

Sample: toyin\_C

Operator:

File: C:\3Flex\data\Remi Castaing\000-950.SMP

Started: 12/07/2018 13:55:44	Analysis adsorptive: N2
Completed: 13/07/2018 21:29:32	Analysis bath temp.: -195.848 °C
Report time: 16/07/2018 09:28:29	Thermal correction: No
Sample mass: 0.3205 g	Warm free space: 20.3941 cm <sup>3</sup> Measured
Cold free space: 61.6879 cm <sup>3</sup>	Equilibration interval: 10 s
Low pressure dose: 3.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

### Summary Report

No summary reports could be produced.

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 Report time: 16/07/2018 09:28:29  
 Sample mass: 0.3205 g  
 Cold free space: 61.6879 cm<sup>3</sup>  
 Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
 Automatic degas: No  
 Analysis adsorptive: N2  
 Analysis bath temp.: -195.848 °C  
 Thermal correction: No  
 Warm free space: 20.3941 cm<sup>3</sup> Measured  
 Equilibration interval: 10 s  
 Sample density: 1.000 g/cm<sup>3</sup>

### Isotherm Tabular Report

Relative Pressure (P/Po)	Absolute Pressure (mbar)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Elapsed Time (h:min)	Saturation Pressure (mbar)
0.000000904	0.000911	2.8433	01:33	1007.283688
0.000003149	0.003174	5.6883	02:06	1008.306716
0.000004768	0.004805	8.4961	02:33	1008.003763
0.000006636	0.006684	11.2955	03:08	1007.642220
0.000008472	0.008533	14.1002	03:46	1007.351717
0.000010595	0.010668	16.8803	04:30	1007.143970
0.000012376	0.012463	19.6650	05:18	1006.977561
0.000014364	0.014469	22.4346	06:19	1007.054622
0.000019254	0.019396	25.2143	07:35	1007.284258
0.000021576	0.021733	27.9615	08:35	1007.403145
0.000029039	0.029249	30.7090	10:03	1007.277423
0.000036934	0.037190	33.4389	11:20	1007.229819
0.000084842	0.085433	36.1616	13:27	1006.936874
0.000344426	0.346846	38.7614	14:44	1006.973899
0.001273405	1.282614	41.1021	15:06	1007.026629
0.003283689	3.307100	44.6940	15:37	1007.231772
0.006337335	6.382538	43.0773	16:01	1007.129241
0.010634280	10.709704	44.6940	16:23	1007.132740
0.019940653	20.084776	45.9321	16:41	1007.092542
0.032239201	32.471280	47.4079	16:55	1007.227622
0.039165590	39.451922	48.7003	17:11	1007.198653
0.051761222	52.143302	49.3119	17:20	1007.310786
0.058367508	58.800252	50.3349	17:34	1007.381581
0.069381236	69.900385	50.8511	17:43	1007.414130
0.079143288	79.736442	51.6604	17:54	1007.482565
0.089002230	89.671164	52.3854	18:06	1007.494690
0.098885971	99.637632	53.0852	18:15	1007.515928
0.117878213	118.777155	53.7894	18:25	1007.601289
0.138003183	139.059529	55.0180	18:37	1007.626027
0.158140422	159.326086	56.2635	18:48	1007.654507
0.178394606	179.760507	57.4114	18:57	1007.497538
0.198842088	200.356942	58.4867	19:05	1007.656623
0.229518021	231.285476	59.4807	19:12	1007.618378
0.260831402	262.825391	60.8218	19:19	1007.700728
0.291944363	294.166082	62.0903	19:25	1007.644743
0.301479507	303.774893	63.2807	19:31	1007.610078
0.311392506	313.783411	63.6571	19:34	1007.613739
0.320699234	323.183153	64.0377	19:37	1007.678106
0.330649710	333.204832	64.3931	19:40	1007.745320
		64.7616	19:43	1007.727581

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 Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
 Automatic degas: No  
 Analysis adsorptive: N2  
 Analysis bath temp.: -195.848 °C  
 Thermal correction: No  
 Warm free space: 20.3941 cm<sup>3</sup> Measured  
 Equilibration interval: 10 s  
 Sample density: 1.000 g/cm<sup>3</sup>

## Isotherm Tabular Report

Relative Pressure (P/Po)	Absolute Pressure (mbar)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Elapsed Time (h:min)	Saturation Pressure (mbar)
0.340377810	343.012927	65.1184	19:46	1007.741740
0.349290129	351.990177	65.4470	19:49	1007.730103
0.359321338	362.077526	65.8038	19:52	1007.670538
0.369219920	372.056362	66.1587	19:55	1007.682256
0.379308446	382.210600	66.5162	19:58	1007.651171
0.389222181	392.200503	66.8677	20:01	1007.651985
0.399159232	402.226618	67.2160	20:04	1007.684616
0.409257019	412.398472	67.5692	20:07	1007.675990
0.419240063	422.448389	67.9204	20:10	1007.652717
0.429294516	432.581672	68.2735	20:13	1007.657111
0.439176065	442.499967	68.6198	20:16	1007.568496
0.449111968	452.530476	68.9683	20:19	1007.611705
0.459304318	462.780449	69.3230	20:22	1007.568252
0.469211555	472.810470	69.6731	20:25	1007.670131
0.479297794	482.950670	70.0249	20:28	1007.621307
0.489317351	493.027317	70.3747	20:31	1007.581922
0.499131185	502.877258	70.7186	20:34	1007.505187
0.509332391	513.116979	71.0766	20:37	1007.430486
0.519429547	523.294529	71.4327	20:40	1007.440821
0.529121203	533.064887	71.7788	20:43	1007.453271
0.539136113	543.195241	72.1376	20:46	1007.528948
0.549245620	553.382068	72.5039	20:49	1007.531145
0.559369310	563.525605	72.8675	20:52	1007.430323
0.569313348	573.587402	73.2377	20:55	1007.507384
0.579376263	583.741232	73.6082	20:58	1007.533912
0.589117541	593.555613	73.9710	21:01	1007.533424
0.599117748	603.643490	74.3502	21:04	1007.554011
0.609258302	613.809730	74.7359	21:07	1007.470441
0.619279566	623.974139	75.1249	21:10	1007.580702
0.629436220	634.183100	75.5232	21:13	1007.541480
0.639287688	644.104650	75.9144	21:16	1007.534888
0.649144027	654.000445	76.3134	21:19	1007.481263
0.659318349	664.151468	76.7243	21:22	1007.330478
0.669304072	674.210172	77.1443	21:25	1007.330153
0.679103879	684.074354	77.5673	21:28	1007.319167
0.689628274	694.662760	78.0228	21:31	1007.300288
0.699309272	704.444591	78.4651	21:34	1007.343416
0.709200607	714.384612	78.9179	21:37	1007.309646
0.719491749	724.751682	79.4029	21:40	1007.310623
0.729566754	734.863890	79.8920	21:43	1007.260660

