Full wwPDB X-ray Structure Validation Report (i)

Aug 15, 2023 – 06:07 PM EDT

PDB ID	:	1WWW
Title	:	NGF IN COMPLEX WITH DOMAIN 5 OF THE TRKA RECEPTOR
Authors	:	Wiesmann, C.; Ultsch, M.H.; De Vos, A.M.
Deposited on	:	1999-03-12
Resolution	:	2.20 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 (i) 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 (i)) were used in the production of this report:

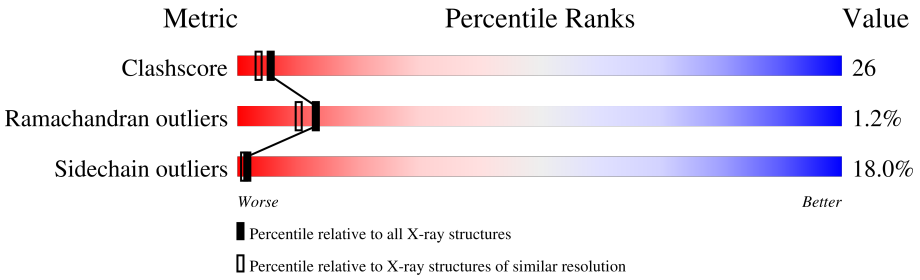
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.20 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))
Clashscore	141614	5594 (2.20-2.20)
Ramachandran outliers	138981	5503 (2.20-2.20)
Sidechain outliers	138945	5504 (2.20-2.20)

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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	V	120	47% 31% 10% • 10%
1	W	120	52% 30% 9% 9%
2	X	101	56% 40% • •
2	Y	101	51% 39% 10%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 3545 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 PROTEIN (NERVE GROWTH FACTOR).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	V	108	Total	C	N	O	S	0	0	0
			857	540	152	157	8			
1	W	109	Total	C	N	O	S	0	0	0
			862	543	153	158	8			

- Molecule 2 is a protein called PROTEIN (TRKA RECEPTOR).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	X	101	Total	C	N	O	S	0	0	0
			782	499	135	143	5			
2	Y	101	Total	C	N	O	S	0	0	0
			782	499	135	143	5			

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	V	62	Total	O	0	0
			62	62		
3	W	53	Total	O	0	0
			53	53		
3	X	80	Total	O	0	0
			80	80		
3	Y	67	Total	O	0	0
			67	67		

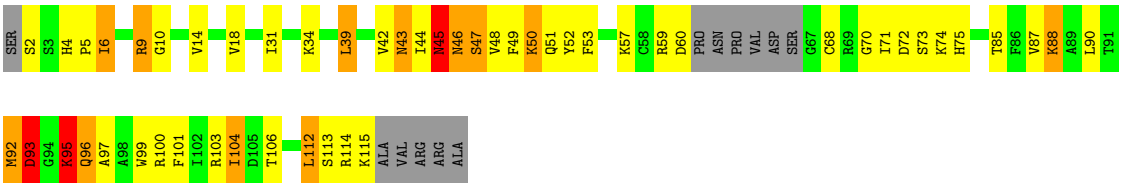
3 Residue-property plots (i)

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. 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. 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.

Note EDS was not executed.

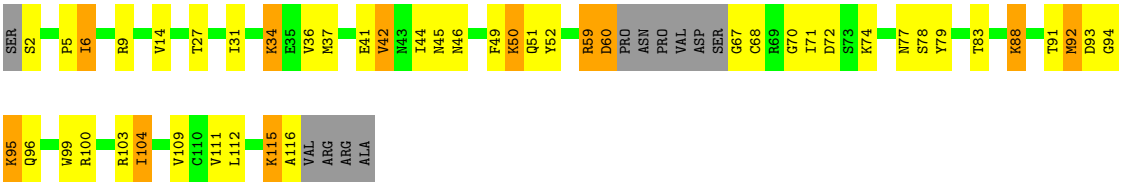
• Molecule 1: PROTEIN (NERVE GROWTH FACTOR)

Chain V:



