

## Analysis

Operator: thomas  
 Sample ID: 1223  
 Sample Desc:  
 Sample weight: 0.0418 g  
 Outgas Time: 24.0 hrs  
 Analysis gas: Nitrogen  
 Press. Tolerance: 0.100/0.050 (ads/des)  
 Analysis Time: 656.2 min  
 Cell ID: 0

Date: 2025/07/03

Filename: 896\_FZM\_0030 not calc.qps  
 Comment:  
 Sample Volume: 1 cc  
 Outgas Temp: 120.0 C  
 Bath Temp: 273.0 K  
 Equil time: 180/180 sec (ads/des)  
 End of run: 2025/07/03 15:57:29

## Report

Operator: thomas  
 896\_FZM\_0030 not calc.qps

Date: 2025/07/17

Equil timeout: 1200/480 sec (ads/des)  
 Instrument: Nova Station A

## Data Reduction Parameters

t-Method  
 BJH/DH method  
 Adsorbate

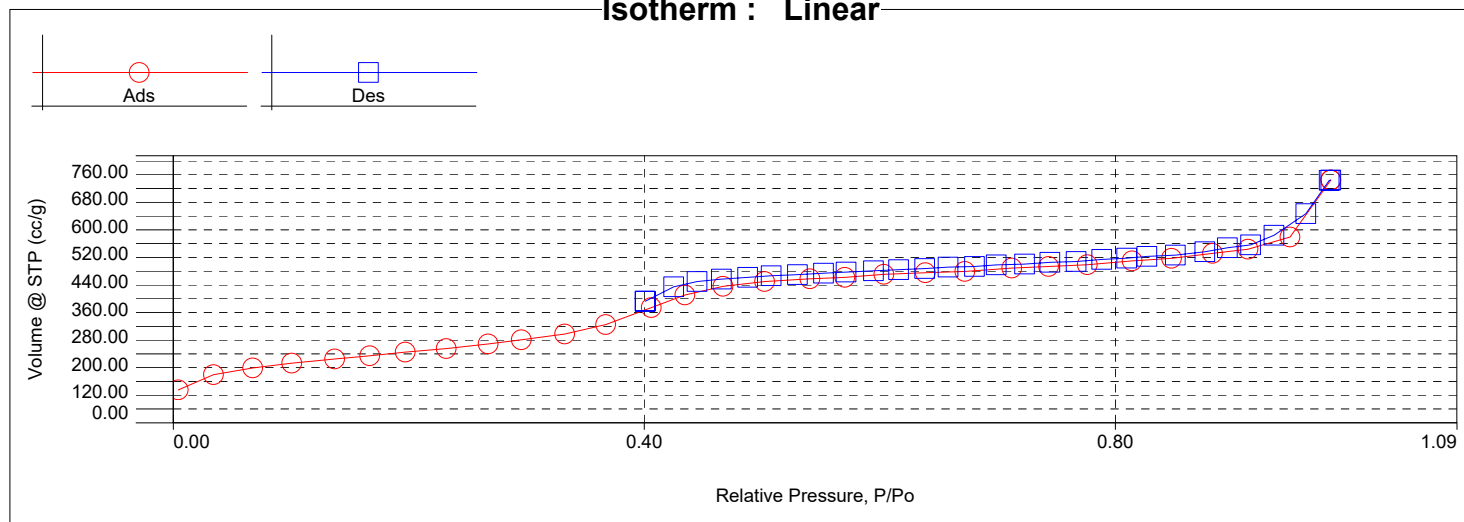
Calc. method: de Boer  
 Moving pt. avg.: off  
 Nitrogen  
 Molec. Wt.: 28.013

