Full wwPDB X-ray Structure Validation Report (i)

Aug 14, 2023 – 08:01 PM EDT

PDB ID	:	1QZ0
Title	:	Crystal Structure of the Yersinia Pestis Phosphatase YopH in Complex with a Phosphotyrosyl Mimetic-Containing Hexapeptide
Authors	:	Phan, J.; Lee, K.; Cherry, S.; Tropea, J.E.; Burke Jr, T.R.; Waugh, D.S.
Deposited on	:	2003-09-15
Resolution	:	1.50 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:

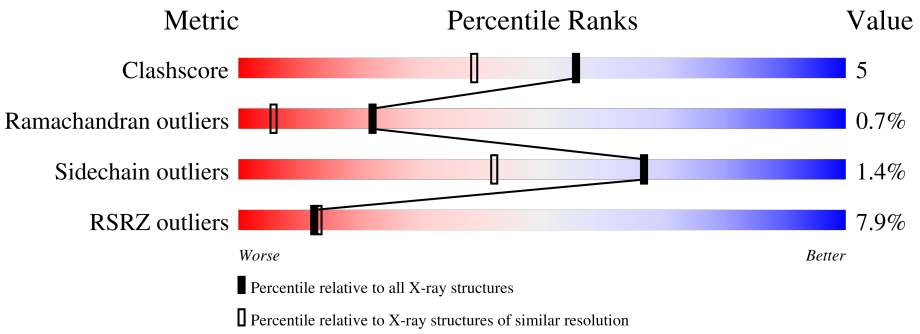
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

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 1.50 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	3144 (1.50-1.50)
Ramachandran outliers	138981	3066 (1.50-1.50)
Sidechain outliers	138945	3064 (1.50-1.50)
RSRZ outliers	127900	2884 (1.50-1.50)

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

Mol	Chain	Length	Quality of chain
1	A	306	6%, 83%, 9%, 8%
1	B	306	7%, 83%, 9%, •, 8%
2	C	7	43%, 57%, 14%, 29%
2	D	7	14%, 57%, 43%
2	E	7	29%, 43%, 14%, 14%, 29%
2	F	7	14%, 57%, 43%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 5137 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-tyrosine phosphatase yopH.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	282	2166	1323	402	425	16	0	0	0
1	B	282	2166	1323	402	425	16	0	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	163	MET	-	initiating methionine	GB 16082755
A	235	ARG	CYS	engineered mutation	GB 16082755
A	392	ALA	GLY	engineered mutation	GB 16082755
B	163	MET	-	initiating methionine	GB 16082755
B	235	ARG	CYS	engineered mutation	GB 16082755
B	392	ALA	GLY	engineered mutation	GB 16082755

- Molecule 2 is a protein called ASP-ALA-ASP-GLU-FTY-LEU-NH2.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	F	N	O	P			
2	C	5	44	25	2	5	11	1	0	0	1
2	D	7	57	32	2	7	15	1	0	0	1
2	E	5	44	25	2	5	11	1	0	0	1
2	F	7	57	32	2	7	15	1	0	0	1

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
3	A	265	265	265	0	0

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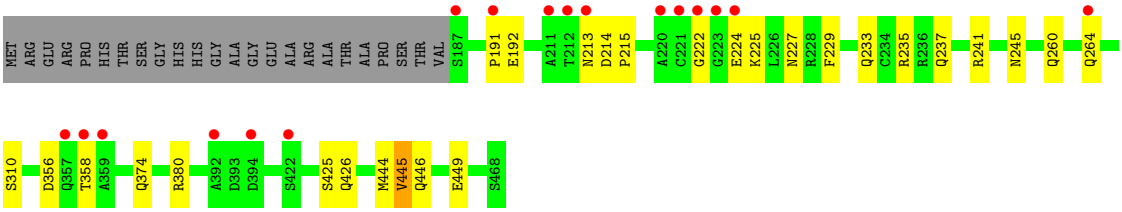
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	297	Total O 297 297	0	0
3	C	2	Total O 2 2	0	0
3	D	21	Total O 21 21	0	0
3	E	5	Total O 5 5	0	0
3	F	13	Total O 13 13	0	0

