

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

#### Report Preparation Errors

4063- No subreports selected. Error generating Advanced Reports.

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Automatic degas: No	

### Summary Report

#### Surface Area

Single point surface area at P/Po = 0.290509534: 298.6871 m<sup>2</sup>/g

BET Surface Area: 283.8387 m<sup>2</sup>/g

Langmuir Surface Area: 436.8679 m<sup>2</sup>/g

t-Plot Micropore Area: 236.6493 m<sup>2</sup>/g

t-Plot external surface area: 47.1894 m<sup>2</sup>/g

BJH Adsorption cumulative surface area of pores  
between 1.7000 nm and 300.0000 nm width: 23.7951 m<sup>2</sup>/g

BJH Desorption cumulative surface area of pores  
between 1.7000 nm and 300.0000 nm width: 18.4880 m<sup>2</sup>/g

D-H Adsorption cumulative surface area of pores  
between 1.7000 nm and 300.0000 nm width: 22.5867 m<sup>2</sup>/g

D-H Desorption cumulative surface area of pores  
between 1.7000 nm and 300.0000 nm width: 17.3507 m<sup>2</sup>/g

#### Pore Volume

Single point adsorption total pore volume of pores  
less than 384.1792 nm width at P/Po = 0.995000000: 0.167255 cm<sup>3</sup>/g

t-Plot micropore volume: 0.127019 cm<sup>3</sup>/g

BJH Adsorption cumulative volume of pores  
between 1.7000 nm and 300.0000 nm width: 0.013532 cm<sup>3</sup>/g

BJH Desorption cumulative volume of pores  
between 1.7000 nm and 300.0000 nm width: 0.010497 cm<sup>3</sup>/g

#### Pore Size

Adsorption average pore diameter (4V/A by BET): 2.3570 nm

Desorption average pore diameter (4V/A by BET): 2.1829 nm

BJH Adsorption average pore width (4V/A): 2.2747 nm

BJH Desorption average pore width (4V/A): 2.2712 nm

#### Freundlich

Qm·C: 45.9941 ± 0.9689 cm<sup>3</sup>/g STP

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Automatic degas: No	

**Freundlich**

m: 7.3985 ± 0.5138

**DFT Pore Size**

Volume in Pores	<	0.500 nm	:	0.00000 cm <sup>3</sup> /g
Total Volume in Pores	<=	400.309 nm	:	0.14203 cm <sup>3</sup> /g
Total Area in Pores	>=	0.500 nm	:	250.058 m <sup>2</sup> /g

**Horvath-Kawazoe**Maximum pore volume at P/Po = 0.171596490: 0.147534 cm<sup>3</sup>/g

Median pore width: 0.5274 nm

**Dubinin-Astakhov**Micropore surface area: 367.7337 m<sup>2</sup>/g**Pass/Fail**

S A:Single-point BET: No range values were specified  
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Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

Validation errors exist for this report. Review the validation report for details.

### Isotherm Tabular Report

Relative Pressure (P/Po)	Absolute Pressure (mmHg)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Elapsed Time (h:min)	Saturation Pressure (mmHg)
0.000006870	0.005229	11.9877	01:48	764.155029
0.000018022	0.013727	23.9587	05:45	761.152405
0.000077179	0.058802	35.8554	09:09	761.699402
0.000335774	0.255710	47.4494	11:17	761.887268
0.001411996	1.074805	58.9767	12:58	761.554077
0.004913639	3.738610	69.3604	13:46	761.196045
0.010841116	8.246859	76.0060	14:37	760.863892
0.029233809	22.236578	83.9642	15:18	760.701965
0.049844635	37.914688	88.1142	15:32	760.645935
0.095121274	72.357361	92.5785	15:41	760.657349
0.131249124	99.843918	94.3014	15:50	760.685364
0.171596490	130.540909	96.7216	15:56	760.720642
0.211855321	161.165573	97.5103	16:00	760.743469
0.250977764	190.935699	97.6431	16:03	760.734131
0.290509534	221.011688	97.6643	16:06	760.767395
0.300435164	228.565018	97.7825	16:08	760.772583
0.349864549	266.170624	97.8998	16:11	760.779846
0.399666172	304.033478	97.9682	16:13	760.781921
0.449777910	342.142273	98.0315	16:15	760.718567
0.499675734	380.110535	98.0643	16:17	760.691589
0.549732088	418.191406	98.1024	16:19	760.714417
0.618832077	470.772461	98.1204	16:21	760.718567
0.668897314	508.843994	98.1411	16:24	760.743469
0.718898943	546.910400	98.1481	16:26	760.720642
0.768782735	584.870422	98.1586	16:28	760.761169
0.818846027	622.994690	98.1639	16:30	760.774658
0.868893513	661.032166	98.1692	16:32	760.820313
0.918827154	699.036621	98.1707	16:34	760.774658
0.968806056	737.079285	98.1722	16:36	760.792297
0.998960538	759.783752	98.1737	16:39	760.812012
0.939635458	714.638245	98.1752	16:49	760.574341
0.876105512	666.358826	98.1767	16:52	760.548401
0.826002711	628.251038	98.1782	16:54	760.591980
0.776028476	590.232178	98.1797	16:56	760.591980
0.725963294	552.170898	98.1812	16:58	760.580566
0.675977733	514.133423	98.1827	17:00	760.604431
0.625948474	476.078400	98.1842	17:02	760.577454
0.576342133	438.331268	98.1857	17:04	760.571228
0.525917818	400.003418	98.1872	17:06	760.540039
0.475963196	361.997986	98.1887	17:08	760.581604
0.445328715	338.666290	98.1902	17:10	760.558777
0.395302877	300.641205	98.1917	17:12	760.486084
0.345407790	262.676025	98.1932	17:14	760.533813
0.295521355	224.737732	98.1947	17:17	760.480896
		97.4508	17:19	760.478821

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Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

**Isotherm Tabular Report**

Relative Pressure (P/Po)	Absolute Pressure (mmHg)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Elapsed Time (h:min)	Saturation Pressure (mmHg)
0.245385949	186.625839	97.0418	17:22	760.540039
0.195481862	148.690659	96.4433	17:25	760.636597
0.145917952	110.987961	95.4442	17:29	760.618958
0.097090581	73.861832	93.4370	17:36	760.751770
0.043899193	33.399216	87.9309	17:48	760.816162
0.010446616	7.948236	76.4640	18:08	760.843140

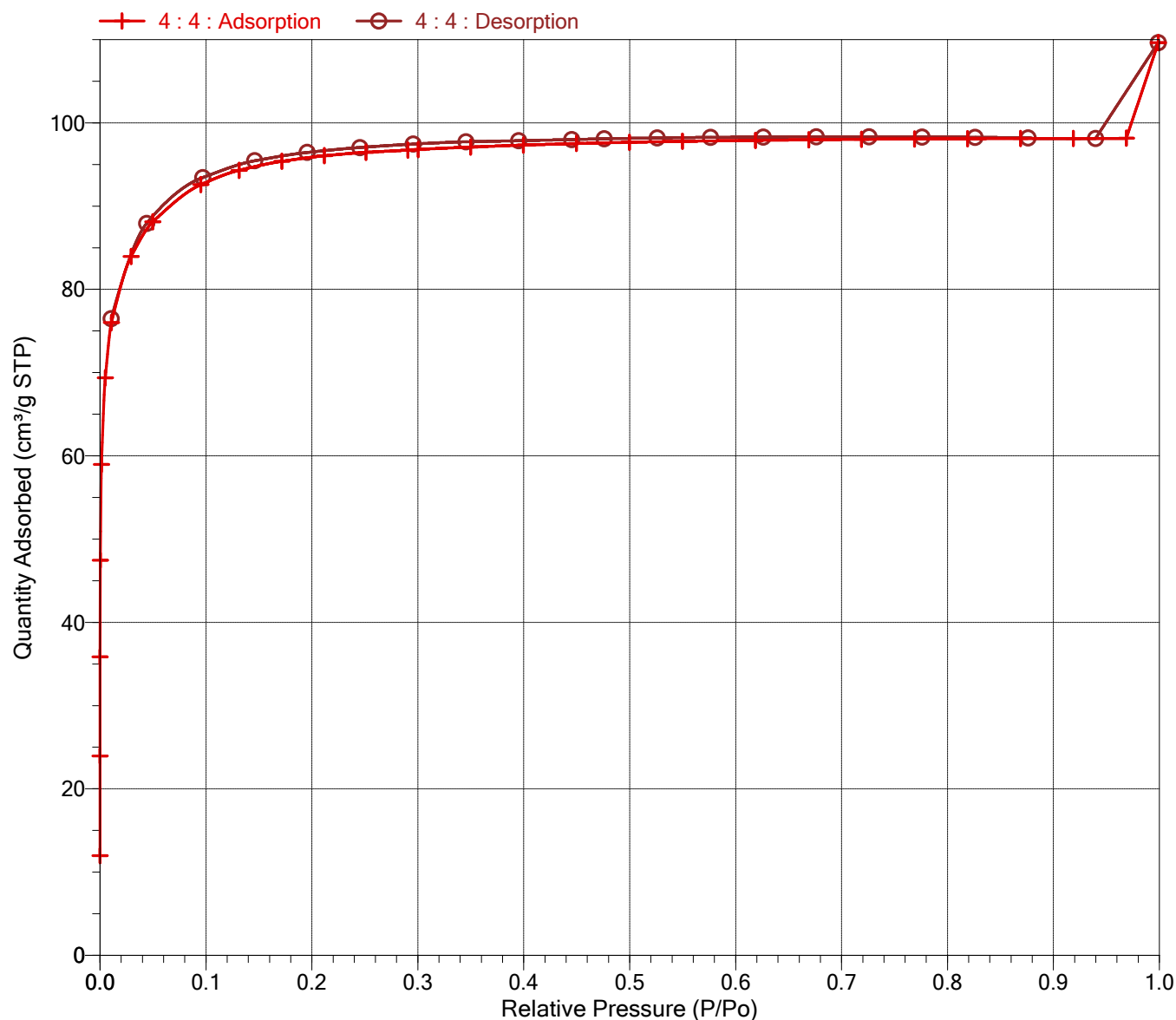
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Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

Validation errors exist for this report. Review the validation report for details.

### Isotherm Linear Plot



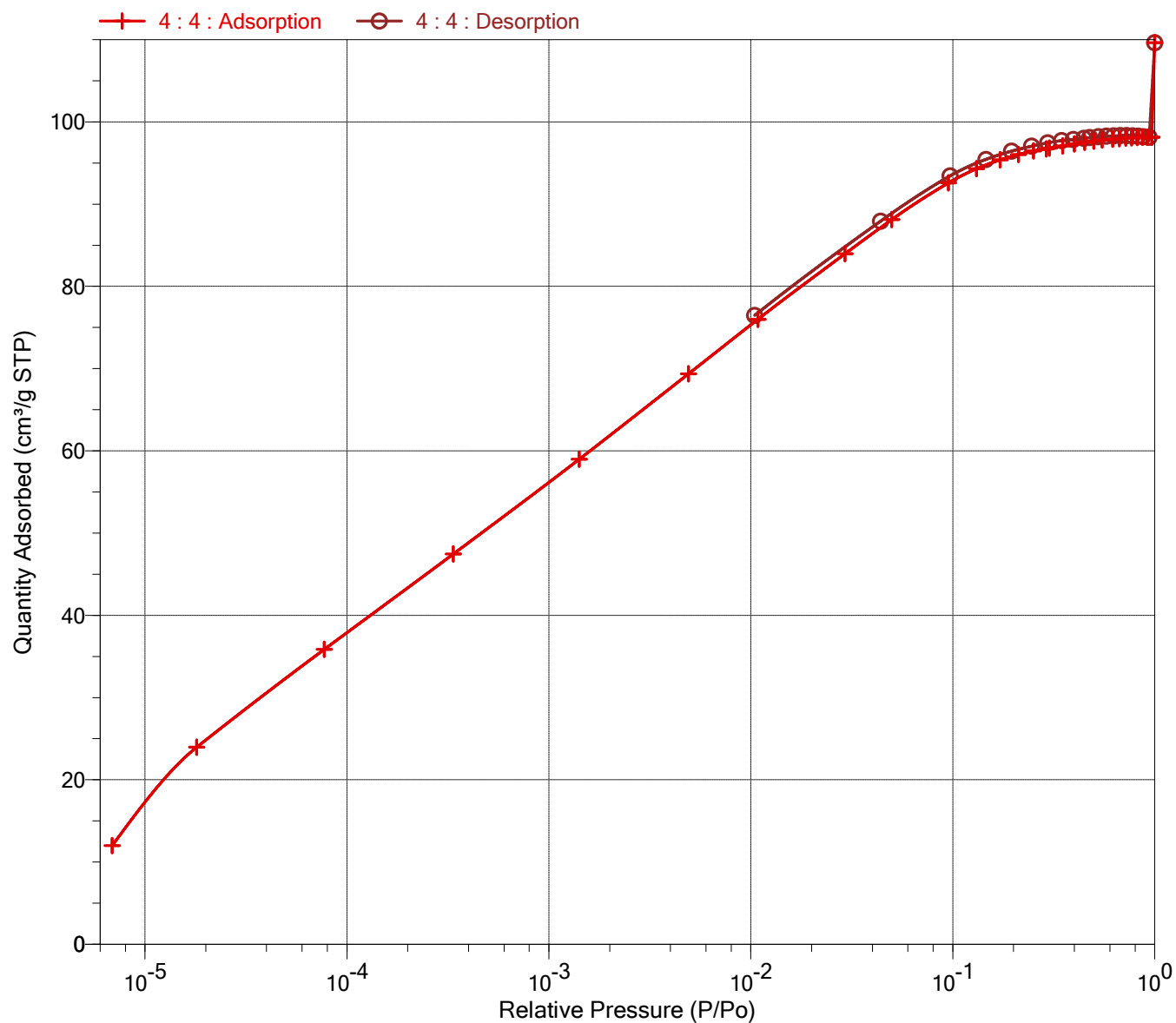
Sample: 4  
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Analysis adsorptive: N<sub>2</sub>  
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Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

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### Isotherm Log Plot



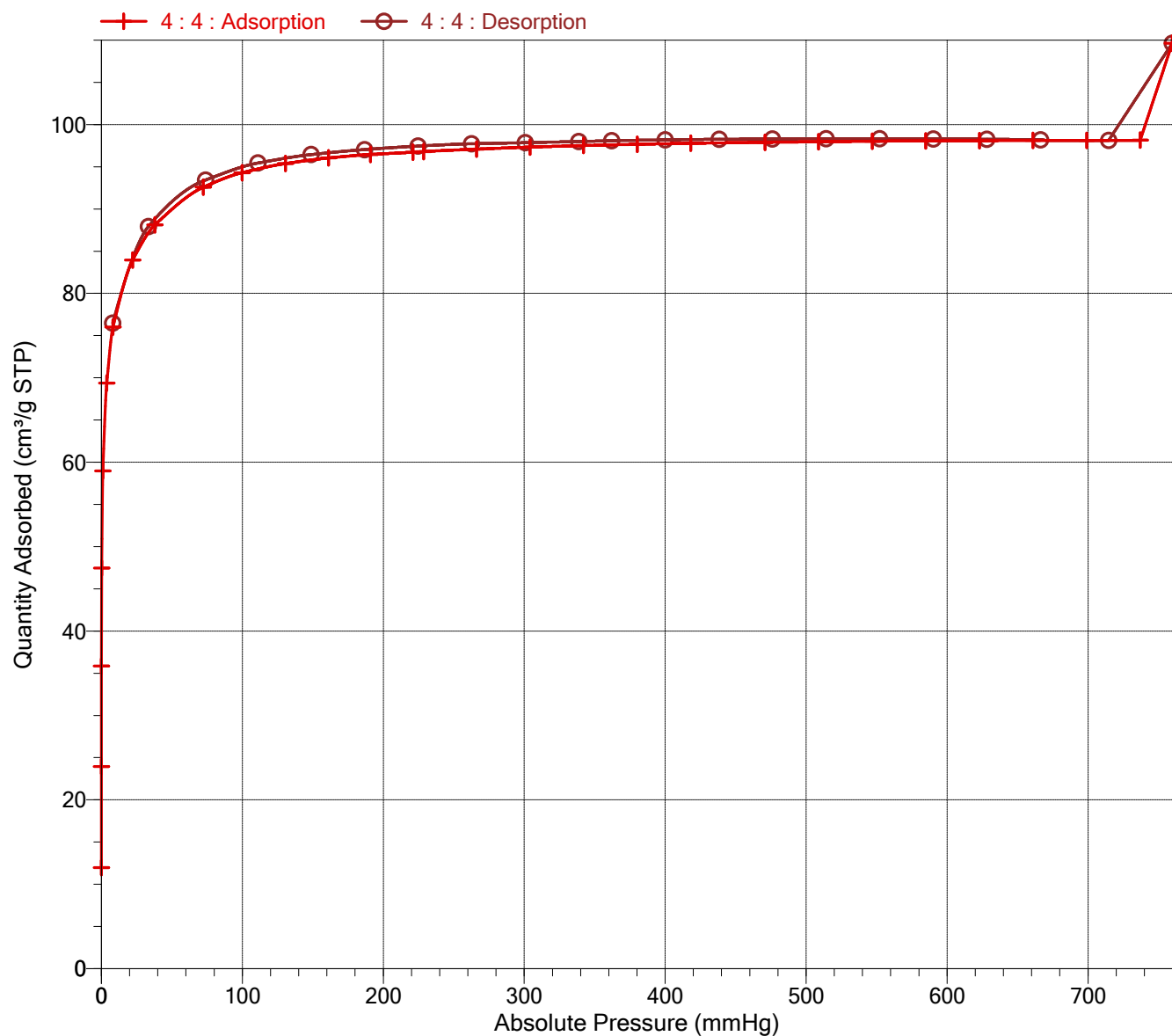
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### Isotherm Linear Absolute Plot



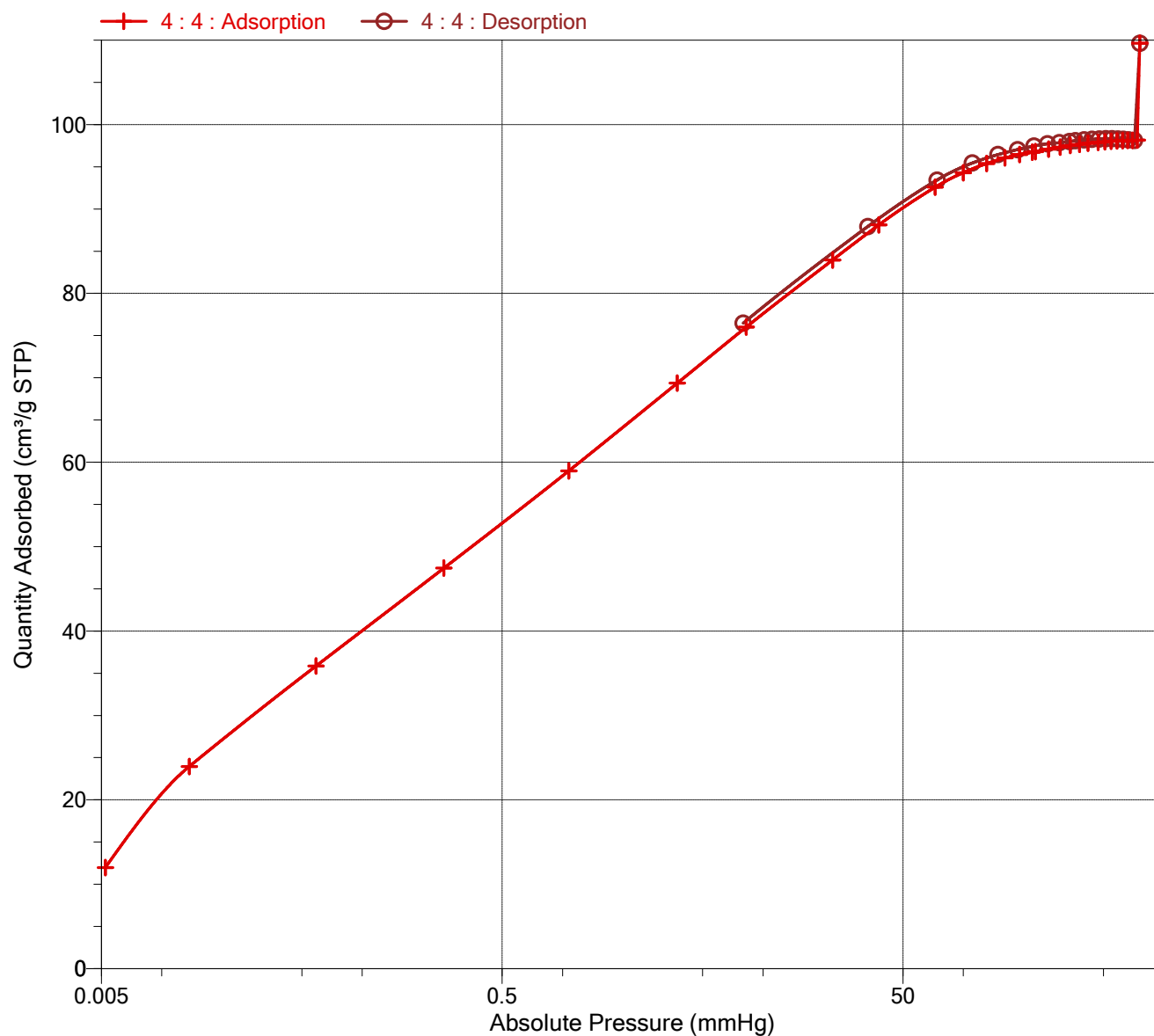
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Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

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### Isotherm Log Absolute Plot



