

# wwPDB EM Validation Summary Report (i)

#### Nov 20, 2022 – 01:48 AM EST

PDB ID	:	3IZX
EMDB ID	:	EMD-5256
Title	:	3.1 Angstrom cryoEM structure of cytoplasmic polyhedrosis virus
Authors	:	Yu, X.; Ge, P.; Jiang, J.; Atanasov, I.; Zhou, Z.H.
Deposited on	:	2011-01-15
Resolution	:	3.10  Å(reported)

This is a wwPDB EM Validation Summary 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/EMValidationReportHelp 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 (1)) were used in the production of this report:

EMDB validation analysis	:	0.0.1. dev 43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

# 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:  $ELECTRON\ MICROSCOPY$ 

The reported resolution of this entry is 3.10 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	$egin{array}{c} { m Whole \ archive} \ (\#{ m Entries}) \end{array}$	${f EM} {f structures} \ (\#{f Entries})$
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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%

Mol	Chain	Length		Qua	lity of chain		
1	А	1058	20%		54%	23%	•
2	В	1333	17%	49%		21% • 11%	_
2	С	1333	21%		50%	20% • 6%	-
3	D	448	15%	34%	14% •	35%	-
3	Е	448	15%	35%	14% •	35%	_



# 2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 32209 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Structural protein VP3.

Mol	Chain	Residues		Α	toms			AltConf	Trace
1	А	1057	Total 8434	C 5345	N 1457	O 1587	S 45	0	0

• Molecule 2 is a protein called Capsid protein VP1.

Mol	Chain	Residues		Α	toms			AltConf	Trace
2	В	1101	Total	С	Ν	Ο	$\mathbf{S}$	0	0
	D	1191	9397	5937	1634	1789	37	0	0
2	С	1240	Total	С	Ν	Ο	S	0	0
	U	1249	9844	6213	1712	1882	37	0	0

• Molecule 3 is a protein called Viral structural protein 5.

Mol	Chain	Residues		At	oms			AltConf	Trace
3	D	290	Total 2267	C 1440	N 398	O 422	${ m S} 7$	0	0
3	Е	290	Total 2267	C 1440	N 398	O 422	S 7	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	37	TRP	TYR	conflict	UNP C6K2M8
E	37	TRP	TYR	conflict	UNP C6K2M8



# 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.



• Molecule 1: Structural protein VP3







W305
 W305
 W311
 W316
 W311
 W311
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 W311
 W315
 M316
 M326
 M366
 M366
 M366
 M366
 M366
 M366

