



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 2, 2025 – 12:14 am GMT

PDB ID : 8RVD  
Title : Unbound murine diabetogenic 4.1 TCR  
Authors : Lopez-Sagaseta, J.; Erausquin, E.  
Deposited on : 2024-02-01  
Resolution : 3.00 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](mailto: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>.

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

MolProbity : 4.02b-467  
Mogul : 1.8.4, CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 3.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.003 (Gargrove)  
Density-Fitness : 1.0.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.40

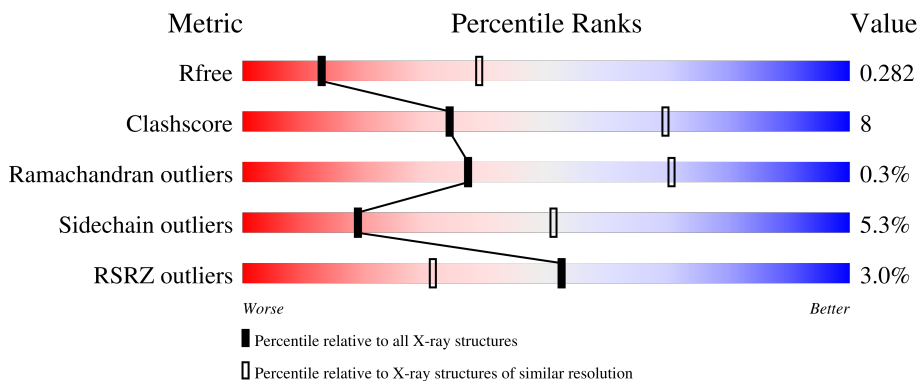
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.00 Å.

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







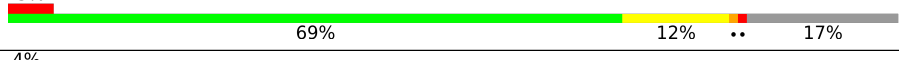
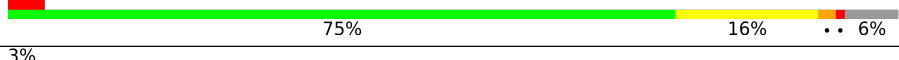

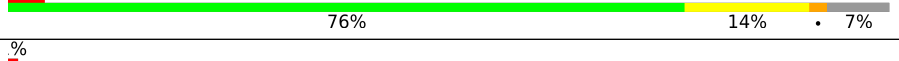

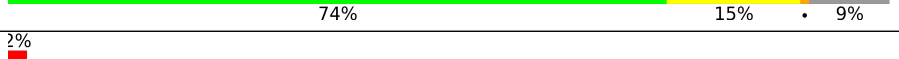
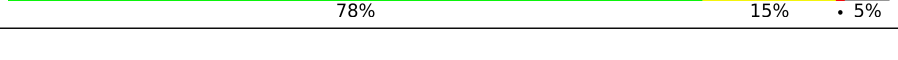
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	164625	2511 (3.00-3.00)
Clashscore	180529	2866 (3.00-3.00)
Ramachandran outliers	177936	2778 (3.00-3.00)
Sidechain outliers	177891	2781 (3.00-3.00)
RSRZ outliers	164620	2523 (3.00-3.00)

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  $\geq 3$ , 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	242	 3% 83% 12% ..
1	C	242	 % 82% 14% ..
1	E	242	 2% 81% 16% .
1	F	242	 % 83% 15% .
1	I	242	 2% 83% 13% .

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Mol	Chain	Length	Quality of chain	
1	K	242		83% 14% ..
1	M	242		82% 14% ...
1	O	242		83% 15% ..
2	B	207		74% 19% ..
2	D	207		69% 12% .. 17%
2	G	207		75% 16% .. 6%
2	H	207		76% 15% . 6%
2	J	207		76% 14% . 7%
2	L	207		76% 13% . 9%
2	N	207		74% 15% . 9%
2	P	207		78% 15% . 5%

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	PO4	A	301	-	-	X	-
3	PO4	B	301	-	-	X	-
3	PO4	E	301	-	-	X	-
3	PO4	M	301	-	-	X	-
3	PO4	O	302	-	-	X	-

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 25719 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 4.1 TCR beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	E	241	Total 1791	C 1134	N 327	O 323	S 7	0	0	0
1	A	238	Total 1729	C 1088	N 314	O 320	S 7	0	0	0
1	C	240	Total 1851	C 1173	N 329	O 342	S 7	0	0	0
1	F	242	Total 1853	C 1175	N 326	O 344	S 8	0	0	0
1	I	241	Total 1838	C 1164	N 325	O 342	S 7	0	0	0
1	K	240	Total 1816	C 1153	N 315	O 341	S 7	0	0	0
1	M	239	Total 1810	C 1148	N 317	O 338	S 7	0	0	0
1	O	239	Total 1831	C 1160	N 320	O 344	S 7	0	0	0

- Molecule 2 is a protein called 4.1 TCR alpha chain.

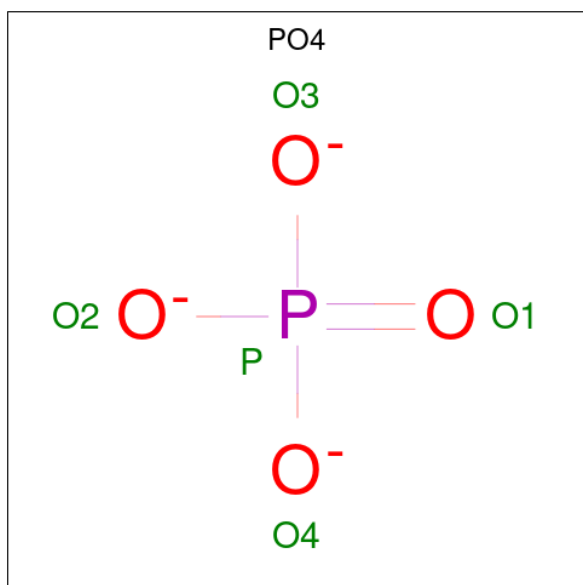
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	H	195	Total 1388	C 872	N 236	O 272	S 8	0	0	0
2	B	198	Total 1348	C 847	N 226	O 266	S 9	0	0	0
2	D	172	Total 1290	C 815	N 217	O 250	S 8	0	0	0
2	G	195	Total 1477	C 927	N 248	O 293	S 9	0	0	0
2	J	192	Total 1440	C 909	N 245	O 278	S 8	0	0	0
2	L	189	Total 1400	C 884	N 238	O 269	S 9	0	0	0

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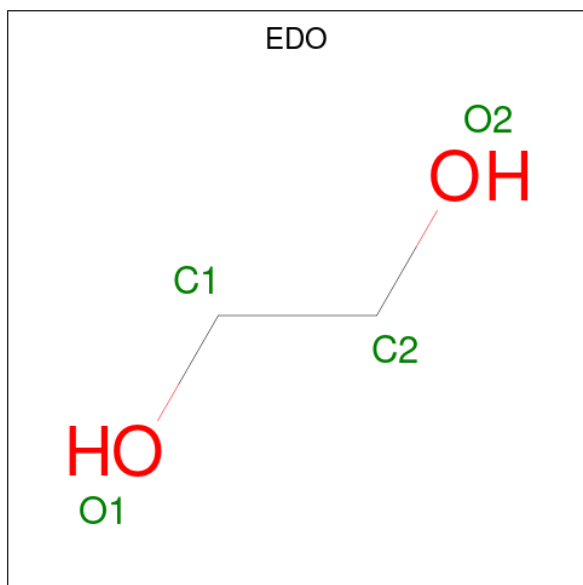
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	N	189	Total	C	N	O	S	0	0	0
			1371	871	222	270	8			
2	P	197	Total	C	N	O	S	0	0	0
			1442	912	241	281	8			

- Molecule 3 is PHOSPHATE ION (three-letter code: PO4) (formula: O<sub>4</sub>P).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	E	1	Total	O	P	0	0
			5	4	1		
3	A	1	Total	O	P	0	0
			5	4	1		
3	B	1	Total	O	P	0	0
			5	4	1		
3	I	1	Total	O	P	0	0
			5	4	1		
3	J	1	Total	O	P	0	0
			5	4	1		
3	M	1	Total	O	P	0	0
			5	4	1		
3	O	1	Total	O	P	0	0
			5	4	1		
3	O	1	Total	O	P	0	0
			5	4	1		

- Molecule 4 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>).

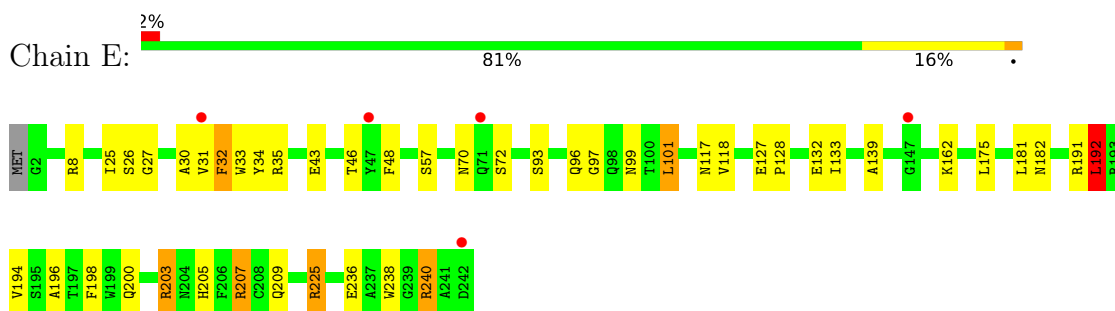


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	O	1	Total	C	O	0	0
			4	2	2		

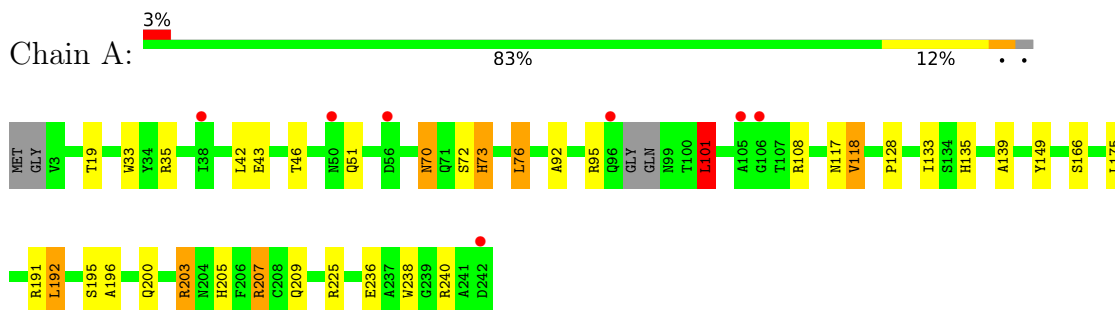
### 3 Residue-property plots [i](#)

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.