3 Residue-property plots (i)

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

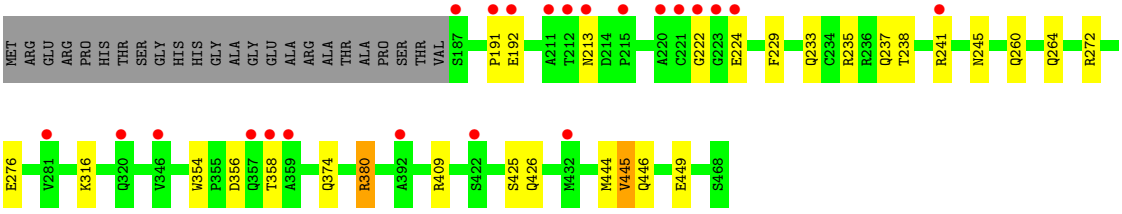
• Molecule 1: Protein-tyrosine phosphatase yopH

Chain A:



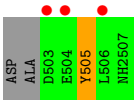
• Molecule 1: Protein-tyrosine phosphatase yopH

Chain B:



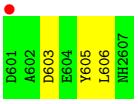
• Molecule 2: ASP-ALA-ASP-GLU-FTY-LEU-NH2

Chain C:



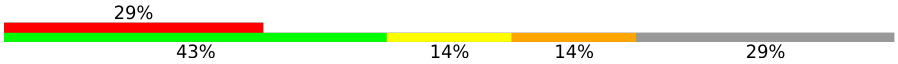
• Molecule 2: ASP-ALA-ASP-GLU-FTY-LEU-NH2

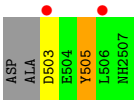
Chain D:



• Molecule 2: ASP-ALA-ASP-GLU-FTY-LEU-NH2

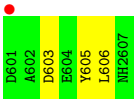
Chain E:





- Molecule 2: ASP-ALA-ASP-GLU-FTY-LEU-NH2

Chain F:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	47.29Å 53.45Å 69.07Å 109.61° 104.75° 89.98°	Depositor
Resolution (Å)	25.00 – 1.50 24.06 – 1.50	Depositor EDS
% Data completeness (in resolution range)	76.0 (25.00-1.50) 84.7 (24.06-1.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.04	Depositor
$< I/\sigma(I) >$ [1]	1.54 (at 1.50Å)	Xtriage
Refinement program	CNS 1.0	Depositor
R, R_{free}	0.188 , 0.209 0.201 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	13.2	Xtriage
Anisotropy	0.696	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.39 , 48.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	5137	wwPDB-VP
Average B, all atoms (Å^2)	18.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.71% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: FTY, NH2

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	0.31	0/2193	0.58	0/2962
1	B	0.31	0/2193	0.58	0/2962
2	C	0.37	0/23	0.33	0/28
2	D	0.32	0/36	0.54	0/46
2	E	0.37	0/23	0.29	0/28
2	F	0.33	0/36	0.53	0/46
All	All	0.31	0/4504	0.58	0/6072

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2166	0	2167	22	0
1	B	2166	0	2167	22	0
2	C	44	0	27	1	0
2	D	57	0	36	1	0
2	E	44	0	27	2	0
2	F	57	0	36	1	0
3	A	265	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	297	0	0	3	0
3	C	2	0	0	0	0
3	D	21	0	0	0	0
3	E	5	0	0	1	0
3	F	13	0	0	0	0
All	All	5137	0	4460	46	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 5.