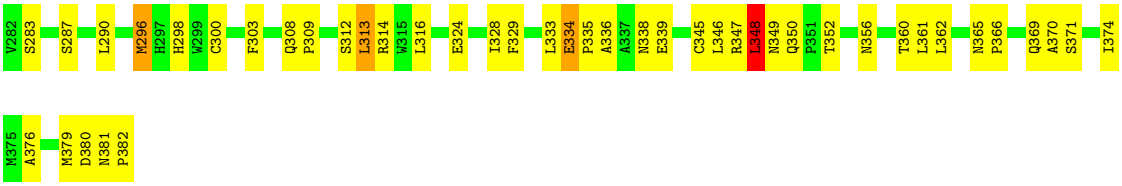
• Molecule 1: PROTEIN (NERVE GROWTH FACTOR)

Chain W:



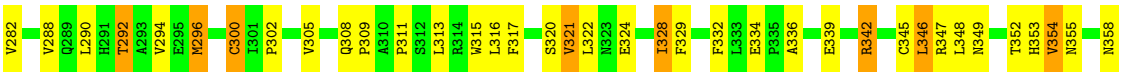
• Molecule 2: PROTEIN (TRKA RECEPTOR)

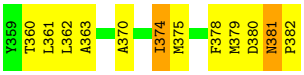
Chain X:



• Molecule 2: PROTEIN (TRKA RECEPTOR)

Chain Y:




Y359
T360
L361
L362
A363
A370
I374
M375
F378
M379
D380
N381
P382

4 Data and refinement statistics (i)

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	58.24Å 53.73Å 77.10Å 90.00° 107.34° 90.00°	Depositor
Resolution (Å)	20.00 – 2.20	Depositor
% Data completeness (in resolution range)	97.2 (20.00-2.20)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.189 , 0.266	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	3545	wwPDB-VP
Average B, all atoms (Å^2)	34.0	wwPDB-VP

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	V	0.46	0/875	0.74	0/1178
1	W	0.46	0/880	0.71	1/1185 (0.1%)
2	X	0.49	0/807	0.79	2/1105 (0.2%)
2	Y	0.48	0/807	0.81	1/1105 (0.1%)
All	All	0.47	0/3369	0.76	4/4573 (0.1%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	X	346	LEU	N-CA-C	-7.83	89.86	111.00
2	Y	346	LEU	N-CA-C	-7.42	90.97	111.00
2	X	348	LEU	CA-CB-CG	5.59	128.15	115.30
1	W	77	ASN	N-CA-C	-5.06	97.35	111.00

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	V	857	0	832	62	0
1	W	862	0	837	48	0
2	X	782	0	736	33	0
2	Y	782	0	736	44	0
3	V	62	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	W	53	0	0	1	0
3	X	80	0	0	2	0
3	Y	67	0	0	4	0
All	All	3545	0	3141	167	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 26.