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 Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
 Automatic degas: No

Analysis adsorptive: N2  
 Analysis bath temp.: -195.848 °C  
 Thermal correction: No  
 Warm free space: 20.3941 cm<sup>3</sup> Measured  
 Equilibration interval: 10 s  
 Sample density: 1.000 g/cm<sup>3</sup>

## Isotherm Tabular Report

Relative Pressure (P/Po)	Absolute Pressure (mbar)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Elapsed Time (h:min)	Saturation Pressure (mbar)
0.739171787	744.473942	80.3768	21:46	1007.173102
0.749539345	754.936300	80.9046	21:49	1007.200362
0.759010456	764.510873	81.4286	21:52	1007.246826
0.769236835	774.774679	81.9812	21:55	1007.199141
0.779376261	784.975178	82.5637	21:58	1007.183843
0.789120395	794.804531	83.1569	22:01	1007.203128
0.799378948	805.107316	83.7828	22:04	1007.166022
0.809083209	814.858469	84.4160	22:07	1007.138030
0.819159737	825.045785	85.0954	22:10	1007.185470
0.829505334	835.401055	85.8389	22:13	1007.107515
0.839195239	845.186874	86.6121	22:16	1007.139738
0.849247506	855.345465	87.4343	22:20	1007.180425
0.859377739	865.549136	88.3181	22:24	1007.181239
0.869519766	875.692673	89.2747	22:28	1007.099214
0.879451666	885.742386	90.2810	22:32	1007.153002
0.889301359	895.643429	91.3782	22:36	1007.131520
0.899157940	905.424040	92.5189	22:41	1006.968854
0.908810908	915.070547	93.7655	22:46	1006.887725
0.919031893	925.394164	95.2804	22:52	1006.922797
0.929367962	935.699389	96.9851	22:58	1006.812617
0.938812062	945.194460	98.9533	23:05	1006.798377
0.948976850	955.410745	101.4674	23:14	1006.779823
0.983791258	990.254649	118.3712	23:53	1006.569880
0.995859131	1002.372551	124.8543	24:04	1006.540504
0.981237309	987.676654	122.9411	24:09	1006.562475
0.962172730	968.312600	120.8005	24:16	1006.381256
0.952192399	958.260446	115.6896	24:32	1006.372712
0.941160356	947.129686	110.9013	24:46	1006.342522
0.929247625	935.095272	106.6878	24:59	1006.292884
0.916577936	922.390829	103.0853	25:10	1006.341952
0.898549984	904.018150	99.3208	25:21	1006.085544
0.882743391	888.089361	96.8785	25:29	1006.056087
0.863281885	868.550599	94.4737	25:37	1006.103121
0.842224685	847.357757	92.3883	25:43	1006.094658
0.820936335	825.872458	90.6393	25:49	1006.012796
0.799786767	804.662040	89.1547	25:54	1006.095716
0.779108748	783.841807	87.8678	25:58	1006.074966
0.758413844	763.034513	86.7294	26:02	1006.092542
0.738108278	742.567034	85.6746	26:06	1006.040789
0.717872789	722.202005	84.7220	26:09	1006.030617



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 Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
 Automatic degas: No  
 Analysis adsorptive: N2  
 Analysis bath temp.: -195.848 °C  
 Thermal correction: No  
 Warm free space: 20.3941 cm<sup>3</sup> Measured  
 Equilibration interval: 10 s  
 Sample density: 1.000 g/cm<sup>3</sup>