All (46) 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:B:380:ARG:HH11	1:B:380:ARG:HB3	1.39	0.88
1:A:380:ARG:HG2	1:A:380:ARG:HH11	1.44	0.81
1:B:235:ARG:HE	1:B:237:GLN:HE21	1.38	0.69
1:B:380:ARG:HH11	1:B:380:ARG:CB	2.07	0.68
1:A:235:ARG:HE	1:A:237:GLN:HE21	1.40	0.67
1:A:310:SER:HB3	1:B:264:GLN:HE21	1.60	0.67
1:B:235:ARG:NE	1:B:237:GLN:HE21	1.98	0.62
1:A:264:GLN:NE2	3:A:657:HOH:O	2.32	0.61
1:A:235:ARG:NE	1:A:237:GLN:HE21	1.99	0.60
1:A:380:ARG:HG2	1:A:380:ARG:NH1	2.18	0.57
1:B:235:ARG:HH21	1:B:237:GLN:NE2	2.05	0.54
1:A:241:ARG:HG3	1:A:241:ARG:HH11	1.72	0.54
2:D:603:ASP:HB3	2:D:606:LEU:HD12	1.89	0.53
1:A:235:ARG:HH21	1:A:237:GLN:NE2	2.08	0.52
2:F:603:ASP:HB3	2:F:606:LEU:HD12	1.91	0.51
1:B:224:GLU:H	1:B:224:GLU:CD	2.14	0.51
1:A:224:GLU:CD	1:A:224:GLU:H	2.13	0.51
1:B:191:PRO:HG2	1:B:192:GLU:OE2	2.13	0.49
1:B:356:ASP:O	1:B:358:THR:HG23	2.13	0.49
2:E:503:ASP:HB3	3:E:291:HOH:O	2.13	0.48
1:B:241:ARG:HD2	3:B:670:HOH:O	2.14	0.48
1:B:374:GLN:HB2	3:B:476:HOH:O	2.14	0.47
1:B:235:ARG:NH2	1:B:237:GLN:NE2	2.63	0.46
1:A:191:PRO:HG2	1:A:192:GLU:OE2	2.15	0.46
1:A:449:GLU:H	1:A:449:GLU:CD	2.18	0.45
1:B:425:SER:O	1:B:426:GLN:HB2	2.17	0.45
1:B:449:GLU:CD	1:B:449:GLU:H	2.18	0.45
1:A:356:ASP:O	1:A:358:THR:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:235:ARG:NH2	1:A:237:GLN:NE2	2.65	0.44
1:A:241:ARG:HH11	1:A:241:ARG:CG	2.30	0.44
1:A:425:SER:O	1:A:426:GLN:HB2	2.18	0.43
1:B:272:ARG:O	1:B:276:GLU:HG3	2.17	0.43
1:A:225:LYS:HD3	1:A:227:ASN:O	2.19	0.43
1:B:229:PHE:CG	2:E:505:FTY:HB3	2.54	0.43
1:A:245:ASN:HB3	1:A:260:GLN:HG2	2.01	0.42
1:A:374:GLN:HB2	3:A:472:HOH:O	2.19	0.42
1:B:245:ASN:HB3	1:B:260:GLN:HG2	2.02	0.42
1:B:380:ARG:HH11	1:B:380:ARG:CG	2.33	0.42
1:A:380:ARG:NH1	1:A:380:ARG:CG	2.82	0.41
1:B:316:LYS:HG2	3:B:701:HOH:O	2.20	0.41
1:B:444:MET:O	1:B:445:VAL:HB	2.19	0.41
1:A:214:ASP:HA	1:A:215:PRO:HD3	1.95	0.41
1:B:354:TRP:CE2	1:B:409:ARG:HG2	2.56	0.41
1:B:237:GLN:HG3	1:B:238:THR:HG23	2.03	0.41
1:A:229:PHE:CG	2:C:505:FTY:HB3	2.56	0.41
1:A:444:MET:O	1:A:445:VAL:HB	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	280/306 (92%)	269 (96%)	9 (3%)	2 (1%)	22 6
1	B	280/306 (92%)	269 (96%)	9 (3%)	2 (1%)	22 6
2	C	2/7 (29%)	2 (100%)	0	0	100 100
2	D	4/7 (57%)	4 (100%)	0	0	100 100
2	E	2/7 (29%)	2 (100%)	0	0	100 100
2	F	4/7 (57%)	4 (100%)	0	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	572/640 (89%)	550 (96%)	18 (3%)	4 (1%)	22 6