All (167) 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:Y:328:ILE:HG23	2:Y:348:LEU:HD13	1.38	1.04
1:V:74:LYS:HG2	1:V:75:HIS:CD2	1.93	1.02
1:W:34:LYS:HE3	1:W:93:ASP:OD2	1.66	0.94
1:V:44:ILE:HG22	1:V:45:ASN:OD1	1.68	0.93
2:Y:328:ILE:HD13	2:Y:348:LEU:HD12	1.49	0.93
2:X:334:GLU:OE1	2:X:335:PRO:HD2	1.69	0.91
2:Y:328:ILE:HG23	2:Y:348:LEU:CD1	2.04	0.86
1:W:42:VAL:HG22	1:W:44:ILE:HD12	1.58	0.85
1:V:43:ASN:HB3	1:V:48:VAL:HG12	1.60	0.84
1:V:74:LYS:HG2	1:V:75:HIS:HD2	1.44	0.80
1:W:42:VAL:HG22	1:W:44:ILE:CD1	2.12	0.80
3:V:155:HOH:O	2:Y:382:PRO:HB3	1.86	0.75
1:W:34:LYS:HD2	1:W:36:VAL:HG12	1.69	0.75
1:V:88:LYS:HG2	1:V:99:TRP:NE1	2.02	0.74
2:Y:353:HIS:CB	2:Y:381:ASN:HB3	2.17	0.74
1:V:73:SER:O	1:V:115:LYS:NZ	2.22	0.72
2:Y:353:HIS:HB2	2:Y:381:ASN:HB3	1.71	0.72
2:Y:328:ILE:HD13	2:Y:348:LEU:CD1	2.19	0.72
2:Y:320:SER:HB2	3:Y:123:HOH:O	1.90	0.70
1:V:92:MET:HE1	1:V:97:ALA:HB2	1.73	0.69
1:V:14:VAL:HG12	1:W:112:LEU:HD13	1.74	0.69
1:V:45:ASN:OD1	1:V:45:ASN:N	2.26	0.68
2:X:360:THR:HG22	2:X:362:LEU:CD1	2.24	0.67
2:Y:288:VAL:HG21	2:Y:363:ALA:HB3	1.78	0.66
2:Y:316:LEU:HD23	2:Y:321:VAL:HA	1.78	0.65
1:V:5:PRO:O	1:V:9:ARG:HG3	1.97	0.65
1:V:44:ILE:CG2	1:V:45:ASN:OD1	2.45	0.64
1:W:41:GLU:HA	1:W:49:PHE:O	1.97	0.64
2:X:336:ALA:HB3	2:X:339:GLU:OE2	1.99	0.63
2:Y:288:VAL:HG23	2:Y:370:ALA:HB3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:353:HIS:CG	2:Y:381:ASN:HB3	2.35	0.61
1:V:44:ILE:O	1:V:46:ASN:N	2.35	0.60
1:V:74:LYS:CG	1:V:75:HIS:CD2	2.79	0.60
1:W:67:GLY:HA2	1:W:78:SER:O	2.01	0.60
1:W:6:ILE:CD1	2:X:296:MET:HE1	2.33	0.59
2:Y:288:VAL:CG2	2:Y:363:ALA:HB3	2.33	0.58
1:V:74:LYS:CG	1:V:75:HIS:HD2	2.15	0.58
1:W:88:LYS:HE2	1:W:99:TRP:O	2.03	0.58
1:W:88:LYS:HG2	1:W:99:TRP:NE1	2.19	0.57
1:W:34:LYS:CE	1:W:93:ASP:OD2	2.49	0.57
2:Y:328:ILE:CD1	2:Y:348:LEU:HD12	2.30	0.56
1:V:60:ASP:C	3:V:175:HOH:O	2.43	0.56
1:V:92:MET:HE2	1:V:97:ALA:HA	1.87	0.56
2:X:316:LEU:HB2	2:X:360:THR:HB	1.88	0.55
2:X:328:ILE:HG23	2:X:348:LEU:HD13	1.87	0.55
1:V:51:GLN:HG2	1:V:53:PHE:CZ	2.41	0.55
1:W:93:ASP:O	1:W:96:GLN:HB2	2.06	0.55
1:W:9:ARG:HH21	2:X:333:LEU:HB3	1.71	0.55
1:V:74:LYS:C	1:V:75:HIS:HD2	2.11	0.54
1:V:6:ILE:HG13	2:Y:345:CYS:SG	2.47	0.54
1:V:92:MET:CE	1:V:97:ALA:CA	2.86	0.54
1:V:92:MET:CE	1:V:97:ALA:HA	2.37	0.54
2:Y:288:VAL:HG21	2:Y:363:ALA:CB	2.38	0.54
2:Y:374:ILE:HG13	2:Y:375:MET:N	2.23	0.54
1:V:88:LYS:HG2	1:V:99:TRP:CD1	2.42	0.53
2:Y:317:PHE:HB2	2:Y:322:LEU:HD13	1.90	0.53
1:W:37:MET:HB3	1:W:92:MET:HB2	1.91	0.52