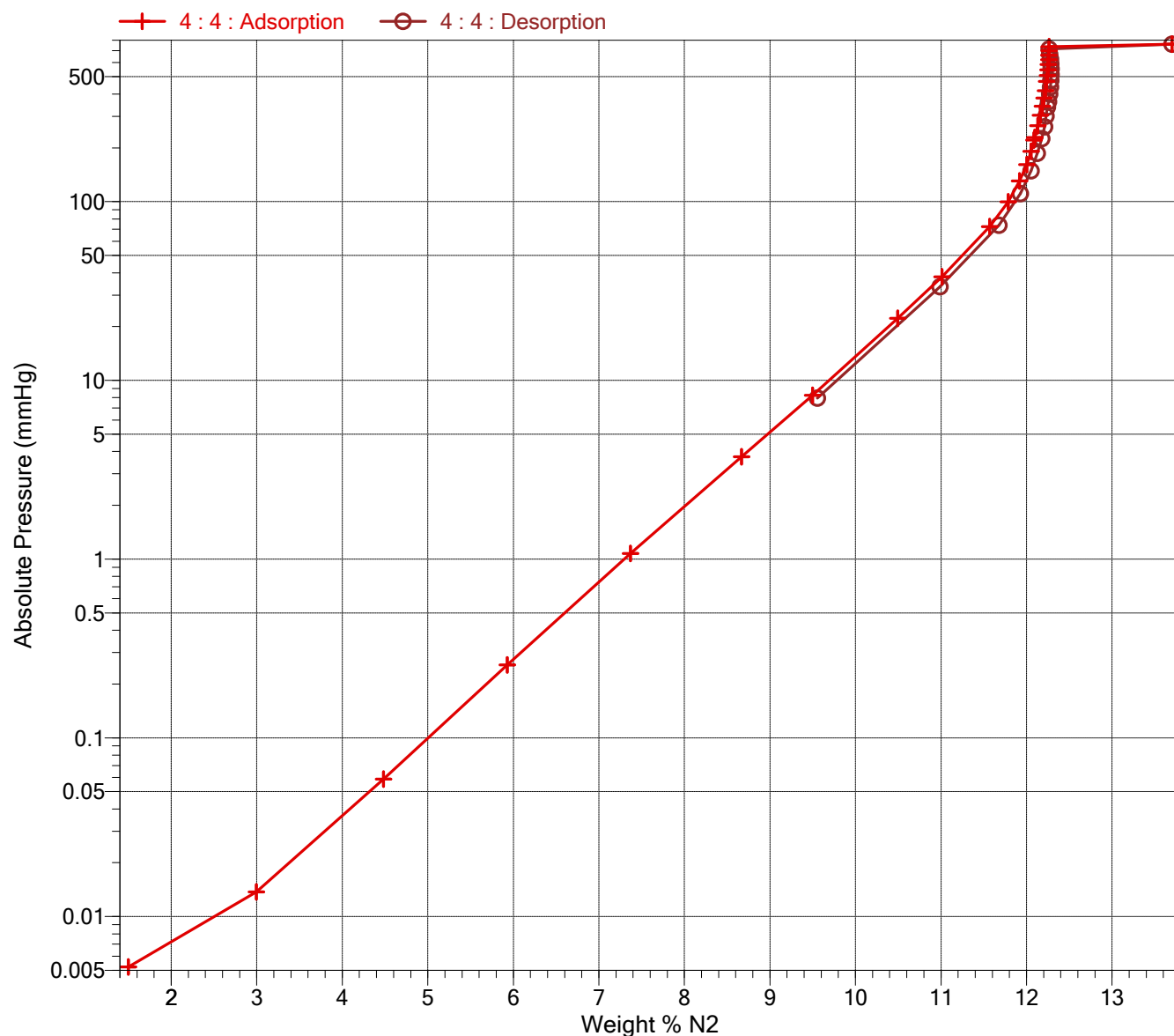
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Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

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### Isotherm Pressure Composition



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Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

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#### BET Report

BET surface area: 283.8387 ± 10.6642 m<sup>2</sup>/g  
Slope: 0.015797 ± 0.000565 g/cm<sup>3</sup> STP  
Y-intercept: -0.000462 ± 0.000115 g/cm<sup>3</sup> STP  
C: -33.195400  
Qm: 65.2116 cm<sup>3</sup>/g STP  
Correlation coefficient: 0.9974549  
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)]
0.095121274	92.5785	0.001135
0.131249124	94.3014	0.001602
0.171596490	95.3801	0.002172
0.211855321	96.0431	0.002799
0.250977764	96.4621	0.003474
0.290509534	96.7216	0.004233

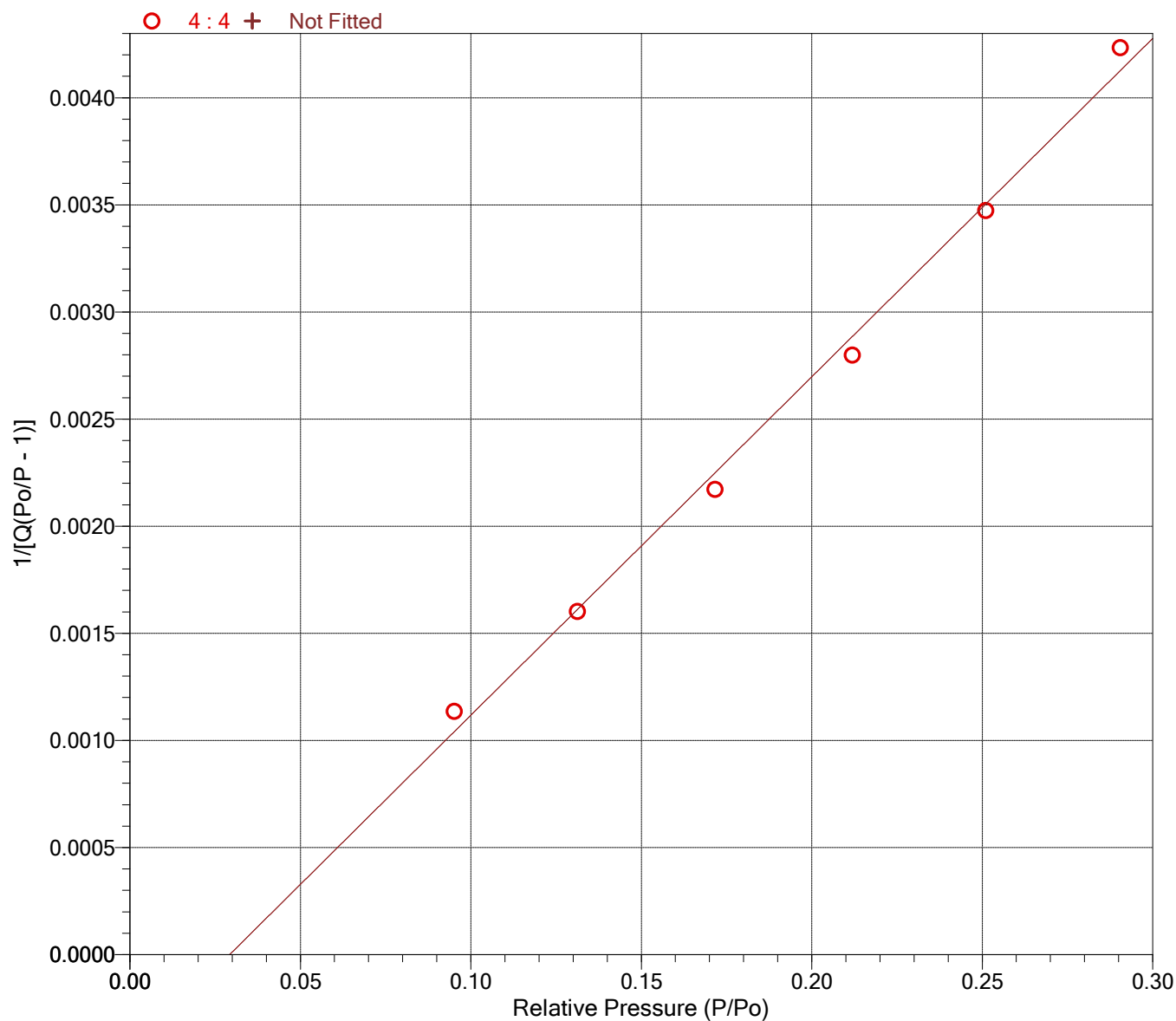
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Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

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### BET Surface Area Plot



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Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Langmuir Report

Langmuir surface area: 436.8679 ± 4.4864 m<sup>2</sup>/g  
Slope: 0.009963 ± 0.000102 g/cm<sup>3</sup> STP  
Y-intercept: 0.055 ± 0.039 g/cm<sup>3</sup> STP·mmHg  
b: 0.181388 1/mmHg  
Qm: 100.3699 cm<sup>3</sup>/g STP  
Correlation coefficient: 0.998527  
Molecular cross-sectional area: 0.1620 nm<sup>2</sup>

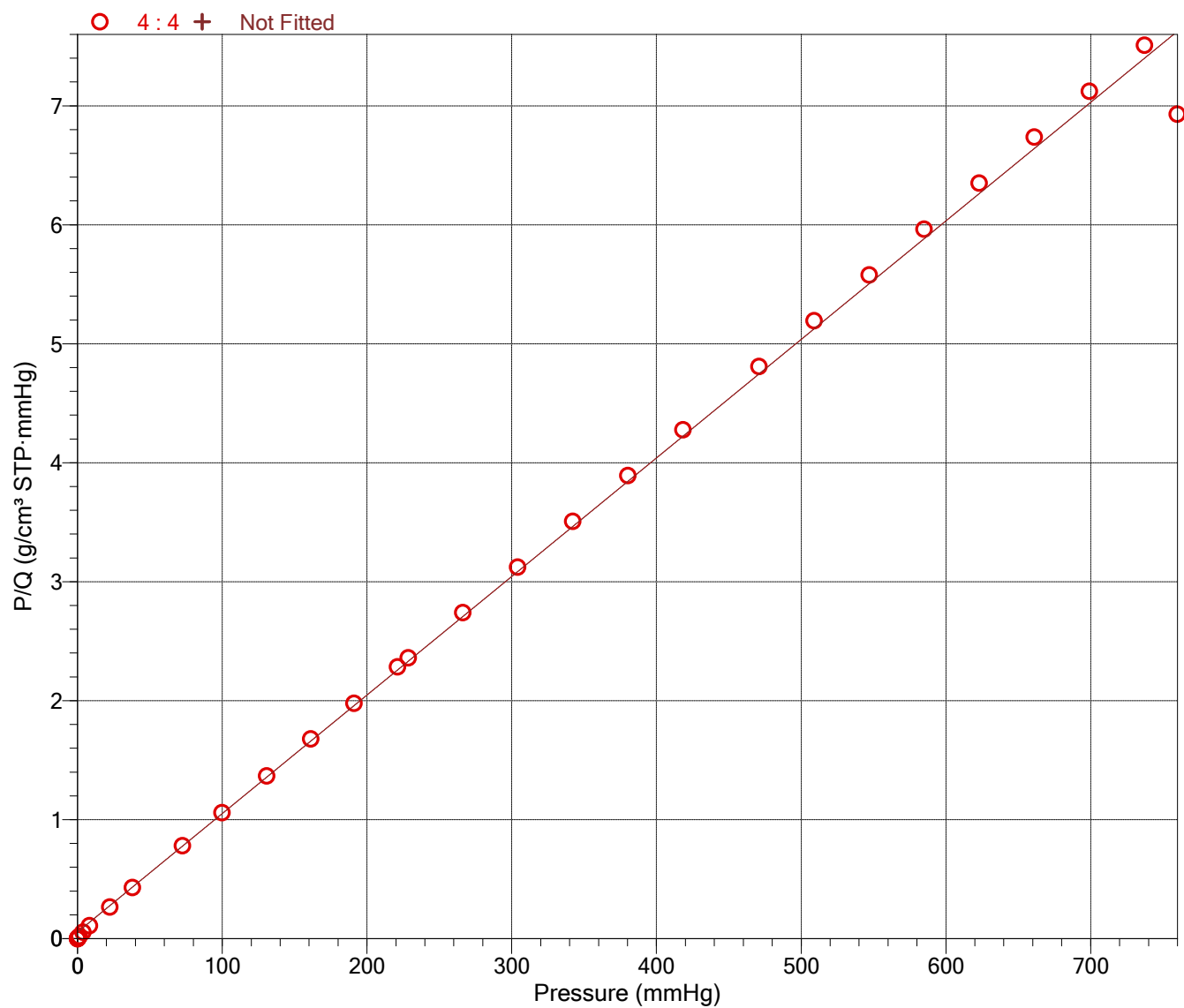
Pressure (mmHg)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	P/Q (g/cm <sup>3</sup> STP ·mmHg)
0.005229	11.9877	0.000
0.013727	23.9587	0.001
0.058802	35.8554	0.002
0.255710	47.4494	0.005
1.074805	58.9767	0.018
3.738610	69.3604	0.054
8.246859	76.0060	0.109
22.236578	83.9642	0.265
37.914688	88.1142	0.430
72.357361	92.5785	0.782
99.843918	94.3014	1.059
130.540909	95.3801	1.369
161.165573	96.0431	1.678
190.935699	96.4621	1.979
221.011688	96.7216	2.285
228.565018	96.8050	2.361
266.170624	97.0922	2.741
304.033478	97.3313	3.124
342.142273	97.5103	3.509
380.110535	97.6643	3.892
418.191406	97.7825	4.277
470.772461	97.8998	4.809
508.843994	97.9682	5.194
546.910400	98.0315	5.579
584.870422	98.0643	5.964
622.994690	98.1024	6.350
661.032166	98.1204	6.737
699.036621	98.1411	7.123
737.079285	98.1481	7.510
759.783752	109.6392	6.930

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Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
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Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Langmuir Surface Area Plot



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Sample mass: 0.1910 g  
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Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Freundlich Tabular Report

Qm·C: 45.9941 ± 0.9689 cm<sup>3</sup>/g STP  
m: 7.3985 ± 0.5138  
Correlation coefficient: 0.938622

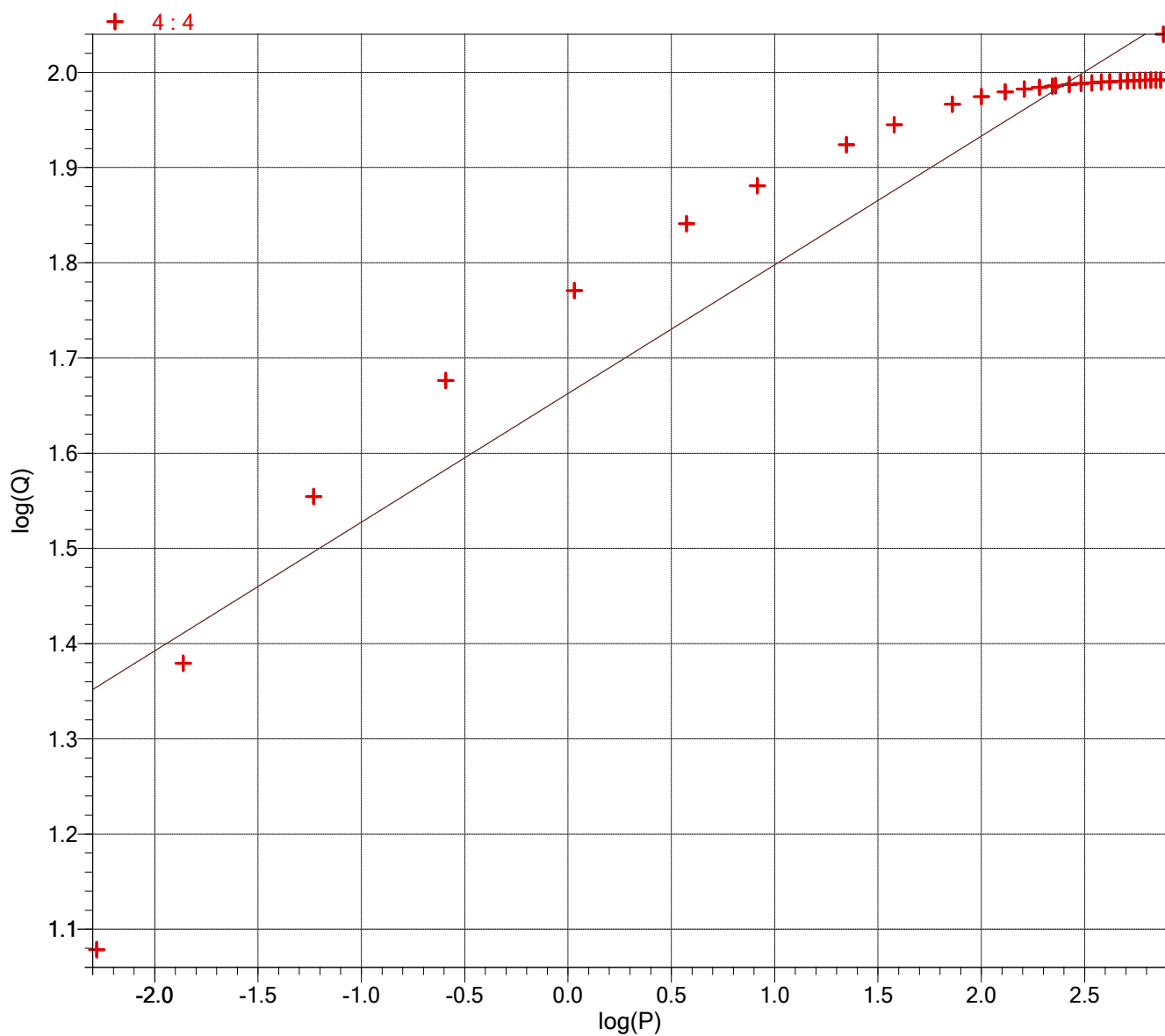
Absolute Pressure (mmHg)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	log(P)	log(Q)
0.005229	11.9877	-2.28158	1.0787
0.013727	23.9587	-1.86242	1.3795
0.058802	35.8554	-1.23061	1.5546
0.255710	47.4494	-0.59225	1.6762
1.074805	58.9767	0.03133	1.7707
3.738610	69.3604	0.57271	1.8411
8.246859	76.0060	0.91629	1.8808
22.236578	83.9642	1.34707	1.9241
37.914688	88.1142	1.57881	1.9450
72.357361	92.5785	1.85948	1.9665
99.843918	94.3014	1.99932	1.9745
130.540909	95.3801	2.11575	1.9795
161.165573	96.0431	2.20727	1.9825
190.935699	96.4621	2.28089	1.9844
221.011688	96.7216	2.34442	1.9855
228.565018	96.8050	2.35901	1.9859
266.170624	97.0922	2.42516	1.9872
304.033478	97.3313	2.48292	1.9883
342.142273	97.5103	2.53421	1.9891
380.110535	97.6643	2.57991	1.9897
418.191406	97.7825	2.62138	1.9903
470.772461	97.8998	2.67281	1.9908
508.843994	97.9682	2.70658	1.9911
546.910400	98.0315	2.73792	1.9914
584.870422	98.0643	2.76706	1.9915
622.994690	98.1024	2.79448	1.9917
661.032166	98.1204	2.82022	1.9918
699.036621	98.1411	2.84450	1.9919
737.079285	98.1481	2.86751	1.9919
759.783752	109.6392	2.88069	2.0400

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Freundlich Plot



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Temkin Tabular Report

$q \cdot \alpha / Q_m$ : 0.090129  $\pm$  0.002681 kJ/mol·(cm<sup>3</sup>/g STP)  
A: 2,850.0190  $\pm$  804.2691 mmHg  
Correlation coefficient: 0.987836