Ignoring P-tags below 0.35 P/Po

Temperature 77.350K  
 Cross Section: 16.200 Å<sup>2</sup>

Liquid Density: 0.808 g/cc

## Isotherm : Linear



## Isotherm

Relative Pressure	Volume @ STP [cc/g]	Relative Pressure	Volume @ STP [cc/g]	Relative Pressure	Volume @ STP [cc/g]
4.29800e-03	95.3140	6.72153e-01	439.3887	7.66677e-01	467.8961
3.42550e-02	139.8803	7.12078e-01	448.9948	7.44424e-01	465.9456
6.75020e-02	159.0352	7.43299e-01	453.8441	7.22974e-01	460.8194
1.00707e-01	173.1352	7.76253e-01	458.7274	6.98841e-01	458.2453
1.37070e-01	185.1528	8.14282e-01	470.1858	6.80326e-01	453.8671
1.66919e-01	194.5067	8.47659e-01	477.2436	6.58022e-01	451.6207
1.97161e-01	205.0767	8.82537e-01	491.8860	6.38163e-01	447.5886
2.31827e-01	215.2222	9.12700e-01	503.6788	6.15998e-01	444.3528
2.67437e-01	228.8734	9.48245e-01	539.3221	5.94579e-01	441.0323
2.95672e-01	241.0807	9.82856e-01	704.4755	5.71324e-01	437.3119
3.32402e-01	257.6945	9.81545e-01	703.4513	5.52144e-01	434.3100
3.67262e-01	284.8662	9.61777e-01	606.9839	5.30026e-01	429.9842
4.06019e-01	334.4593	9.34757e-01	544.1990	5.07823e-01	426.7217
4.34540e-01	371.0625	9.14730e-01	516.4540	4.87860e-01	421.9430
4.66888e-01	396.0995	8.95158e-01	508.3008	4.65440e-01	417.1297
5.02202e-01	410.2615	8.75942e-01	496.4064	4.44855e-01	410.1269
5.40608e-01	418.0766	8.50940e-01	486.7208	4.24954e-01	394.9345
5.70251e-01	422.2480	8.26691e-01	482.7776	4.00794e-01	352.8521
6.03482e-01	430.6750	8.09632e-01	477.6337		
6.38735e-01	435.5933	7.88419e-01	474.2966		

## MBET summary

Slope = 4.508  
 Intercept = 6.861e-02  
 Correlation coefficient, r = 0.999853  
 C constant = 66.712

Surface Area = 760.859 m<sup>2</sup>/g

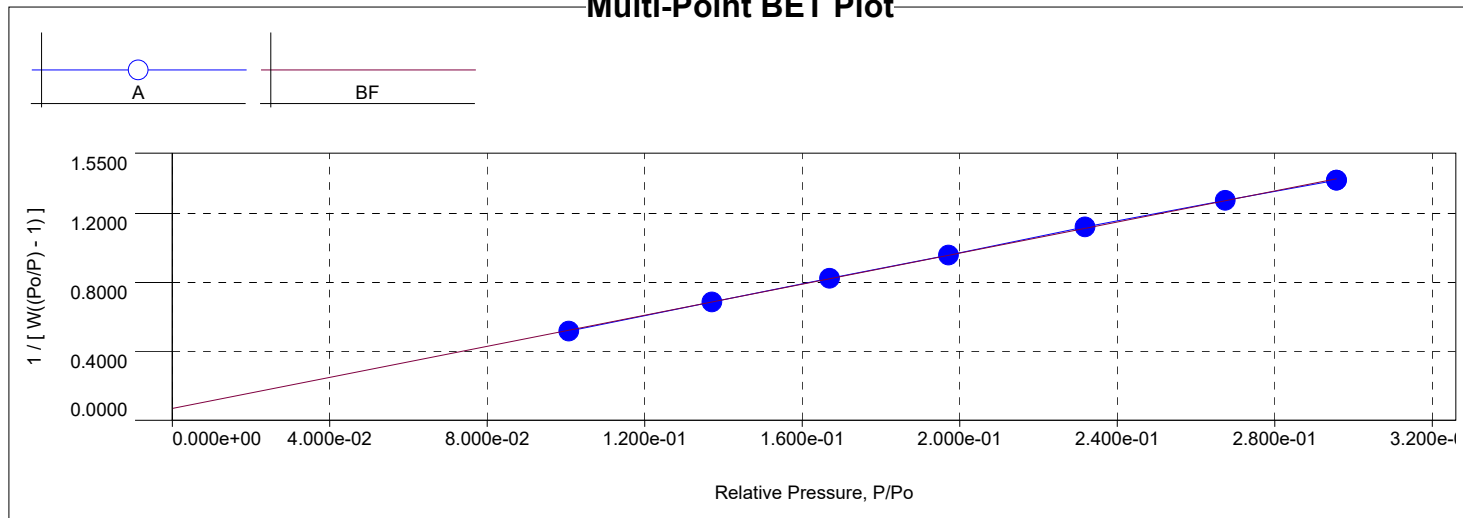
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 Operator: thomas  
 896\_FZM\_0030 not calc.qps