C 4431 C 4431 A 435 A 435 A 435 A 435 A 435 A 435 A 445 C 444 C 44

 K495

 K501

 F502

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N561	A562	ES65	F566	E567	F.568	R571	N572	E573	K574	W575	D576	Q577	A578	L579	Y580	L581 0100	S582	E583	1001 1001	rooo Deoe	1000 1587	1588	FF.RG	2001 2590	D591	V592	P593	L594	A595	G596	A597	N598	T599	1601	A602	<b>I603</b>	M604	1005 1000	1606 F607	T608	P609	<b>Q610</b>	G611	F612	L613 D614	T615	D616	D617	L618	A619 1620	A621	A622
N623	F624 Р625	R626	<u>A627</u>	S628	R629 N630	P631	0632	T633	Y634	I635	P636	Y637	T638	N639	<b>4640</b>	K641	G642	1643 1744	V D44	1040	N040 F647	F648	1 0 <del>1</del> 0	SEED	R651	F652	<b>R653</b>	T654	<b>I655</b>	V656	A657	T658	L659 A 660	N661	V662	V663	N664	E665	0001	<mark>៨669</mark>	D670	D671	-	K674	A6/5 T676	R677	S678	<mark>C679</mark>	T680	K681 0682	W683	L684
R685	H686 L687	E688	<b>T689</b>	0690 1007	F691	N693	1694	A695	V696	A697	H698	T699	D7 00	107H	L7 02	S/ 03	V7.04	01/05	1/00 1/05	A/ U/ T700		S710	N7 1 1	F712	M7 13	L714	N7 15	F7 16	T717	N7 18	N7 19	F720	5721 6700	67 22 N7 23	H7 24	A7 25	T7 26	F727 V700	P7 29	D730	Q731	Y732	V733	1734 m765	1735 2736	P737	E738	G739	S740	Y/41 K742	P743	1744
1745	E746 R747	Q748	G749	E750	T751 V750	D753	G754	L755	T756	I757	I758	D759	T/60	S761	1762	V / 63	W/64	P/65	1.767	LT67	0760	601 <u>0</u>	T771	6277 2 111	P773	L774	V775	R776	Q777	SER	GLY	LYS	GLY	ASP	ALA	VAL	S786	1/8/	00	I791	V792	Y793	P794	D795	P/96 e707	T798	T799	L800	S801	0803 803	L804	S805
V806	A807	V809	L810	S811	K812 1 01 2	T814	L815	P816		F819	1820	N821	M822	1823	L824	5825	<u>6826</u>	1827	0028 6070	6700	V050 V831	MR30	B833	T834	Y835	0836	T837	E838	A839	D840	D841	D842	L843	P044	G846	1847	R848	M849		D853	<mark>Q854</mark>	Y855	L856	S857	H858	R860	E861	R862	L863	H864 T865	T866	N867
/868	5869	1872	1873	1874	1875 1876		r879	2880	0881	<b>1882</b>	I883	A884	1885	2886	1887		1889	068.1		2002	1804	1895	896	2682		0065	1901	1902	V903		1908	K909	1910 1011	1181 1010	V913	3914	<b>V915</b>	916	7918	1919	920	<b>921</b>	r922	1923	1924 1005	1926	5927	3928	7929	1930 1931	4932	V933
34	35	37	38	39	40	42	43	44	45	46 (	47	48	49	091			23	40 L		00	0,			2 F 9	62	63	64	65	66	67	68	69	21		73	74	75		62		82	83	84	85	86	88	68	06	91 00	92 <b>9</b> 3	94	95
L9	6р М	6N	. N9	6N	L KO	6H	EB	89	6A 00	D F C O	E9	6I	A9	- D3			60		A9 OU						60 D	A9	8 0	R9	б <mark>0</mark>	L9	e R9	A9			L9	L9	S9		6 D D		6 <b>A</b>	19 19	EB	CH CH		00	I O	T9			S S S	T9
D996	7997 1998		T1001		F1 004	G1006	T1007	L1008	T1005	R1010	S1011	L1013	K1013	101W			AIOIA	1019				R1025	1020 1027	D102F	G1026	T1027	V1028	L1029	R1030	Y1031	D1032	D1033	01034 11034		11037		F1040		S1043	R1044	Y1045	F1046	L1047	D1048		01051	L1052	R1053	R1054	S1056	V1 057	G1058
L1059	R1060 L1061	11062	T1063	N1064	P1065	11067	A1068	R1069	R1070	F1071	N1072	G1073	V1074	R1075	110/6	7 10 TM	Y10/8	L10/9	11080	TOULU	D1085	D1000	D1087	F1088	V1089	P1090	D1091	V1092	P1093	E1094	G1095	Y1096	V1097	A1090 V1099	<b>01100</b>	Y1101	A1102	H1103	L1105	F1106		S1109	L1110	A1111	ZIIIN ZIIIN	R1114	N1115	R1116	V1117 #116	V1115	T1120	H1121
