



wwPDB X-ray Structure Validation Summary Report ⓘ

Aug 8, 2023 – 08:18 AM EDT

PDB ID : 1NJN
Title : The crystal structure of the 50S Large ribosomal subunit from *Deinococcus radiodurans* complexed with the antibiotic sparsomycin
Authors : Bashan, A.; Agmon, I.; Zarivatch, R.; Schluenzen, F.; Harms, J.M.; Berisio, R.; Bartels, H.; Hansen, H.A.; Yonath, A.
Deposited on : 2003-01-02
Resolution : 3.70 Å(reported)

This is a wwPDB X-ray Structure 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/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
buster-report : 1.1.7 (2018)
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

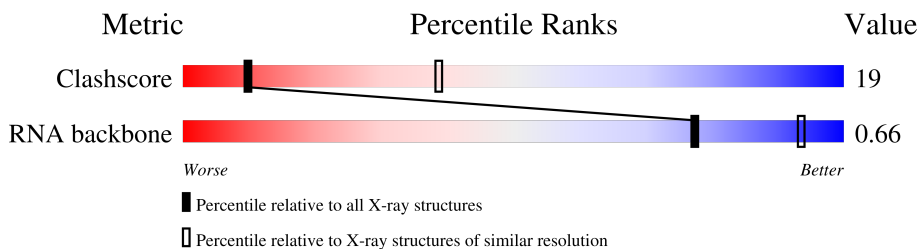
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.70 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	1027 (3.86-3.54)
RNA backbone	3102	1027 (4.40-3.00)

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 ≥ 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 $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	

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
2	SPS	0	2881	X	-	-	-

2 Entry composition [i](#)

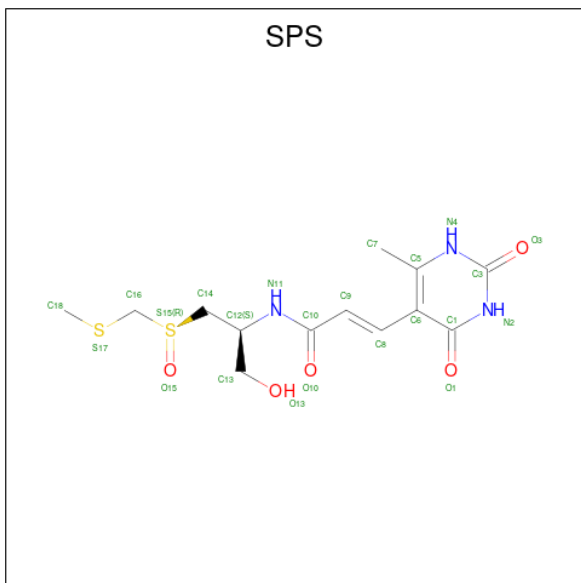
There are 2 unique types of molecules in this entry. The entry contains 59381 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	0	2766	59359	26479	10949	19166	2765	0	0	0

- Molecule 2 is SPARSOMYCIN (three-letter code: SPS) (formula: C₁₃H₁₉N₃O₅S₂).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
2	0	1	22	13	3	4	2	0	0