### Isotherm Tabular Report

Relative Pressure (P/Po)	Absolute Pressure (mbar)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Elapsed Time (h:min)	Saturation Pressure (mbar)
0.697634554	701.815493	83.7964	26:13	1005.993023
0.677270121	681.366161	82.9251	26:16	1006.047868
0.657140194	661.106470	82.1072	26:19	1006.035662
0.637240342	641.061931	81.3167	26:22	1005.997091
0.617095254	620.830680	80.5326	26:26	1006.053239
0.597042577	600.607403	79.7666	26:29	1005.970808
0.577109676	580.526042	79.0158	26:32	1005.919786
0.557033381	560.304881	78.2777	26:35	1005.873078
0.537137104	540.292932	77.5579	26:38	1005.875275
0.516948019	519.996379	76.8386	26:41	1005.896839
0.496898801	499.817329	76.1048	26:44	1005.873485
0.481284832	484.183438	74.0484	26:56	1006.022643
0.464658807	467.513581	71.1758	27:08	1006.143808
0.440729766	443.438529	69.6363	27:14	1006.146086
0.417765925	420.351840	68.7057	27:18	1006.189865
0.396639755	399.112330	67.9460	27:22	1006.233807
0.376315465	378.663486	67.2453	27:25	1006.239503
0.348494014	350.635634	66.3008	27:29	1006.145354
0.326906795	328.934960	65.5696	27:33	1006.204106
0.306230611	308.101666	64.8716	27:37	1006.109956
0.278226814	279.934827	63.9157	27:41	1006.138925
0.256767571	258.324437	63.1579	27:45	1006.063329
0.236201828	237.631941	62.4221	27:50	1006.054622
0.208499600	209.732617	61.3830	27:55	1005.913765
0.186928557	188.024152	60.5249	28:00	1005.861035
0.166717571	167.699565	59.6655	28:06	1005.890166
0.146750436	147.612468	58.7474	28:12	1005.874136
0.126984120	127.729566	57.7555	28:19	1005.870393
0.108685098	109.315366	56.7398	28:26	1005.799028
0.091571936	92.104813	55.6963	28:34	1005.819209
0.074811941	75.240183	54.5648	28:43	1005.724246

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Report time: 16/07/2018 09:28:29