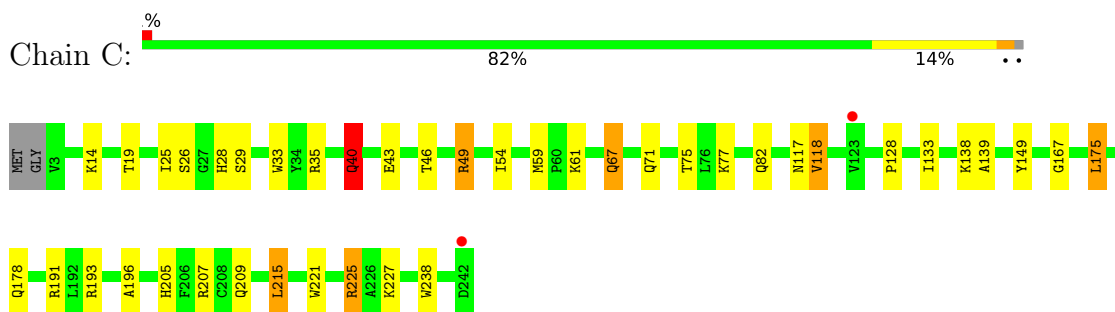
- Molecule 1: 4.1 TCR beta chain



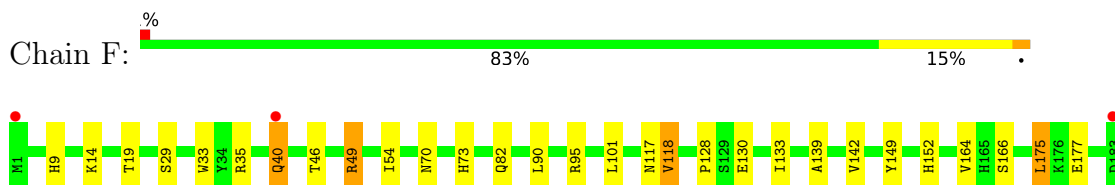
- Molecule 1: 4.1 TCR beta chain



- Molecule 1: 4.1 TCR beta chain

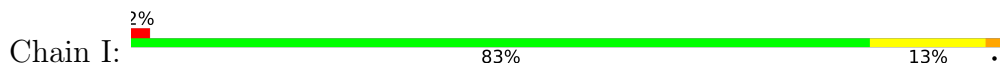


- Molecule 1: 4.1 TCR beta chain

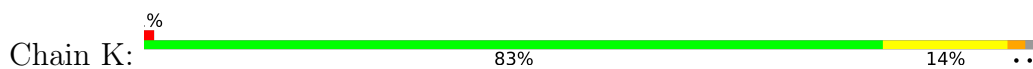




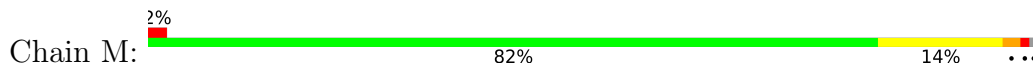
- Molecule 1: 4.1 TCR beta chain



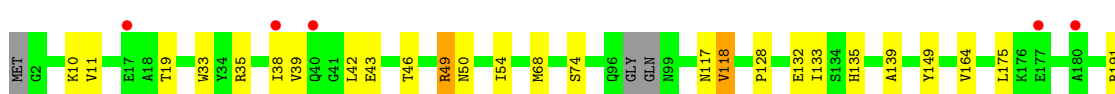
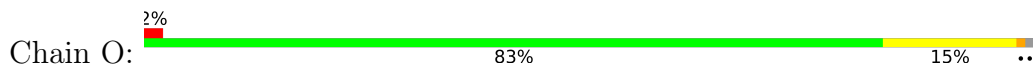
- Molecule 1: 4.1 TCR beta chain



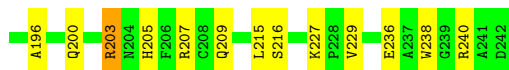
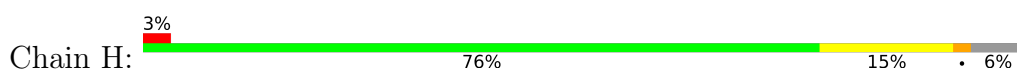
- Molecule 1: 4.1 TCR beta chain



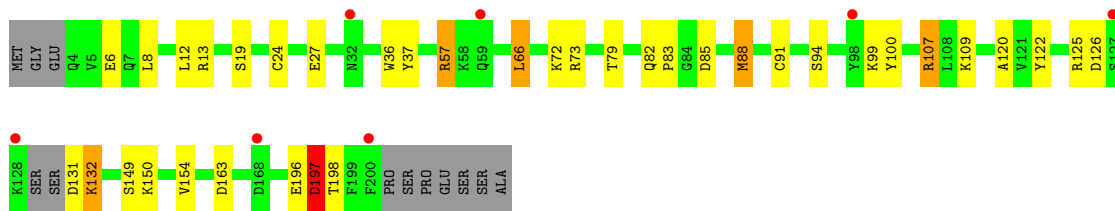
- Molecule 1: 4.1 TCR beta chain



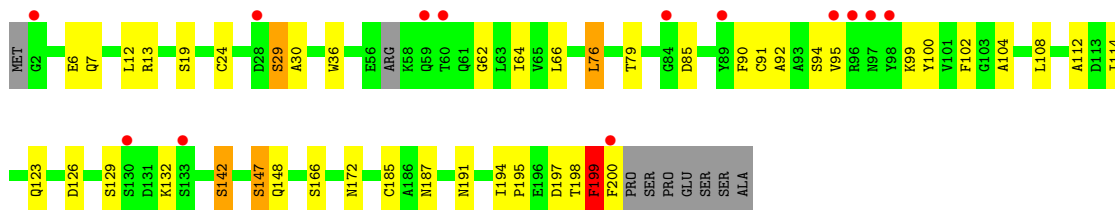
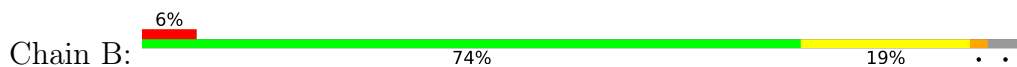
- Molecule 2: 4.1 TCR alpha chain



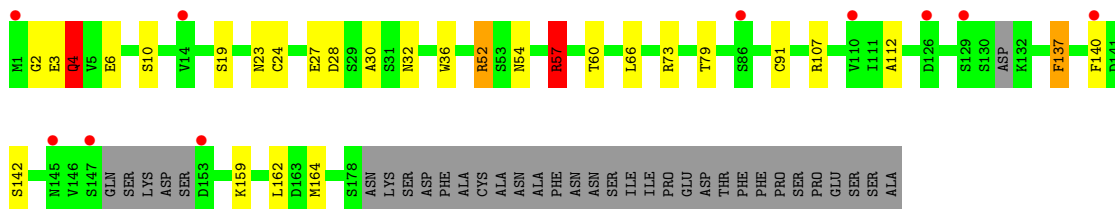




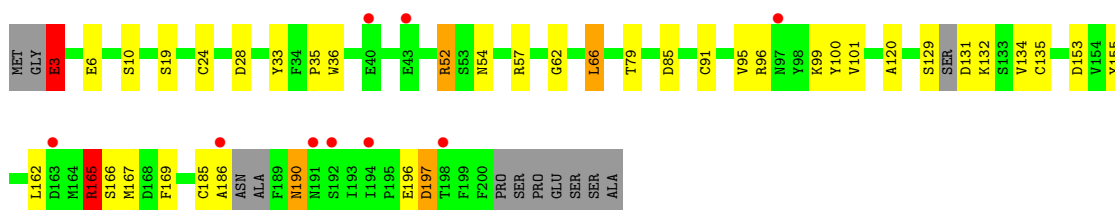
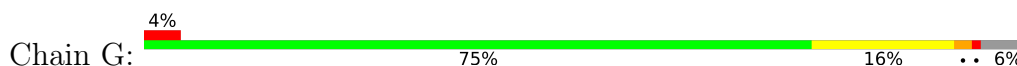
• Molecule 2: 4.1 TCR alpha chain



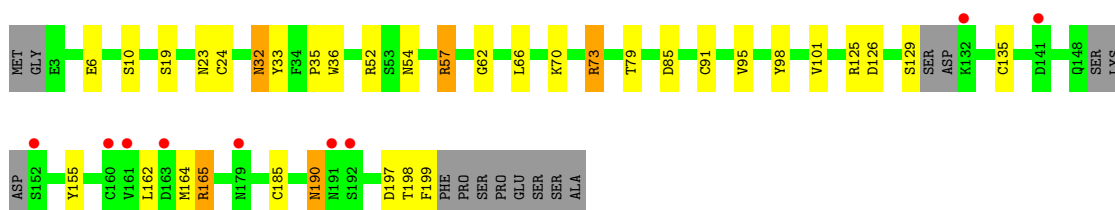
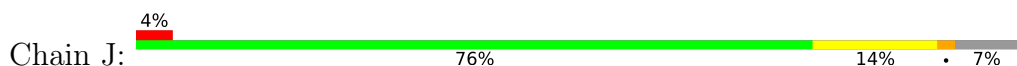
• Molecule 2: 4.1 TCR alpha chain