U1810	G1730	C1580	G1503	A1483	A1353	U1286	C1214	U1144	U1046	A979	C	A842	U779
A1811	C1731	C1581	G1504	U1494	A1354	A1287	A1215	C1145	G1047	G980	A911	G843	U780
U1812	U1732	A1582	U1505	G1436	A1355	A1288	G1216	G1146	C1052	C981	U916	G844	U781
A1813	U1733	A1583	G1506	A1437	A1356	A1289	U1217	G1147	C1053	A984	U917	U845	U782
G1814	A1657	A1584	G1507	U1437	U1357	A1290	C1218	G1148	G1054	G985	A918	C847	G783
G1818	A1658	A1585	A1509	A1441	C1358	G1291	C1219	G1149	C1055	U986	U919	U848	U784
U1819	G1737	A1586	A1510	A1442	U1359	A1292	G1220	C1150	A1055	A986	U919	U848	U785
G1820	G1742	A1587	A1512	G1443	U1365	A1295	C1221	U1151	U1056	G987	G920	U849	U786
A1821	C1743	U1591	A1513	C1444	A1366	G1298	G1222	A1154	U1057	G988	A922	U852	A787
C1822	G1744	C1513	C1514	A1445	A1367	U1301	A1223	G1155	G1058	A991	U925	G853	G789
C1825	A1746	C1515	U1515	U1446	A1368	C1302	G1225	U1156	A1065	A994	U926	G854	A790
U1826	G1747	A1594	A1516	U1447	G1369	U1303	A1226	A1162	G1067	A995	C927	G855	G791
C1829	U1748	A1595	C1517	C1451	U1370	U1303	A1227	C1163	A1068	A996	G928	A856	U792
C1830	G1749	A1596	C1518	A1452	G1371	U1307	A1231	C1164	A1069	C996	G928	U857	G793
G1831	A1750	A1597	G1520	U1453	A1372	C1309	U1232	C1165	A1070	C997	A924	G858	A794
C1835	G1754	U1599	C1524	C1455	G1377	G1308	A1233	A1166	G1073	A999	G931	U860	A795
C1836	G1755	U1600	U1601	C1456	U1377	C1310	C1234	G1167	U1074	G1000	G932	G861	A796
G1837	U1676	G1602	G1527	A1457	C1380	C1311	C1235	G1168	C1075	A1001	G933	G862	A797
G1838	G1760	A1603	C1528	U1458	G1381	G1312	A1242	C1169	U1076	A1002	G934	G864	G798
A1839	G1761	A1604	U1530	U1459	G1382	A1313	G1243	U1172	C1077	C1003	G935	A865	U800
A1840	C1762	A1605	C1531	A1464	G1386	A1314	U1244	G1173	A1081	A1004	A936	G866	C804
G1841	A1764	C1606	A1532	G1465	U1387	A1315	G1245	G1174	U1084	C1005	C939	U868	G805
G1850	U1680	A1607	G1533	G1466	C1388	G1316	G1245	A1175	A1084	C1006	G940	C870	A806
A1851	A1681	U1608	G1533	U1467	C1389	A1318	G1248	U1176	G1085	A1007	U941	U871	A807
G1855	C1765	G1609	U1539	U1467	C1390	C1319	G1249	U1177	C1086	C1008	U942	U872	A808
G1856	U1770	A1610	C1540	U1469	A1391	A1320	A1250	C1178	C1087	C1009	U943	U873	C809
G1857	A1771	A1611	U1541	A1469	A1392	A1320	G1251	A1179	U1088	G1014	U944	U874	U810