Sample mass: 0.3205 g

Cold free space: 61.6879 cm<sup>3</sup>

Low pressure dose: 3.0000 cm<sup>3</sup>/g STP

Automatic degas: No

Analysis adsorptive: N<sub>2</sub>

Analysis bath temp.: -195.848 °C

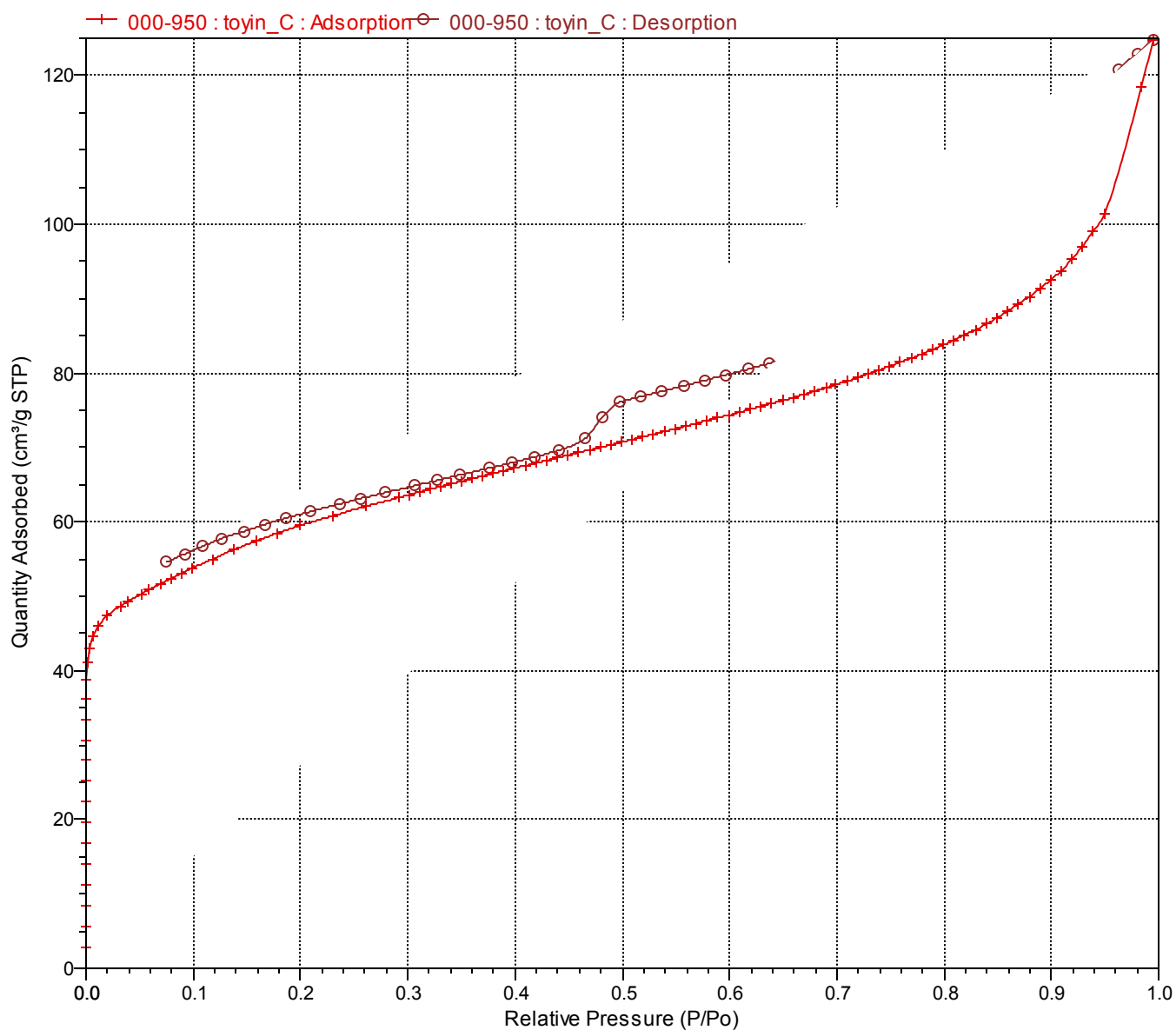
Thermal correction: No

Warm free space: 20.3941 cm<sup>3</sup> Measured

Equilibration interval: 10 s

Sample density: 1.000 g/cm<sup>3</sup>

### Isotherm Linear Plot



Sample: toyin\_C

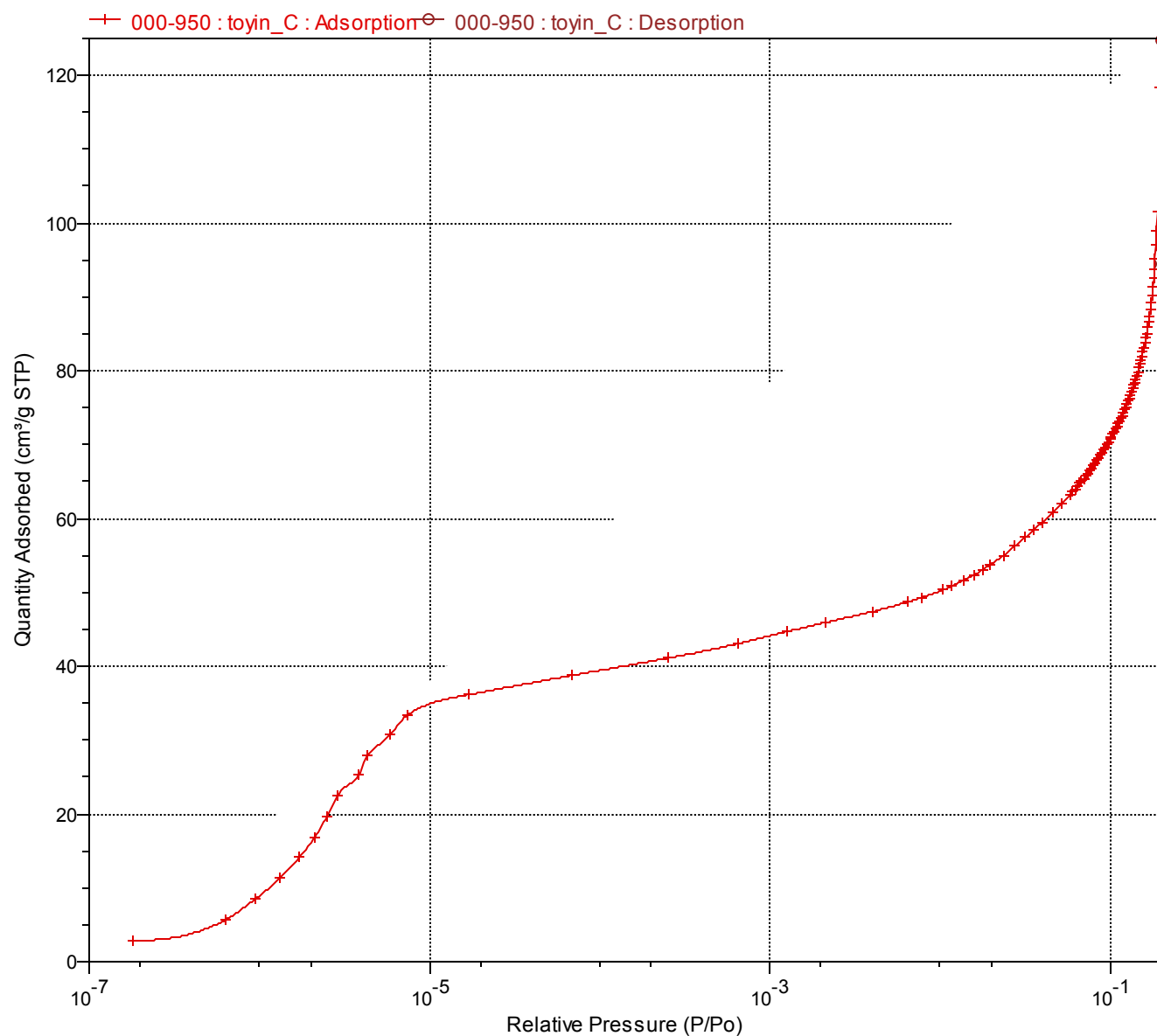
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Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.848 °C  
Thermal correction: No  
Warm free space: 20.3941 cm<sup>3</sup> Measured  
Equilibration interval: 10 s  
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## Isotherm Log Plot



Sample: toyin\_C

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Completed: 13/07/2018 21:29:32	Analysis bath temp.: -195.848 °C
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Cold free space: 61.6879 cm <sup>3</sup>	Equilibration interval: 10 s
Low pressure dose: 3.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

**BET Report**

BET surface area: 213.1994 ± 0.3370 m<sup>2</sup>/g  
Slope: 0.020389 ± 0.000032 g/cm<sup>3</sup> STP  
Y-intercept: 0.000027 ± 0.000002 g/cm<sup>3</sup> STP  
C: 763.293743  
Qm: 48.9823 cm<sup>3</sup>/g STP  
Correlation coefficient: 0.9999913  
Molecular cross-sectional area: 0.1620 nm<sup>2</sup>

Relative Pressure (P/Po)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	1/[Q(Po/P - 1)]
0.019940653	47.4079	0.000429
0.032239201	48.7003	0.000684
0.039165590	49.3119	0.000827
0.051761222	50.3349	0.001084
0.058367508	50.8511	0.001219
0.069381236	51.6604	0.001443
0.079143288	52.3854	0.001641
0.089002230	53.0852	0.001840
0.098885971	53.7894	0.002040

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 Sample density: 1.000 g/cm<sup>3</sup>