2:X:365:ASN:HB2	2:X:366:PRO:CD	2.39	0.52
1:W:115:LYS:O	1:W:116:ALA:HB3	2.08	0.52
1:W:103:ARG:NH2	2:Y:349:ASN:O	2.41	0.52
1:V:75:HIS:CD2	1:V:75:HIS:N	2.77	0.51
2:X:298:HIS:CD2	2:X:347:ARG:HH21	2.28	0.51
1:W:34:LYS:HE3	1:W:93:ASP:CG	2.29	0.51
2:Y:320:SER:CB	3:Y:123:HOH:O	2.52	0.51
1:W:42:VAL:CG2	1:W:44:ILE:CD1	2.88	0.51
2:Y:308:GLN:HA	2:Y:309:PRO:C	2.30	0.51
2:Y:332:PHE:HB3	2:Y:342:ARG:HH12	1.75	0.51
2:X:308:GLN:HA	2:X:309:PRO:C	2.31	0.51
1:V:96:GLN:NE2	1:V:96:GLN:HA	2.26	0.50
2:X:334:GLU:OE1	2:X:334:GLU:HA	2.10	0.50
1:V:92:MET:HE2	1:V:92:MET:HA	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:316:LEU:HB2	2:Y:360:THR:HB	1.93	0.50
2:X:350:GLN:HG2	3:X:163:HOH:O	2.10	0.50
1:V:112:LEU:HD21	1:W:70:GLY:HA3	1.94	0.50
2:Y:352:THR:HA	2:Y:379:MET:HE3	1.93	0.50
1:V:39:LEU:N	1:V:39:LEU:HD23	2.27	0.50
2:Y:313:LEU:HD13	2:Y:361:LEU:HD11	1.93	0.49
1:W:44:ILE:HD13	1:W:49:PHE:CD2	2.48	0.49
1:W:50:LYS:HG2	1:W:52:TYR:CE2	2.47	0.49
1:W:45:ASN:O	1:W:46:ASN:HB2	2.11	0.49
2:X:298:HIS:HD2	2:X:347:ARG:HE	1.59	0.49
2:Y:342:ARG:NH1	3:Y:209:HOH:O	2.45	0.49
1:V:59:ARG:O	1:V:60:ASP:C	2.50	0.48
1:V:92:MET:CE	1:V:97:ALA:HB2	2.43	0.48
2:X:365:ASN:HB2	2:X:366:PRO:HD2	1.95	0.48
1:V:51:GLN:HG2	1:V:53:PHE:CE2	2.49	0.48
1:V:87:VAL:HB	1:V:104:ILE:HD11	1.95	0.47
1:W:95:LYS:HD2	1:W:95:LYS:N	2.28	0.47
1:W:42:VAL:CG2	1:W:44:ILE:HD11	2.43	0.47
2:X:356:ASN:HA	2:X:376:ALA:O	2.14	0.47
1:V:44:ILE:O	1:V:46:ASN:HB2	2.14	0.47
1:V:50:LYS:HG2	1:V:52:TYR:CE2	2.50	0.47
1:W:5:PRO:HB2	2:X:333:LEU:CD1	2.45	0.47
1:V:70:GLY:HA3	1:W:112:LEU:HD21	1.96	0.47
1:V:44:ILE:O	1:V:45:ASN:C	2.53	0.46
1:V:18:VAL:HG13	1:V:18:VAL:O	2.16	0.46
1:W:104:ILE:O	1:W:104:ILE:HG12	2.16	0.46
2:Y:288:VAL:CG2	2:Y:363:ALA:CB	2.94	0.46
2:X:324:GLU:HG2	2:X:329:PHE:HA	1.98	0.46
2:Y:353:HIS:HB3	2:Y:380:ASP:O	2.15	0.46
2:Y:282:VAL:O	2:Y:282:VAL:HG13	2.16	0.45
2:Y:324:GLU:HG2	2:Y:329:PHE:HA	1.98	0.45
2:Y:329:PHE:CZ	2:Y:347:ARG:HD3	2.51	0.45
1:V:74:LYS:HG2	1:V:75:HIS:NE2	2.28	0.45
1:W:34:LYS:HD2	1:W:36:VAL:CG1	2.43	0.45
1:V:46:ASN:HB3	1:V:47:SER:H	1.46	0.45
1:W:34:LYS:O	1:W:36:VAL:HG13	2.16	0.45
1:W:59:ARG:O	1:W:60:ASP:C	2.54	0.44
1:V:68:CYS:HB2	1:V:71:ILE:HG12	2.00	0.44
2:X:303:PHE:CD1	2:X:303:PHE:C	2.90	0.44
2:X:365:ASN:CB	2:X:366:PRO:CD	2.96	0.44
1:V:14:VAL:CG1	1:W:112:LEU:HD13	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:94:GLY:C	1:W:96:GLN:H	2.22	0.43
1:W:83:THR:CG2	1:W:109:VAL:HG22	2.48	0.43
1:V:95:LYS:HB3	1:V:95:LYS:HE2	1.62	0.43