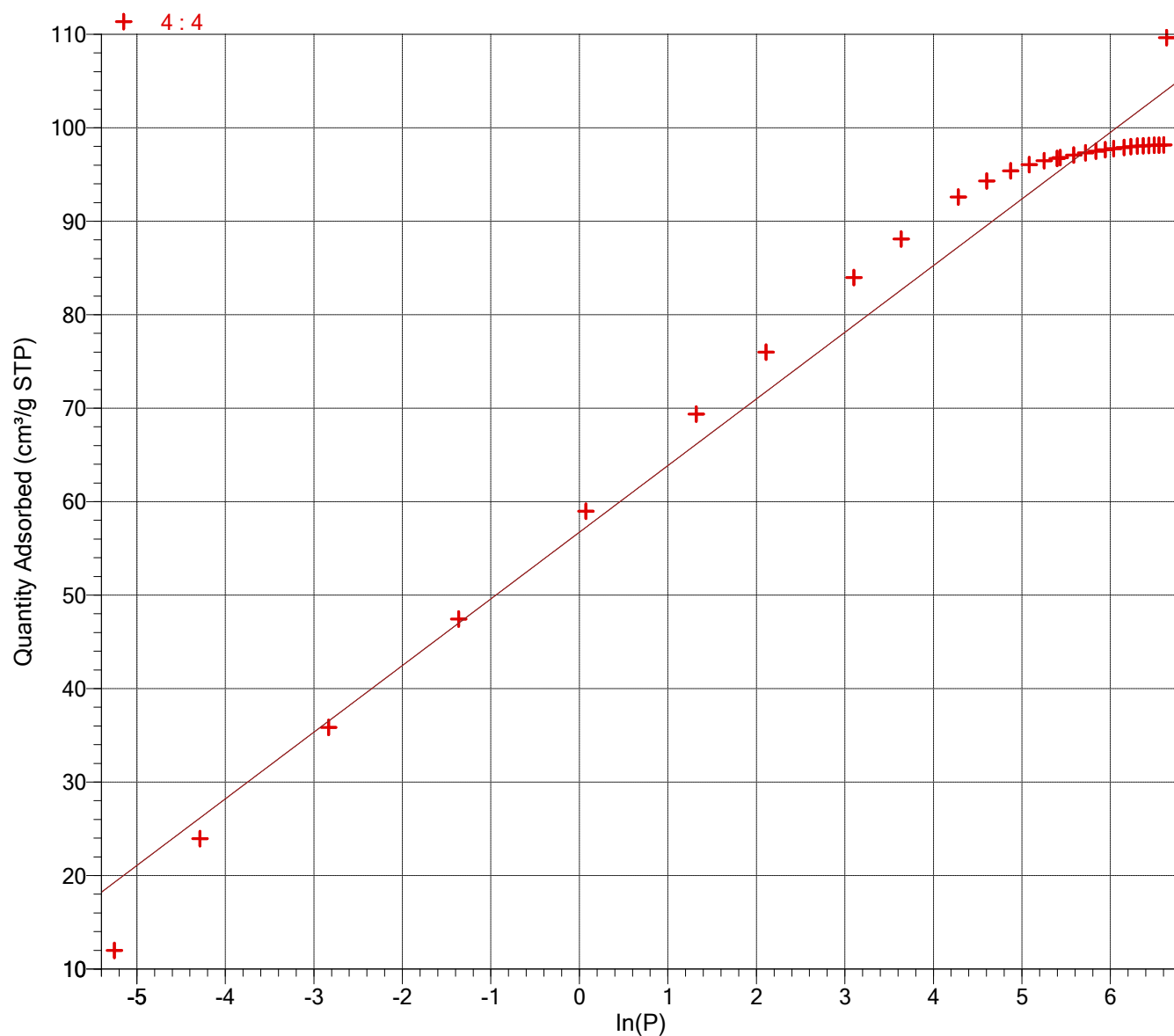
Absolute Pressure (mmHg)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	ln(P)
0.005229	11.9877	-5.25354
0.013727	23.9587	-4.28839
0.058802	35.8554	-2.83358
0.255710	47.4494	-1.36371
1.074805	58.9767	0.07214
3.738610	69.3604	1.31871
8.246859	76.0060	2.10983
22.236578	83.9642	3.10174
37.914688	88.1142	3.63534
72.357361	92.5785	4.28162
99.843918	94.3014	4.60361
130.540909	95.3801	4.87169
161.165573	96.0431	5.08243
190.935699	96.4621	5.25194
221.011688	96.7216	5.39822
228.565018	96.8050	5.43182
266.170624	97.0922	5.58414
304.033478	97.3313	5.71714
342.142273	97.5103	5.83523
380.110535	97.6643	5.94046
418.191406	97.7825	6.03594
470.772461	97.8998	6.15437
508.843994	97.9682	6.23214
546.910400	98.0315	6.30428
584.870422	98.0643	6.37139
622.994690	98.1024	6.43454
661.032166	98.1204	6.49380
699.036621	98.1411	6.54970
737.079285	98.1481	6.60270
759.783752	109.6392	6.63303

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

Temkin Plot



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### t-Plot Report

Micropore volume: 0.127019 cm<sup>3</sup>/g  
Micropore area: 236.6493 m<sup>2</sup>/g  
External surface area: 47.1894 m<sup>2</sup>/g  
Slope: 30.507775 ± 4.814611 cm<sup>3</sup>/g·nm STP  
Y-intercept: 82.117418 ± 2.083370 cm<sup>3</sup>/g STP  
Correlation coefficient: 0.953626  
Surface area correction factor: 1.000  
Density conversion factor: 0.0015468  
Total surface area (BET): 283.8387 m<sup>2</sup>/g  
Thickness range: 0.35000 to 0.50000 nm  
Thickness equation: Harkins and Jura

### Thickness Curve

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

### t-Plot Report - Data

Relative Pressure (P/P <sub>o</sub> )	Statistical Thickness (nm)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Fitted
0.095121274	0.36403	92.5785	*
0.131249124	0.39083	94.3014	*
0.171596490	0.41831	95.3801	*
0.211855321	0.44453	96.0431	*
0.250977764	0.46961	96.4621	*
0.290509534	0.49505	96.7216	*
0.300435164	0.50150	96.8050	
0.349864549	0.53428	97.0922	
0.399666172	0.56887	97.3313	
0.449777910	0.60596	97.5103	
0.499675734	0.64593	97.6643	
0.549732088	0.69000	97.7825	
0.618832077	0.75966	97.8998	
0.668897314	0.81886	97.9682	

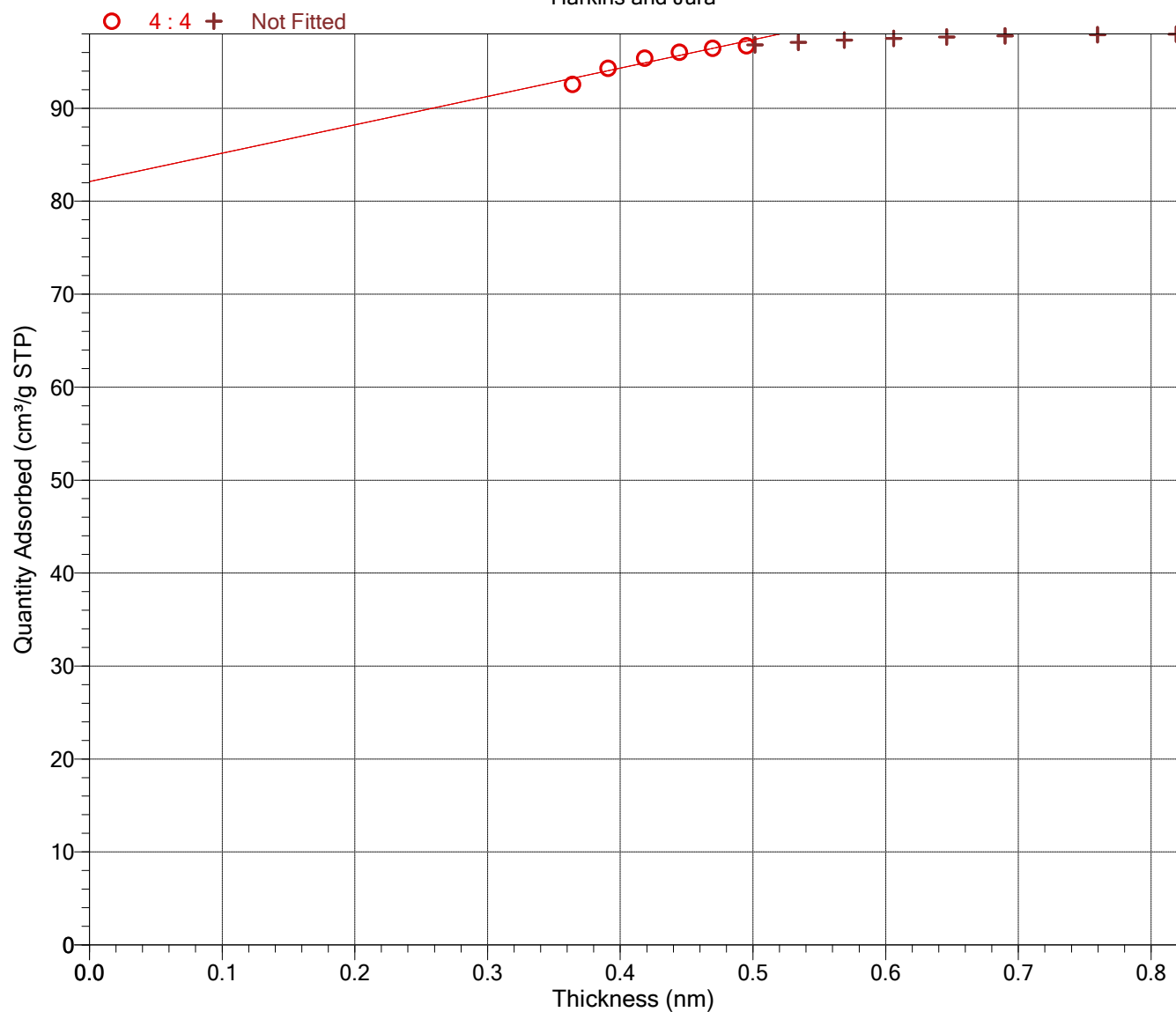
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### t-Plot

Harkins and Jura



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

### Alpha-S Method

#### Primary Data

4029- At least two fitted data points are needed for Alpha-S calculations.

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

#### f-Ratio Method

Primary Data  
A reference file has not been chosen.

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Adsorption Pore Distribution Report

Faas Correction

Harkins and Jura

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

Width range: 1.7000 to 300.0000 nm

Adsorbate property factor: 0.95300 nm

Density conversion factor: 0.0015468

Fraction of pores open at both ends: 0.00

Pore Width Range (nm)	Average Width (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)
63.6 - 25.3	30.1	0.000013	0.000013	0.002	0.002
25.3 - 16.0	18.5	0.000042	0.000055	0.009	0.011
16.0 - 11.7	13.1	0.000038	0.000093	0.012	0.022
11.7 - 9.2	10.1	0.000087	0.000180	0.034	0.057
9.2 - 7.6	8.2	0.000076	0.000257	0.037	0.094
7.6 - 6.4	6.9	0.000160	0.000416	0.093	0.187
6.4 - 5.5	5.9	0.000177	0.000593	0.121	0.308
5.5 - 4.6	4.9	0.000317	0.000910	0.257	0.565
4.6 - 4.0	4.3	0.000336	0.001246	0.316	0.881
4.0 - 3.6	3.8	0.000457	0.001704	0.483	1.363
3.6 - 3.2	3.4	0.000544	0.002247	0.643	2.007
3.2 - 2.9	3.0	0.000762	0.003009	1.006	3.013
2.9 - 2.6	2.7	0.000938	0.003947	1.382	4.394
2.6 - 2.5	2.6	0.000291	0.004238	0.454	4.849
2.5 - 2.3	2.4	0.000844	0.005082	1.399	6.248
2.3 - 2.1	2.2	0.001512	0.006595	2.742	8.990
2.1 - 1.9	2.0	0.002547	0.009141	5.079	14.069
1.9 - 1.7	1.8	0.004391	0.013532	9.726	23.795

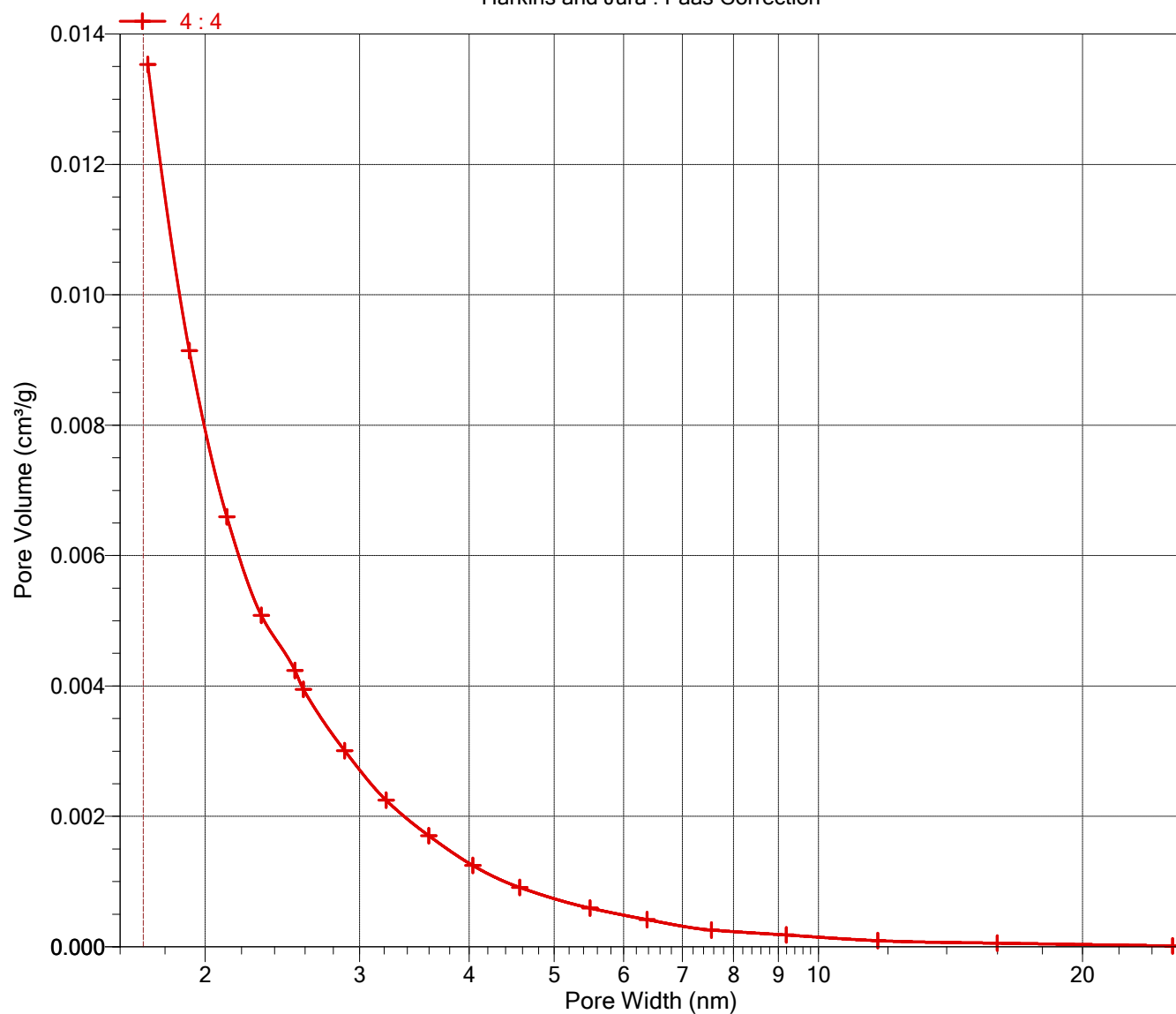
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Adsorption Cumulative Pore Volume (Larger)

Harkins and Jura : Faas Correction



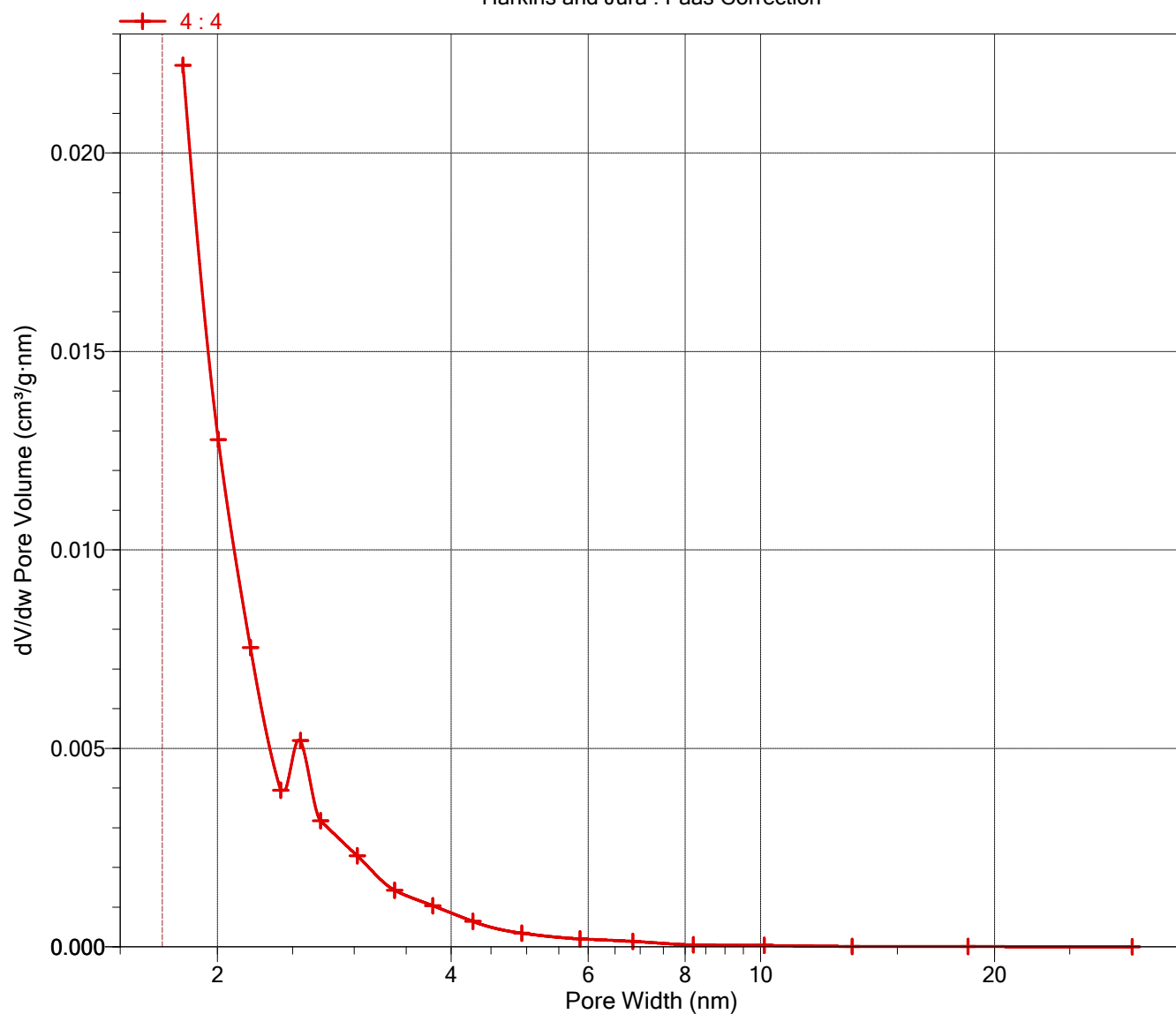
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Adsorption dV/dw Pore Volume

Harkins and Jura : Faas Correction



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Desorption Pore Distribution Report

Faas Correction

Harkins and Jura

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

Width range: 1.7000 to 300.0000 nm

Adsorbate property factor: 0.95300 nm

Density conversion factor: 0.0015468

Fraction of pores open at both ends: 0.00

Pore Width Range (nm)	Average Width (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)
33.6 - 5.6	6.0	0.000073	0.000073	0.049	0.049
5.6 - 4.9	5.2	0.000104	0.000177	0.080	0.129
4.9 - 4.3	4.6	0.000219	0.000396	0.193	0.321
4.3 - 3.8	4.0	0.000288	0.000684	0.286	0.607
3.8 - 3.6	3.7	0.000314	0.000998	0.342	0.949
3.6 - 3.2	3.3	0.000433	0.001431	0.517	1.466
3.2 - 2.9	3.0	0.000401	0.001832	0.535	2.000
2.9 - 2.6	2.7	0.000943	0.002775	1.404	3.404
2.6 - 2.3	2.4	0.001483	0.004258	2.465	5.869
2.3 - 2.0	2.1	0.002254	0.006512	4.205	10.074
2.0 - 1.8	1.9	0.003986	0.010497	8.414	18.488

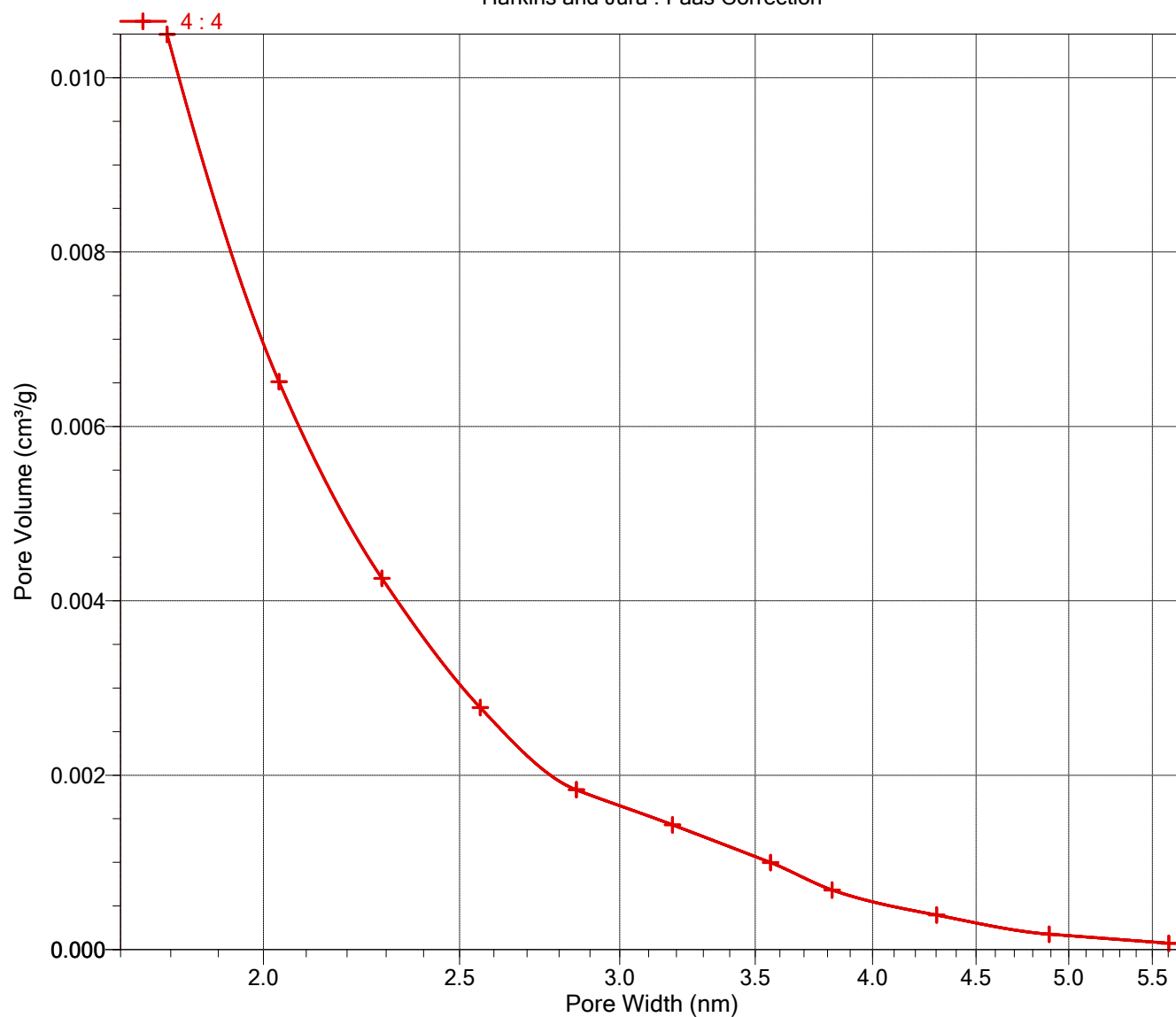
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Desorption Cumulative Pore Volume (Larger)