Date: 2025/07/03  
 Filename:

Date: 2025/07/17

### Multi-Point BET Plot



### Multi-Point BET

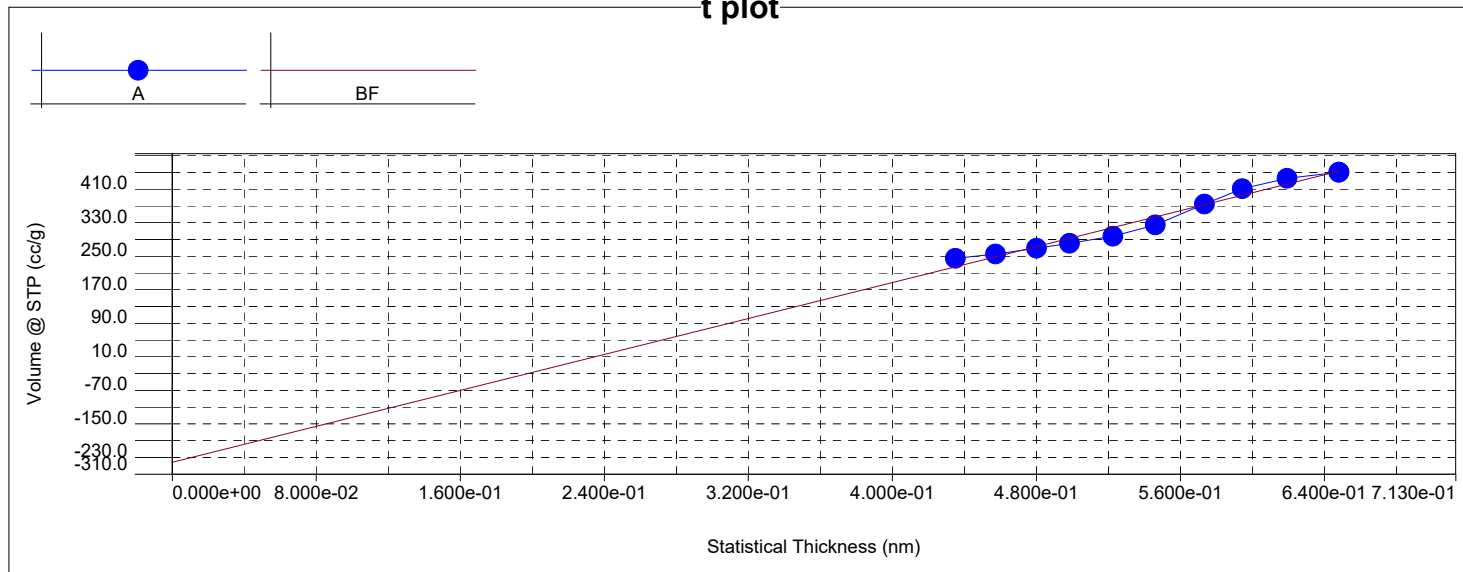
Relative Pressure [P/Po]	Volume @ STP [cc/g]	1 / [ W((Po/P) - 1) ]	Relative Pressure [P/Po]	Volume @ STP [cc/g]	1 / [ W((Po/P) - 1) ]
1.00707e-01	173.1352	5.1752e-01	2.31827e-01	215.2222	1.1219e+00
1.37070e-01	185.1528	6.8642e-01	2.67437e-01	228.8734	1.2762e+00
1.66919e-01	194.5067	8.2420e-01	2.95672e-01	241.0807	1.3932e+00
1.97161e-01	205.0767	9.5813e-01			