C1858	C1772	A1612	G1542	G1470	G1393	G1323	C1252	A1180	A1088	U1015	G945	G875	G811
A1859	C1773	G1613	G1543	G1471	G1397	G1324	C1253	C1181	C1089	C1016	U949	A876	G812
G1860	A1774	C1614	U1544	C1472	A1397	U1325	G1254	U1182	U1092	C1017	G950	A877	G813
G1861	U1775	A1615	A1545	U1474	C1398	C1326	U1257	G1183	U1093	U1018	G951	C878	G814
C1862	U1776	G1616	U1546	U1475	C1399	U1327	G1258	G1184	U1094	U1019	A952	A879	A815
C1865	C1779	U1617	U1547	U1475	G1402	C1329	A1259	G1185	A1099	A1020	G953	C880	U816
G1866	G1780	A1619	U1548	U1478	U1403	G1330	A1260	A1187	G1100	A1022	U954	G887	U817
G1871	A1785	G1620	C1552	G1479	G1407	G1331	G1261	A1188	A1114	U1023	G955	G888	C819
G1880	U1787	G1621	G1557	G1480	U1410	C1332	U1262	G1189	G1024	G1032	A956	C889	U820
U1881	C1788	G1622	C1558	U1481	U1411	A1334	G1263	C1190	A1025	U1026	G957	U890	U821
G1882	C1789	A1623	C1561	U1482	C1411	G1335	C1264	G1191	G1120	G1033	G958	G822	G822
A1884	C1792	A1624	C1566	A1486	G1414	A1336	G1265	A1192	G1121	C1027	G959	U823	U823
C1885	A1793	A1625	U1567	C1487	G1415	G1337	G1266	G1193	A1122	G1028	U960	G	C825
G1886	A1794	A1626	A1568	U1488	C1416	U1338	G1269	U1194	C1127	U1030	G961	G	C826
G1887	G1716	A1627	G1571	G1489	A1415	G1338	A1278	U1195	G1128	C1031	A964	G	U826
C1888	A1717	G1628	C1572	G1494	A1416	U1339	C1270	G1196	U1129	G1032	A965	G	U827
G1889	G1722	A1629	C1573	G1495	U1426	C1340	C1271	U1197	A1130	A1032	G966	C	C828
G1890	U1723	G1633	A1574	G1496	G1427	G1341	G1272	C1198	U1131	G1033	A966	C	C829
A1895	C1724	A1634	C1575	A1498	G1428	U1342	G1273	U1199	G1130	U1034	G967	U	C830
A1896	U1728	A1635	G1576	A1499	A1429	U1343	C1274	G1200	G1132	G1035	C968	A	G831
A1897	C1728	G1636	U1577	U1500	U1430	C1344	G1283	G1201	G1133	G1036	U969	C	A832
A1899	C1729	A1637	G1579	G1502	U1431	G1345	G1284	U1202	A1137	U1037	A970	C	A833
					U1432	C1346	A1278	A1203	A1137	U1038	A971	A	A834
					G1432	C1347	U1280	G1204	A1138	A1039	C972	C	A834
					G1432	C1348	U1281	G1205	A1139	A1040	C973	C	U837
					A1429	A1349	A1282	G1041	A1140	U974	U974	U	A838
					U1430	G1350	G1283	G1211	U1141	C975	U975	U	A839
					U1431	G1351	G1284	G1142	U1044	U1044	U978	A	U840
					G1432	G1352	A1285	A1143	G1045	G1045	U978	C	G841

