:HG22	2.00	0.43
1:L:88:VAL:HG13	1:L:114:ILE:HG23	2.01	0.43
1:B:84:VAL:O	1:B:88:VAL:HG23	2.19	0.43
1:H:58:LEU:HD11	1:H:62:VAL:HG23	1.99	0.43
1:K:85:ARG:HD2	1:K:118:ASP:HA	1.99	0.43
1:L:3:ARG:NH2	1:L:76:GLU:OE2	2.51	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:61:LEU:N	1:A:61:LEU:HD23	2.32	0.43
1:C:62:VAL:O	1:C:62:VAL:CG1	2.66	0.43
1:C:119:SER:OG	1:C:122:SER:N	2.44	0.43
1:E:55:LYS:O	1:E:58:LEU:N	2.40	0.43
1:F:3:ARG:NH2	1:F:76:GLU:OE2	2.51	0.43
1:G:60:ALA:O	1:G:64:LEU:N	2.40	0.43
1:J:55:LYS:N	1:J:56:PRO:HD3	2.34	0.43
1:D:21:ILE:HG21	1:D:114:ILE:HD12	1.99	0.43
1:I:7:LEU:HD12	1:I:7:LEU:HA	1.86	0.43
1:I:71:VAL:O	1:I:71:VAL:HG12	2.18	0.43
1:K:51:GLU:HG3	1:K:52:LEU:N	2.26	0.43
1:H:107:LEU:CG	1:H:108:ASP:N	2.76	0.43
1:I:42:ARG:HE	1:I:42:ARG:HB3	1.57	0.43
1:C:13:VAL:HG13	1:C:18:ILE:HD11	2.00	0.43
1:G:60:ALA:O	1:G:61:LEU:C	2.60	0.43
1:A:3:ARG:NH2	1:A:76:GLU:OE2	2.51	0.42
1:E:3:ARG:NH2	1:E:76:GLU:OE2	2.51	0.42
1:I:3:ARG:NH2	1:I:76:GLU:OE2	2.51	0.42
1:K:3:ARG:NH2	1:K:76:GLU:OE2	2.51	0.42
1:K:26:GLU:OE1	1:L:16:GLY:HA2	2.19	0.42
1:E:55:LYS:O	1:E:58:LEU:HB2	2.20	0.42
1:F:40:ILE:HD12	1:F:65:ILE:HG23	2.01	0.42
1:G:61:LEU:O	1:G:65:ILE:HG22	2.19	0.42
1:H:49:LEU:HD12	1:H:49:LEU:C	2.44	0.42
1:B:9:LYS:HE3	1:B:115:ASP:HB2	2.02	0.42
1:I:122:SER:O	1:I:125:ARG:N	2.52	0.42
1:L:11:ASP:HB3	1:L:112:LEU:O	2.20	0.42
1:A:107:LEU:CG	1:A:108:ASP:N	2.72	0.42
1:D:52:LEU:N	1:D:52:LEU:HD22	2.34	0.42
1:G:3:ARG:NH2	1:G:76:GLU:OE2	2.51	0.42
1:K:47:LYS:O	1:K:50:ALA:HB2	2.20	0.42
1:B:92:ASP:HB3	1:B:95:GLU:CB	2.48	0.42
1:I:122:SER:O	1:I:125:ARG:HB3	2.20	0.42
1:K:82:GLU:OE2	1:K:82:GLU:HA	2.18	0.42
1:C:51:GLU:O	1:C:51:GLU:HG2	2.20	0.42
1:C:3:ARG:NH2	1:C:76:GLU:OE2	2.51	0.42
1:C:16:GLY:HA2	1:D:26:GLU:OE1	2.20	0.42
1:G:65:ILE:O	1:G:65:ILE:CG1	2.64	0.42
1:H:3:ARG:NH2	1:H:76:GLU:OE2	2.51	0.42
1:L:137:VAL:O	1:L:137:VAL:HG23	2.19	0.42
1:B:51:GLU:O	1:B:51:GLU:CG	2.67	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:122:SER:O	1:D:125:ARG:N	2.53	0.42
1:G:60:ALA:HA	1:G:63:ASP:HB3	2.02	0.42
1:H:43:GLU:O	1:H:46:GLU:HB2	2.19	0.42
1:J:34:ALA:HB3	1:J:74:VAL:HB	2.02	0.42
1:K:5:LEU:CD2	1:K:7:LEU:HD13	2.48	0.42
1:J:2:GLU:OE1	1:J:79:ASP:N	2.52	0.42
1:J:65:ILE:O	1:J:65:ILE:HG12	2.20	0.42
1:K:53:ARG:HB2	1:K:53:ARG:HH11	1.85	0.42
1:L:136:LEU:N	1:L:136:LEU:HD23	2.35	0.42
1:B:49:LEU:HA	1:B:51:GLU:OE1	2.20	0.41
1:B:93:PRO:HG2	1:B:108:ASP:CA	2.50	0.41
1:I:34:ALA:HB3	1:I:74:VAL:HB	2.02	0.41
1:K:8:ILE:HG23	1:K:21:ILE:CD1	2.50	0.41