### BJH Adsorption Pore Distribution Report

Faas Correction

Harkins and Jura

$$t = [13.99 / (0.034 - \log(P/P_o))]^{0.5}$$

Diameter range: 0.9000 nm to 300.0000 nm

Adsorbate property factor: 0.95300 nm

Density conversion factor: 0.0015493

Fraction of pores open at both ends: 0.00

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Incremental Pore Area (m <sup>2</sup> /g)	Cumulative Pore Area (m <sup>2</sup> /g)
120.0 - 39.2	46.5	0.029707	0.029707	2.558	2.558
39.2 - 32.9	35.5	0.004396	0.034103	0.495	3.053
32.9 - 28.6	30.5	0.003473	0.037576	0.456	3.509
28.6 - 25.1	26.6	0.003015	0.040592	0.453	3.962
25.1 - 22.4	23.6	0.002703	0.043295	0.459	4.422
22.4 - 20.3	21.2	0.002232	0.045526	0.421	4.843
20.3 - 18.5	19.3	0.002049	0.047575	0.425	5.267
18.5 - 17.0	17.7	0.001991	0.049566	0.450	5.717
17.0 - 15.8	16.3	0.001830	0.051396	0.448	6.165
15.8 - 14.6	15.2	0.001746	0.053142	0.461	6.625
14.6 - 13.7	14.1	0.001616	0.054758	0.458	7.083
13.7 - 12.8	13.2	0.001507	0.056265	0.456	7.539
12.8 - 12.1	12.4	0.001428	0.057693	0.459	7.998
12.1 - 11.4	11.7	0.001364	0.059056	0.465	8.463
11.4 - 10.8	11.1	0.001245	0.060301	0.449	8.913
10.8 - 10.3	10.5	0.001166	0.061467	0.443	9.356
10.3 - 9.8	10.0	0.001148	0.062615	0.459	9.814
9.8 - 9.3	9.5	0.001100	0.063715	0.461	10.276
9.3 - 8.9	9.1	0.001076	0.064791	0.472	10.748
8.9 - 8.5	8.7	0.001016	0.065806	0.467	11.215
8.5 - 8.2	8.3	0.000979	0.066785	0.469	11.684
8.2 - 7.8	8.0	0.000973	0.067758	0.486	12.170
7.8 - 7.6	7.7	0.000900	0.068658	0.468	12.638
7.6 - 7.3	7.4	0.000906	0.069564	0.490	13.128
7.3 - 7.0	7.1	0.000899	0.070463	0.505	13.632
7.0 - 6.7	6.9	0.000839	0.071302	0.489	14.121
6.7 - 6.5	6.6	0.000826	0.072127	0.498	14.619
6.5 - 6.3	6.4	0.000842	0.072969	0.526	15.145
6.3 - 6.1	6.2	0.000788	0.073757	0.510	15.655
6.1 - 5.9	6.0	0.000781	0.074537	0.522	16.177
5.9 - 5.7	5.8	0.000758	0.075296	0.524	16.701

Sample: toyin\_C

Operator:

File: C:\3Flex\data\Remi Castaing\000-950.SMP

Started: 12/07/2018 13:55:44  
 Completed: 13/07/2018 21:29:32  
 Report time: 16/07/2018 09:28:29  
 Sample mass: 0.3205 g  
 Cold free space: 61.6879 cm<sup>3</sup>  
 Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
 Automatic degas: No  
 Analysis adsorptive: N2  
 Analysis bath temp.: -195.848 °C  
 Thermal correction: No  
 Warm free space: 20.3941 cm<sup>3</sup> Measured  
 Equilibration interval: 10 s  
 Sample density: 1.000 g/cm<sup>3</sup>

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Incremental Pore Area (m <sup>2</sup> /g)	Cumulative Pore Area (m <sup>2</sup> /g)
5.7 - 5.5	5.6	0.000743	0.076038	0.530	17.231
5.5 - 5.4	5.4	0.000727	0.076765	0.535	17.766
5.4 - 5.2	5.3	0.000742	0.077508	0.563	18.329
5.2 - 5.0	5.1	0.000727	0.078234	0.568	18.897
5.0 - 4.9	5.0	0.000719	0.078953	0.579	19.475
4.9 - 4.8	4.8	0.000710	0.079663	0.589	20.064
4.8 - 4.6	4.7	0.000678	0.080341	0.578	20.642
4.6 - 4.5	4.6	0.000692	0.081033	0.607	21.249
4.5 - 4.4	4.4	0.000699	0.081732	0.630	21.879
4.4 - 4.3	4.3	0.000678	0.082410	0.628	22.508
4.3 - 4.1	4.2	0.000689	0.083099	0.656	23.164
4.1 - 4.0	4.1	0.000674	0.083773	0.659	23.823
4.0 - 3.9	4.0	0.000652	0.084424	0.654	24.478
3.9 - 3.8	3.9	0.000668	0.085092	0.689	25.166
3.8 - 3.7	3.8	0.000672	0.085765	0.711	25.878
3.7 - 3.6	3.7	0.000647	0.086412	0.702	26.580
3.6 - 3.5	3.6	0.000658	0.087070	0.733	27.313
3.5 - 3.5	3.5	0.000663	0.087732	0.757	28.069
3.5 - 3.4	3.4	0.000665	0.088397	0.779	28.848
3.4 - 3.3	3.3	0.000669	0.089066	0.803	29.652
3.3 - 3.2	3.2	0.000660	0.089727	0.813	30.465
3.2 - 3.1	3.2	0.000656	0.090383	0.828	31.292
3.1 - 3.1	3.1	0.000669	0.091052	0.865	32.157
3.1 - 3.0	3.0	0.000666	0.091718	0.882	33.040
3.0 - 2.9	2.9	0.000666	0.092384	0.905	33.944
2.9 - 2.8	2.9	0.000656	0.093040	0.913	34.857
2.8 - 2.8	2.8	0.000666	0.093706	0.949	35.806
2.8 - 2.7	2.7	0.000675	0.094381	0.985	36.792
2.7 - 2.6	2.7	0.000672	0.095053	1.006	37.798
2.6 - 2.6	2.6	0.000669	0.095722	1.026	38.824
2.6 - 2.5	2.5	0.000628	0.096350	0.985	39.808
2.5 - 2.5	2.5	0.000676	0.097026	1.085	40.893
2.5 - 2.4	2.4	0.000698	0.097724	1.148	42.041
2.4 - 2.3	2.4	0.000682	0.098406	1.148	43.190
2.3 - 2.3	2.3	0.000728	0.099134	1.254	44.444
2.3 - 2.2	2.3	0.000726	0.099860	1.283	45.727
2.2 - 2.1	2.1	0.002203	0.102063	4.106	49.832
2.1 - 1.9	2.0	0.002349	0.104412	4.747	54.579
1.9 - 1.8	1.8	0.002491	0.106903	5.473	60.052
1.8 - 1.6	1.7	0.001890	0.108793	4.455	64.507
1.6 - 1.6	1.6	0.002065	0.110858	5.173	69.680