U1900	U1974	C2047	C2195	A2266	A2348	A2418	G2481	G2548	U2616	G2694	U2772	C2855
A1901	G1975	C2048	U2196	A2267	A2349	C2419	A2462	G2549	G2617	C2695	G2773	U2858
U1906	U1976	C2049	U2197	G2268	G2349	G2420	U2483	C2550	A2618	U2774	U2774	U2859
C1907	C1977	G2050	U2198	G2269	G2353	C2421	G2484	A2551	G2619	U2775	U	C2860
C1908	U1978	U2051	U2199	U2270	G2353	C2422	U2485	C2552	G2620	U2776	U	A2861
U1909	C1979	G2052	G2200	C2271	A2356	G2423	C2486	C2553	G2621	U2777	A	G2862
A1980	A1980	G2053	G2201	A2272	A2357	G2424	G2487	C2554	G2622	U2778	U2778	U2863
A1984	A1982	A2054	G2202	C2273	A2358	G2425	C2491	G2555	A2623	C2703	G2782	G2867
A1911	C1982	G2055	A2204	C2274	C2388	G2426	G2492	C2556	U2624	U2704	U2783	U2867
G1912	G1993	G2056	C2205	U2275	G2361	A2427	U2493	C2557	U2625	A2705	A2784	U2867
G1913	U1994	C2057	C2206	C2276	G2362	A2428	C2494	U2559	U2626	U2706	A2785	U2872
U1914	U1995	U2058	U2211	A2277	G2363	A2429	C2495	G2560	G2627	G2707	G2786	G2873
A1915	G1995	U2059	U2212	A2278	C2364	A2430	C2496	G2561	C2628	U2708	U2787	A2874
G1916	A1996	A2060	U2213	G2279	U2365	A2431	C2497	C2562	U2629	C2709	C2788	C2875
C1917	A1997	G2061	G2214	U2285	U2366	A2432	U2498	C2563	A2633	C2710	A2789	C2876
G1918	A1998	U2062	G2215	G2286	A2367	A2433	U2499	G2564	U2634	G2711	A2790	C2877
A1919	U1999	U2063	G2216	G2287	A2368	G2434	C2500	C2565	G2635	G2712	G2791	A2877
U1920	U2000	U2069	G2217	G2288	A2369	U2435	U2501	A2566	U2636	A2713	A2792	C
A1921	G2001	G2070	U2218	A2289	U2370	U2436	G2502	C2567	A2637	G2714	A2793	U
U1922	A2002	U2075	U2219	C2292	G2371	G2437	U2503	C2568	A2638	G2715	C2799	C
U1923	A2003	G2076	U2220	G2293	A2372	A2438	G2504	C2569	U2639	A2716	A2800	
U1926	U2004	G2077	U2221	G2294	C2373	G2439	U2505	C2570	A2640	A2717	A2801	
	U2005	A2078	U2222	U2295	C2374	C2440	U2506	C2571	G2641	A2718	A2802	
	G2006	G2079	U2223	U2296	C2375		U2507	C2572	G2642	A2719	G2805	
	C2008	A2079	U2224	U2297	G2376		U2508	C2573	G2643	G2725	G2806	
	U2009	U2080	U2225	G2300	U2377		G2509	C2574		U2726	U2807	
	G2010	U2081	G2226	A2501	G2378		A2510	A2577	C2646	G2727	U2808	
	U2011	G2083	C2227	G2302	G2379		A2511	A2578		A2728	A2809	
	A2012	G2084	U2228	G2303	U2380		G2512	A2579	U2651	A2729	A2810	
	A2013	G2085	G2229	A2307	A2381		U2513	C2580	G2652	A2730	A2811	
	A2014	U2086		A2308	C2382		A2514	A2581	A2653	G2731	A2812	
	G2015		G2234	C2309	C2383		G2515	C2582	A2654	C2732		
	U2016		U2236	G2310	G2384		U2516	C2583				
	U2017	G2093	U2237	U2311	U2385		C2517	C2584	U2658	C2735	C2815	
	G2018	G2094	C2238	A2312	G2386		U2518	G2585	C2659	U2736	C2816	
	C2019	U2096	G2239	G2313	G2389		A2521	U2586	C2660	A2737	G2821	
	G2020	A2097	C2240	A2314	A2390		G2522	U2587	G2661	A2738	U2822	
	G2021	G	U2241	A2315	A2391		U2523	C2588	G2662	C2740	G2823	
	C2022	G	C2242	G2316	G2392		G2524	U2590	U2666	G2741	C2824	
	G2023	A	C2243	U2317	G2393		U2525	C2591	G2667	G2742	A2825	
	U2024	U	C2244	G2318	G2394		U2526	U2592	U2668	A2743	C2826	
	A2025	A	A2245	U2319	C2395		G2527	A2593	U2669	A2744	U2830	
	C2026	A	A2246	C2320	C2396		U2528	U2594	C2670	A2745	A2831	
	C2027	G2103	A2247	U2321	A2397		G2529	C2595			U2832	
	G2028	G2106	A2248	U2322	U2398		U2530	C2596	C2674	C2754	C2833	
	C2033	G2107	A2249	U2323	A2401		U2531	G2597	A2675	A2755	U2834	
	A2034	C	G2250	A2324	U2402		U2532	C2598	G2676	G2756	U2835	
	G2035	U	U2251	G2325	U2403		U2533	U2599	U2677	G2757	G2836	
	U1966	G	G2255	U2326	C2404		G2536	A2600	C2678	U2758	G2837	
	A2037	C	G2256	U2327	A2405		C2537	C2601	G2679	U2759	U2838	
	C2038	C	G2257	C2328	A2406		U2538	G2602	U2680	C2760	U2839	
	G2039	G	G2258	C2329	G2407		U2539	G2603	G2681	A2761	A2840	
	A2043	A2117	G2259	C2330	G2408		A2540	C2604	U2682	G2762	A2841	
	G2044	A2118	U2191	G2331	U2409		A2541	C2605	G2683	U2766	G2842	
	A2045	A2119	U2192	U2185	G2259		A2542	C2606	G2684	C2767	U2843	
	C2046	U2121	A2194	G2186	C2260		A2543	C2607	U2685	U2768	G2844	
				A2191	G2261		A2544	C2608	U2686	C2769	U2845	
				U2192	C2262		A2545	G2609	U2687	A2770	U2846	
				A2194	A2265		C2547	U2615	U2693	C2771	G2854	