Harkins and Jura : Faas Correction



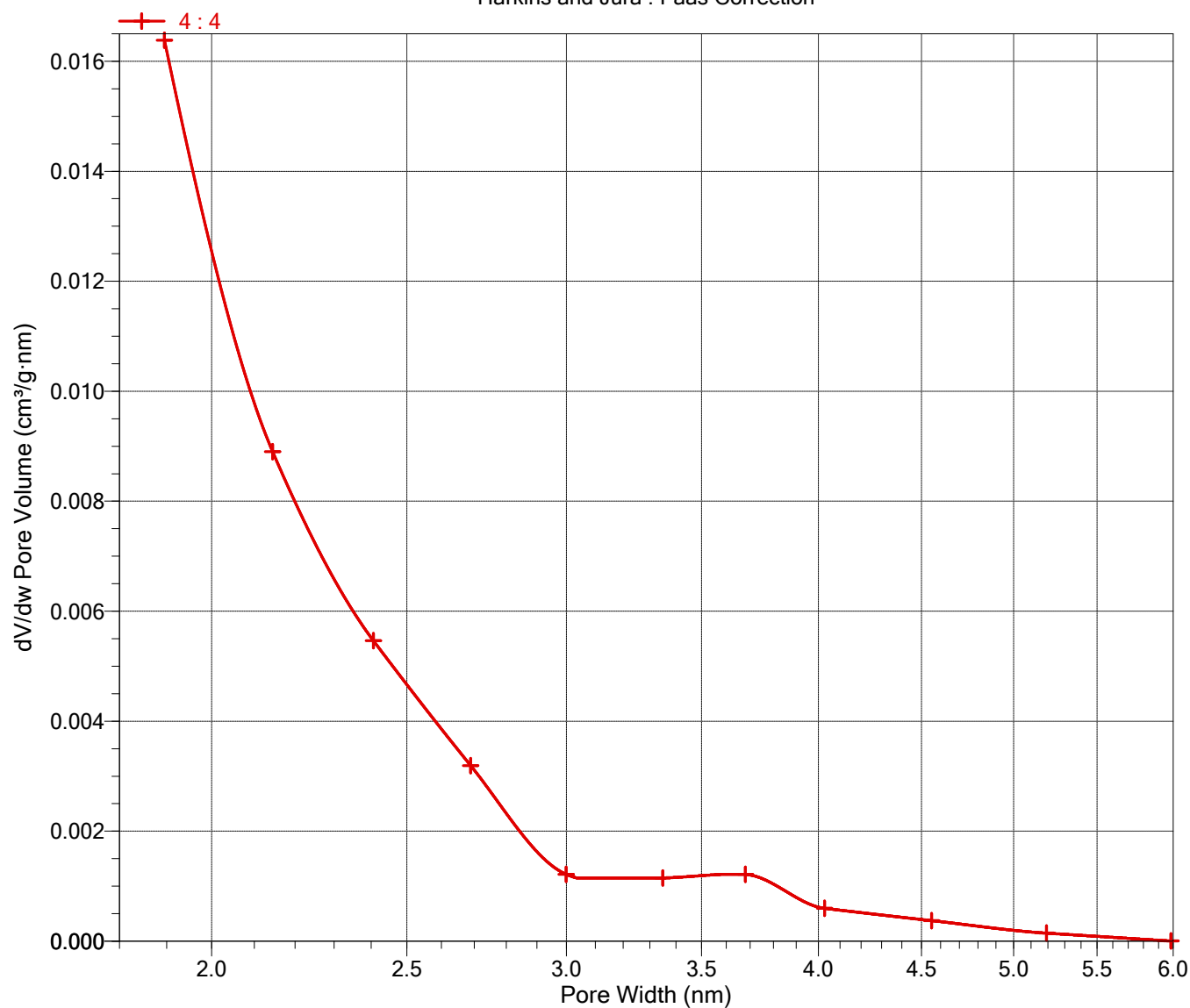
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### BJH Desorption dV/dw Pore Volume

Harkins and Jura : Faas Correction



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Dollimore-Heal Adsorption Pore Distribution Report

Harkins and Jura

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

Width range: 1.7000 to 300.0000 nm  
Adsorbate property factor: 0.95300 nm  
Density conversion factor: 0.0015468

Pore Width Range (nm)	Average Width (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)
63.6 - 25.3	44.4	0.000012	0.000012	0.001	0.001
25.3 - 16.0	20.7	0.000040	0.000052	0.008	0.009
16.0 - 11.7	13.8	0.000037	0.000089	0.011	0.019
11.7 - 9.2	10.4	0.000084	0.000173	0.032	0.052
9.2 - 7.6	8.4	0.000074	0.000247	0.035	0.087
7.6 - 6.4	7.0	0.000155	0.000402	0.089	0.176
6.4 - 5.5	5.9	0.000171	0.000573	0.116	0.291
5.5 - 4.6	5.0	0.000302	0.000875	0.240	0.532
4.6 - 4.0	4.3	0.000326	0.001202	0.303	0.835
4.0 - 3.6	3.8	0.000443	0.001645	0.464	1.299
3.6 - 3.2	3.4	0.000526	0.002171	0.617	1.917
3.2 - 2.9	3.0	0.000735	0.002906	0.964	2.881
2.9 - 2.6	2.7	0.000903	0.003809	1.321	4.202
2.6 - 2.5	2.6	0.000290	0.004099	0.454	4.655
2.5 - 2.3	2.4	0.000820	0.004919	1.352	6.007
2.3 - 2.1	2.2	0.001458	0.006377	2.629	8.637
2.1 - 1.9	2.0	0.002433	0.008810	4.823	13.460
1.9 - 1.7	1.8	0.004151	0.012960	9.127	22.587

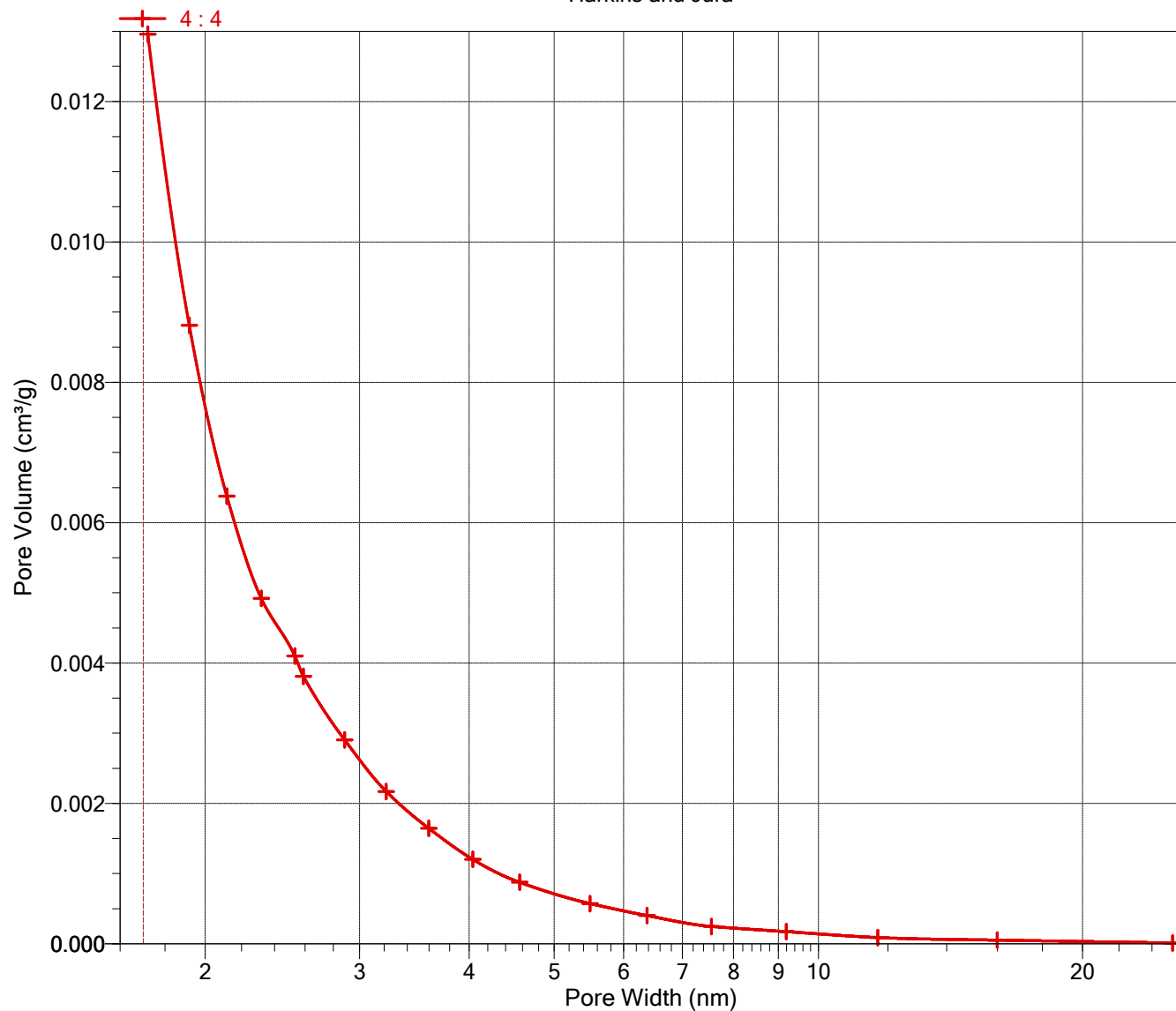
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Dollimore-Heal Adsorption Cumulative Pore Volume (Larger)

Harkins and Jura



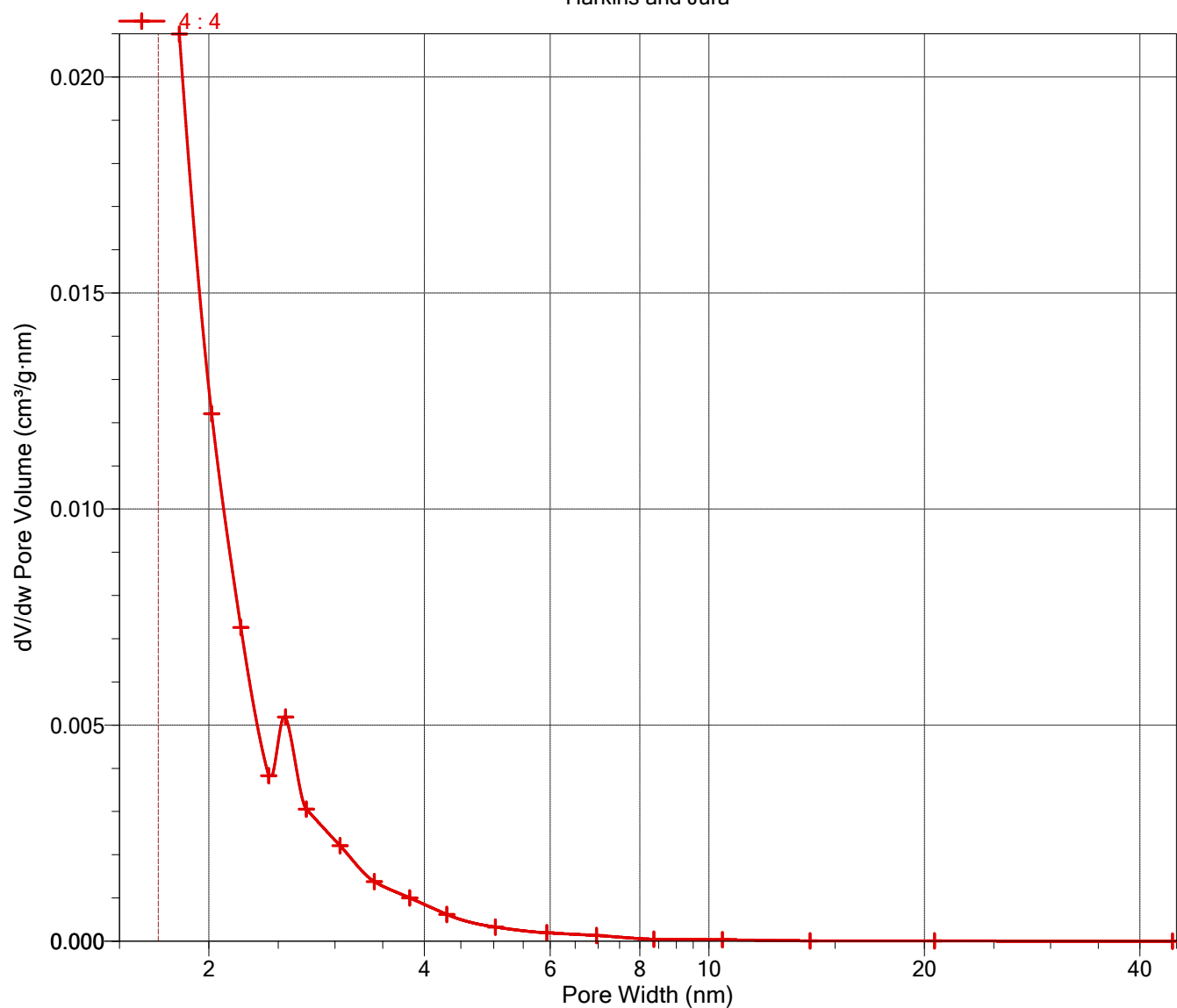
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Dollimore-Heal Adsorption dV/dw Pore Volume

Harkins and Jura



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Dollimore-Heal Desorption Pore Distribution Report

Harkins and Jura

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

Width range: 1.7000 to 300.0000 nm  
Adsorbate property factor: 0.95300 nm  
Density conversion factor: 0.0015468

Pore Width Range (nm)	Average Width (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)
33.6 - 6.5	20.1	0.000000	0.000000	0.000	0.000
6.5 - 5.6	6.1	0.000070	0.000070	0.046	0.046
5.6 - 4.9	5.2	0.000101	0.000171	0.077	0.123
4.9 - 4.3	4.6	0.000212	0.000382	0.184	0.307
4.3 - 3.8	4.1	0.000278	0.000661	0.274	0.581
3.8 - 3.6	3.7	0.000308	0.000969	0.334	0.915
3.6 - 3.2	3.4	0.000417	0.001386	0.495	1.410
3.2 - 2.9	3.0	0.000387	0.001773	0.513	1.923
2.9 - 2.6	2.7	0.000905	0.002678	1.336	3.259
2.6 - 2.3	2.4	0.001415	0.004093	2.334	5.593
2.3 - 2.0	2.2	0.002136	0.006229	3.952	9.545
2.0 - 1.8	1.9	0.003735	0.009964	7.805	17.351

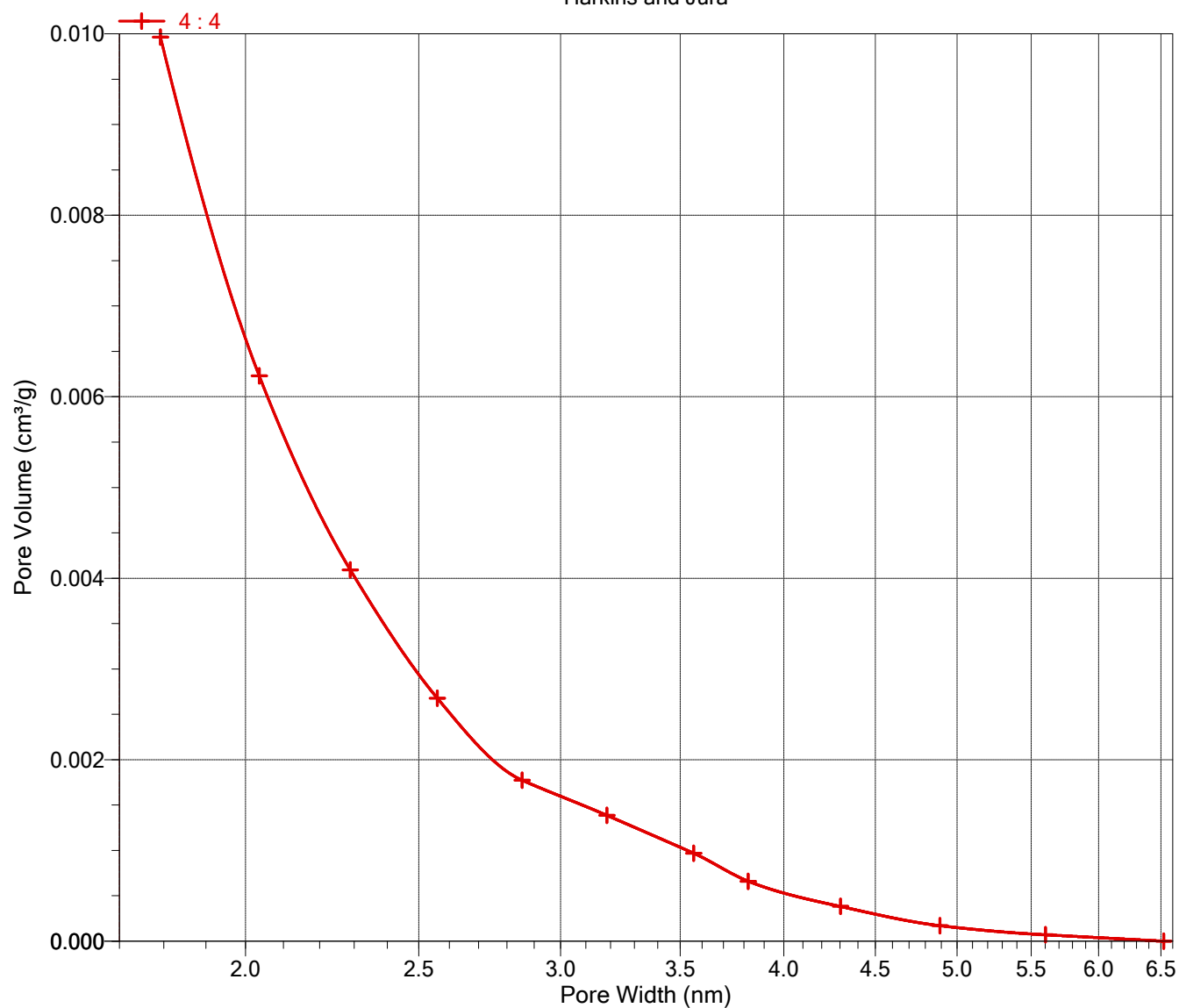
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Dollimore-Heal Desorption Cumulative Pore Volume (Larger)

Harkins and Jura



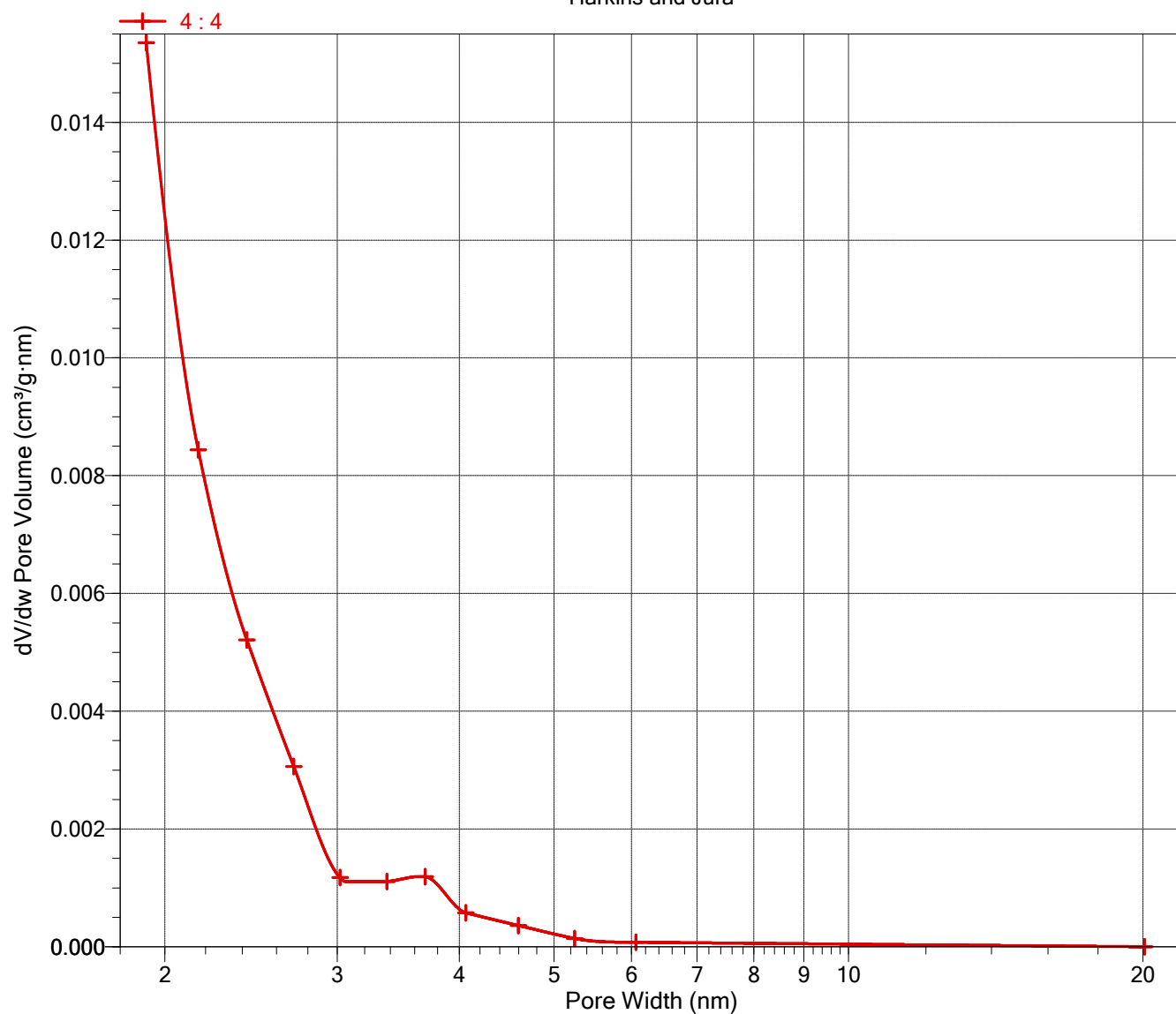
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Dollimore-Heal Desorption dV/dw Pore Volume