P1122	P1123 T1124	G1125	M1126	A1127	61120	P1131	T1132	G1133	R1134	P1135	H1136	V1137	H1138	M1139	11140	11141	N1142	E1143	K1144	C+11A	M1147	21148	K1149	1.1150	V1151	A1152	D1153	N1154	I1155	I1156	A1157	S1158	V1159	11160 K1161		W1164	V1165	V1166	I1168	L1169	D1170	I1171	E1172	Y1173		V1177	M1178	T1179	P1180	51181 F1182	G1183	Y1184
T1185	Q1186 H1187	V1188	D1189	A1190	E1191 C1107	11193	M1194	T1195	A1196	P1197	K1198	G1199	K1200	L1201	F1 202	H1203	L1204	41.205	M1 202		1 1 2 1 0	11210	B1212	21211	S1216	A1217	F1218	D1219	P1220	P1221	A1222	<mark>S1223</mark>	G1224	D1 226	M1227	R1228	L1229	11230	P1232	-	I1236	S1237	V1238	A1239	R1240	M1242	R1243	A1244	11245	V1246 N1247	H1248	N1249
1250	1251	1255	1256	1257	1258	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	12/3 17/	12/4	1276	0.21	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1269		1296	1297	1298	1300	1301	1302	1303	1304	1305	1306	1308	1309	1310	1311	1312	1 <u>316</u>	1317
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E128	н1 31	P132	T133	T134	V136	1137	F138	0139 6140	L141	D142	V143	N144	E146	V147	Q148	F149 L150	<mark>S151</mark>	D152	F154	K155	0156 5155	1157 6150	0010	K161	G162	1163 L164	T165	Y166	V168	K169 V170	E171	D172	0173 F174	T175	K176 K177	D178	K179	LIBU R181	A182	S183	D187	R188	1189 V190	G191
P192	T193 V194	N195	L196	F197 V108	V199 Y199	G200	A201	A202 V203	V 204	N205	1206 2007	1020	N209	R210	D211 F212	F212 F213	-	T217	1219 I219	D220	L221	1.222	1225	P226	L227	V228 Q229	D230	L231 1 232	V233	P234 T025	1235 G236	V237	T238 A239	G240	A241 E242	<mark>Q243</mark>	S244	A245 E246	Y247	V248	5249 G250	L251	L252 M253	V254
L255	F256 K757	V258	M259	T260	R263	L264	V265	1266 V767	G268	E269	T270	172/1	P273	M274	S275 N076	T277	L278	S279	1280 V281	V282	N283	N284 V7065	V203 L286	R287	T288	1289 Y290	H291	N292 N793	V294	G295 1006	V290 N297	P298	A299 L300	L301	R302 D303	F304	T305	U305 V307	N308	W309	L310 N311	R312	D313 I314	T315
N316	M317 1318	<b>Q</b> 319	<b>Q320</b>	A OCA	1328 G326	L327	G328	L329	E331	T332	R333	L334	V336	V337	R338	L339 V340	K341	T342 T342	V344	G345	H346	A347 1 240	L349 N349	I350	D351	H352 F353	A354	V367		1360	L362	R363	A364 L365	M366	E367 A368	N369	V370	1371 A372	D373	D374	к3/5 I376	K377	A378 L379	<mark>0380</mark>
A381	H382 8383	M384	I385	5386 <b>T</b> 267	130/ 0388	F389	H390	6391 D202	1393 N393	<u> </u>	G395	A396 1207	R398	P399	E400	A402	F403	D404 unde	D406	H407	1408	1409 D/10	C411	L412	M413	L414 A415	A416	A417 N218	Y419	P420	R421 L422	-	1426 V427	<mark>Q428</mark>	T431	G432	Y433	V434 A435	S436	A437	N438 V439	I440	R441 P442	V443
S444	E445 KAA6	R447	Y448	F449	E451	N452	L453	E454		A459	A460	19461 1 AGO	V463	S464	A465	V460 K467	A468	R469 A470		A473	0 1 9	S476 c177	1478 1478	-	R484	E485 V486	S487	P488 M489	F490	N491	V492 H493	E494	L495 K496	K497	1498 A499	E500	S501	F502 E503	D504	P505	S507	1508	V509 V510	V511