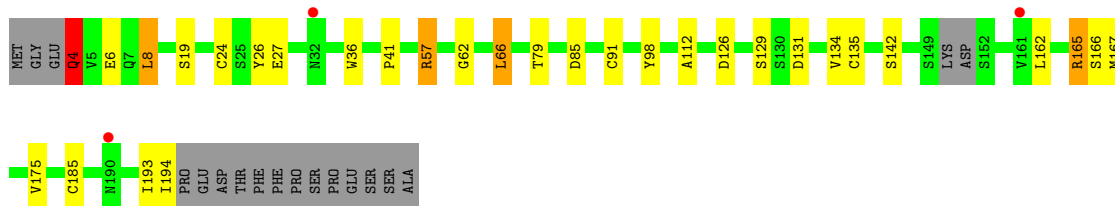
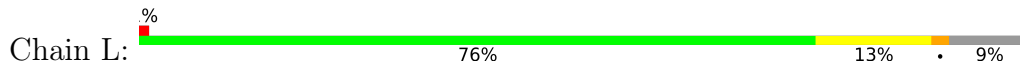
• Molecule 2: 4.1 TCR alpha chain



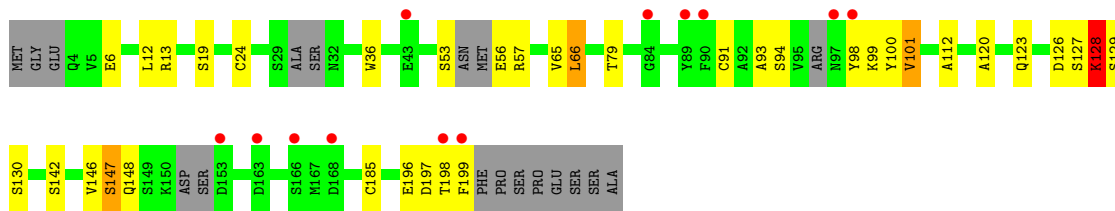
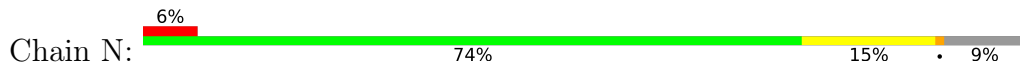
• Molecule 2: 4.1 TCR alpha chain



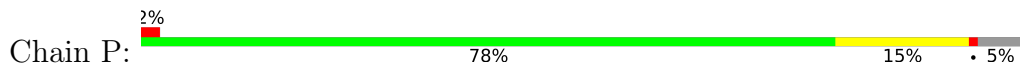
• Molecule 2: 4.1 TCR alpha chain



• Molecule 2: 4.1 TCR alpha chain



• Molecule 2: 4.1 TCR alpha chain



## 4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	129.99Å 151.13Å 135.55Å 90.00° 92.80° 90.00°	Depositor
Resolution (Å)	135.39 – 3.00 135.39 – 3.15	Depositor EDS
% Data completeness (in resolution range)	86.3 (135.39-3.00) 99.8 (135.39-3.15)	Depositor EDS
$R_{merge}$	0.18	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.70 (at 3.13Å)	Xtrriage
Refinement program	REFMAC 5.8.0425	Depositor
R, $R_{free}$	0.216 , 0.266 0.230 , 0.282	Depositor DCC
$R_{free}$ test set	4351 reflections (4.80%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	68.5	Xtrriage
Anisotropy	0.521	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.30 , 59.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	0.009 for l,k,-h 0.076 for h,-k,-l 0.020 for l,-k,h	Xtrriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	25719	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	69.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 36.79 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 4.7331e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup>Intensities estimated from amplitudes.

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

## 5 Model quality i

### 5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: PO4, EDO

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	0.43	0/1777	0.92	5/2434 (0.2%)
1	C	0.47	0/1903	1.01	6/2599 (0.2%)
1	E	0.46	0/1843	0.96	5/2521 (0.2%)
1	F	0.47	0/1906	0.97	5/2605 (0.2%)
1	I	0.44	0/1890	0.98	7/2586 (0.3%)
1	K	0.47	0/1868	0.98	5/2558 (0.2%)
1	M	0.45	0/1860	1.01	7/2545 (0.3%)
1	O	0.44	0/1883	0.95	3/2576 (0.1%)
2	B	0.47	1/1376 (0.1%)	0.99	3/1888 (0.2%)
2	D	0.47	0/1314	1.06	6/1786 (0.3%)
2	G	0.47	0/1504	1.08	8/2041 (0.4%)
2	H	0.52	0/1415	1.10	8/1932 (0.4%)
2	J	0.49	0/1467	1.03	6/1994 (0.3%)
2	L	0.50	0/1427	1.06	6/1939 (0.3%)
2	N	0.48	1/1396 (0.1%)	1.00	6/1902 (0.3%)
2	P	0.49	0/1471	1.04	6/2005 (0.3%)
All	All	0.47	2/26300 (0.0%)	1.01	92/35911 (0.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
1	C	0	1
1	E	0	1
1	F	0	1
2	B	0	1
2	D	0	2
2	G	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
2	H	0	2
2	J	0	2
2	L	0	1
2	N	0	1
2	P	0	4
All	All	0	20

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	147	SER	CA-CB	-5.57	1.44	1.52
2	N	53	SER	C-O	5.05	1.32	1.23

All (92) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	M	225	ARG	NE-CZ-NH1	12.91	126.75	120.30
1	C	175	LEU	CB-CG-CD2	-12.23	90.21	111.00
1	M	225	ARG	CD-NE-CZ	10.50	138.31	123.60
1	M	181	LEU	CB-CG-CD2	-9.93	94.12	111.00
2	J	165	ARG	NE-CZ-NH2	-9.18	115.71	120.30
1	C	225	ARG	NE-CZ-NH1	8.75	124.68	120.30
2	H	57	ARG	CB-CA-C	-8.55	93.31	110.40
1	M	225	ARG	NE-CZ-NH2	-8.35	116.13	120.30
1	O	203	ARG	NE-CZ-NH2	8.12	124.36	120.30
2	G	132	LYS	N-CA-CB	-8.10	96.03	110.60
1	A	76	LEU	CB-CG-CD1	7.89	124.41	111.00
2	B	108	LEU	CB-CG-CD2	7.81	124.28	111.00
2	N	98	TYR	CB-CA-C	7.35	125.11	110.40
1	C	225	ARG	NE-CZ-NH2	-7.30	116.65	120.30
1	I	225	ARG	CD-NE-CZ	7.16	133.62	123.60
1	E	225	ARG	CD-NE-CZ	7.10	133.54	123.60
2	P	98	TYR	CB-CA-C	7.07	124.54	110.40
2	J	165	ARG	CG-CD-NE	6.97	126.43	111.80
1	I	19	THR	OG1-CB-CG2	6.96	126.01	110.00
2	H	83	PRO	C-N-CA	-6.96	107.69	122.30
2	J	165	ARG	CD-NE-CZ	6.79	133.11	123.60
1	A	101	LEU	CB-CG-CD2	6.78	122.53	111.00
1	K	19	THR	OG1-CB-CG2	6.75	125.52	110.00
1	E	192	LEU	CB-CG-CD2	6.68	122.36	111.00
1	K	42	LEU	CB-CG-CD2	-6.62	99.75	111.00
1	A	192	LEU	CB-CG-CD2	6.61	122.24	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L	165	ARG	NE-CZ-NH1	-6.56	117.02	120.30
2	D	4	GLN	CB-CA-C	6.35	123.10	110.40
2	G	132	LYS	CB-CA-C	6.33	123.06	110.40
2	D	73	ARG	NE-CZ-NH2	6.30	123.45	120.30
1	F	49	ARG	N-CA-CB	6.20	121.77	110.60
1	C	175	LEU	CB-CG-CD1	6.12	121.39	111.00
1	E	240	ARG	CG-CD-NE	-6.04	99.11	111.80
1	I	225	ARG	NE-CZ-NH2	-6.04	117.28	120.30
2	H	8	LEU	CB-CG-CD1	-6.03	100.76	111.00
1	F	49	ARG	CB-CA-C	-5.97	98.45	110.40
2	L	4	GLN	CB-CA-C	5.92	122.25	110.40
1	F	35	ARG	NE-CZ-NH1	-5.84	117.38	120.30
2	N	56	GLU	CB-CA-C	5.81	122.01	110.40
1	I	225	ARG	NE-CZ-NH1	5.80	123.20	120.30
1	I	49	ARG	CD-NE-CZ	5.74	131.63	123.60
2	B	12	LEU	CB-CG-CD2	5.73	120.74	111.00
1	M	101	LEU	CB-CG-CD2	5.73	120.74	111.00
2	G	197	ASP	CB-CA-C	5.68	121.75	110.40
2	L	162	LEU	N-CA-CB	5.62	121.65	110.40
2	P	165	ARG	NE-CZ-NH2	5.62	123.11	120.30
1	M	35	ARG	NE-CZ-NH2	5.58	123.09	120.30
2	P	83	PRO	N-CA-C	-5.58	97.59	112.10
1	F	203	ARG	NE-CZ-NH2	5.57	123.08	120.30
1	E	101	LEU	CB-CG-CD1	5.56	120.45	111.00
2	D	32	ASN	CB-CA-C	-5.56	99.28	110.40
2	D	107	ARG	CG-CD-NE	-5.54	100.16	111.80
2	H	88	MET	CG-SD-CE	-5.54	91.34	100.20
2	N	128	LYS	CB-CG-CD	5.50	125.91	111.60
1	I	225	ARG	CG-CD-NE	-5.49	100.27	111.80
1	O	49	ARG	CB-CA-C	-5.47	99.45	110.40
2	N	66	LEU	CB-CG-CD1	5.47	120.30	111.00
2	H	198	THR	OG1-CB-CG2	-5.47	97.43	110.00
2	G	165	ARG	CG-CD-NE	5.40	123.14	111.80
2	J	197	ASP	CB-CA-C	5.40	121.20	110.40
1	A	42	LEU	N-CA-CB	5.40	121.20	110.40
1	C	225	ARG	CA-CB-CG	5.39	125.26	113.40
2	P	60	THR	OG1-CB-CG2	5.39	122.40	110.00
1	O	49	ARG	N-CA-CB	5.37	120.27	110.60
2	H	150	LYS	CB-CA-C	5.36	121.11	110.40
1	F	90	LEU	CB-CG-CD1	-5.35	101.90	111.00
1	M	207	ARG	NE-CZ-NH1	5.35	122.97	120.30
2	N	13	ARG	CG-CD-NE	-5.34	100.59	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	H	197	ASP	CB-CA-C	5.33	121.07	110.40
2	L	8	LEU	CB-CG-CD2	-5.33	101.94	111.00
2	H	109	LYS	N-CA-CB	5.28	120.10	110.60
1	K	193	ARG	NE-CZ-NH2	-5.25	117.67	120.30
2	L	131	ASP	CB-CA-C	5.25	120.91	110.40
2	B	199	PHE	N-CA-CB	-5.23	101.19	110.60
2	G	96	ARG	N-CA-CB	-5.23	101.19	110.60
1	K	144	LEU	CB-CG-CD1	-5.22	102.13	111.00
2	D	162	LEU	N-CA-CB	5.22	120.83	110.40
2	G	3	GLU	CB-CG-CD	5.19	128.21	114.20
2	G	162	LEU	N-CA-CB	5.17	120.73	110.40
2	P	150	LYS	CB-CA-C	5.14	120.69	110.40
1	A	203	ARG	NE-CZ-NH2	5.14	122.87	120.30
1	C	40	GLN	N-CA-CB	5.13	119.84	110.60
2	D	52	ARG	NE-CZ-NH2	-5.11	117.75	120.30
1	I	73	HIS	CB-CA-C	5.11	120.61	110.40
2	L	165	ARG	CG-CD-NE	5.09	122.49	111.80
1	K	35	ARG	NE-CZ-NH2	5.09	122.84	120.30
1	E	203	ARG	NE-CZ-NH1	-5.04	117.78	120.30
2	J	162	LEU	N-CA-CB	5.04	120.48	110.40
2	G	165	ARG	NE-CZ-NH1	5.04	122.82	120.30
2	N	147	SER	N-CA-CB	5.04	118.05	110.50
2	J	73	ARG	NE-CZ-NH1	-5.03	117.78	120.30
2	P	66	LEU	CB-CG-CD1	5.03	119.54	111.00