4 Data and refinement statistics

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

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	169.10Å 409.90Å 696.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.70	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.70)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.13	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.284 , 0.308	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	59381	wwPDB-VP
Average B, all atoms (Å ²)	82.0	wwPDB-VP

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: SPS

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	0	0.14	0/66467	0.63	0/103673

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	0	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	873	U	Sidechain

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	0	59359	0	29917	1711	0
2	0	22	0	19	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	59381	0	29936	1711	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 19.

The worst 5 of 1711 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)
1:0:940:G:H3'	1:0:941:U:H5''	1.24	1.14
1:0:1073:G:H2'	1:0:1074:G:H4'	1.39	1.02
1:0:2769:C:H2'	1:0:2867:G:H22	1.23	1.01
1:0:1141:U:H3	1:0:2008:C:H5''	1.22	1.01
1:0:2548:G:H2'	1:0:2549:G:H5''	1.44	0.99

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein molecules in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein molecules in this entry.

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	413 (14%)	39 (1%)

5 of 413 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	15	G
1	0	35	G
1	0	45	C
1	0	48	A

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Continued from previous page...

Mol	Chain	Res	Type
1	0	49	U

5 of 39 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	2093	G
1	0	2426	G
1	0	2161	C
1	0	2261	G
1	0	2759	U

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](#)

1 ligand is 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	SPS	0	2881	-	19,22,23	4.39	9 (47%)	17,28,30	4.15	8 (47%)

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	SPS	0	2881	-	1/1/2/6	8/15/16/18	0/1/1/1

The worst 5 of 9 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	0	2881	SPS	O10-C10	9.77	1.43	1.24
2	0	2881	SPS	C9-C8	8.37	1.54	1.33
2	0	2881	SPS	O1-C1	7.62	1.43	1.24
2	0	2881	SPS	C10-N11	6.53	1.50	1.34
2	0	2881	SPS	C1-N2	5.41	1.42	1.33

The worst 5 of 8 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	0	2881	SPS	C12-N11-C10	-7.51	111.98	122.57
2	0	2881	SPS	C14-S15-C16	6.41	109.79	101.04
2	0	2881	SPS	C3-N2-C1	6.34	120.49	115.14
2	0	2881	SPS	C8-C9-C10	-6.10	109.64	121.56
2	0	2881	SPS	O10-C10-C9	-5.85	109.69	123.03

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	0	2881	SPS	C12

5 of 8 torsion outliers are listed below:

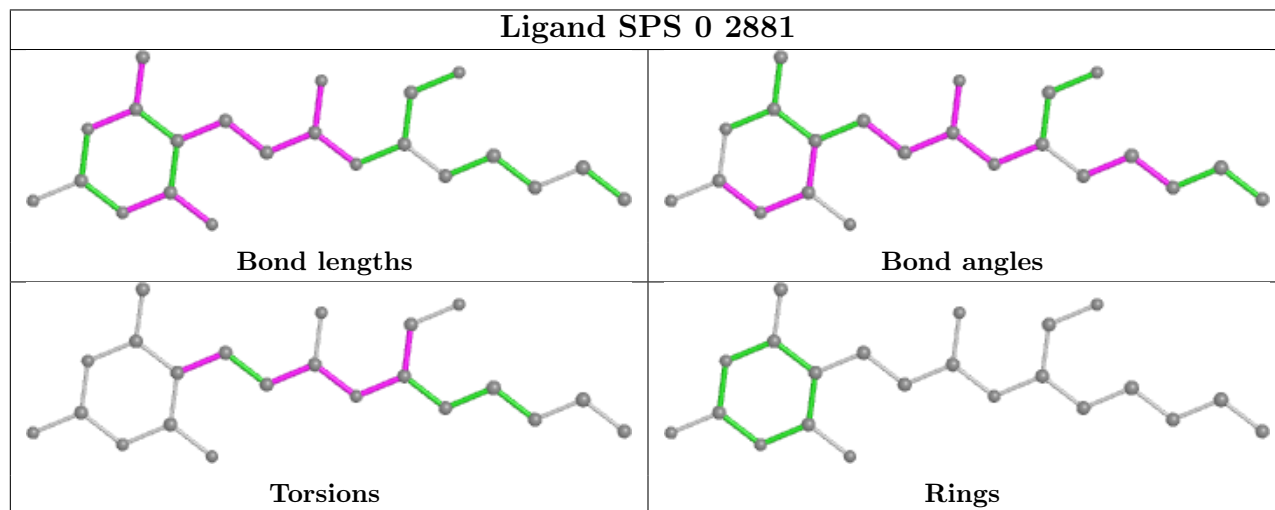
Mol	Chain	Res	Type	Atoms
2	0	2881	SPS	C9-C10-N11-C12
2	0	2881	SPS	O10-C10-N11-C12
2	0	2881	SPS	C14-C12-C13-O13
2	0	2881	SPS	N11-C12-C13-O13
2	0	2881	SPS	C13-C12-N11-C10

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be

highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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.