Sample: toyin\_C

Operator:

File: C:\3Flex\data\Remi Castaing\000-950.SMP

Started: 12/07/2018 13:55:44	Analysis adsorptive: N2
Completed: 13/07/2018 21:29:32	Analysis bath temp.: -195.848 °C
Report time: 16/07/2018 09:28:29	Thermal correction: No
Sample mass: 0.3205 g	Warm free space: 20.3941 cm <sup>3</sup> Measured
Cold free space: 61.6879 cm <sup>3</sup>	Equilibration interval: 10 s
Low pressure dose: 3.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

Pore Diameter Range (nm)	Average Diameter (nm)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Incremental Pore Area (m <sup>2</sup> /g)	Cumulative Pore Area (m <sup>2</sup> /g)
1.6 - 1.5	1.5	0.002171	0.113028	5.797	75.477
1.5 - 1.4	1.4	0.002306	0.115334	6.597	82.074
1.4 - 1.3	1.3	0.002106	0.117440	6.478	88.553
1.3 - 1.2	1.2	0.001196	0.118636	3.892	92.444
1.2 - 1.2	1.2	0.001069	0.119705	3.632	96.076
1.2 - 1.1	1.1	0.001038	0.120743	3.696	99.773
1.1 - 1.0	1.1	0.000937	0.121679	3.523	103.296
1.0 - 1.0	1.0	0.000544	0.122223	2.150	105.446
1.0 - 0.9	0.9	0.000816	0.123039	3.444	108.889

Sample: toyin\_C

Operator:

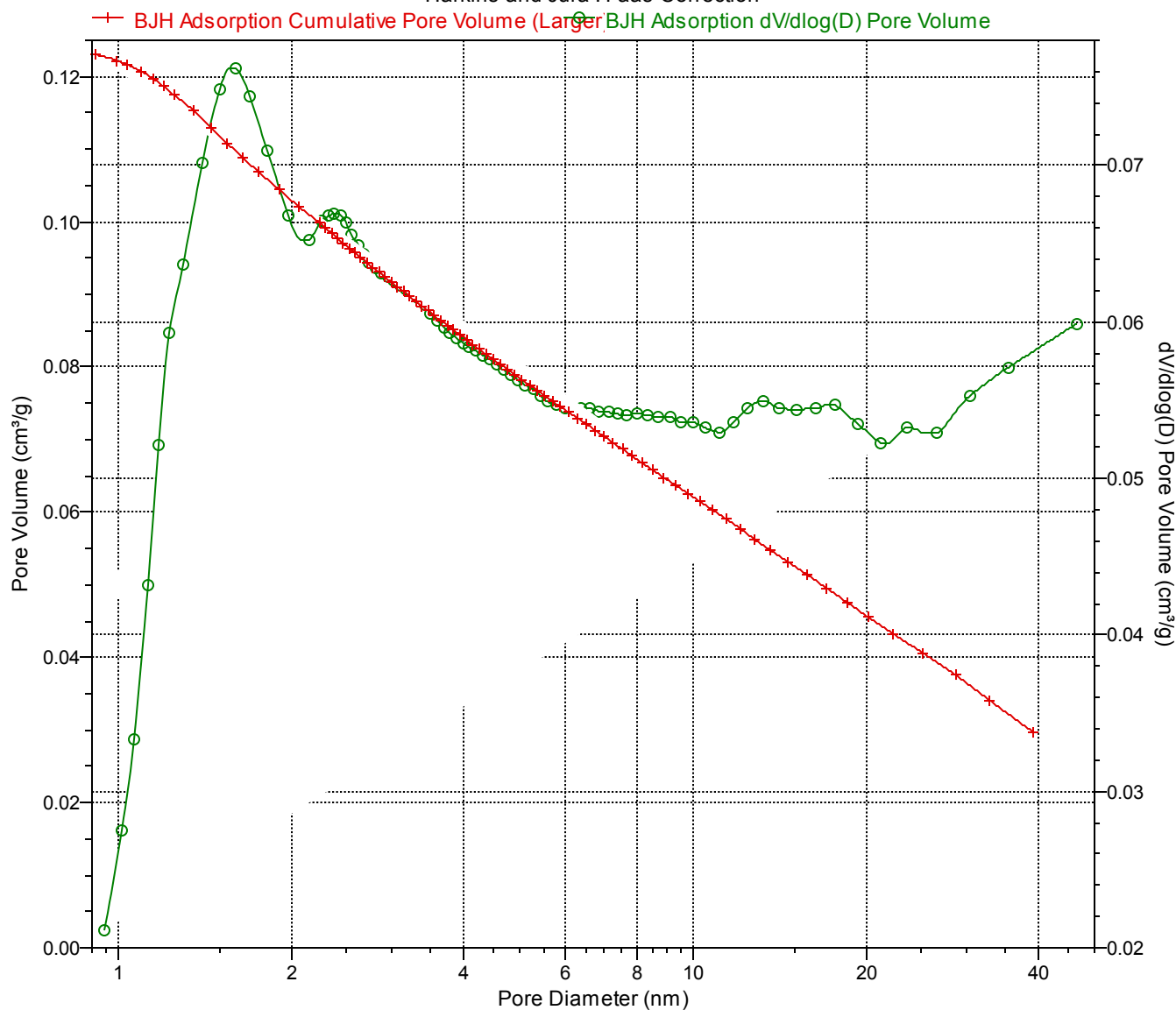
File: C:\3Flex\data\Remi Castaing\000-950.SMP