1:W:52:TYR:CZ	2:X:382:PRO:HB3	2.53	0.43
1:V:74:LYS:CB	1:V:75:HIS:HD2	2.32	0.43
1:V:6:ILE:HD13	1:V:10:GLY:HA3	2.00	0.43
2:X:287:SER:HB3	3:X:6:HOH:O	2.17	0.43
1:V:31:ILE:HD11	2:X:352:THR:OG1	2.18	0.43
1:W:115:LYS:HB3	1:W:115:LYS:HE3	1.74	0.43
2:X:339:GLU:O	2:X:339:GLU:HG3	2.19	0.42
1:V:90:LEU:HD12	1:V:90:LEU:HA	1.86	0.42
2:Y:358:ASN:HB2	2:Y:375:MET:SD	2.59	0.42
1:V:4:HIS:ND1	1:V:6:ILE:HB	2.34	0.42
1:V:88:LYS:HD2	1:V:101:PHE:CE2	2.54	0.42
1:V:92:MET:HE2	1:V:97:ALA:CA	2.48	0.42
2:Y:336:ALA:HB3	2:Y:339:GLU:CD	2.40	0.42
1:V:72:ASP:HB2	1:W:72:ASP:HA	2.01	0.42
1:V:10:GLY:HA3	2:Y:296:MET:CE	2.50	0.42
1:V:74:LYS:C	1:V:75:HIS:CD2	2.91	0.42
2:X:329:PHE:CD1	2:X:329:PHE:N	2.87	0.42
2:Y:300:CYS:O	2:Y:302:PRO:HD3	2.20	0.42
1:W:9:ARG:NH2	2:X:334:GLU:H	2.18	0.42
1:W:9:ARG:NH2	2:X:334:GLU:N	2.67	0.42
2:Y:305:VAL:HG21	2:Y:311:PRO:HG2	2.02	0.42
1:W:6:ILE:HG13	2:X:345:CYS:SG	2.60	0.42
2:Y:315:TRP:CZ2	2:Y:346:LEU:HB2	2.55	0.42
2:X:313:LEU:HG	2:X:361:LEU:HD11	2.00	0.41
2:X:352:THR:HA	2:X:379:MET:HE3	2.01	0.41
1:W:6:ILE:HD13	2:X:296:MET:HE1	2.00	0.41
1:W:37:MET:O	1:W:91:THR:HA	2.20	0.41
1:W:71:ILE:CG2	1:W:72:ASP:N	2.83	0.41
1:V:85:THR:HB	1:V:106:THR:HG21	2.02	0.41
1:V:115:LYS:HZ2	1:V:115:LYS:HG3	1.71	0.41
1:V:44:ILE:C	1:V:45:ASN:OD1	2.58	0.41
1:W:27:THR:CG2	3:W:163:HOH:O	2.68	0.41
2:Y:352:THR:OG1	2:Y:354:VAL:HG13	2.21	0.41
1:V:88:LYS:HG2	1:V:99:TRP:CE2	2.55	0.41
1:W:83:THR:HG23	1:W:109:VAL:HG22	2.03	0.41
2:Y:292:THR:HB	3:Y:261:HOH:O	2.20	0.41
1:V:42:VAL:HG12	1:V:90:LEU:HD23	2.01	0.41
1:W:79:TYR:CE1	1:W:111:VAL:HB	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:88:LYS:HG2	1:W:99:TRP:CE2	2.55	0.41
1:V:103:ARG:NH2	2:X:349:ASN:O	2.50	0.41
1:V:10:GLY:HA3	2:Y:296:MET:HE1	2.02	0.41
1:V:99:TRP:HB3	1:W:49:PHE:CZ	2.56	0.41
2:X:369:GLN:HG2	2:X:370:ALA:N	2.36	0.41
1:V:6:ILE:HD13	1:V:10:GLY:CA	2.51	0.41
1:V:87:VAL:HB	1:V:104:ILE:CD1	2.51	0.41
2:Y:342:ARG:HD2	2:Y:342:ARG:HA	1.66	0.40
2:Y:353:HIS:NE2	2:Y:354:VAL:HG12	2.35	0.40
1:W:41:GLU:HG2	1:W:49:PHE:O	2.22	0.40
1:V:93:ASP:OD1	1:V:95:LYS:HB2	2.21	0.40
2:Y:352:THR:HA	2:Y:379:MET:CE	2.50	0.40
2:Y:355:ASN:O	2:Y:378:PHE:HE2	2.04	0.40
2:X:298:HIS:CD2	2:X:347:ARG:HE	2.39	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	V	104/120 (87%)	96 (92%)	4 (4%)	4 (4%)	3 1
1	W	105/120 (88%)	102 (97%)	3 (3%)	0	100 100
2	X	99/101 (98%)	92 (93%)	6 (6%)	1 (1%)	15 14
2	Y	99/101 (98%)	95 (96%)	4 (4%)	0	100 100
All	All	407/442 (92%)	385 (95%)	17 (4%)	5 (1%)	13 10