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	222	GLY
1	A	445	VAL
1	B	445	VAL
1	B	222	GLY

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	238/255 (93%)	235 (99%)	3 (1%)	69 44
1	B	238/255 (93%)	234 (98%)	4 (2%)	60 33
2	C	3/4 (75%)	3 (100%)	0	100 100
2	D	4/4 (100%)	4 (100%)	0	100 100
2	E	3/4 (75%)	3 (100%)	0	100 100
2	F	4/4 (100%)	4 (100%)	0	100 100
All	All	490/526 (93%)	483 (99%)	7 (1%)	67 42

All (7) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	213	ASN
1	A	233	GLN
1	A	446	GLN
1	B	213	ASN
1	B	233	GLN
1	B	380	ARG
1	B	446	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	213	ASN
1	A	237	GLN
1	A	264	GLN
1	A	341	GLN
1	A	446	GLN
1	A	467	ASN
1	B	213	ASN
1	B	237	GLN
1	B	341	GLN
1	B	446	GLN
1	B	467	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)

4 non-standard protein/DNA/RNA residues 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	$\#\|Z\| > 2$
2	FTY	F	605	2	14,18,19	3.57	3 (21%)	19,27,29	2.14	7 (36%)
2	FTY	C	505	2	14,18,19	3.56	3 (21%)	19,27,29	1.92	5 (26%)
2	FTY	E	505	2	14,18,19	3.43	3 (21%)	19,27,29	1.87	5 (26%)
2	FTY	D	605	2	14,18,19	3.58	3 (21%)	19,27,29	2.08	6 (31%)

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
2	FTY	F	605	2	-	3/15/21/23	0/1/1/1
2	FTY	C	505	2	-	0/15/21/23	0/1/1/1
2	FTY	E	505	2	-	0/15/21/23	0/1/1/1
2	FTY	D	605	2	-	3/15/21/23	0/1/1/1

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	505	FTY	C1-CZ	-12.45	1.40	1.50
2	D	605	FTY	C1-CZ	-12.41	1.40	1.50
2	F	605	FTY	C1-CZ	-12.35	1.40	1.50
2	E	505	FTY	C1-CZ	-11.77	1.41	1.50
2	E	505	FTY	P-O2P	-3.57	1.48	1.54
2	D	605	FTY	P-O2P	-3.46	1.48	1.54
2	C	505	FTY	P-O2P	-3.40	1.48	1.54
2	F	605	FTY	P-O2P	-3.32	1.48	1.54
2	E	505	FTY	P-O3P	-2.83	1.49	1.54
2	D	605	FTY	P-O3P	-2.77	1.49	1.54
2	F	605	FTY	P-O3P	-2.69	1.49	1.54
2	C	505	FTY	P-O3P	-2.67	1.49	1.54

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	505	FTY	P-C1-CZ	4.69	123.03	108.95
2	D	605	FTY	F2-C1-F1	4.52	112.44	106.73
2	E	505	FTY	P-C1-CZ	4.52	122.51	108.95
2	C	505	FTY	F2-C1-F1	4.51	112.42	106.73
2	F	605	FTY	F2-C1-F1	4.42	112.32	106.73
2	F	605	FTY	P-C1-CZ	4.37	122.08	108.95
2	D	605	FTY	P-C1-CZ	4.36	122.04	108.95
2	E	505	FTY	F2-C1-F1	4.33	112.20	106.73
2	F	605	FTY	CE1-CZ-C1	3.89	123.36	119.84
2	D	605	FTY	CE1-CZ-C1	3.60	123.10	119.84
2	F	605	FTY	CE2-CZ-C1	-3.01	117.12	119.84
2	F	605	FTY	F1-C1-CZ	-2.96	106.68	110.49
2	D	605	FTY	F1-C1-CZ	-2.78	106.91	110.49
2	D	605	FTY	CE2-CZ-C1	-2.61	117.48	119.84
2	C	505	FTY	F1-C1-CZ	-2.48	107.29	110.49
2	C	505	FTY	F2-C1-CZ	-2.43	107.36	110.49
2	E	505	FTY	F2-C1-CZ	-2.33	107.50	110.49
2	E	505	FTY	O3P-P-O1P	-2.23	108.05	113.06
2	E	505	FTY	F1-C1-CZ	-2.20	107.66	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	505	FTY	O3P-P-O1P	-2.19	108.14	113.06
2	F	605	FTY	O3P-P-O1P	-2.18	108.15	113.06
2	D	605	FTY	O3P-P-O1P	-2.17	108.19	113.06
2	F	605	FTY	F2-C1-CZ	-2.01	107.90	110.49