Harkins and Jura



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Horvath-Kawazoe Report

Slit Pore Geometry (Original H-K)

Maximum pore volume: 0.147534 cm<sup>3</sup>/g  
at Relative Pressure: 0.171596490  
Median pore width: 0.5274 nm  
Relative pressure range: 1e-09 to 0.18

Diameter of adsorptive molecule: 0.3000 nm  
Diameter of adsorptive at zero interaction energy: 0.2574 nm  
Adsorptive density: 6.710e+14 molecules/cm<sup>2</sup>  
Adsorptive dispersion constant: 7.777e-59  
Diameter of sample atom: 0.3400 nm  
Diameter of sample atom at zero interaction energy: 0.2918 nm  
Sample Density: 3.845e+15 molecules/cm<sup>2</sup>  
Sample dispersion constant: 6.036e-59

Density conversion factor: 0.0015468

Absolute Pressure (mmHg)	Relative Pressure (P/Po)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Pore Width (nm)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Differential Pore Volume (cm <sup>3</sup> /g·nm)
0.00523	0.000006870	11.98770	0.398	0.0185	0.0466
0.01373	0.000018022	23.95865	0.424	0.0371	0.7248
0.05880	0.000077179	35.85543	0.468	0.0555	0.4118
0.25571	0.000335774	47.44941	0.526	0.0734	0.3129
1.07481	0.001411996	58.97668	0.602	0.0912	0.2343
3.73861	0.004913639	69.36041	0.697	0.1073	0.1695
8.24686	0.010841116	76.00599	0.781	0.1176	0.1217
22.23658	0.029233809	83.96420	0.936	0.1299	0.0793
37.91469	0.049844635	88.11420	1.060	0.1363	0.0519
72.35736	0.095121274	92.57854	1.281	0.1432	0.0312
99.84392	0.131249124	94.30139	1.443	0.1459	0.0164
130.54091	0.171596490	95.38012	1.622	0.1475	0.0094

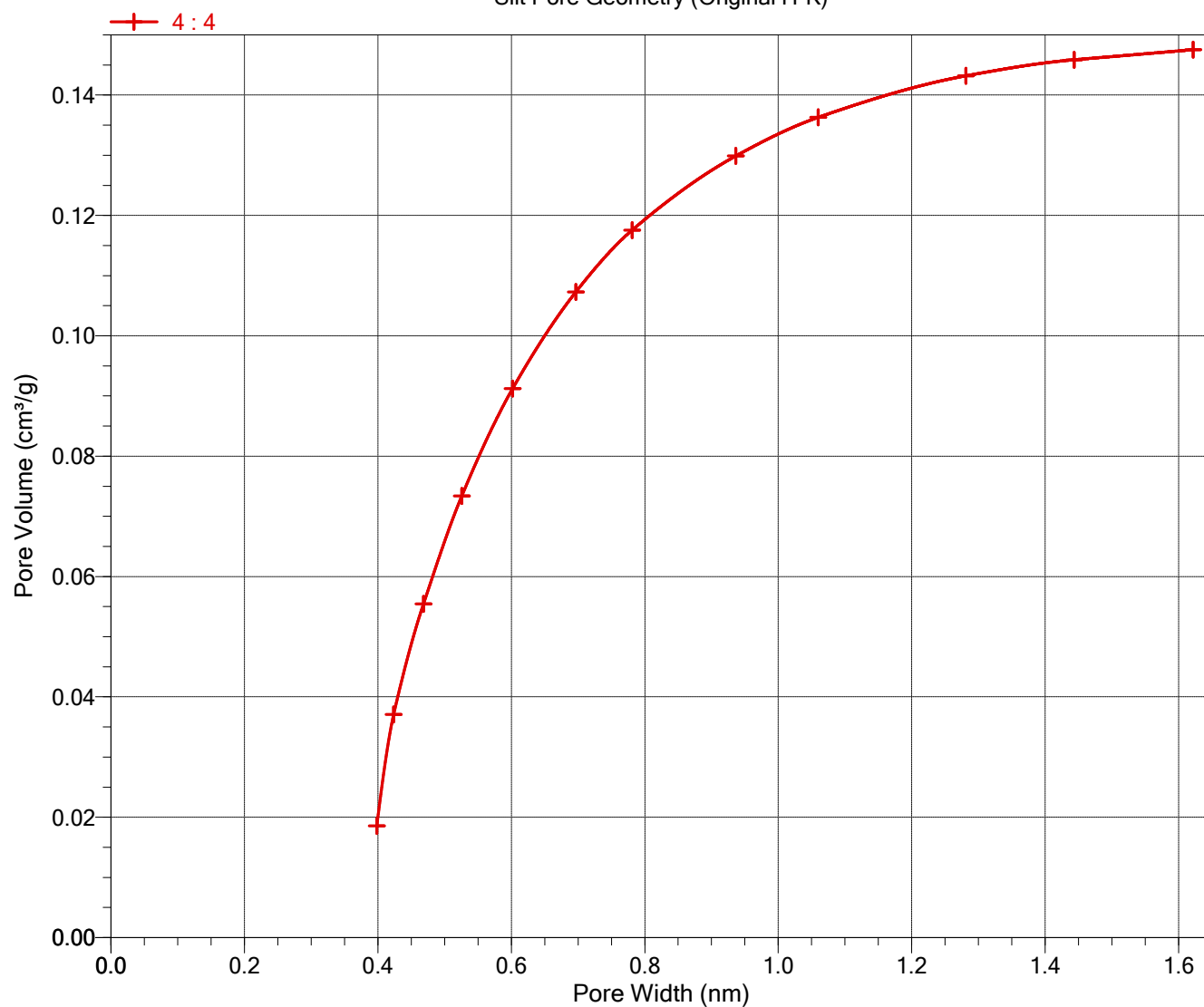
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Horvath-Kawazoe Cumulative Pore Volume Plot

Slit Pore Geometry (Original H-K)



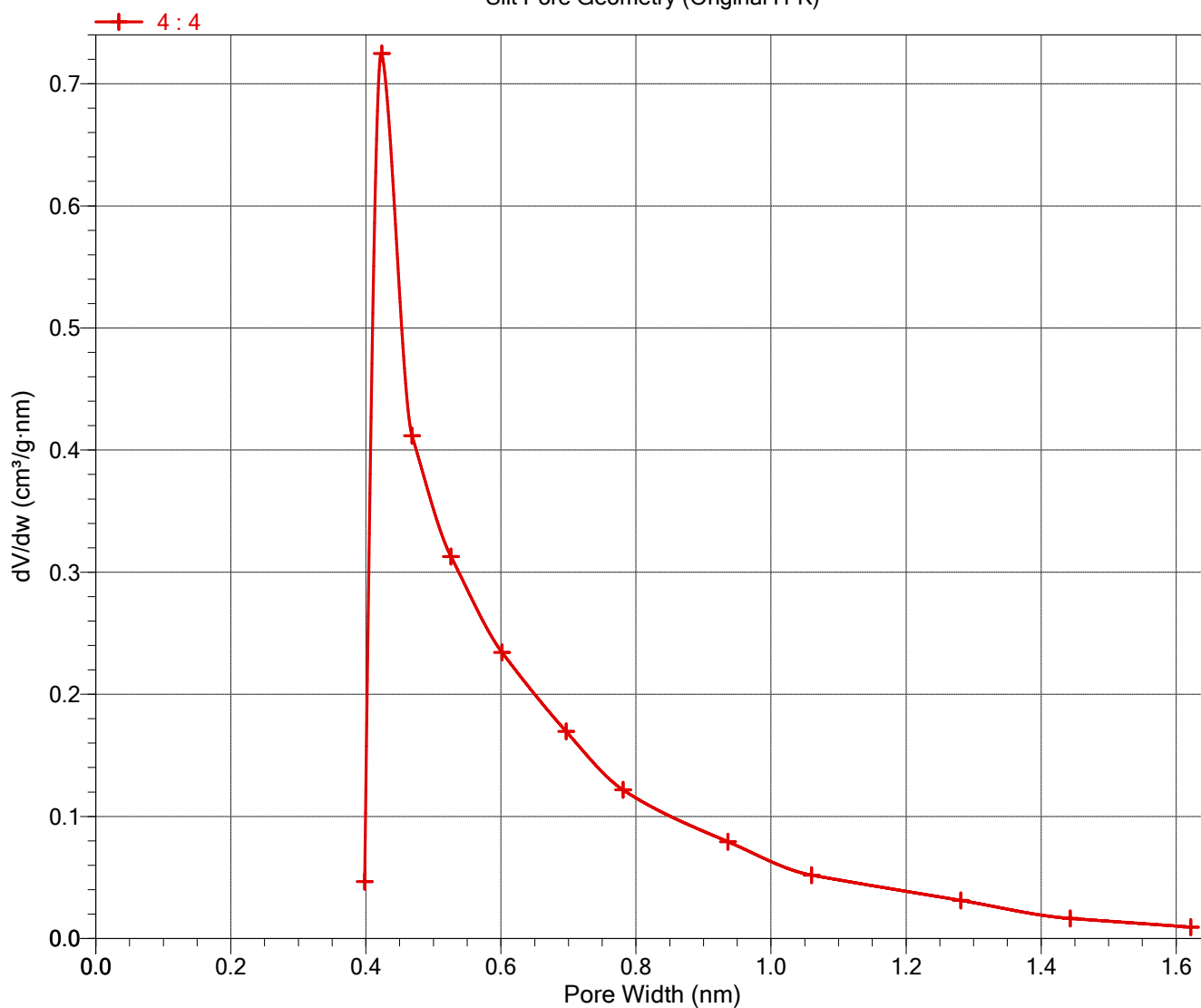
Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Horvath-Kawazoe Differential Pore Volume Plot

Slit Pore Geometry (Original H-K)



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

#### NLDFT Advanced PSD Reports

Primary Data  
4070- Unable to load deconvolution model Invalid.

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

## Porosity Distribution by Original Density Functional Theory

Model: N2 - DFT Model

Method: Non-negative Regularization: 0.00000

Standard Deviation of Fit: 0.57631 cm<sup>3</sup>/g STP

Volume in Pores	<	0.500 nm	:	0.00000 cm <sup>3</sup> /g
Total Volume in Pores	<=	400.309 nm	:	0.14203 cm <sup>3</sup> /g
Total Area in Pores	>=	0.500 nm	:	250.058 m <sup>2</sup> /g

## Pore Table

Pore Width (nm)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Area (m <sup>2</sup> /g)	Incremental Pore Area (m <sup>2</sup> /g)
0.500	0.00000	0.00000	0.000	0.000
0.536	0.00000	0.00000	0.000	0.000
0.590	0.00000	0.00000	0.000	0.000
0.643	0.00000	0.00000	0.000	0.000
0.679	0.00000	0.00000	0.000	0.000
0.733	0.03642	0.03642	99.422	99.422
0.804	0.05013	0.01371	133.517	34.095
0.858	0.05013	0.00000	133.517	0.000
0.929	0.05013	0.00000	133.517	0.000
1.001	0.05013	0.00000	133.517	0.000
1.090	0.06451	0.01437	159.890	26.373
1.179	0.08375	0.01924	192.514	32.624
1.269	0.09487	0.01113	210.052	17.538
1.358	0.10222	0.00734	220.866	10.814
1.483	0.11003	0.00781	231.402	10.536
1.591	0.11533	0.00530	238.064	6.662
1.716	0.11982	0.00449	243.303	5.239
1.859	0.12299	0.00316	246.708	3.405
2.002	0.12597	0.00298	249.687	2.979
2.162	0.12597	0.00000	249.687	0.000
2.341	0.12597	0.00000	249.687	0.000
2.520	0.12597	0.00000	249.687	0.000
2.734	0.12597	0.00000	249.687	0.000
2.949	0.12597	0.00000	249.687	0.000
3.181	0.12597	0.00000	249.687	0.000
3.431	0.12597	0.00000	249.687	0.000
3.699	0.12597	0.00000	249.687	0.000
4.003	0.12597	0.00000	249.687	0.000
4.325	0.12597	0.00000	249.687	0.000
4.664	0.12597	0.00000	249.687	0.000
5.040	0.12597	0.00000	249.687	0.000
5.433	0.12597	0.00000	249.687	0.000
5.880	0.12597	0.00000	249.687	0.000
6.344	0.12597	0.00000	249.687	0.000
6.845	0.12597	0.00000	249.687	0.000
7.399	0.12597	0.00000	249.687	0.000
7.988	0.12597	0.00000	249.687	0.000
8.632	0.12597	0.00000	249.687	0.000

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

Pore Table				
Pore Width (nm)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Area (m <sup>2</sup> /g)	Incremental Pore Area (m <sup>2</sup> /g)
9.311	0.12597	0.00000	249.687	0.000
10.061	0.12597	0.00000	249.687	0.000
10.866	0.12597	0.00000	249.687	0.000
11.723	0.12597	0.00000	249.687	0.000
12.653	0.12597	0.00000	249.687	0.000
13.671	0.12597	0.00000	249.687	0.000
14.761	0.12597	0.00000	249.687	0.000
15.941	0.12597	0.00000	249.687	0.000
17.210	0.12597	0.00000	249.687	0.000
18.586	0.12597	0.00000	249.687	0.000
20.069	0.12597	0.00000	249.687	0.000
21.660	0.12597	0.00000	249.687	0.000
23.393	0.12597	0.00000	249.687	0.000
25.252	0.12597	0.00000	249.687	0.000
27.271	0.12597	0.00000	249.687	0.000
29.451	0.12597	0.00000	249.687	0.000
31.792	0.12597	0.00000	249.687	0.000
34.330	0.12597	0.00000	249.687	0.000
37.064	0.12597	0.00000	249.687	0.000
40.031	0.12597	0.00000	249.687	0.000
43.230	0.12597	0.00000	249.687	0.000
46.679	0.12597	0.00000	249.687	0.000
50.396	0.12692	0.00095	249.725	0.038
54.417	0.12851	0.00159	249.784	0.058
58.760	0.12955	0.00103	249.819	0.035
63.442	0.13063	0.00108	249.853	0.034
68.499	0.13187	0.00124	249.889	0.036
73.968	0.13268	0.00081	249.911	0.022
79.865	0.13352	0.00084	249.932	0.021
86.245	0.13449	0.00097	249.954	0.022
93.126	0.13537	0.00088	249.973	0.019
100.560	0.13594	0.00057	249.985	0.011
108.566	0.13654	0.00060	249.996	0.011
117.233	0.13722	0.00069	250.007	0.012
126.580	0.13767	0.00045	250.014	0.007
136.677	0.13814	0.00047	250.021	0.007
147.596	0.13868	0.00054	250.029	0.007
159.355	0.13903	0.00035	250.033	0.004
172.079	0.13939	0.00036	250.037	0.004
185.804	0.13981	0.00042	250.042	0.005
200.619	0.14009	0.00028	250.045	0.003
216.632	0.14038	0.00029	250.047	0.003
233.913	0.14061	0.00024	250.049	0.002
252.570	0.14086	0.00025	250.051	0.002
272.729	0.14115	0.00029	250.053	0.002
294.478	0.14133	0.00019	250.054	0.001
317.978	0.14153	0.00019	250.056	0.001

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

Pore Table				
Pore Width (nm)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Area (m <sup>2</sup> /g)	Incremental Pore Area (m <sup>2</sup> /g)
343.337	0.14175	0.00022	250.057	0.001
370.733	0.14190	0.00015	250.058	0.001
400.309	0.14203	0.00013	250.058	0.001

Sample: 4  
Operator:  
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File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

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Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

## Porosity Distribution by Original Density Functional Theory

Model: N2 - DFT Model

Method: Non-negative Regularization: 0.00000

Standard Deviation of Fit: 0.57631 cm<sup>3</sup>/g STP

## Isotherm Table

Relative Pressure (P/Po)	Experimental Quantity Adsorbed (cm <sup>3</sup> /g STP)	Fitted Quantity Adsorbed (cm <sup>3</sup> /g STP)	Absolute Residual (cm <sup>3</sup> /g STP)	Relative Residual
0.000008995	15.1183	17.3754	-2.2571	-0.149295
0.000015520	22.5767	20.6443	1.9324	0.085591
0.000026102	26.5253	27.0817	-0.5565	-0.020978
0.000042841	30.9671	30.0882	0.8789	0.028381
0.000068697	35.2237	33.3700	1.8537	0.052626
0.000107744	37.4691	37.4976	-0.0285	-0.000761
0.000165451	40.6835	41.8031	-1.1195	-0.027518
0.000249000	44.9182	45.4174	-0.4992	-0.011113
0.000367617	47.8455	48.3211	-0.4756	-0.009941
0.000532902	49.9895	50.7655	-0.7760	-0.015523
0.000759152	52.9776	53.0967	-0.1191	-0.002248
0.001063641	56.5393	56.8866	-0.3474	-0.006144
0.001466847	59.1619	58.9978	0.1641	0.002774
0.001992604	60.9949	60.9334	0.0615	0.001008
0.002668156	63.3963	64.3609	-0.9646	-0.015216
0.003524104	66.2282	66.4006	-0.1724	-0.002603
0.004594232	68.8706	67.9468	0.9238	0.013413
0.005915212	70.6735	70.7442	-0.0707	-0.001000
0.007526182	72.8064	72.3764	0.4300	0.005906
0.009468212	74.9994	75.3641	-0.3647	-0.004863
0.011783670	76.4881	76.5250	-0.0368	-0.000481
0.014515520	77.8946	77.5503	0.3443	0.004420
0.017706521	79.5067	80.5056	-0.9989	-0.012563
0.021398440	81.2406	81.4123	-0.1717	-0.002113
0.025631230	82.9179	82.2546	0.6633	0.007999
0.030442240	84.2453	84.3978	-0.1525	-0.001810
0.035865448	85.5130	85.1496	0.3634	0.004250
0.041930798	86.8299	87.1804	-0.3505	-0.004036
0.048663601	87.9667	87.8322	0.1345	0.001529
0.056084011	88.8467	89.3524	-0.5056	-0.005691
0.064206667	89.7860	89.9135	-0.1275	-0.001420
0.073040441	90.7487	90.4339	0.3148	0.003469
0.082588248	91.6665	91.7804	-0.1139	-0.001243
0.092847057	92.4431	92.2082	0.2349	0.002541
0.103808001	93.0637	92.6009	0.4627	0.004972
0.115456402	93.6690	92.9633	0.7057	0.007534
0.127772301	94.1877	93.2989	0.8888	0.009436
0.140730694	94.5881	93.6107	0.9775	0.010334
0.154301897	94.9781	93.9009	1.0772	0.011341
0.168452203	95.3184	94.1717	1.1467	0.012030
0.183144197	95.5930	94.4248	1.1682	0.012220

Sample: 4  
Operator:  
Submitter:  
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Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