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	V	45	ASN

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Mol	Chain	Res	Type
1	V	46	ASN
1	V	93	ASP
2	X	338	ASN
1	V	95	LYS

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	V	96/106 (91%)	75 (78%)	21 (22%)	1	1
1	W	96/106 (91%)	78 (81%)	18 (19%)	1	1
2	X	85/85 (100%)	72 (85%)	13 (15%)	2	2
2	Y	85/85 (100%)	72 (85%)	13 (15%)	2	2
All	All	362/382 (95%)	297 (82%)	65 (18%)	1	1

All (65) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	V	2	SER
1	V	6	ILE
1	V	9	ARG
1	V	34	LYS
1	V	39	LEU
1	V	43	ASN
1	V	45	ASN
1	V	47	SER
1	V	49	PHE
1	V	50	LYS
1	V	57	LYS
1	V	88	LYS
1	V	92	MET
1	V	93	ASP
1	V	95	LYS
1	V	96	GLN
1	V	100	ARG

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Mol	Chain	Res	Type
1	V	104	ILE
1	V	112	LEU
1	V	113	SER
1	V	114	ARG
1	W	2	SER
1	W	6	ILE
1	W	14	VAL
1	W	31	ILE
1	W	34	LYS
1	W	42	VAL
1	W	50	LYS
1	W	51	GLN
1	W	59	ARG
1	W	60	ASP
1	W	68	CYS
1	W	74	LYS
1	W	88	LYS
1	W	92	MET
1	W	95	LYS
1	W	100	ARG
1	W	104	ILE
1	W	115	LYS
2	X	283	SER
2	X	290	LEU
2	X	296	MET
2	X	300	CYS
2	X	312	SER
2	X	313	LEU
2	X	314	ARG
2	X	334	GLU
2	X	348	LEU
2	X	371	SER
2	X	374	ILE
2	X	380	ASP
2	X	381	ASN
2	Y	290	LEU
2	Y	292	THR
2	Y	294	VAL
2	Y	296	MET
2	Y	300	CYS
2	Y	321	VAL
2	Y	328	ILE

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Mol	Chain	Res	Type
2	Y	334	GLU
2	Y	342	ARG
2	Y	354	VAL
2	Y	362	LEU
2	Y	374	ILE
2	Y	381	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	V	8	HIS
1	V	43	ASN
1	V	75	HIS
2	X	298	HIS
2	Y	308	GLN
2	Y	381	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 monosaccharides 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

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.