There are no chirality outliers.

All (20) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	108	ARG	Sidechain
1	A	207	ARG	Sidechain
2	B	148	GLN	Peptide
1	C	49	ARG	Sidechain
2	D	2	GLY	Peptide
2	D	57	ARG	Sidechain
1	E	207	ARG	Sidechain
1	F	95	ARG	Sidechain
2	G	165	ARG	Sidechain
2	G	52	ARG	Sidechain
2	H	163	ASP	Mainchain
2	H	73	ARG	Sidechain
2	J	57	ARG	Sidechain

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Mol	Chain	Res	Type	Group
2	J	73	ARG	Sidechain
2	L	57	ARG	Sidechain
2	N	146	VAL	Peptide
2	P	165	ARG	Sidechain
2	P	73	ARG	Sidechain
2	P	84	GLY	Mainchain,Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1729	0	1479	23	0
1	C	1851	0	1730	25	0
1	E	1791	0	1594	33	0
1	F	1853	0	1719	32	0
1	I	1838	0	1689	29	0
1	K	1816	0	1656	30	0
1	M	1810	0	1647	27	0
1	O	1831	0	1679	31	0
2	B	1348	0	1073	26	0
2	D	1290	0	1187	22	0
2	G	1477	0	1352	33	1
2	H	1388	0	1179	22	0
2	J	1440	0	1310	34	0
2	L	1400	0	1271	22	1
2	N	1371	0	1210	18	0
2	P	1442	0	1313	26	0
3	A	5	0	0	2	0
3	B	5	0	0	2	0
3	E	5	0	0	2	0
3	I	5	0	0	0	0
3	J	5	0	0	0	0
3	M	5	0	0	2	0
3	O	10	0	0	2	0
4	O	4	0	6	2	0
All	All	25719	0	23094	364	1

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 8.