L512	E513 F514	1515 1515	L516	F517	F521	P522	T523	E524 FE75	r 323 N526	R527	I528	K529	D531	I532	0533 NE2A	V535 V535	L536	L537	F539	F540	S541	R542 ME42	Y544	P545	V546	E54/ Y548	G549	I550 F551	V552		4556 A556	T557	Y 558 T 559	I 560	N561 A562	A563	G564	ЕЪ65 F566	E567	F568	RDDR	N572	E573 K574	W575
D576	Q577 A578	L579	Y580	L581	5302 E583	H584	F585	P586 A587	L588	F589		V592	L594	A595	G596	N598	<b>T599</b>	1600 1601	A602	1603	M604	R605	F607	T608	P609	F612	L613	R614 T615	D616	D617	A619	<b>I620</b>	A621 A622	N623	F624 P625	R626	A627	S628 R629	N630	P631	Up 32	Y634	1635 P636	Y637
T638	N639	R641	G642	T643 Ve44	V044 T645	N646	E647	F648	8650 S650	<b>R651</b>	F652	K653	100 <del>1</del> 1655	<mark>V656</mark>	A657	1659 L659	<b>A660</b>	N661 V662	V663	N664		V 668	0673	K674	A675	16/6 R677	S678	C679 TERO	K681	0682	ucos L684	R685	H686 L687	E688	1689 1680	F691		1694 A695	V696	A697	Hoya T699	D700	H701 L702	S703
V7 04	V705 V706	A707	T7 08	M7 09	N711	F7 12	M713	L/14 N715	F716	T717	N7 18	N/19 E720	S721	G7 22	N7 23	н/ 7 <del>4</del>	F727	K728 b720	D730	Q731	Y732	V/33	1/ 34 T735	<mark>S736</mark>	P737	ылак G739	S740	Y741 K743	P743	1744	L/ 43 E746	R747	<mark>0748</mark> G749	E750	1751 V752		T756	1758 1758	D759	CO EF	1/62 V763	W764	P765 1766	L767
C768	0770 C770	T771	<u>Y772</u>	P773	V775	R776	Q777	NEX ST V	TAS	GLY	VAL	ASP	VAL	SER	ILE	NEI E789	E790	1791 V702	Y793	P794	D795	P796	T798	T799	L800	0802 0802	S803	L804 SR05	V806	A807	V809	L810	S811 K812	L813	T814 L815	P816	D817	A818 F819	I820	N821	M822 1823		G826 G827	D828
S829	V830 V831	M832	R833	T834 Vege	1030 []836	T837	E838	A839 D840	D841	D842	L843	970J	1847	R848	M849	1850 T851	Y852	D853	Y855	L856	S857	H858 Teco	1003 R860	E861	R862	L863 H864	I865	T866 N867	V868	P869	D0/0	1872	Y873 1874	T875	G876 A877		0882 2020	1883 A884	A885	5886 10.07	V88/ 0888	A889	T890 H891	V892
A893	V894 V805	L896	Y897	0898	0000 0000	V901	1902	N903	P905	A906	S907	806.L	1909 L910	R911	E912	E914	V915	L916 V017	V918	M919	P920	D921	Y923	D924	V925	8926 8927	R928	F929 ∆q30	N931	A932	L934	<b>Q935</b>	M936 N937	N938	N939 R940	Y941	H942	E943 S944	V945	L946	E947 1948	A949	D950 1951	F952
D953	0954 A 055	D956	F957	1958 DOFO	1960 T960	S961	D962	VO64	R965	<mark>0966</mark>	L967	K968	L970	M971	P972	1973 L974	-	0978 1070	R980	H981	A982	1983 F004	E304 R985	I 986	A 987	1989 1989	1990	D991 Vaao	D993	S994	1990 D996	Y997	6998 K999	L1000	1.1002 1.1002	R1003	F1004		L1008	T1009	KIULU S1011	L1012	K1013 M1014	Q1015
1016	1017 1018	1019	1020	1021	1023	1024	1025	1026	1028	1029	1030	1031	1034	1035	1036	1038	1039	1040	1042	1043	1044	1045 1046	1047	_	1050	1051 1052	1053	1054 1055	1056	1057	1059	1060	1061 1062	1063	1065	1066	1067	1068 1069	1070	1071	1072 1073	1074	1075 1076	1077
1078 N	1079 A		1083 H		1086 R	<u>ц</u>	1089 E	0601	1092 V	1093 L		1096		1100 I	1101 1101	1102 E	1104 A	1105 F		1109 S	1110 H	1111	1112 I	1114	11115 L	1116 L	1118 R	1119 F	1121 S	1122 V	1124	1125 R	11126 I	1129 T	1130 N N N N N N N N N N N N N N N N N N N	1132 F	1133	(1134 A	1136 F	1137 F	1138 1139 G	1140 V	1143 I	(1144 N