## Isotherm Table

Relative Pressure (P/Po)	Experimental Quantity Adsorbed (cm <sup>3</sup> /g STP)	Fitted Quantity Adsorbed (cm <sup>3</sup> /g STP)	Absolute Residual (cm <sup>3</sup> /g STP)	Relative Residual
0.198337302	95.8516	94.6617	1.1900	0.012415
0.213988706	96.0694	94.8837	1.1857	0.012343
0.230053306	96.2608	95.0921	1.1687	0.012141
0.246484801	96.4257	95.2879	1.1379	0.011801
0.263235897	96.5454	95.4720	1.0734	0.011118
0.280259013	96.6499	95.6454	1.0044	0.010393
0.297506303	96.7824	95.8089	0.9735	0.010059
0.314930797	96.8980	95.9631	0.9348	0.009648
0.332486212	96.9999	96.1088	0.8911	0.009186
0.350127310	97.0936	96.2465	0.8470	0.008724
0.367810607	97.1842	96.3768	0.8073	0.008307
0.385494202	97.2702	96.5002	0.7700	0.007916
0.403138310	97.3450	96.6171	0.7279	0.007478
0.420704991	97.4109	96.7277	0.6832	0.007013
0.438158900	97.4718	96.8324	0.6393	0.006559
0.455466807	97.5289	96.9315	0.5973	0.006125
0.472598106	97.5837	97.0254	0.5584	0.005722
0.489524394	97.6353	97.1141	0.5212	0.005338
0.506219923	97.6822	97.1982	0.4840	0.004955
0.522661209	97.7240	97.2778	0.4462	0.004566
0.538827300	97.7606	97.3532	0.4073	0.004166
0.554699600	97.7919	97.4248	0.3671	0.003754
0.570261598	97.8207	97.4928	0.3278	0.003351
0.585499227	97.8475	97.5574	0.2901	0.002964
0.600400090	97.8721	97.6189	0.2532	0.002587
0.614954293	97.8942	97.6774	0.2168	0.002215
0.629153311	97.9142	97.7332	0.1810	0.001849
0.642990828	97.9333	97.7865	0.1468	0.001499
0.656461716	97.9515	97.8374	0.1142	0.001166
0.669562697	97.9691	97.8860	0.0831	0.000848
0.682291925	97.9864	97.9326	0.0539	0.000550
0.694648683	98.0031	97.9770	0.0261	0.000267
0.706633508	98.0182	98.0195	-0.0012	-0.000013
0.718248010	98.0309	98.0600	-0.0291	-0.000297
0.729494929	98.0404	98.0986	-0.0582	-0.000594
0.740377605	98.0474	98.1353	-0.0879	-0.000897
0.750900388	98.0534	98.1704	-0.1170	-0.001194
0.761068285	98.0592	98.2038	-0.1446	-0.001475
0.770887017	98.0659	98.2357	-0.1699	-0.001732
0.780362606	98.0734	98.2663	-0.1929	-0.001967
0.789501607	98.0811	98.2955	-0.2144	-0.002186
0.798311174	98.0884	98.3235	-0.2351	-0.002397
0.806798697	98.0949	98.3505	-0.2556	-0.002606
0.814971626	98.1003	98.3765	-0.2763	-0.002816
0.822837889	98.1043	98.4016	-0.2974	-0.003031
0.830405474	98.1074	98.4259	-0.3185	-0.003246

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

## Isotherm Table

Relative Pressure (P/Po)	Experimental Quantity Adsorbed (cm <sup>3</sup> /g STP)	Fitted Quantity Adsorbed (cm <sup>3</sup> /g STP)	Absolute Residual (cm <sup>3</sup> /g STP)	Relative Residual
0.837682605	98.1100	98.4493	-0.3393	-0.003459
0.844677329	98.1123	98.4720	-0.3598	-0.003667
0.851397991	98.1144	98.4939	-0.3795	-0.003868
0.857852995	98.1164	98.5150	-0.3986	-0.004062
0.864050388	98.1186	98.5353	-0.4167	-0.004247
0.869998574	98.1208	98.5547	-0.4339	-0.004422
0.875705481	98.1231	98.5733	-0.4502	-0.004588
0.881179392	98.1253	98.5912	-0.4659	-0.004748
0.886428118	98.1275	98.6084	-0.4809	-0.004901
0.891459525	98.1296	98.6250	-0.4954	-0.005049
0.896281302	98.1316	98.6411	-0.5095	-0.005192
0.900900900	98.1335	98.6567	-0.5231	-0.005331
0.905325770	98.1354	98.6719	-0.5365	-0.005467
0.909563184	98.1372	98.6868	-0.5496	-0.005600
0.913620114	98.1389	98.7014	-0.5625	-0.005732
0.917503417	98.1405	98.7158	-0.5753	-0.005862
0.921219707	98.1411	98.7299	-0.5889	-0.006000
0.924775481	98.1411	98.7437	-0.6027	-0.006141
0.928177178	98.1411	98.7572	-0.6161	-0.006278
0.931430817	98.1411	98.7702	-0.6291	-0.006410
0.934542298	98.1411	98.7827	-0.6417	-0.006538
0.937517405	98.1411	98.7948	-0.6538	-0.006662
0.940361619	98.1411	98.8066	-0.6655	-0.006781
0.943080306	98.1411	98.8180	-0.6769	-0.006897
0.945678592	98.1411	98.8291	-0.6880	-0.007011
0.948161721	98.1411	98.8400	-0.6990	-0.007122
0.950534225	98.1411	98.8509	-0.7098	-0.007233
0.952800930	98.1411	98.8617	-0.7206	-0.007343
0.954966187	98.1411	98.8725	-0.7314	-0.007453
0.957034409	98.1411	98.8834	-0.7423	-0.007564
0.959009588	98.1411	98.8942	-0.7531	-0.007674
0.960896015	98.1411	98.9049	-0.7638	-0.007783
0.962697208	98.1411	98.9154	-0.7743	-0.007890
0.964416981	98.1411	98.9255	-0.7845	-0.007993
0.966058910	98.1411	98.9354	-0.7944	-0.008094
0.967626274	98.1411	98.9450	-0.8040	-0.008192
0.969122529	98.2687	98.9544	-0.6857	-0.006978
0.970550597	98.8129	98.9637	-0.1508	-0.001526
0.971913695	99.3324	99.5289	-0.1966	-0.001979
0.973214507	99.8281	99.5377	0.2904	0.002909
0.974455774	100.3011	100.4799	-0.1788	-0.001783
0.975640416	100.7525	100.4879	0.2646	0.002626
0.976770699	101.1832	101.1051	0.0782	0.000773
0.977849126	101.5942	101.7510	-0.1568	-0.001544
0.978878021	101.9863	101.7576	0.2287	0.002242
0.979859591	102.3603	102.5030	-0.1427	-0.001394

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Isotherm Table

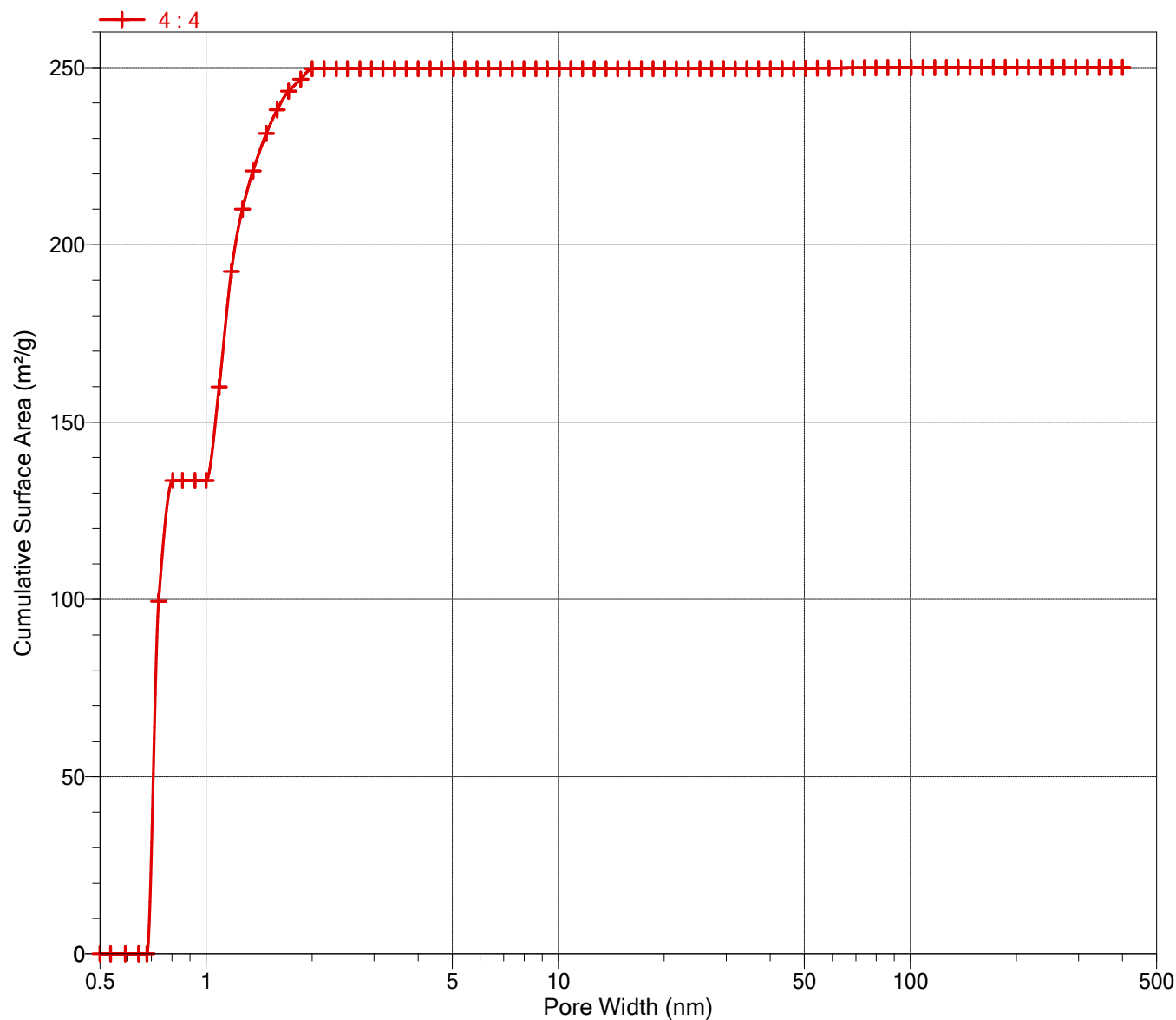
Relative Pressure (P/Po)	Experimental Quantity Adsorbed (cm <sup>3</sup> /g STP)	Fitted Quantity Adsorbed (cm <sup>3</sup> /g STP)	Absolute Residual (cm <sup>3</sup> /g STP)	Relative Residual
0.980795979	102.7172	102.5086	0.2086	0.002031
0.981689274	103.0576	102.9974	0.0602	0.000584
0.982541502	103.3824	103.5073	-0.1249	-0.001208
0.983354270	103.6921	103.5118	0.1803	0.001739
0.984129488	103.9875	104.1009	-0.1134	-0.001091
0.984869003	104.2693	104.1051	0.1643	0.001575
0.985574186	104.5380	104.6410	-0.1030	-0.000985
0.986246824	104.7944	104.6447	0.1497	0.001428
0.986888289	105.0388	104.9961	0.0427	0.000407
0.987500012	105.2719	105.3619	-0.0900	-0.000855
0.988083303	105.4942	105.3648	0.1294	0.001227
0.988639593	105.7062	105.7879	-0.0817	-0.000773
0.989170074	105.9083	105.7904	0.1179	0.001113
0.989675879	106.1011	106.0678	0.0333	0.000314
0.990158200	106.2849	106.3561	-0.0712	-0.000670
0.990618110	106.4602	106.3583	0.1019	0.000957
0.991056621	106.6273	106.6919	-0.0646	-0.000606
0.991474688	106.7866	106.6938	0.0928	0.000869
0.991873324	106.9385	106.9125	0.0260	0.000243
0.992253423	107.0833	107.1396	-0.0563	-0.000526
0.992615700	107.2214	107.1411	0.0802	0.000748
0.992961228	107.3531	107.4041	-0.0510	-0.000476
0.993290603	107.4786	107.4055	0.0731	0.000680
0.993604600	107.5982	107.5779	0.0203	0.000189
0.993903875	107.7123	107.7567	-0.0444	-0.000413
0.994189322	107.8211	107.7578	0.0632	0.000586
0.994461298	107.9247	107.9074	0.0173	0.000160
0.994720697	108.0235	108.0622	-0.0387	-0.000358
0.994967878	108.1177	108.0631	0.0546	0.000505
0.995203614	108.2076	108.2426	-0.0351	-0.000324
0.995428324	108.2932	108.2434	0.0498	0.000460
0.995642424	108.3748	108.3612	0.0136	0.000125
0.995846629	108.4526	108.4831	-0.0305	-0.000281
0.996041179	108.5267	108.4837	0.0430	0.000397
0.996226728	108.5975	108.6251	-0.0276	-0.000254
0.996403575	108.6648	108.6256	0.0392	0.000361
0.996572077	108.7291	108.7184	0.0107	0.000098
0.996732771	108.7903	108.8037	-0.0134	-0.000123
0.996885896	108.8486	108.8041	0.0445	0.000409
0.997031927	108.9043	108.8045	0.0998	0.000916

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

Cumulative Surface Area vs. Pore Width

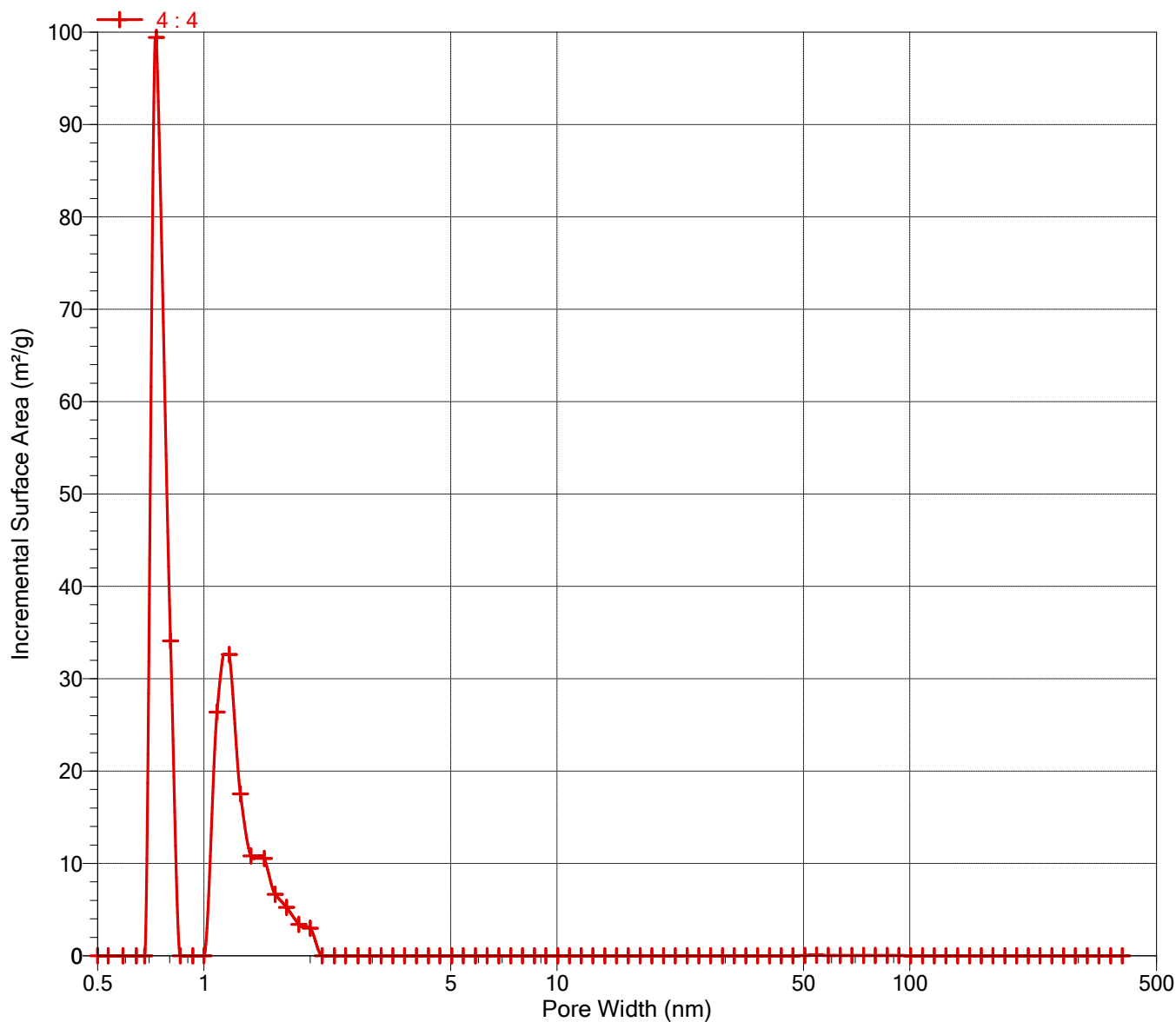


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Incremental Surface Area vs. Pore Width

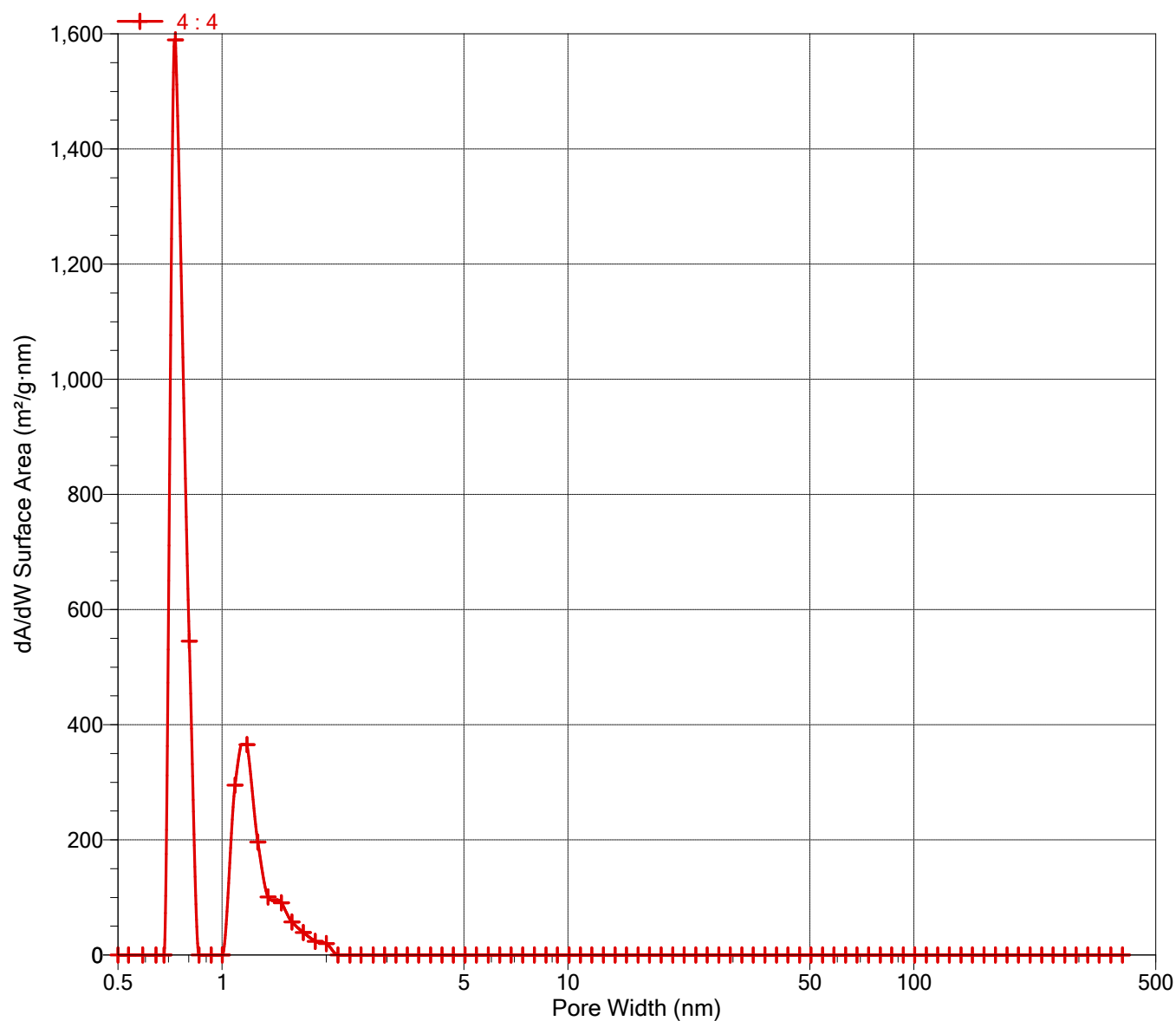


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### dA/dW Surface Area vs. Pore Width

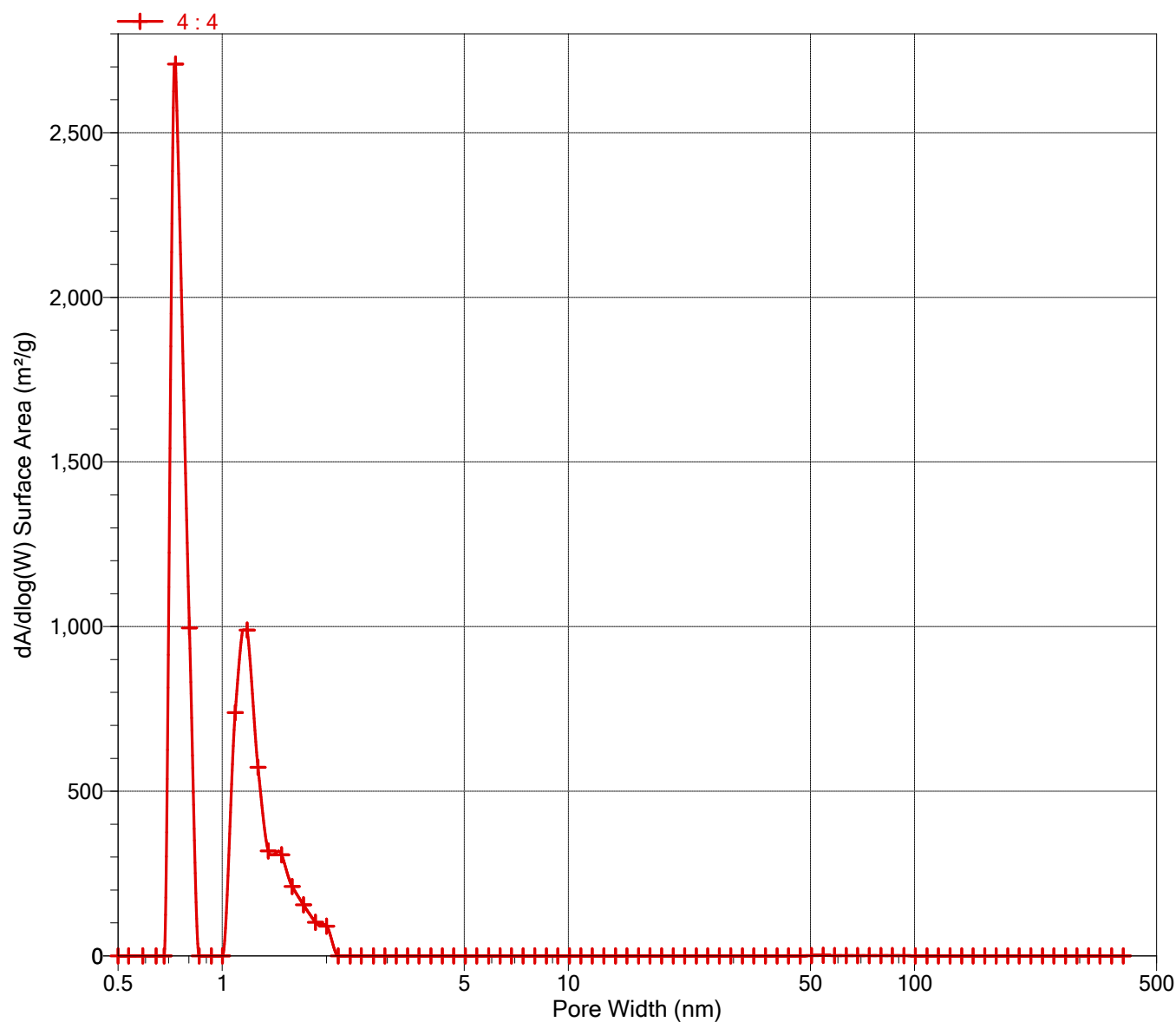


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### dA/dlog(W) Surface Area vs. Pore Width