All (364) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:165:ARG:HH11	1:O:164:VAL:HB	1.10	1.09
1:M:166:SER:HB2	3:M:301:PO4:O3	1.51	1.08
1:O:11:VAL:O	4:O:303:EDO:H22	1.55	1.06
2:H:57:ARG:HG2	2:H:66:LEU:CD1	1.92	0.99
1:M:207:ARG:NH2	1:M:209:GLN:OE1	1.95	0.98
2:D:23:ASN:HD21	2:J:23:ASN:HD21	0.95	0.93
1:M:92:ALA:HB1	1:M:101:LEU:CD2	1.99	0.92
2:H:57:ARG:HG2	2:H:66:LEU:HD12	1.50	0.92
2:L:135:CYS:HG	2:L:185:CYS:HG	1.04	0.92
2:J:135:CYS:HG	2:J:185:CYS:HG	0.94	0.90
1:K:40:GLN:HE21	1:K:40:GLN:HA	1.36	0.90
1:E:31:VAL:CB	1:E:48:PHE:HD2	1.84	0.89
2:G:135:CYS:HG	2:G:185:CYS:HG	1.20	0.88
1:F:203:ARG:NH1	2:P:85:ASP:OD2	2.06	0.88
1:E:27:GLY:HA3	3:E:301:PO4:O4	1.76	0.85
2:G:165:ARG:NH1	1:O:164:VAL:HB	1.94	0.83
1:M:166:SER:CB	3:M:301:PO4:O3	2.27	0.81
2:P:127:SER:O	2:P:128:LYS:HG2	1.82	0.80
2:G:165:ARG:HH11	1:O:164:VAL:CB	1.91	0.79
2:N:128:LYS:CD	2:N:128:LYS:H	1.96	0.79
1:M:92:ALA:HB1	1:M:101:LEU:HD22	1.62	0.78
2:G:120:ALA:HA	2:G:197:ASP:HB3	1.65	0.77
2:H:120:ALA:HA	2:H:197:ASP:HB3	1.66	0.76
1:F:207:ARG:NH2	1:F:209:GLN:OE1	2.19	0.76
1:F:203:ARG:NH1	2:P:85:ASP:CG	2.39	0.76
1:A:207:ARG:NH2	1:A:209:GLN:OE1	2.18	0.76
2:B:62:GLY:HA3	1:K:203:ARG:HG3	1.68	0.76
2:P:119:PRO:O	2:P:197:ASP:HB3	1.86	0.75
1:E:203:ARG:NH1	2:J:85:ASP:OD2	2.20	0.75
2:D:4:GLN:HB2	2:D:27:GLU:HB2	1.69	0.75
1:O:207:ARG:NH2	1:O:209:GLN:OE1	2.18	0.74
1:I:207:ARG:NH2	1:I:209:GLN:OE1	2.20	0.74
1:C:207:ARG:NH2	1:C:209:GLN:OE1	2.20	0.74
1:C:14:LYS:HE3	1:C:82:GLN:HE22	1.49	0.74
1:E:207:ARG:NH2	1:E:209:GLN:OE1	2.20	0.74
1:M:92:ALA:HB1	1:M:101:LEU:HD21	1.67	0.74
1:K:207:ARG:NH2	1:K:209:GLN:OE1	2.22	0.72
2:D:23:ASN:ND2	2:J:23:ASN:HD21	1.80	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:85:ASP:OD2	1:O:203:ARG:NH1	2.23	0.72
1:E:127:GLU:OE1	1:E:240:ARG:NH1	2.23	0.72
1:C:138:LYS:HD2	1:C:193:ARG:HD3	1.72	0.72
2:P:88:MET:CE	2:P:107:ARG:HD3	2.20	0.72
2:D:23:ASN:HD21	2:J:23:ASN:ND2	1.80	0.71
1:C:49:ARG:HB3	1:C:54:ILE:HD11	1.71	0.71
2:H:125:ARG:HD3	2:H:132:LYS:HE3	1.71	0.71
1:F:203:ARG:NH1	2:P:85:ASP:OD1	2.24	0.71
1:C:221:TRP:HB2	1:C:227:LYS:HD3	1.72	0.71
2:J:95:VAL:HG23	2:J:101:VAL:HG23	1.72	0.71
1:A:92:ALA:HB1	1:A:101:LEU:HD22	1.74	0.70
2:B:7:GLN:NE2	2:B:104:ALA:O	2.24	0.70
2:N:128:LYS:H	2:N:128:LYS:HD2	1.57	0.70
2:B:13:ARG:HH22	3:B:301:PO4:P	2.15	0.69
1:O:216:SER:HB3	4:O:303:EDO:H11	1.74	0.69
1:A:166:SER:HB2	3:A:301:PO4:O3	1.93	0.69
2:D:3:GLU:O	2:D:3:GLU:HG2	1.92	0.69
2:G:62:GLY:HA3	1:O:203:ARG:HG3	1.75	0.69
2:L:165:ARG:O	2:L:166:SER:CB	2.41	0.69
2:P:127:SER:C	2:P:128:LYS:HG2	2.13	0.68
2:D:137:PHE:HB3	2:D:140:PHE:CZ	2.28	0.68
1:C:49:ARG:HB3	1:C:54:ILE:CD1	2.23	0.68
1:A:203:ARG:NH1	2:L:85:ASP:OD2	2.27	0.68
1:E:31:VAL:O	1:E:32:PHE:C	2.33	0.67
2:B:13:ARG:NH2	3:B:301:PO4:O4	2.27	0.67
1:E:31:VAL:CB	1:E:48:PHE:CD2	2.75	0.67
1:F:164:VAL:HG11	2:P:165:ARG:NH1	2.09	0.67
1:O:118:VAL:HG11	1:O:215:LEU:HD21	1.75	0.67
2:G:167:MET:HG3	2:G:169:PHE:HB3	1.77	0.67
2:N:123:GLN:HB2	2:N:185:CYS:SG	2.35	0.66
2:P:149:SER:OG	2:P:151:ASP:O	2.14	0.66
2:B:194:ILE:HG21	2:B:198:THR:HG22	1.78	0.66
1:C:167:GLY:HA2	2:D:164:MET:HE2	1.78	0.65
1:I:28:HIS:HA	1:I:95:ARG:HD3	1.76	0.65
2:D:142:SER:O	2:D:159:LYS:NZ	2.30	0.64
2:P:57:ARG:NH1	2:P:66:LEU:HD11	2.12	0.64
2:P:88:MET:HE1	2:P:107:ARG:HD3	1.79	0.64
2:G:95:VAL:HG21	2:G:101:VAL:HG21	1.80	0.64
1:E:96:GLN:HG3	1:E:97:GLY:H	1.61	0.64
2:B:197:ASP:OD2	2:B:199:PHE:HB2	1.98	0.63
2:N:127:SER:HB2	2:N:130:SER:HB3	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:85:ASP:CG	1:O:203:ARG:NH1	2.53	0.62
1:I:70:ASN:HD21	1:I:73:HIS:CE1	2.19	0.61
2:H:125:ARG:O	2:H:126:ASP:HB2	2.01	0.61
1:M:101:LEU:HD12	2:N:100:TYR:CD2	2.36	0.61
1:K:70:ASN:HD21	1:K:73:HIS:CE1	2.20	0.60
2:J:95:VAL:HG21	2:J:101:VAL:HG21	1.83	0.60
1:E:118:VAL:O	1:E:225:ARG:NH2	2.34	0.60
1:C:46:THR:HB	1:C:59:MET:CE	2.32	0.60
2:B:123:GLN:HB2	2:B:185:CYS:SG	2.42	0.60
1:M:70:ASN:HD21	1:M:73:HIS:CE1	2.19	0.59
1:K:40:GLN:HA	1:K:40:GLN:NE2	2.13	0.59
2:H:79:THR:O	1:I:203:ARG:NH2	2.36	0.59
1:F:101:LEU:HD22	2:G:100:TYR:HD2	1.66	0.59
2:G:95:VAL:HG21	2:G:101:VAL:CG2	2.33	0.59
1:I:62:GLU:OE2	1:M:38:ILE:HG21	2.02	0.58
2:N:147:SER:OG	2:N:148:GLN:N	2.36	0.58
1:F:133:ILE:HG23	1:F:196:ALA:HB1	1.86	0.58
2:N:93:ALA:O	2:N:101:VAL:HG23	2.02	0.58
2:P:88:MET:HE2	2:P:107:ARG:HD3	1.86	0.58
2:J:190:ASN:O	2:J:190:ASN:ND2	2.36	0.58
2:G:85:ASP:OD1	1:O:203:ARG:NH1	2.35	0.57
2:B:29:SER:O	2:B:30:ALA:HB3	2.04	0.57
2:B:94:SER:HA	2:B:99:LYS:O	2.04	0.57
1:F:70:ASN:HD21	1:F:73:HIS:CE1	2.21	0.57
1:K:33:TRP:HB2	1:K:46:THR:HG22	1.87	0.57
1:F:49:ARG:CB	1:F:54:ILE:HD11	2.34	0.57
2:L:4:GLN:HE22	2:L:26:TYR:HB2	1.69	0.57
2:D:19:SER:OG	2:J:6:GLU:OE2	2.23	0.57
1:A:203:ARG:NH1	2:L:85:ASP:CG	2.58	0.57
2:D:112:ALA:O	2:D:142:SER:OG	2.22	0.56
2:J:95:VAL:CG2	2:J:101:VAL:HG23	2.35	0.56
1:A:166:SER:CB	3:A:301:PO4:O3	2.53	0.56
2:J:19:SER:HB3	2:J:79:THR:HA	1.88	0.56
1:I:33:TRP:HB2	1:I:46:THR:HG22	1.88	0.56
1:C:193:ARG:NH1	2:D:164:MET:HE3	2.21	0.56
1:E:203:ARG:NH1	2:J:85:ASP:CG	2.59	0.56
2:D:19:SER:HB3	2:D:79:THR:HA	1.89	0.55
1:E:203:ARG:NH2	2:J:79:THR:O	2.40	0.55
1:M:92:ALA:CB	1:M:101:LEU:HD21	2.36	0.55
1:M:40:GLN:HE21	1:M:40:GLN:HA	1.72	0.55
1:C:33:TRP:HB2	1:C:46:THR:HG22	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:118:VAL:O	1:F:225:ARG:NH1	2.40	0.55
2:J:95:VAL:CG2	2:J:101:VAL:CG2	2.85	0.55
1:F:33:TRP:HB2	1:F:46:THR:HG22	1.88	0.54
1:F:166:SER:HB2	2:G:165:ARG:HH22	1.73	0.54
1:K:118:VAL:O	1:K:225:ARG:NH1	2.40	0.54
1:K:98:GLN:HE21	1:K:100:THR:CG2	2.20	0.54
1:A:118:VAL:O	1:A:225:ARG:NH1	2.41	0.54
2:L:19:SER:HB3	2:L:79:THR:HA	1.88	0.54
2:G:3:GLU:HG2	2:G:28:ASP:HB2	1.88	0.54
1:I:205:HIS:HD2	1:I:238:TRP:CE2	2.25	0.54
1:A:135:HIS:HD2	2:B:199:PHE:CZ	2.25	0.54
1:K:205:HIS:HD2	1:K:238:TRP:CE2	2.26	0.54
2:B:85:ASP:OD2	1:K:203:ARG:NH1	2.40	0.54
1:C:40:GLN:O	1:C:40:GLN:NE2	2.40	0.54
2:L:4:GLN:NE2	2:L:27:GLU:H	2.06	0.54
1:M:133:ILE:HG23	1:M:196:ALA:HB1	1.90	0.54
2:H:88:MET:CE	2:H:107:ARG:HG3	2.38	0.53
2:L:112:ALA:O	2:L:142:SER:OG	2.22	0.53
2:N:19:SER:HB3	2:N:79:THR:HA	1.90	0.53
1:M:135:HIS:ND1	2:N:198:THR:HG21	2.22	0.53
1:I:118:VAL:O	1:I:225:ARG:NH1	2.42	0.53
1:M:205:HIS:HD2	1:M:238:TRP:CE2	2.26	0.53
2:G:19:SER:HB3	2:G:79:THR:HA	1.91	0.53
1:F:40:GLN:O	1:F:40:GLN:NE2	2.42	0.53
2:G:79:THR:O	1:O:203:ARG:NH2	2.42	0.53
1:A:195:SER:H	2:L:166:SER:H	1.56	0.52
1:K:133:ILE:HG23	1:K:196:ALA:HB1	1.90	0.52
2:P:112:ALA:O	2:P:142:SER:OG	2.25	0.52
1:F:175:LEU:HD11	2:G:155:TYR:HB3	1.91	0.52
1:F:14:LYS:CE	1:F:82:GLN:HE22	2.22	0.52
1:I:133:ILE:HG23	1:I:196:ALA:HB1	1.91	0.52
1:K:28:HIS:O	1:K:29:SER:HB2	2.09	0.52
1:A:203:ARG:NH1	2:L:85:ASP:OD1	2.41	0.52
2:J:32:ASN:N	2:J:32:ASN:HD22	2.07	0.52
2:J:52:ARG:HG2	2:J:54:ASN:ND2	2.24	0.52
1:E:205:HIS:HD2	1:E:238:TRP:CE2	2.28	0.52
1:A:92:ALA:HB1	1:A:101:LEU:CD2	2.38	0.52
1:C:46:THR:HB	1:C:59:MET:HE1	1.92	0.52
1:C:118:VAL:O	1:C:225:ARG:NH1	2.42	0.52
2:N:112:ALA:O	2:N:142:SER:OG	2.25	0.52
2:B:19:SER:HB3	2:B:79:THR:HA	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:33:TRP:HB2	1:A:46:THR:HG22	1.92	0.51
1:A:205:HIS:HD2	1:A:238:TRP:CE2	2.28	0.51
1:M:33:TRP:HB2	1:M:46:THR:HG22	1.91	0.51
2:D:3:GLU:O	2:D:3:GLU:CG	2.58	0.51
1:F:203:ARG:HH11	2:P:85:ASP:CG	2.05	0.51
2:J:95:VAL:HG21	2:J:101:VAL:CG2	2.40	0.51
2:N:196:GLU:OE2	2:N:196:GLU:N	2.40	0.51
1:E:132:GLU:HA	2:H:122:TYR:CE1	2.46	0.51
1:K:28:HIS:O	1:K:29:SER:CB	2.58	0.51
1:O:205:HIS:HD2	1:O:238:TRP:CE2	2.29	0.51
2:G:185:CYS:O	2:G:186:ALA:HB3	2.11	0.51
2:J:32:ASN:HD22	2:J:32:ASN:H	1.57	0.51
2:P:19:SER:HB3	2:P:79:THR:HA	1.91	0.51
1:C:205:HIS:HD2	1:C:238:TRP:CE2	2.28	0.50
1:F:164:VAL:CG1	2:P:165:ARG:NH1	2.73	0.50
1:C:133:ILE:HG23	1:C:196:ALA:HB1	1.92	0.50
1:O:33:TRP:HB2	1:O:46:THR:HG22	1.91	0.50
1:M:118:VAL:O	1:M:225:ARG:NH1	2.44	0.50
2:H:85:ASP:OD2	1:I:203:ARG:NH1	2.44	0.50
2:L:6:GLU:O	2:L:24:CYS:HA	2.12	0.50