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Y 2554 Y 2554 N2557 N2557 N2557 N2557 N2557 N2557 N2557 N2556 N2557 N2556 N2567 N2565 N2567 N2565 N256

#### VAL SER GLU CLEU LEU THR ASP ASP SER SER VAL LEU



# 4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, I	Depositor
Number of particles used	28993	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	Each particle	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{\AA}^2)$	25	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	59000	Depositor
Image detector	KODAK SO-163 FILM	Depositor



# 5 Model quality (i)

# 5.1 Standard geometry (i)

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).

Mal	Chain	Bo	ond lengths	E	Bond angles
	Ullalli	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	А	0.68	9/8619~(0.1%)	1.04	42/11737~(0.4%)
2	В	0.77	16/9590~(0.2%)	1.08	49/13056~(0.4%)
2	С	0.69	7/10045~(0.1%)	1.07	42/13678~(0.3%)
3	D	0.63	0/2314	1.03	17/3147~(0.5%)
3	Е	0.65	0/2314	0.98	12/3147~(0.4%)
All	All	0.71	$32/3288\overline{2}~(0.1\%)$	1.06	162/44765~(0.4%)

The worst 5 of 32 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	$\operatorname{Ideal}(\operatorname{\AA})$
2	В	202	ALA	CA-CB	11.75	1.77	1.52
2	В	1098	ALA	CA-CB	8.29	1.69	1.52
2	С	114	VAL	CA-CB	8.29	1.72	1.54
2	С	1320	VAL	CA-CB	7.62	1.70	1.54
1	А	232	ALA	CA-CB	-7.29	1.37	1.52

The worst 5 of 162 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	$Ideal(^{o})$
2	С	550	ILE	CB-CA-C	-9.49	92.62	111.60
2	С	1059	LEU	CA-CB-CG	9.28	136.65	115.30
2	С	1316	ALA	CB-CA-C	8.39	122.68	110.10
1	А	971	LEU	CA-CB-CG	-8.22	96.39	115.30
2	В	863	LEU	CA-CB-CG	-8.15	96.55	115.30

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



Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	А	8434	0	8395	1501	0
2	В	9397	0	9313	1584	0
2	С	9844	0	9749	1701	0
3	D	2267	0	2260	343	0
3	Ε	2267	0	2260	348	0
All	All	32209	0	31977	5388	0

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.

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 86.

The worst 5 of 5388 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:C:1242:MET:HE1	2:C:1260:PRO:CD	1.25	1.60
2:C:615:THR:CG2	2:C:632:GLN:HB3	1.26	1.60
3:D:26:ALA:CB	3:D:30:GLN:HE21	1.13	1.60
2:C:832:MET:CE	2:C:946:LEU:HD12	1.34	1.56
2:B:202:ALA:CA	2:B:202:ALA:CB	1.77	1.56

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 PDB entries followed by that with respect to all EM entries.

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	А	1055/1058~(100%)	659~(62%)	233 (22%)	163 (16%)	0 0
2	В	1187/1333~(89%)	800 (67%)	183 (15%)	204 (17%)	0 0
2	С	1245/1333~(93%)	861 (69%)	207 (17%)	177 (14%)	0 1
3	D	288/448 (64%)	203 (70%)	46 (16%)	39 (14%)	0 1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
3	Е	288/448~(64%)	191 (66%)	55 (19%)	42~(15%)	0 1
All	All	4063/4620~(88%)	2714 (67%)	724 (18%)	625~(15%)	0 0

5 of 625 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	А	48	SER
1	А	63	SER
1	А	123	SER
1	А	135	VAL
1	А	202	SER

#### 5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent side chain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	Perce	entiles
1	А	942/943~(100%)	786~(83%)	156 (17%)	2	9
2	В	1038/1153~(90%)	891 (86%)	147 (14%)	3	14
2	С	1088/1153~(94%)	928~(85%)	160 (15%)	3	13
3	D	238/379~(63%)	204 (86%)	34 (14%)	3	14
3	Ε	238/379~(63%)	203~(85%)	35~(15%)	3	13
All	All	3544/4007~(88%)	3012 (85%)	532 (15%)	6	12

5 of 532 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	3	GLN
3	D	130	PHE
2	С	1332	ASN
3	Е	172	MET
2	В	462	LEU

Sometimes side chains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 136 such side chains are listed below:



Mol	Chain	Res	Type
2	С	959	GLN
2	С	1203	HIS
3	D	276	HIS
2	В	388	GLN
2	В	352	HIS

#### 5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

#### 5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

#### 5.6 Ligand geometry (i)

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 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-5256. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections (i)

This section was not generated.

### 6.2 Central slices (i)

This section was not generated.

### 6.3 Largest variance slices (i)

This section was not generated.

### 6.4 Orthogonal surface views (i)

This section was not generated.

### 6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.



# 7 Map analysis (i)

This section contains the results of statistical analysis of the map.

## 7.1 Map-value distribution (i)

This section was not generated.

### 7.2 Volume estimate versus contour level (i)

This section was not generated.

### 7.3 Rotationally averaged power spectrum (i)

This section was not generated. The rotationally averaged power spectrum had issues being displayed.



# 8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.



# 9 Map-model fit (i)

This section was not generated.