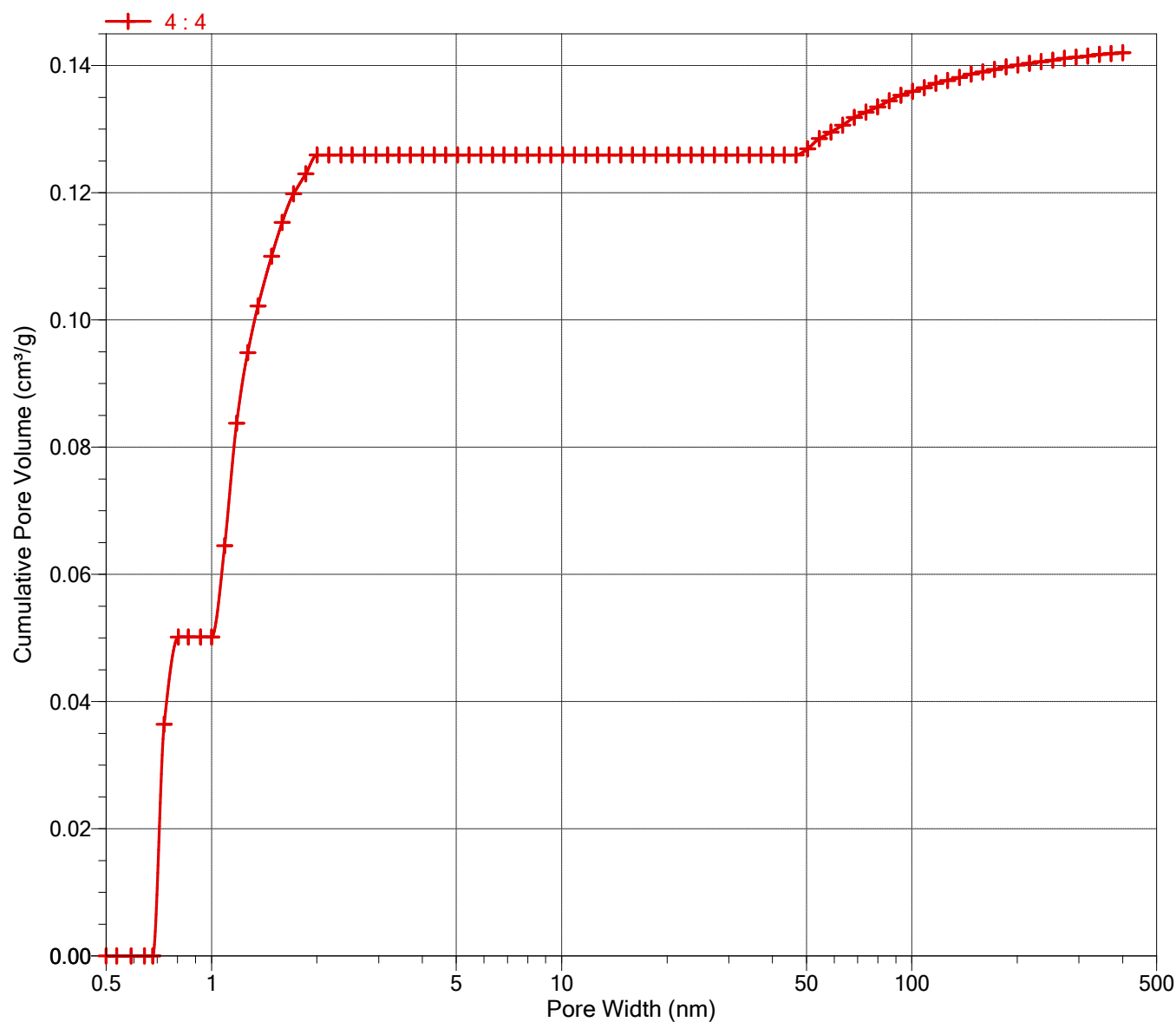


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Cumulative Pore Volume vs. Pore Width

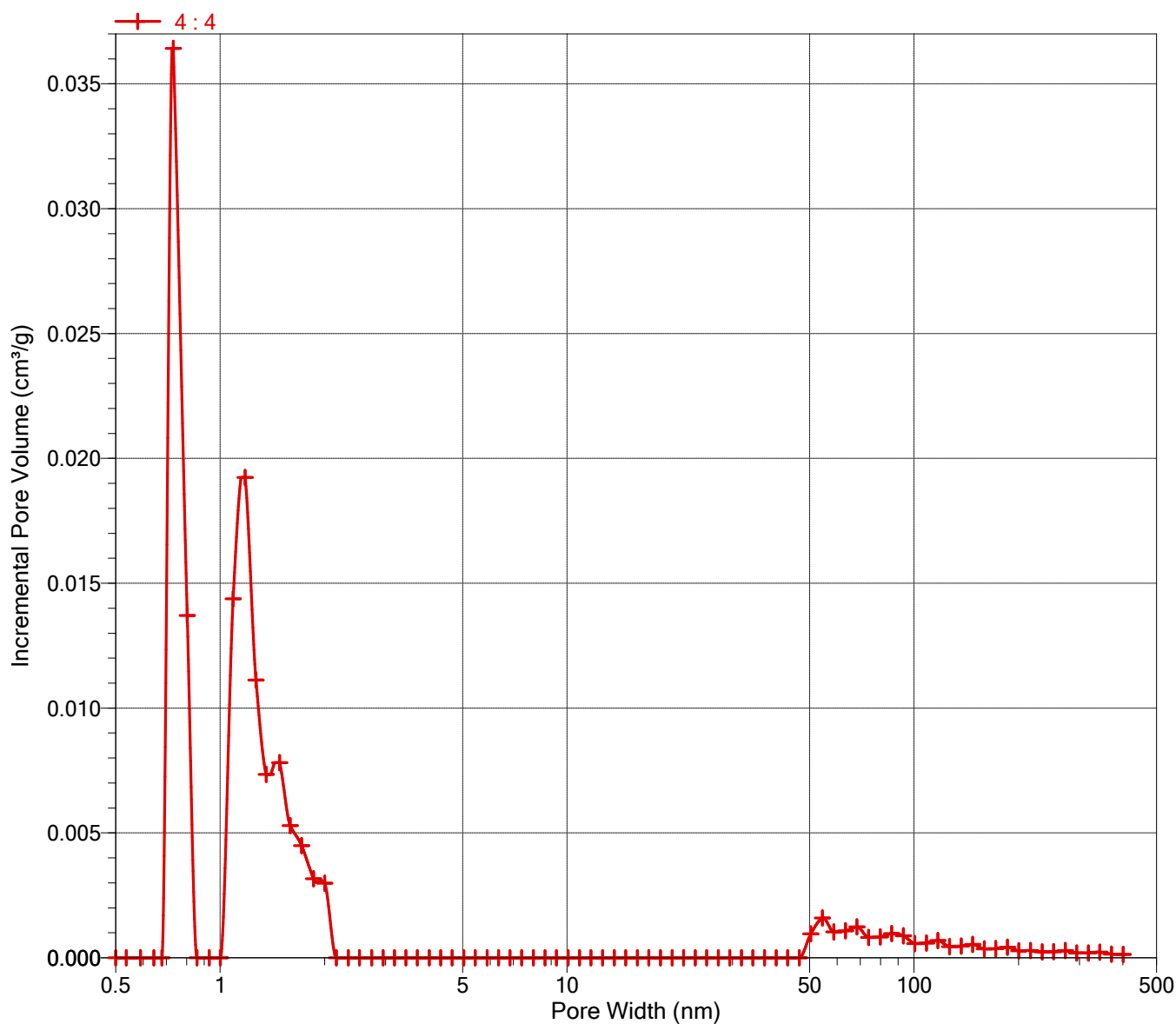


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Incremental Pore Volume vs. Pore Width

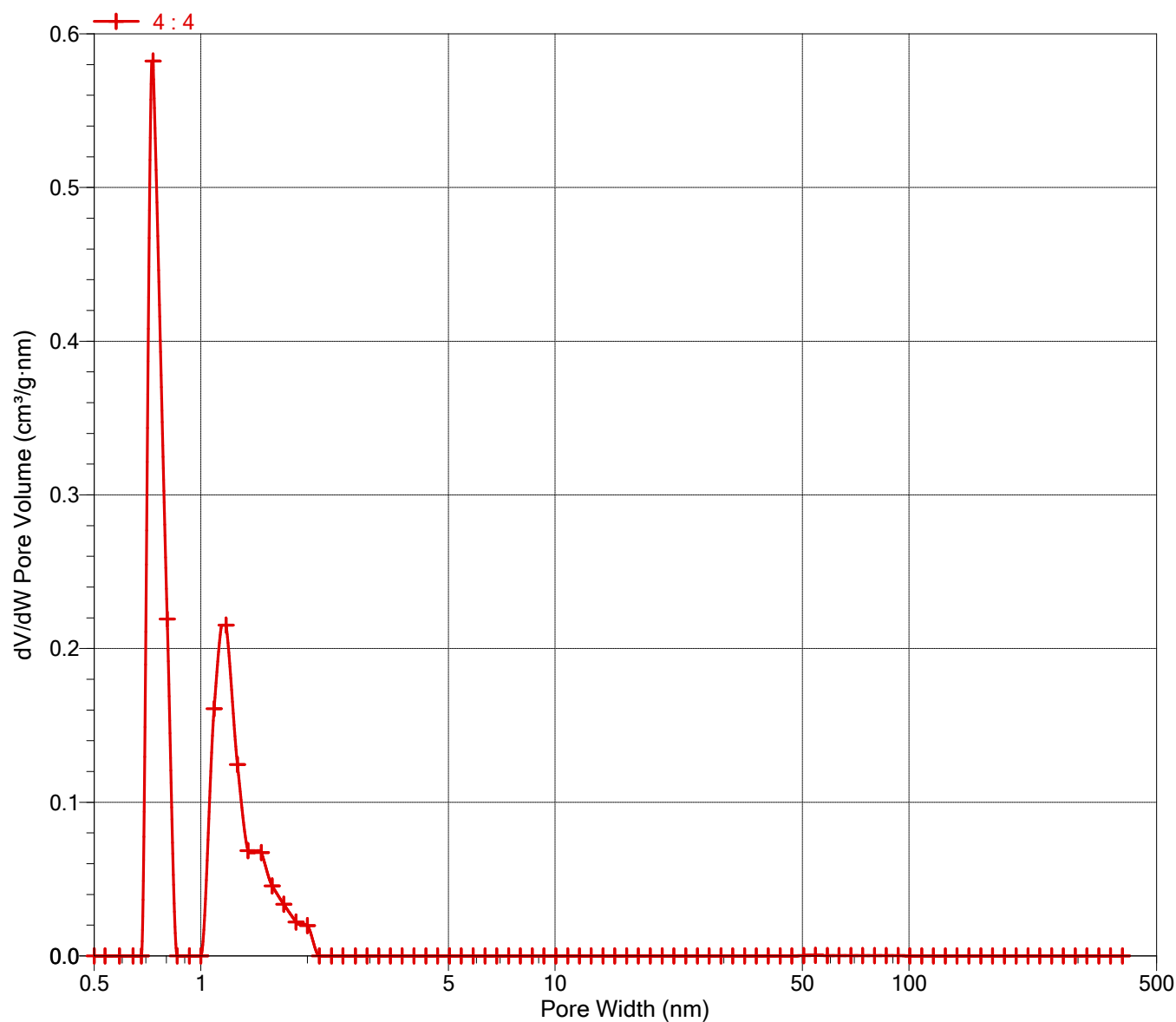


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### dV/dW Pore Volume vs. Pore Width

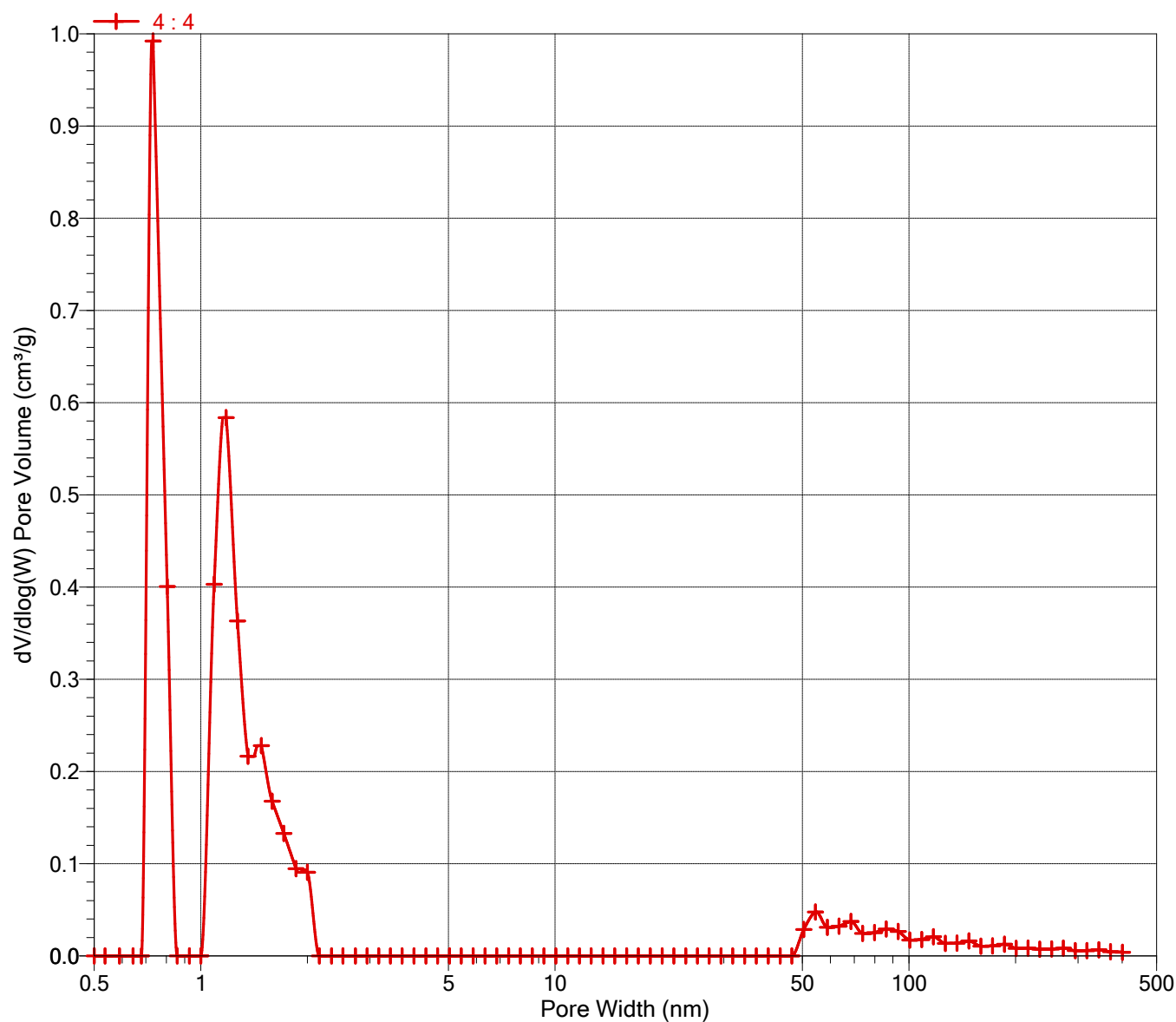


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### dV/dlog(W) Pore Volume vs. Pore Width

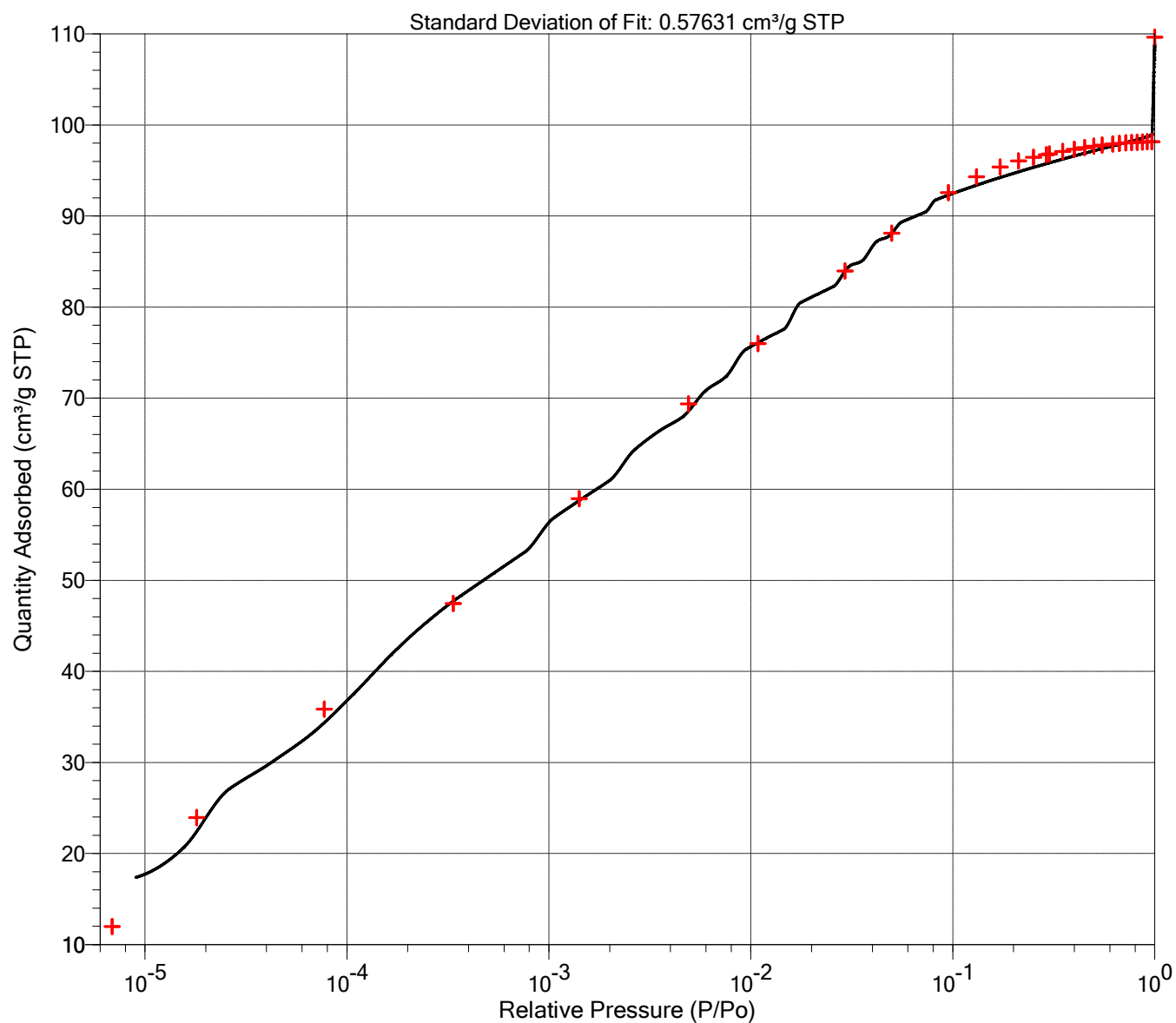


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Goodness of Fit

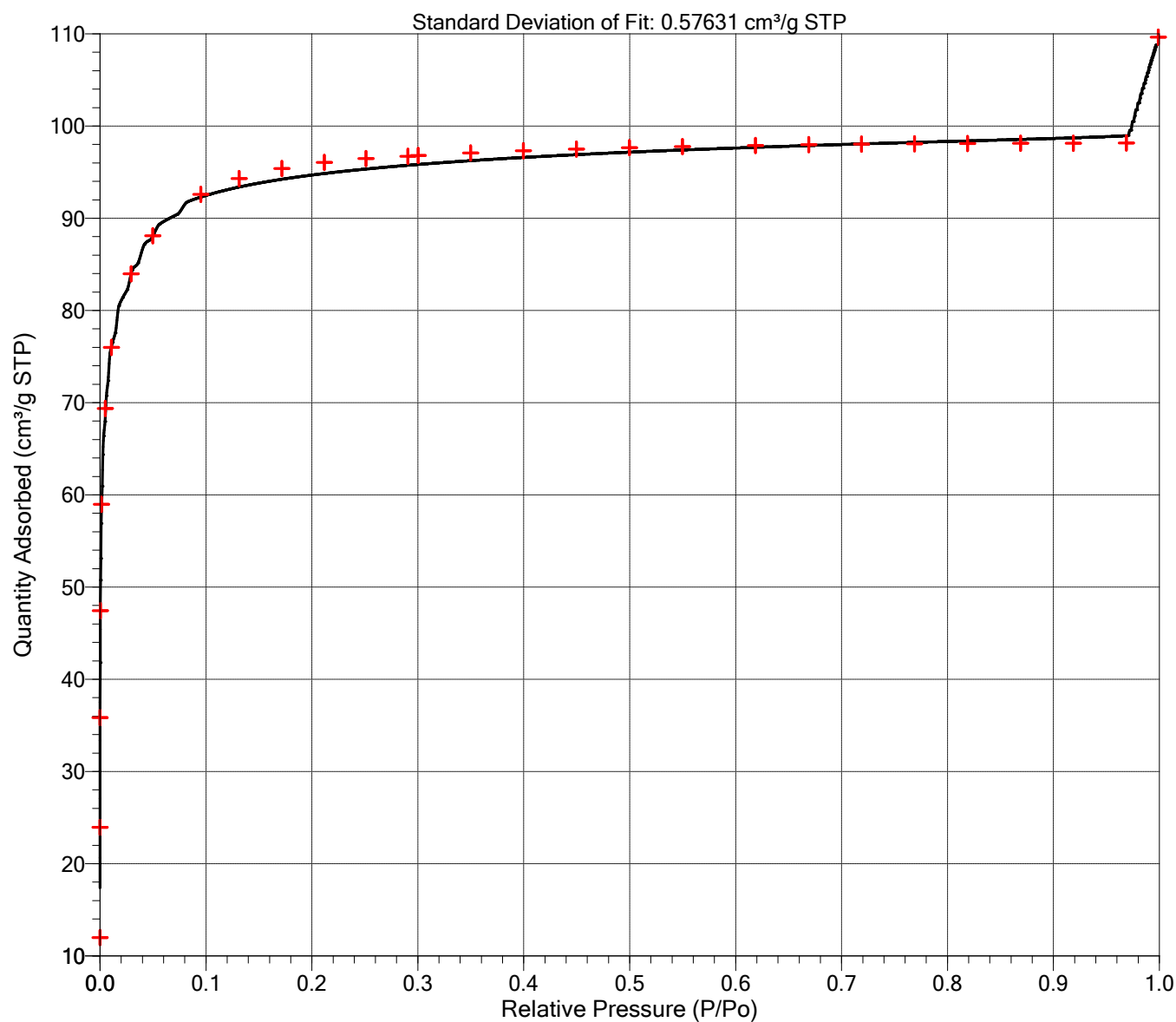


Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N<sub>2</sub>  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Goodness of Fit



Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

### DFT Surface Energy Reports

Primary Data  
4070- Unable to load deconvolution model Invalid.