2:H:94:SER:HA	2:H:99:LYS:O	2.12	0.49
1:A:133:ILE:HG23	1:A:196:ALA:HB1	1.94	0.49
1:I:167:GLY:HA2	2:J:164:MET:CE	2.42	0.49
2:P:127:SER:C	2:P:128:LYS:CG	2.80	0.49
1:O:10:LYS:NZ	3:O:302:PO4:P	2.86	0.49
2:D:6:GLU:O	2:D:24:CYS:HA	2.13	0.49
2:J:165:ARG:NH2	2:J:165:ARG:HB3	2.27	0.49
2:P:6:GLU:O	2:P:24:CYS:HA	2.13	0.49
2:J:6:GLU:O	2:J:24:CYS:HA	2.13	0.49
1:K:47:TYR:CD2	2:L:98:TYR:CD2	3.01	0.49
2:H:19:SER:HB3	2:H:79:THR:HA	1.95	0.48
1:A:203:ARG:NH2	2:L:79:THR:O	2.46	0.48
2:N:94:SER:HA	2:N:99:LYS:O	2.12	0.48
2:L:4:GLN:NE2	2:L:4:GLN:O	2.46	0.48
1:M:39:VAL:HG23	1:M:40:GLN:HG2	1.96	0.48
2:H:88:MET:SD	2:H:107:ARG:HG3	2.54	0.48
1:C:67:GLN:HG2	1:C:75:THR:OG1	2.14	0.48
2:D:137:PHE:CD1	2:D:137:PHE:N	2.81	0.48
2:G:190:ASN:O	2:G:190:ASN:ND2	2.34	0.48
1:E:33:TRP:HB2	1:E:46:THR:HG22	1.96	0.48
1:I:9:HIS:HB3	1:I:152:HIS:ND1	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:118:VAL:HG11	1:C:215:LEU:HD21	1.94	0.48
2:N:120:ALA:HA	2:N:197:ASP:HA	1.94	0.48
1:I:49:ARG:HB3	1:I:54:ILE:CD1	2.43	0.48
1:I:175:LEU:HD11	2:J:155:TYR:HB3	1.95	0.48
2:P:141:ASP:OD1	2:P:142:SER:N	2.47	0.47
2:G:165:ARG:HH11	1:O:164:VAL:CG1	2.26	0.47
1:O:133:ILE:HG23	1:O:196:ALA:HB1	1.97	0.47
1:E:133:ILE:HG23	1:E:196:ALA:HB1	1.95	0.47
2:G:6:GLU:O	2:G:24:CYS:HA	2.13	0.47
1:C:221:TRP:CG	1:C:227:LYS:HB2	2.50	0.47
1:F:49:ARG:CB	1:F:54:ILE:CD1	2.92	0.47
1:E:25:ILE:O	1:E:27:GLY:N	2.47	0.47
1:E:32:PHE:HB3	1:E:34:TYR:HE1	1.80	0.47
2:H:6:GLU:O	2:H:24:CYS:HA	2.14	0.47
1:I:25:ILE:CB	1:I:95:ARG:NH2	2.78	0.47
2:J:165:ARG:HB3	2:J:165:ARG:HH21	1.79	0.47
1:M:135:HIS:CE1	2:N:198:THR:HG21	2.49	0.47
1:E:30:ALA:HA	1:E:93:SER:HA	1.97	0.47
1:E:203:ARG:HG3	2:J:62:GLY:HA3	1.97	0.47
2:N:6:GLU:O	2:N:24:CYS:HA	2.14	0.47
1:E:128:PRO:HG2	1:E:139:ALA:HB1	1.96	0.47
1:O:10:LYS:NZ	3:O:302:PO4:O2	2.47	0.46
1:O:227:LYS:HG3	1:O:229:VAL:HG13	1.98	0.46
2:P:149:SER:CB	2:P:154:VAL:O	2.64	0.46
2:B:6:GLU:O	2:B:24:CYS:HA	2.14	0.46
2:B:79:THR:O	1:K:203:ARG:NH2	2.49	0.46
1:I:62:GLU:CD	1:M:38:ILE:HG21	2.36	0.46
1:F:128:PRO:HG2	1:F:139:ALA:HB1	1.98	0.46
2:J:198:THR:O	2:J:199:PHE:CB	2.64	0.46
2:G:95:VAL:HB	2:G:99:LYS:HB3	1.98	0.46
1:A:128:PRO:HG2	1:A:139:ALA:HB1	1.98	0.46
1:K:98:GLN:HG2	1:K:100:THR:HG22	1.97	0.46
1:K:118:VAL:HG11	1:K:215:LEU:HD21	1.97	0.46
1:M:35:ARG:NH1	1:M:43:GLU:OE1	2.49	0.46
1:E:192:LEU:HD22	1:E:194:VAL:HG13	1.97	0.45
1:A:70:ASN:ND2	1:A:73:HIS:CD2	2.84	0.45
1:C:46:THR:HB	1:C:59:MET:HE2	1.98	0.45
1:F:9:HIS:HB3	1:F:152:HIS:ND1	2.31	0.45
1:E:203:ARG:HH11	2:J:85:ASP:CG	2.19	0.45
2:H:27:GLU:HA	2:H:72:LYS:NZ	2.32	0.45
1:I:128:PRO:HG2	1:I:139:ALA:HB1	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:38:ILE:HD12	1:K:38:ILE:HA	1.86	0.45
2:B:85:ASP:OD1	1:K:203:ARG:NH1	2.49	0.45
1:F:29:SER:O	1:F:49:ARG:O	2.34	0.45
2:G:33:TYR:CE1	2:G:35:PRO:HB3	2.50	0.45
2:J:33:TYR:CE1	2:J:35:PRO:HB3	2.52	0.45
1:C:128:PRO:HG2	1:C:139:ALA:HB1	1.99	0.45
2:H:82:GLN:NE2	1:I:197:THR:HG22	2.32	0.45
2:B:126:ASP:OD1	2:B:132:LYS:O	2.35	0.45
1:F:142:VAL:HG11	2:G:134:VAL:HG11	1.99	0.45
1:M:42:LEU:HD23	1:M:42:LEU:HA	1.80	0.45
1:O:135:HIS:ND1	2:P:199:PHE:CE2	2.85	0.45
1:K:227:LYS:HG3	1:K:229:VAL:HG13	1.99	0.45
2:D:36:TRP:CZ3	2:D:91:CYS:HB3	2.52	0.45
2:D:137:PHE:N	2:D:137:PHE:HD1	2.15	0.45
2:P:36:TRP:CZ3	2:P:91:CYS:HB3	2.51	0.45
2:D:57:ARG:NE	2:J:70:LYS:HB2	2.32	0.44
1:E:70:ASN:ND2	1:E:72:SER:H	2.16	0.44
1:A:101:LEU:HG	2:B:100:TYR:CE2	2.52	0.44
2:J:52:ARG:C	2:J:54:ASN:H	2.20	0.44
1:E:25:ILE:HB	3:E:301:PO4:O2	2.18	0.44
2:B:114:ILE:HD11	2:B:172:ASN:OD1	2.17	0.44
1:I:9:HIS:CD2	1:I:213:TYR:CE2	3.06	0.44
1:I:49:ARG:HB3	1:I:54:ILE:HD12	1.99	0.44
2:N:57:ARG:HA	2:N:65:VAL:O	2.17	0.44
1:E:181:LEU:N	1:E:181:LEU:HD23	2.33	0.44
2:G:129:SER:HG	2:G:131:ASP:N	2.16	0.44
2:H:149:SER:CB	2:H:154:VAL:O	2.66	0.44
1:F:14:LYS:HE3	1:F:82:GLN:HE22	1.82	0.44
1:F:14:LYS:HE2	1:F:82:GLN:HE22	1.83	0.44
1:O:128:PRO:HG2	1:O:139:ALA:HB1	1.99	0.44
1:F:133:ILE:HG23	1:F:196:ALA:CB	2.47	0.43
1:O:49:ARG:CB	1:O:54:ILE:CD1	2.96	0.43
1:K:128:PRO:HG2	1:K:139:ALA:HB1	2.00	0.43
1:F:9:HIS:CD2	1:F:213:TYR:CE2	3.07	0.43
1:F:203:ARG:HG3	2:P:62:GLY:HA3	2.00	0.43
2:L:57:ARG:HB3	2:L:66:LEU:HD12	2.01	0.43
1:E:198:PHE:CG	2:J:165:ARG:HG3	2.53	0.43
2:G:36:TRP:CZ3	2:G:91:CYS:HB3	2.54	0.43
1:I:133:ILE:HG23	1:I:196:ALA:CB	2.48	0.43
1:K:47:TYR:CD2	2:L:98:TYR:CE2	3.07	0.43
1:A:35:ARG:NH1	1:A:43:GLU:OE1	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:9:HIS:HB3	1:K:152:HIS:ND1	2.34	0.43
2:B:85:ASP:CG	1:K:203:ARG:NH1	2.72	0.43
1:C:49:ARG:HB3	1:C:54:ILE:HD12	2.00	0.43
2:N:36:TRP:CZ3	2:N:91:CYS:HB3	2.54	0.43
2:H:36:TRP:CZ3	2:H:91:CYS:HB3	2.54	0.42
2:L:36:TRP:CZ3	2:L:91:CYS:HB3	2.53	0.42
1:O:38:ILE:HG23	1:O:39:VAL:HG23	2.01	0.42
1:E:35:ARG:NH1	1:E:43:GLU:OE1	2.51	0.42
2:B:64:ILE:O	2:B:76:LEU:HD22	2.20	0.42
2:D:57:ARG:NH1	2:D:57:ARG:HG2	2.33	0.42
2:N:128:LYS:HD2	2:N:128:LYS:N	2.30	0.42
2:D:52:ARG:C	2:D:54:ASN:H	2.23	0.42
1:E:101:LEU:HB3	2:H:37:TYR:OH	2.20	0.42
1:E:198:PHE:CD2	2:J:165:ARG:HG3	2.54	0.42
1:M:118:VAL:HG11	1:M:215:LEU:HD11	2.02	0.42
1:M:118:VAL:HG23	1:M:149:TYR:O	2.20	0.42
1:O:49:ARG:CB	1:O:54:ILE:HD11	2.48	0.42
1:A:203:ARG:HG3	2:L:62:GLY:HA3	2.01	0.42
1:I:118:VAL:HG11	1:I:215:LEU:HD21	2.01	0.42
2:P:57:ARG:HB2	2:P:66:LEU:HD12	2.01	0.42
2:D:28:ASP:OD2	2:D:30:ALA:HB3	2.19	0.42
2:J:36:TRP:CZ3	2:J:91:CYS:HB3	2.54	0.42
1:E:32:PHE:HB3	1:E:34:TYR:CE1	2.55	0.42
1:I:19:THR:HB	1:I:77:LYS:HG2	2.00	0.42
1:M:128:PRO:HG2	1:M:139:ALA:HB1	2.01	0.42
1:M:133:ILE:HG23	1:M:196:ALA:CB	2.49	0.42
1:K:47:TYR:CE2	2:L:98:TYR:CD2	3.08	0.42
2:P:57:ARG:HH11	2:P:66:LEU:HD11	1.81	0.42
1:F:118:VAL:HG11	1:F:215:LEU:HD21	2.02	0.42
1:M:200:GLN:HA	1:M:240:ARG:O	2.20	0.42
1:A:133:ILE:HG23	1:A:196:ALA:CB	2.50	0.42
2:B:36:TRP:CZ3	2:B:91:CYS:HB3	2.55	0.42
1:C:133:ILE:HG23	1:C:196:ALA:CB	2.50	0.42
1:I:35:ARG:NH1	1:I:43:GLU:OE1	2.52	0.42
2:J:126:ASP:HB3	2:J:129:SER:C	2.40	0.42
1:K:200:GLN:HA	1:K:240:ARG:O	2.20	0.42
2:L:134:VAL:HG13	2:L:175:VAL:HG13	2.02	0.42
1:F:200:GLN:HA	1:F:240:ARG:O	2.20	0.41
2:G:52:ARG:C	2:G:54:ASN:H	2.23	0.41
2:H:94:SER:HG	2:H:100:TYR:HD1	1.61	0.41
1:A:200:GLN:HA	1:A:240:ARG:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:126:PHE:CD1	2:L:126:ASP:HA	2.55	0.41
1:K:133:ILE:HG23	1:K:196:ALA:CB	2.49	0.41
1:O:203:ARG:HH11	1:O:203:ARG:HD2	1.68	0.41
2:B:112:ALA:O	2:B:142:SER:OG	2.25	0.41
2:G:57:ARG:HB3	2:G:66:LEU:HD12	2.01	0.41
1:I:47:TYR:CD2	2:J:98:TYR:CD2	3.08	0.41
1:I:118:VAL:HG23	1:I:149:TYR:O	2.21	0.41
1:O:132:GLU:HA	2:P:122:TYR:CE1	2.55	0.41
2:D:4:GLN:HB2	2:D:27:GLU:H	1.85	0.41
2:B:7:GLN:HE22	2:B:90:PHE:HA	1.85	0.41
1:K:118:VAL:HG23	1:K:149:TYR:O	2.21	0.41
1:O:200:GLN:HA	1:O:240:ARG:O	2.20	0.41
1:A:118:VAL:HG23	1:A:149:TYR:O	2.21	0.41
1:O:35:ARG:NH1	1:O:43:GLU:OE1	2.54	0.41
2:H:94:SER:OG	2:H:100:TYR:CD1	2.70	0.41
2:G:95:VAL:CG2	2:G:101:VAL:CG2	2.99	0.41
2:B:194:ILE:CG2	2:B:198:THR:HG22	2.46	0.41
2:G:95:VAL:CG2	2:G:101:VAL:HG23	2.51	0.41
1:K:98:GLN:HE21	1:K:100:THR:HG21	1.85	0.41
1:M:227:LYS:HG3	1:M:229:VAL:HG13	2.03	0.41
1:E:99:ASN:O	2:H:100:TYR:OH	2.24	0.41
1:F:118:VAL:HG23	1:F:149:TYR:O	2.21	0.41
1:F:177:GLU:O	2:G:155:TYR:HE2	2.04	0.41
2:G:3:GLU:CG	2:G:28:ASP:HB2	2.50	0.41
1:E:200:GLN:HA	1:E:240:ARG:O	2.20	0.40
2:L:193:ILE:O	2:L:194:ILE:C	2.59	0.40
1:E:133:ILE:HG23	1:E:196:ALA:CB	2.51	0.40
1:C:25:ILE:O	1:C:28:HIS:HB2	2.21	0.40
1:F:227:LYS:HG3	1:F:229:VAL:HG13	2.04	0.40
1:I:200:GLN:HA	1:I:240:ARG:O	2.21	0.40
1:O:118:VAL:HG23	1:O:149:TYR:O	2.21	0.40
2:H:82:GLN:HE21	1:I:197:THR:HG22	1.86	0.40
1:C:118:VAL:HG23	1:C:149:TYR:O	2.21	0.40
1:O:42:LEU:HD23	1:O:42:LEU:HA	1.87	0.40
2:B:29:SER:O	2:B:30:ALA:CB	2.67	0.40
2:B:92:ALA:HB2	2:B:102:PHE:CD2	2.56	0.40
1:C:35:ARG:NH1	1:C:43:GLU:OE1	2.54	0.40
1:I:144:LEU:HD23	1:I:144:LEU:HA	1.93	0.40
1:O:68:MET:HG2	1:O:74:SER:HB2	2.04	0.40