Started: 12/07/2018 13:55:44  
Completed: 13/07/2018 21:29:32  
Report time: 16/07/2018 09:28:29  
Sample mass: 0.3205 g  
Cold free space: 61.6879 cm<sup>3</sup>  
Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.848 °C  
Thermal correction: No  
Warm free space: 20.3941 cm<sup>3</sup> Measured  
Equilibration interval: 10 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Adsorption Cumulative Pore Volume (Larger)

Harkins and Jura : Faas Correction





Sample: toyin\_C

Operator:

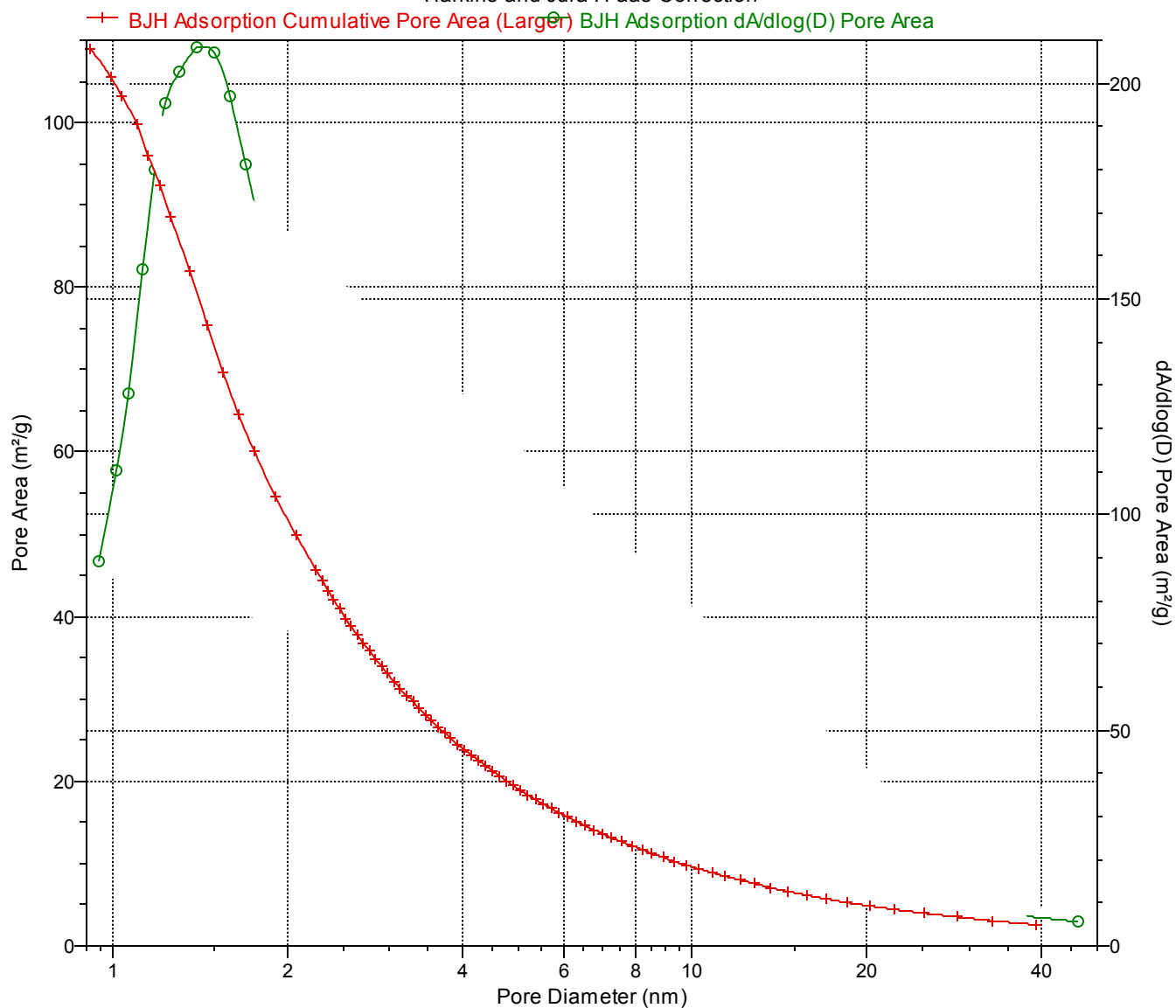
File: C:\3Flex\data\Remi Castaing\000-950.SMP