1:B:119:SER:OG	1:B:122:SER:OG	2.21	0.41
1:H:57:LEU:CD2	1:J:63:ASP:O	2.68	0.41
1:I:62:VAL:O	1:I:62:VAL:HG12	2.19	0.41
1:J:55:LYS:N	1:J:56:PRO:HD2	2.35	0.41
1:A:34:ALA:HB3	1:A:74:VAL:HB	2.02	0.41
1:K:52:LEU:C	1:K:53:ARG:HG3	2.45	0.41
1:B:34:ALA:HB3	1:B:74:VAL:HB	2.02	0.41
1:C:41:SER:O	1:C:45:ALA:HB2	2.21	0.41
1:B:64:LEU:CD2	1:B:110:GLY:O	2.67	0.41
1:B:101:ILE:HG23	1:B:105:LEU:HD12	2.02	0.41
1:K:42:ARG:O	1:K:46:GLU:N	2.50	0.41
1:L:57:LEU:HD11	1:L:61:LEU:HD21	1.99	0.41
1:E:107:LEU:CG	1:E:108:ASP:N	2.76	0.41
1:J:55:LYS:C	1:J:57:LEU:H	2.27	0.41
1:C:34:ALA:HB3	1:C:74:VAL:HB	2.02	0.41
1:C:54:GLU:OE2	1:C:54:GLU:CA	2.54	0.41
1:F:109:VAL:HG22	1:F:109:VAL:O	2.20	0.41
1:I:58:LEU:CA	1:I:61:LEU:HB2	2.48	0.41
1:J:61:LEU:O	1:J:65:ILE:HG22	2.21	0.41
1:F:40:ILE:HD12	1:F:65:ILE:CG2	2.50	0.41
1:H:88:VAL:CG1	1:H:114:ILE:HG23	2.48	0.41
1:E:58:LEU:O	1:E:62:VAL:HG23	2.21	0.41
1:F:34:ALA:HB3	1:F:74:VAL:HB	2.02	0.41
1:F:93:PRO:CG	1:F:108:ASP:O	2.69	0.41
1:G:34:ALA:HB3	1:G:74:VAL:HB	2.02	0.41
1:H:34:ALA:HB3	1:H:74:VAL:HB	2.02	0.41
1:I:35:LEU:HG	1:J:35:LEU:HG	2.01	0.41
1:I:57:LEU:N	1:I:57:LEU:CD2	2.84	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:107:LEU:CG	1:J:108:ASP:H	2.09	0.41
1:A:63:ASP:OD2	1:F:42:ARG:N	2.52	0.41
1:B:112:LEU:HD23	1:B:112:LEU:HA	1.91	0.41
1:D:6:VAL:CG1	1:D:114:ILE:HD11	2.51	0.41
1:I:85:ARG:HE	1:I:85:ARG:HB3	1.63	0.41
1:L:73:LEU:HD22	1:L:73:LEU:C	2.46	0.41
1:B:61:LEU:O	1:B:64:LEU:HB3	2.22	0.40
1:G:93:PRO:HG2	1:G:112:LEU:HD21	1.85	0.40
1:J:91:THR:O	1:J:93:PRO:HD3	2.21	0.40
1:D:34:ALA:HB3	1:D:74:VAL:HB	2.02	0.40
1:E:34:ALA:HB3	1:E:74:VAL:HB	2.02	0.40
1:F:97:ALA:HA	1:F:98:PRO:HD3	1.97	0.40
1:H:21:ILE:HG23	1:H:101:ILE:HD13	2.04	0.40
1:H:125:ARG:O	1:H:129:LEU:HG	2.22	0.40
1:E:21:ILE:HG23	1:E:101:ILE:HD13	2.04	0.40
1:F:84:VAL:O	1:F:84:VAL:HG12	2.21	0.40
1:J:39:ARG:HE	1:J:39:ARG:HB2	1.60	0.40
1:D:21:ILE:HG23	1:D:101:ILE:HD13	2.04	0.40
1:F:109:VAL:HA	1:F:112:LEU:HD21	2.04	0.40
1:I:8:ILE:O	1:I:70:VAL:HG13	2.21	0.40
1:K:21:ILE:HG23	1:K:101:ILE:HD13	2.03	0.40
1:K:88:VAL:CG1	1:K:114:ILE:HG23	2.51	0.40
1:K:113:VAL:O	1:K:113:VAL:HG22	2.20	0.40
1:A:51:GLU:O	1:A:51:GLU:CG	2.69	0.40
1:G:21:ILE:HG23	1:G:101:ILE:HD13	2.03	0.40
1:H:57:LEU:HD23	1:J:63:ASP:HB3	2.03	0.40
1:I:21:ILE:HG23	1:I:101:ILE:HD13	2.04	0.40
1:J:3:ARG:CG	1:J:74:VAL:CG1	2.99	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:94:LYS:O	1:I:86:LYS:NZ[2_545]	1.40	0.80
1:A:47:LYS:NZ	1:H:134:GLU:OE2[2_545]	2.10	0.10