All (1) 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)
2:G:6:GLU:OE1	2:L:19:SER:OG[2_655]	2.12	0.08

### 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	234/242 (97%)	225 (96%)	9 (4%)	0	100	100
1	C	238/242 (98%)	230 (97%)	8 (3%)	0	100	100
1	E	239/242 (99%)	225 (94%)	12 (5%)	2 (1%)	16	51
1	F	240/242 (99%)	229 (95%)	11 (5%)	0	100	100
1	I	239/242 (99%)	231 (97%)	8 (3%)	0	100	100
1	K	238/242 (98%)	231 (97%)	6 (2%)	1 (0%)	30	66
1	M	235/242 (97%)	226 (96%)	9 (4%)	0	100	100
1	O	235/242 (97%)	225 (96%)	10 (4%)	0	100	100
2	B	194/207 (94%)	175 (90%)	15 (8%)	4 (2%)	5	28
2	D	166/207 (80%)	159 (96%)	7 (4%)	0	100	100
2	G	189/207 (91%)	177 (94%)	12 (6%)	0	100	100
2	H	191/207 (92%)	175 (92%)	16 (8%)	0	100	100
2	J	186/207 (90%)	170 (91%)	16 (9%)	0	100	100
2	L	185/207 (89%)	170 (92%)	14 (8%)	1 (0%)	25	61
2	N	179/207 (86%)	167 (93%)	12 (7%)	0	100	100
2	P	195/207 (94%)	178 (91%)	15 (8%)	2 (1%)	13	46
All	All	3383/3592 (94%)	3193 (94%)	180 (5%)	10 (0%)	37	70

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	26	SER

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Mol	Chain	Res	Type
2	B	29	SER
2	B	195	PRO
1	K	29	SER
2	P	197	ASP
1	E	32	PHE
2	B	147	SER
2	B	199	PHE
2	L	129	SER
2	P	195	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	154/210 (73%)	140 (91%)	14 (9%)	7	30
1	C	190/210 (90%)	176 (93%)	14 (7%)	11	38
1	E	167/210 (80%)	158 (95%)	9 (5%)	18	50
1	F	189/210 (90%)	182 (96%)	7 (4%)	29	63
1	I	185/210 (88%)	179 (97%)	6 (3%)	34	67
1	K	182/210 (87%)	173 (95%)	9 (5%)	21	54
1	M	180/210 (86%)	167 (93%)	13 (7%)	12	39
1	O	187/210 (89%)	180 (96%)	7 (4%)	29	63
2	B	111/185 (60%)	102 (92%)	9 (8%)	9	34
2	D	131/185 (71%)	125 (95%)	6 (5%)	23	56
2	G	153/185 (83%)	145 (95%)	8 (5%)	19	52
2	H	125/185 (68%)	117 (94%)	8 (6%)	14	44
2	J	143/185 (77%)	137 (96%)	6 (4%)	25	59
2	L	138/185 (75%)	133 (96%)	5 (4%)	30	64
2	N	134/185 (72%)	127 (95%)	7 (5%)	19	52
2	P	145/185 (78%)	141 (97%)	4 (3%)	38	70
All	All	2514/3160 (80%)	2382 (95%)	132 (5%)	19	51