Started: 12/07/2018 13:55:44  
Completed: 13/07/2018 21:29:32  
Report time: 16/07/2018 09:28:29  
Sample mass: 0.3205 g  
Cold free space: 61.6879 cm<sup>3</sup>  
Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.848 °C  
Thermal correction: No  
Warm free space: 20.3941 cm<sup>3</sup> Measured  
Equilibration interval: 10 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Adsorption Cumulative Pore Area (Larger)

Harkins and Jura : Faas Correction



Sample: toyin\_C

Operator:

File: C:\3Flex\data\Remi Castaing\000-950.SMP

Started: 12/07/2018 13:55:44  
 Completed: 13/07/2018 21:29:32  
 Report time: 16/07/2018 09:28:29  
 Sample mass: 0.3205 g  
 Cold free space: 61.6879 cm<sup>3</sup>  
 Low pressure dose: 3.0000 cm<sup>3</sup>/g STP  
 Automatic degas: No  
 Analysis adsorptive: N2  
 Analysis bath temp.: -195.848 °C  
 Thermal correction: No  
 Warm free space: 20.3941 cm<sup>3</sup> Measured  
 Equilibration interval: 10 s  
 Sample density: 1.000 g/cm<sup>3</sup>

### Horvath-Kawazoe Report

Cylinder Pore Geometry (Saito-Foley)

Maximum pore volume: 0.090611 cm<sup>3</sup>/g  
 at Relative Pressure: 0.178394606  
 Median pore width: 0.6531 nm  
 Relative pressure range: 9.039e-007 to 1.784e-001

Diameter of adsorptive molecule: 0.3000 nm  
 Adsorptive density: 6.710e+014 molecules/cm<sup>3</sup>  
 Adsorptive dispersion constant: 7.777e-059  
 Diameter of sample atom: 0.2760 nm  
 Sample Density: 1.310e+015 molecules/cm<sup>3</sup>  
 Sample dispersion constant: 8.957e-059

Density conversion factor: 0.0015493

Absolute Pressure (mbar)	Relative Pressure (P/Po)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Pore Width (nm)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Smoothed Differential Pore Volume (cm <sup>3</sup> /g·nm)
0.00091	0.00000904	2.84327	0.542	0.0044	0.0467
0.00317	0.000003149	5.68828	0.578	0.0088	0.2665
0.00480	0.000004768	8.49609	0.592	0.0132	0.3700
0.00668	0.000006636	11.29553	0.603	0.0175	0.4552
0.00853	0.000008472	14.10023	0.611	0.0218	0.5480
0.01067	0.000010595	16.88027	0.620	0.0262	0.5800
0.01246	0.000012376	19.66498	0.625	0.0305	0.5896
0.01447	0.000014364	22.43461	0.631	0.0348	0.5851
0.01940	0.000019254	25.21434	0.643	0.0391	0.5017
0.02173	0.000021576	27.96155	0.647	0.0433	0.4646
0.02925	0.000029039	30.70899	0.660	0.0476	0.3819
0.03719	0.000036934	33.43894	0.670	0.0518	0.2663
0.08543	0.000084842	36.16161	0.710	0.0560	0.0556
0.34685	0.000344426	38.76136	0.795	0.0601	0.0380
1.28261	0.001273405	41.10208	0.902	0.0637	0.0309
3.30710	0.003283689	43.07727	1.008	0.0667	0.0275
6.38254	0.006337335	44.69405	1.102	0.0692	0.0245
10.70970	0.010634280	45.93211	1.195	0.0712	0.0175
20.08478	0.019940653	47.40789	1.339	0.0734	0.0147
32.47128	0.032239201	48.70026	1.483	0.0754	0.0135
39.45192	0.039165590	49.31194	1.553	0.0764	0.0136
52.14330	0.051761222	50.33493	1.669	0.0780	0.0139
58.80025	0.058367508	50.85111	1.726	0.0788	0.0139

Sample: toyin\_C

Operator:

File: C:\3Flex\data\Remi Castaing\000-950.SMP

Started: 12/07/2018 13:55:44	Analysis adsorptive: N2
Completed: 13/07/2018 21:29:32	Analysis bath temp.: -195.848 °C
Report time: 16/07/2018 09:28:29	Thermal correction: No
Sample mass: 0.3205 g	Warm free space: 20.3941 cm <sup>3</sup> Measured
Cold free space: 61.6879 cm <sup>3</sup>	Equilibration interval: 10 s
Low pressure dose: 3.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

Absolute Pressure (mbar)	Relative Pressure (P/Po)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Pore Width (nm)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Smoothed Differential Pore Volume (cm <sup>3</sup> /g·nm)
69.90039	0.069381236	51.66039	1.816	0.0800	0.0143
79.73644	0.079143288	52.38536	1.893	0.0812	0.0145
89.67116	0.089002230	53.08518	1.969	0.0822	0.0146
99.63763	0.098885971	53.78942	2.043	0.0833	0.0143
118.77716	0.117878213	55.01796	2.182	0.0852	0.0135
139.05953	0.138003183	56.26348	2.327	0.0872	0.0128
159.32609	0.158140422	57.41140	2.473	0.0889	0.0116
179.76051	0.178394606	58.48674	2.621	0.0906	0.0109

Sample: toyin\_C

Operator:

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Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.848 °C  
Thermal correction: No  
Warm free space: 20.3941 cm<sup>3</sup> Measured  
Equilibration interval: 10 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Horvath-Kawazoe Cumulative Pore Volume Plot