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	605	FTY	F1-C1-CZ-CE1
2	D	605	FTY	F2-C1-CZ-CE1
2	D	605	FTY	F2-C1-CZ-CE2
2	F	605	FTY	F1-C1-CZ-CE1
2	F	605	FTY	F2-C1-CZ-CE1
2	F	605	FTY	F2-C1-CZ-CE2

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	505	FTY	1	0
2	E	505	FTY	1	0

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 (i)

6.1 Protein, DNA and RNA chains (i)

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	282/306 (92%)	0.76	17 (6%)	21	23	9, 14, 26, 39	0
1	B	282/306 (92%)	0.82	22 (7%)	13	13	9, 15, 27, 38	0
2	C	3/7 (42%)	4.10	3 (100%)	0	0	29, 29, 33, 34	0
2	D	5/7 (71%)	1.00	1 (20%)	1	1	19, 20, 22, 29	0
2	E	3/7 (42%)	3.60	2 (66%)	0	0	29, 29, 33, 34	0
2	F	5/7 (71%)	0.82	1 (20%)	1	1	19, 20, 21, 29	0
All	All	580/640 (90%)	0.83	46 (7%)	12	13	9, 15, 28, 39	0

All (46) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	221	CYS	14.8
1	B	221	CYS	10.5
1	B	222	GLY	9.0
1	B	223	GLY	8.0
1	A	222	GLY	7.5
1	A	223	GLY	7.3
1	B	212	THR	5.5
1	B	224	GLU	5.4
2	C	506	LEU	5.2
1	A	212	THR	5.1
2	C	503	ASP	4.9
2	E	503	ASP	4.7
1	A	224	GLU	4.6
1	B	358	THR	4.6
2	E	506	LEU	4.5
1	B	187	SER	4.1
1	B	213	ASN	4.1
1	B	211	ALA	4.1
1	A	213	ASN	3.7

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Mol	Chain	Res	Type	RSRZ
1	A	358	THR	3.6
1	B	357	GLN	3.6
2	D	601	ASP	3.4
1	A	187	SER	3.2
1	B	215	PRO	3.1
1	B	392	ALA	3.1
1	A	211	ALA	3.0
1	B	359	ALA	2.9
1	B	241	ARG	2.8
1	B	220	ALA	2.7
1	A	392	ALA	2.7
2	F	601	ASP	2.6
1	A	357	GLN	2.5
1	A	359	ALA	2.5
1	A	264	GLN	2.4
1	B	281	VAL	2.4
1	A	191	PRO	2.4
1	A	422	SER	2.3
1	B	320	GLN	2.3
1	B	191	PRO	2.3
1	A	220	ALA	2.3
1	B	192	GLU	2.3
1	A	394	ASP	2.2
2	C	504	GLU	2.2
1	B	422	SER	2.1
1	B	432	MET	2.1
1	B	346	VAL	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	FTY	C	505	18/19	0.90	0.13	16,21,27,28	0
2	FTY	E	505	18/19	0.91	0.12	16,21,27,29	0
2	FTY	F	605	18/19	0.93	0.10	14,15,19,22	0
2	FTY	D	605	18/19	0.94	0.10	13,15,18,23	0

6.3 Carbohydrates (i)

There are no monosaccharides 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.