All (132) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	8	ARG
1	E	57	SER
1	E	117	ASN
1	E	162	LYS
1	E	175	LEU
1	E	182	ASN
1	E	191	ARG
1	E	192	LEU
1	E	236	GLU
2	H	12	LEU
2	H	13	ARG
2	H	66	LEU
2	H	107	ARG
2	H	131	ASP
2	H	132	LYS
2	H	196	GLU
2	H	197	ASP
1	A	19	THR
1	A	51	GLN
1	A	70	ASN
1	A	72	SER
1	A	73	HIS
1	A	76	LEU
1	A	95	ARG
1	A	101	LEU
1	A	117	ASN
1	A	118	VAL
1	A	175	LEU
1	A	191	ARG
1	A	192	LEU
1	A	236	GLU
2	B	66	LEU
2	B	76	LEU
2	B	95	VAL
2	B	129	SER
2	B	142	SER
2	B	166	SER
2	B	187	ASN
2	B	191	ASN
2	B	200	PHE
1	C	19	THR
1	C	26	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	29	SER
1	C	40	GLN
1	C	61	LYS
1	C	67	GLN
1	C	71	GLN
1	C	77	LYS
1	C	117	ASN
1	C	118	VAL
1	C	175	LEU
1	C	178	GLN
1	C	191	ARG
1	C	215	LEU
2	D	4	GLN
2	D	10	SER
2	D	57	ARG
2	D	60	THR
2	D	66	LEU
2	D	137	PHE
1	F	19	THR
1	F	40	GLN
1	F	117	ASN
1	F	118	VAL
1	F	130	GLU
1	F	175	LEU
1	F	191	ARG
2	G	3	GLU
2	G	10	SER
2	G	66	LEU
2	G	153	ASP
2	G	165	ARG
2	G	166	SER
2	G	190	ASN
2	G	196	GLU
1	I	19	THR
1	I	117	ASN
1	I	118	VAL
1	I	175	LEU
1	I	191	ARG
1	I	215	LEU
2	J	10	SER
2	J	32	ASN
2	J	57	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	J	66	LEU
2	J	125	ARG
2	J	190	ASN
1	K	19	THR
1	K	40	GLN
1	K	117	ASN
1	K	118	VAL
1	K	182	ASN
1	K	191	ARG
1	K	215	LEU
1	K	236	GLU
1	K	240	ARG
2	L	4	GLN
2	L	8	LEU
2	L	41	PRO
2	L	66	LEU
2	L	167	MET
1	M	19	THR
1	M	23	GLU
1	M	40	GLN
1	M	71	GLN
1	M	96	GLN
1	M	101	LEU
1	M	117	ASN
1	M	118	VAL
1	M	175	LEU
1	M	182	ASN
1	M	191	ARG
1	M	225	ARG
1	M	236	GLU
2	N	12	LEU
2	N	66	LEU
2	N	101	VAL
2	N	126	ASP
2	N	128	LYS
2	N	129	SER
2	N	199	PHE
1	O	19	THR
1	O	50	ASN
1	O	117	ASN
1	O	118	VAL
1	O	175	LEU

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Mol	Chain	Res	Type
1	O	191	ARG
1	O	236	GLU
2	P	12	LEU
2	P	66	LEU
2	P	129	SER
2	P	166	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	E	84	GLN
1	E	205	HIS
2	H	82	GLN
1	A	70	ASN
1	A	73	HIS
1	A	135	HIS
1	A	205	HIS
2	B	82	GLN
2	B	187	ASN
1	C	40	GLN
1	C	67	GLN
1	C	82	GLN
1	C	205	HIS
2	D	23	ASN
1	F	40	GLN
1	F	67	GLN
1	F	73	HIS
1	F	82	GLN
1	I	67	GLN
1	I	73	HIS
1	I	205	HIS
2	J	32	ASN
2	J	54	ASN
1	K	40	GLN
1	K	73	HIS
1	K	98	GLN
1	K	205	HIS
2	L	4	GLN
2	L	82	GLN
1	M	40	GLN
1	M	51	GLN
1	M	67	GLN

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Mol	Chain	Res	Type
1	M	73	HIS
1	M	205	HIS
2	N	61	GLN
2	N	123	GLN
1	O	67	GLN
1	O	205	HIS
2	P	59	GLN
2	P	187	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

9 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	PO4	E	301	-	4,4,4	0.70	0	6,6,6	0.47	0
3	PO4	O	302	-	4,4,4	0.77	0	6,6,6	0.38	0
4	EDO	O	303	-	3,3,3	0.38	0	2,2,2	1.01	0
3	PO4	J	301	-	4,4,4	1.04	0	6,6,6	0.36	0
3	PO4	O	301	-	4,4,4	1.05	0	6,6,6	0.81	0
3	PO4	M	301	-	4,4,4	0.99	0	6,6,6	0.72	0



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	PO4	B	301	-	4,4,4	0.86	0	6,6,6	0.46	0
3	PO4	I	301	-	4,4,4	1.01	0	6,6,6	0.78	0
3	PO4	A	301	-	4,4,4	1.52	1 (25%)	6,6,6	0.41	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	EDO	O	303	-	-	0/1/1/1	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	301	PO4	P-O1	2.74	1.57	1.50

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

6 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	E	301	PO4	2	0
3	O	302	PO4	2	0
4	O	303	EDO	2	0
3	M	301	PO4	2	0
3	B	301	PO4	2	0
3	A	301	PO4	2	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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	238/242 (98%)	0.15	7 (2%) 54 32	45, 75, 115, 153	0
1	C	240/242 (99%)	-0.20	2 (0%) 82 66	34, 60, 93, 127	0
1	E	241/242 (99%)	0.08	5 (2%) 63 41	34, 62, 101, 122	0
1	F	242/242 (100%)	-0.05	3 (1%) 76 56	37, 63, 103, 138	0
1	I	241/242 (99%)	-0.01	5 (2%) 63 41	35, 63, 104, 136	0
1	K	240/242 (99%)	-0.09	2 (0%) 82 66	38, 62, 94, 118	0
1	M	239/242 (98%)	0.24	6 (2%) 58 36	39, 76, 127, 178	0
1	O	239/242 (98%)	0.12	5 (2%) 63 41	36, 68, 107, 151	0
2	B	198/207 (95%)	0.55	13 (6%) 26 14	43, 78, 114, 164	0
2	D	172/207 (83%)	0.20	10 (5%) 30 17	29, 65, 116, 128	0
2	G	195/207 (94%)	0.19	9 (4%) 38 22	37, 61, 110, 139	0
2	H	195/207 (94%)	0.20	7 (3%) 46 27	35, 60, 95, 115	0
2	J	192/207 (92%)	0.10	9 (4%) 37 21	32, 62, 107, 137	0
2	L	189/207 (91%)	0.12	3 (1%) 70 49	31, 62, 114, 151	0
2	N	189/207 (91%)	0.56	12 (6%) 27 15	48, 79, 115, 158	0
2	P	197/207 (95%)	0.16	5 (2%) 58 36	39, 64, 105, 142	0
All	All	3447/3592 (95%)	0.13	103 (2%) 52 31	29, 66, 110, 178	0

All (103) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	O	38	ILE	5.7
2	J	161	VAL	4.3
1	A	105	ALA	4.2
2	P	97	ASN	3.9
1	I	183	ASP	3.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	M	103	PHE	3.7
2	N	97	ASN	3.6
2	N	98	TYR	3.5
2	J	152	SER	3.4
1	I	242	ASP	3.4
2	N	163	ASP	3.4
1	M	2	GLY	3.3
2	G	163	ASP	3.3
2	B	133	SER	3.3
2	D	110	VAL	3.1
2	D	140	PHE	3.1
2	H	98	TYR	3.1
1	I	40	GLN	3.1
2	B	200	PHE	3.1
1	F	1	MET	3.0
1	I	38	ILE	3.0
1	M	3	VAL	2.9
2	B	130	SER	2.9
1	M	218	ASN	2.9
2	N	168	ASP	2.8
1	E	147	GLY	2.8
1	F	183	ASP	2.8
2	N	153	ASP	2.8
1	C	242	ASP	2.7
1	E	31	VAL	2.7
2	H	59	GLN	2.7
2	B	59	GLN	2.7
2	D	1	MET	2.7
1	I	39	VAL	2.7
1	A	106	GLY	2.7
2	P	200	PHE	2.6
2	G	198	THR	2.6
2	D	86	SER	2.6
2	D	129	SER	2.6
2	G	186	ALA	2.6
2	B	95	VAL	2.6
2	H	32	ASN	2.6
2	N	198	THR	2.6
2	G	194	ILE	2.6
2	G	192	SER	2.6
2	D	145	ASN	2.6
2	B	89	TYR	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
2	N	166	SER	2.5
2	N	90	PHE	2.5
1	O	180	ALA	2.5
2	H	200	PHE	2.5
2	N	43	GLU	2.5
2	G	40	GLU	2.5
2	N	199	PHE	2.4
2	D	147	SER	2.4
2	B	97	ASN	2.4
2	D	153	ASP	2.4
2	B	60	THR	2.4
2	B	2	GLY	2.4
1	K	27	GLY	2.4
2	D	14	VAL	2.4
2	G	97	ASN	2.4
1	O	40	GLN	2.4
2	L	32	ASN	2.4
1	A	96	GLN	2.4
2	B	98	TYR	2.3
2	L	190	ASN	2.3
1	A	242	ASP	2.3
2	J	163	ASP	2.3
2	J	160	CYS	2.3
1	K	71	GLN	2.3
2	G	43	GLU	2.3
2	P	98	TYR	2.3
2	H	128	LYS	2.3
2	J	191	ASN	2.2
2	L	161	VAL	2.2
1	A	38	ILE	2.2
2	J	192	SER	2.2
2	D	126	ASP	2.2
1	M	53	PRO	2.2
1	E	71	GLN	2.2
1	F	40	GLN	2.2
2	B	96	ARG	2.2
2	J	132	LYS	2.2
1	O	17	GLU	2.2
1	A	50	ASN	2.2
2	J	179	ASN	2.2
1	A	56	ASP	2.2
2	N	89	TYR	2.2

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Mol	Chain	Res	Type	RSRZ
1	M	77	LYS	2.1
1	E	242	ASP	2.1
2	B	28	ASP	2.1
1	C	123	VAL	2.1
2	G	191	ASN	2.1
2	P	190	ASN	2.1
2	B	84	GLY	2.1
2	N	84	GLY	2.1
1	O	177	GLU	2.1
2	H	127	SER	2.1
2	H	168	ASP	2.1
2	J	141	ASP	2.1
1	E	47	TYR	2.0
2	P	69	LYS	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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
3	PO4	O	302	5/5	0.64	0.11	117,143,162,167	0
4	EDO	O	303	4/4	0.67	0.21	79,80,87,88	0
3	PO4	J	301	5/5	0.75	0.11	95,102,131,136	0
3	PO4	B	301	5/5	0.80	0.16	103,105,115,116	0
3	PO4	E	301	5/5	0.82	0.13	112,120,131,154	0
3	PO4	I	301	5/5	0.89	0.10	56,56,66,71	0
3	PO4	M	301	5/5	0.91	0.08	55,59,66,75	0
3	PO4	A	301	5/5	0.92	0.10	46,60,73,77	0
3	PO4	O	301	5/5	0.95	0.07	43,50,61,76	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.