5.3 Torsion angles

5.3.1 Protein backbone

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	136/142 (96%)	131 (96%)	5 (4%)	0	100	100
1	B	136/142 (96%)	131 (96%)	5 (4%)	0	100	100
1	C	136/142 (96%)	129 (95%)	7 (5%)	0	100	100
1	D	136/142 (96%)	130 (96%)	6 (4%)	0	100	100
1	E	136/142 (96%)	128 (94%)	8 (6%)	0	100	100
1	F	136/142 (96%)	129 (95%)	7 (5%)	0	100	100
1	G	136/142 (96%)	129 (95%)	7 (5%)	0	100	100
1	H	136/142 (96%)	127 (93%)	9 (7%)	0	100	100
1	I	136/142 (96%)	122 (90%)	14 (10%)	0	100	100
1	J	136/142 (96%)	130 (96%)	6 (4%)	0	100	100
1	K	136/142 (96%)	127 (93%)	9 (7%)	0	100	100
1	L	136/142 (96%)	129 (95%)	7 (5%)	0	100	100
All	All	1632/1704 (96%)	1542 (94%)	90 (6%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains

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	115/117 (98%)	114 (99%)	1 (1%)	70	77
1	B	115/117 (98%)	114 (99%)	1 (1%)	70	77

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	115/117 (98%)	113 (98%)	2 (2%)	53	70
1	D	115/117 (98%)	114 (99%)	1 (1%)	70	77
1	E	115/117 (98%)	115 (100%)	0	100	100
1	F	115/117 (98%)	114 (99%)	1 (1%)	70	77
1	G	115/117 (98%)	114 (99%)	1 (1%)	70	77
1	H	115/117 (98%)	115 (100%)	0	100	100
1	I	115/117 (98%)	115 (100%)	0	100	100
1	J	115/117 (98%)	114 (99%)	1 (1%)	70	77
1	K	115/117 (98%)	114 (99%)	1 (1%)	70	77
1	L	115/117 (98%)	112 (97%)	3 (3%)	40	63
All	All	1380/1404 (98%)	1368 (99%)	12 (1%)	70	77

All (12) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	78	LYS
1	B	137	VAL
1	C	17	LEU
1	C	82	GLU
1	D	85	ARG
1	F	52	LEU
1	G	137	VAL
1	J	78	LYS
1	K	62	VAL
1	L	47	LYS
1	L	53	ARG
1	L	73	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	138/142 (97%)	-0.06	0 100 100	35, 53, 79, 92	0
1	B	138/142 (97%)	-0.03	0 100 100	32, 59, 89, 98	0
1	C	138/142 (97%)	-0.00	1 (0%) 84 71	33, 55, 84, 105	0
1	D	138/142 (97%)	0.06	1 (0%) 84 71	35, 56, 86, 104	0
1	E	138/142 (97%)	0.08	0 100 100	33, 53, 91, 101	0
1	F	138/142 (97%)	-0.03	1 (0%) 84 71	32, 50, 88, 104	0
1	G	138/142 (97%)	0.10	1 (0%) 84 71	34, 65, 95, 107	0
1	H	138/142 (97%)	0.12	1 (0%) 84 71	36, 67, 98, 110	0
1	I	138/142 (97%)	0.03	0 100 100	34, 61, 92, 102	0
1	J	138/142 (97%)	0.00	2 (1%) 73 56	32, 53, 79, 90	0
1	K	138/142 (97%)	0.16	1 (0%) 84 71	39, 69, 102, 113	0
1	L	138/142 (97%)	0.13	3 (2%) 62 44	38, 70, 96, 105	0
All	All	1656/1704 (97%)	0.05	11 (0%) 84 71	32, 58, 93, 113	0

All (11) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	12	GLY	2.7
1	L	112	LEU	2.5
1	G	110	GLY	2.5
1	L	12	GLY	2.5
1	F	12	GLY	2.4
1	J	52	LEU	2.4
1	K	72	ALA	2.3
1	L	95	GLU	2.3
1	C	12	GLY	2.2
1	H	110	GLY	2.1
1	J	101	ILE	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 oligosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.