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Dubinin-Astakhov Tabular Report

Slope:  $-0.041317 \pm 0.000062$   
Y-intercept:  $2.009031 \pm 0.000290$   
Correlation coefficient: 0.999995  
Astakhov fitted relative pressure range: 0.000100000 to 0.050000000 P/Po

Characteristic energy: 18.269180 kJ/mol  
Limiting micropore capacity: 102.1013 cm<sup>3</sup>/g STP  
Limiting micropore volume:  $0.157930 \pm 0.000105$  cm<sup>3</sup>/g  
Equivalent surface area: 367.733710 m<sup>2</sup>/g

Affinity coefficient (beta): 0.33000  
Optimize exponent: Yes  
Exponent: 1.6749

Density conversion factor: 0.0015468  
Molecular cross-sectional area: 0.162 nm<sup>2</sup>

### Medek Quantities

Mean equivalent pore width: 1.717876 nm  
Maximum differential pore volume: 0.188507 cm<sup>3</sup>/g·nm  
Modal equivalent pore width: 1.521777 nm

Absolute Pressure (mmHg)	Relative Pressure (P/Po)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Log Quantity Adsorbed	Log (Po/P) <sup>1.6749</sup>	Differential Pore Volume (cm <sup>3</sup> /g·nm)
0.005229	0.000006870	11.9877	1.0787	15.63347	0.147205
0.013727	0.000018022	23.9587	1.3795	13.56796	0.184214
0.058802	0.000077179	35.8554	1.5546	10.68004	0.186516
0.255710	0.000335774	47.4494	1.6762	8.050673	0.169876
1.074805	0.001411996	58.9767	1.7707	5.779196	0.141503
3.738610	0.004913639	69.3604	1.8411	4.060466	0.109347
8.246859	0.010841116	76.0060	1.8808	3.099766	0.086683
22.236578	0.029233809	83.9642	1.9241	2.047837	0.058462
37.914688	0.049844635	88.1142	1.9450	1.556598	0.043685
72.357361	0.095121274	92.5785	1.9665	1.036649	0.028119
99.843918	0.131249124	94.3014	1.9745	0.8101868	0.022302
130.540909	0.171596490	95.3801	1.9795	0.6391613	0.018744
161.165573	0.211855321	96.0431	1.9825	0.5163902	0.016596
190.935699	0.250977764	96.4621	1.9844	0.4254662	0.015256
221.011688	0.290509534	96.7216	1.9855	0.3527878	0.014434
228.565018	0.300435164	96.8050	1.9859	0.3368762	0.014171
266.170624	0.349864549	97.0922	1.9872	0.2685072	0.013271
304.033478	0.399666172	97.3313	1.9883	0.2139895	0.012527
342.142273	0.449777910	97.5103	1.9891	0.1698621	0.011975
380.110535	0.499675734	97.6643	1.9897	0.1340905	0.011502
418.191406	0.549732088	97.7825	1.9903	0.1046428	0.011141
470.772461	0.618832077	97.8998	1.9908	0.07232839	0.010785
508.843994	0.668897314	97.9682	1.9911	0.05378487	0.010577
546.910400	0.718898943	98.0315	1.9914	0.03863227	0.010386

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

Absolute Pressure (mmHg)	Relative Pressure (P/Po)	Quantity Adsorbed (cm <sup>3</sup> /g STP)	Log Quantity Adsorbed	Log (Po/P) <sup>1.6749</sup>	Differential Pore Volume (cm <sup>3</sup> /g· nm)
584.870422	0.768782735	98.0643	1.9915	0.02640286	0.010287
622.994690	0.818846027	98.1024	1.9917	0.01667614	0.010173
661.032166	0.868893513	98.1204	1.9918	0.00924557	0.010118
699.036621	0.918827154	98.1411	1.9919	0.003955972	0.010056
737.079285	0.968806056	98.1481	1.9919	0.0007629874	0.010035
759.783752	0.998960538	109.6392	2.0400	2.495271e-06	0.000000

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
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Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No  
Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### MP Tabular Report

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

Total Pore Surface Area: 444.3974 m<sup>2</sup>/g  
Density Conversion Factor: 0.0015468

Pore Hydraulic Radius Interval (nm)	Average Pore Hydraulic Radius (nm)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Differential Pore Volume (cm <sup>3</sup> /g· nm)	Incremental Pore Area (m <sup>2</sup> /g)
0.000 - 0.265	0.1323	0.0000	0.0000	0.0000	0.0000
0.265 - 0.280	0.2723	0.0149	0.0149	0.9656	54.7888
0.280 - 0.300	0.2900	0.0160	0.0309	0.8004	55.1979
0.300 - 0.320	0.3100	0.0221	0.0531	1.1066	71.3945
0.320 - 0.340	0.3300	0.0213	0.0743	1.0630	64.4261
0.340 - 0.360	0.3500	0.0138	0.0881	0.6908	39.4756
0.360 - 0.380	0.3700	0.0168	0.1050	0.8416	45.4901
0.380 - 0.400	0.3900	0.0144	0.1194	0.7222	37.0348
0.400 - 0.420	0.4100	0.0085	0.1279	0.4249	20.7287
0.420 - 0.440	0.4300	0.0067	0.1346	0.3350	15.5825
0.440 - 0.460	0.4500	0.0051	0.1397	0.2528	11.2350
0.460 - 0.480	0.4700	0.0043	0.1439	0.2128	9.0557
0.480 - 0.500	0.4900	0.0019	0.1458	0.0953	3.8910
0.500 - 0.520	0.5100	0.0012	0.1470	0.0610	2.3905
0.520 - 0.540	0.5300	0.0002	0.1473	0.0108	0.4076
0.540 - 0.560	0.5500	0.0001	0.1474	0.0053	0.1930
0.560 - 0.580	0.5700	0.0000	0.1474	0.0000	0.0000
0.580 - 0.600	0.5900	0.0000	0.1474	0.0000	0.0000
0.600 - 0.620	0.6100	-0.0000	0.1474	-0.0000	-0.0000
0.620 - 0.640	0.6300	0.0000	0.1474	0.0000	0.0000
0.640 - 0.660	0.6500	0.0000	0.1474	0.0000	0.0000
0.660 - 0.680	0.6700	0.0000	0.1474	0.0000	0.0000
0.680 - 0.700	0.6900	-0.0000	0.1474	-0.0000	-0.0000
0.700 - 0.720	0.7100	0.0000	0.1474	0.0000	0.0000
0.720 - 0.740	0.7300	0.0000	0.1474	0.0000	0.0000
0.740 - 0.760	0.7500	0.0000	0.1474	0.0000	0.0000
0.760 - 0.780	0.7700	-0.0000	0.1474	-0.0000	-0.0000
0.780 - 0.800	0.7900	0.0000	0.1474	0.0000	0.0000
0.800 - 0.820	0.8100	0.0000	0.1474	0.0000	0.0000
0.820 - 0.840	0.8300	0.0000	0.1474	0.0000	0.0000
0.840 - 0.860	0.8500	0.0000	0.1474	0.0000	0.0000
0.860 - 0.880	0.8700	-0.0000	0.1474	-0.0000	-0.0000
0.880 - 0.900	0.8900	0.0000	0.1474	0.0000	0.0000
0.900 - 0.920	0.9100	0.0000	0.1474	0.0000	0.0000
0.920 - 0.940	0.9300	0.0000	0.1474	0.0000	0.0000
0.940 - 0.960	0.9500	0.0000	0.1474	0.0000	0.0000
0.960 - 0.980	0.9700	0.0000	0.1474	0.0000	0.0000
0.980 - 1.000	0.9900	-0.0000	0.1474	-0.0000	-0.0000
1.000 - 1.020	1.0100	0.0000	0.1474	0.0000	0.0000
1.020 - 1.040	1.0300	0.0000	0.1474	0.0000	0.0000
1.040 - 1.060	1.0500	0.0000	0.1474	0.0000	0.0000
1.060 - 1.080	1.0700	0.0000	0.1474	0.0000	0.0000

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
Analysis free space: 83.7498 cm<sup>3</sup>  
Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

Pore Hydraulic Radius Interval (nm)	Average Pore Hydraulic Radius (nm)	Incremental Pore Volume (cm <sup>3</sup> /g)	Cumulative Pore Volume (cm <sup>3</sup> /g)	Differential Pore Volume (cm <sup>3</sup> /g· nm)	Incremental Pore Area (m <sup>2</sup> /g)
1.080 - 1.100	1.0900	-0.0000	0.1474	-0.0000	-0.0000
1.100 - 1.120	1.1100	0.0000	0.1474	0.0000	0.0000
1.120 - 1.140	1.1300	0.0000	0.1474	0.0000	0.0000
1.140 - 1.160	1.1500	0.0000	0.1474	0.0000	0.0000
1.160 - 1.180	1.1700	0.0000	0.1474	0.0000	0.0000
1.180 - 1.200	1.1900	0.0000	0.1474	0.0000	0.0000
1.200 - 1.220	1.2100	-0.0000	0.1474	-0.0000	-0.0000
1.220 - 1.240	1.2300	0.0000	0.1474	0.0000	0.0000
1.240 - 1.260	1.2500	0.0000	0.1474	0.0000	0.0000
1.260 - 1.280	1.2700	0.0000	0.1474	0.0000	0.0000
1.280 - 1.300	1.2900	0.0000	0.1474	0.0000	0.0000
1.300 - 1.320	1.3100	-0.0000	0.1474	-0.0000	-0.0000
1.320 - 1.340	1.3300	0.0000	0.1474	0.0000	0.0000
1.340 - 1.360	1.3500	0.0000	0.1474	0.0000	0.0000
1.360 - 1.380	1.3700	0.0000	0.1474	0.0000	0.0000
1.380 - 1.400	1.3900	0.0000	0.1474	0.0000	0.0000
1.400 - 1.420	1.4100	0.0000	0.1474	0.0000	0.0000
1.420 - 1.440	1.4300	0.0000	0.1474	0.0000	0.0000
1.440 - 1.460	1.4500	-0.0000	0.1474	-0.0000	-0.0000
1.460 - 1.480	1.4700	0.0000	0.1474	0.0000	0.0000
1.480 - 1.500	1.4900	0.0000	0.1474	0.0000	0.0000
1.500 - 1.520	1.5100	0.0000	0.1474	0.0000	0.0000
1.520 - 1.540	1.5300	0.0000	0.1474	0.0000	0.0000
1.540 - 1.560	1.5500	-0.0000	0.1474	-0.0000	-0.0000
1.560 - 1.580	1.5700	0.0000	0.1474	0.0000	0.0000
1.580 - 1.600	1.5900	0.0000	0.1474	0.0000	0.0000
1.600 - 1.620	1.6100	0.0000	0.1474	0.0000	0.0000
1.620 - 1.640	1.6300	0.0000	0.1474	0.0000	0.0000
1.640 - 1.660	1.6500	0.0000	0.1474	0.0000	0.0000
1.660 - 1.680	1.6700	-0.0000	0.1474	-0.0000	-0.0000
1.680 - 1.700	1.6900	0.0000	0.1474	0.0000	0.0000
1.700 - 1.720	1.7100	0.0000	0.1474	0.0000	0.0000
1.720 - 1.740	1.7300	0.0000	0.1474	0.0000	0.0000
1.740 - 1.760	1.7500	0.0000	0.1474	0.0000	0.0000
1.760 - 1.780	1.7700	-0.0000	0.1474	-0.0000	-0.0000
1.780 - 1.800	1.7900	0.0000	0.1474	0.0000	0.0000
1.800 - 1.820	1.8100	0.0000	0.1474	0.0000	0.0000
1.820 - 1.840	1.8300	0.0000	0.1474	0.0000	0.0000
1.840 - 1.860	1.8500	0.0000	0.1474	0.0000	0.0000
1.860 - 1.880	1.8700	0.0000	0.1474	0.0000	0.0000
1.880 - 1.900	1.8900	-0.0000	0.1474	-0.0000	-0.0000
1.900 - 1.920	1.9100	0.0000	0.1474	0.0000	0.0000
1.920 - 1.940	1.9300	0.0000	0.1474	0.0000	0.0000
1.940 - 1.960	1.9500	0.0000	0.1474	0.0000	0.0000
1.960 - 1.980	1.9700	0.0000	0.1474	0.0000	0.0000
1.980 - 2.000	1.9900	-0.0000	0.1474	-0.0000	-0.0000
2.000 - 2.020	2.0100	0.0064	0.1538	0.3205	3.1892

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

## Sample Information

Method: Default  
Sample: 4  
Operator:  
Submitter:  
Mass type: Entered  
Sample mass: 0.1910 g  
Density: 1.000 g/cm<sup>3</sup>  
Type of data: Automatically collected  
Instrument type: 2460  
Original instrument type: 2460  
Comments:

## Sample Tube

Sample tube: 1  
Ambient free space: 1.0000 cm<sup>3</sup>  
Analysis free space: 1.0000 cm<sup>3</sup>  
Non-ideality factor: 0.0000620  
Use isothermal jacket: Yes  
Use filler rod: No  
Vacuum seal type: None

## Degas Conditions

Degas conditions: Degas Conditions

### Smart VacPrep evacuation

Backfill sample tube: Automatic  
Evacuation rate: 5.0 mmHg/s  
Unrest. evacuation from: 5.0 mmHg  
Vacuum level: 1.000000e-02 mmHg  
Evacuation time: 10 min  
Temperature ramp rate: 10.0 °C/min  
Target temperature: 30 °C  
Hold pressure: 100 mmHg

### Heating Phase

Sample prep: Stage	Temperature (° C)	Ramp Rate (° C/min)	Time (min)
1	30	10.0	10

## Analysis Conditions

Analysis conditions: Run Conditions  
Isotherm collection: Target Pressure  
Absolute pressure dosing: No

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56  
Completed: 2023/9/18 8:59:51  
Report time: 2023/9/18 9:19:33  
Sample mass: 0.1910 g  
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Low pressure dose: 12.0000 cm<sup>3</sup>/g STP  
Automatic degas: No

Analysis adsorptive: N2  
Analysis bath temp.: -195.850 °C  
Thermal correction: No  
Ambient free space: 27.7427 cm<sup>3</sup> Measured  
Equilibration interval: 20 s  
Sample density: 1.000 g/cm<sup>3</sup>

### Pressure Table

Starting Pressure (P/Po)	Pressure Increment (P/Po)	Ending Pressure (P/Po)
0.010000000	0.020000000	0.050000000
0.050000000	0.040000000	0.300000000
0.300000000	0.050000000	0.995000000
0.995000000	0.050000000	0.010000000

### Preparation

Fast evacuation: No  
Evacuation rate: 5.0 mmHg/s  
Unrestricted evacuation from: 5.0 mmHg  
Vacuum setpoint: 10 µmHg  
Evacuation time: 0.10 h

Leak test: No  
Use TranSeal: No

### Free Space

Measured before analysis  
Lower Dewar for evacuation: Yes  
Evacuation time: 0.10 h  
Outgas test: No

### Po and Temperature

Po type: Measured in Psat tube for each point  
Temperature type: Entered  
Temperature: -195.850 °C

### Dosing

Use first pressure fixed dose: No  
Use maximum volume increment: No  
Target tolerance: 5.0% or 5.000 mmHg  
Low pressure dosing: Yes  
Dose amount: 12.0000 cm<sup>3</sup>/g STP  
Minimum equilibration delay: 0.00 h  
Maximum equilibration delay: 3.00 h  
Maximum number of decants: 6

### Equilibration

	Relative Pressure (P/Po)	Equilibration Interval (s)
1	0.010000000	20
2	1.000000000	10

Minimum equilibration delay at P/Po >= 0.995: 600 s

### Sample Backfill

Backfill at start of analysis: Yes  
Backfill at end of analysis: Yes

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

### Sample Backfill

Backfill gas: N2

## Adsorptive Properties

Adsorptive: Nitrogen @ 77.35 K (N2)  
Non-condensing adsorptive: No  
Maximum manifold pressure: 925.00 mmHg  
Therm. tran. hard-sphere diameter: 0.38600 nm  
Molecular cross-sectional area: 0.162 nm<sup>2</sup>  
Adsorbate molecular weight: 28.01  
Thermal conductivity: 1.00  
Non-ideality factor: 0.0000620  
Density conversion factor: 0.0015468  
Dosing method: Normal

### Psat vs. Temperature Table

	Saturation Pressure (mmHg)	Temperature (° C)
1	600.193	-197.75
2	634.512	-197.30
3	674.383	-196.80
4	720.420	-196.25
5	742.119	-196.00
6	759.833	-195.80
7	777.867	-195.60
8	805.525	-195.30
9	853.268	-194.80
10	903.122	-194.30

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

### Sample Log

Date	Time	Log Message
2023/9/17	10:23:56	Starting a sample analysis for F:\DATA\wangcheng\FXL\BET-20230917\4.SMP on port 4.
2023/9/17	11:35:57	Measured warm freespace: 27.7427 cm <sup>3</sup> (P1: 799.97 mmHg, P2: 583.41 mmHg, Tman: 300.1 K).
2023/9/17	11:45:51	Measured cold freespace: 83.7498 cm <sup>3</sup> (P3: 193.26 mmHg).
2023/9/17	12:12:09	Low pressure data collection started
2023/9/18	1:31:38	Standard data collection started.
2023/9/18	8:47:17	Termination started.
2023/9/18	8:59:51	Finished a sample analysis for F:\DATA\wangcheng\FXL\BET-20230917\4.SMP on port 4.

Sample: 4  
Operator:  
Submitter:  
File: F:\DATA\wangcheng\FXL\BET-20230917\4.SMP

Started: 2023/9/17 10:23:56	Analysis adsorptive: N2
Completed: 2023/9/18 8:59:51	Analysis bath temp.: -195.850 °C
Report time: 2023/9/18 9:19:33	Thermal correction: No
Sample mass: 0.1910 g	Ambient free space: 27.7427 cm <sup>3</sup> Measured
Analysis free space: 83.7498 cm <sup>3</sup>	Equilibration interval: 20 s
Low pressure dose: 12.0000 cm <sup>3</sup> /g STP	Sample density: 1.000 g/cm <sup>3</sup>
Automatic degas: No	

### Validation Report

#### Summary

Isotherm: Warning  
BET: Warning

#### Isotherm Reports

Free Space: Passed

P<sub>0</sub> Passed

Pressure/Quantity adsorbed: Equilibration interval may not be sufficient. Increase the equilibration interval.

Desorption Passed

#### BET Reports

C value: C value is low. Select a new range, removing some of the higher pressure points.

Correlation coefficient: Review the BET plot and see if the correct range has been selected for calculating surface area.

Surface area: Passed

Pressure range: Passed