### V-t method summary

Thickness method: DeBoer  
 Slope = 107.168  
 Intercept = -281.542  
 Correlation coefficient, r = 0.982784

Micropore volume = 0.000 cc/g  
 Micropore area = 0.000 m²/g  
 External surface area = 760.859 m²/g

### t plot



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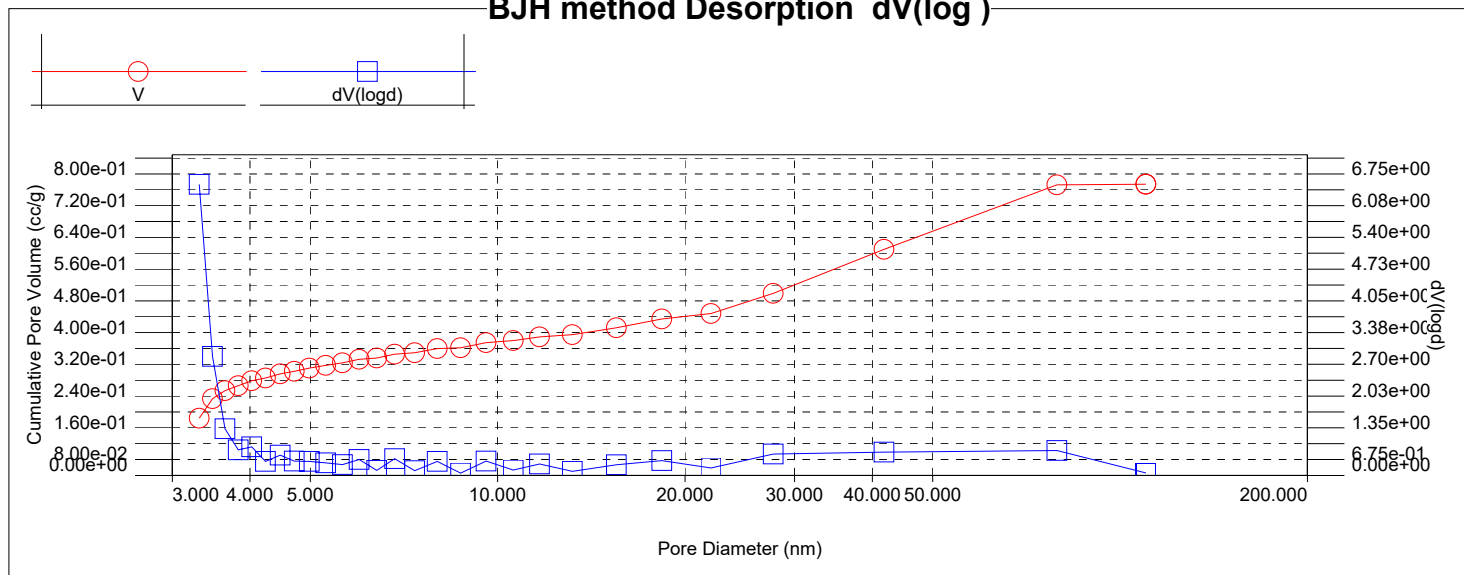
### t-Plot Method Micropore Analysis

Relative Pressure	Thickness [(nm)]	Volume @ STP [(cc/g)]	Relative Pressure	Thickness [(nm)]	Volume @ STP [(cc/g)]
1.971610e-01	4.3504e-01	205.077	3.672620e-01	5.4615e-01	284.866
2.318270e-01	4.5735e-01	215.222	4.060190e-01	5.7343e-01	334.459
2.674370e-01	4.8017e-01	228.873	4.345400e-01	5.9440e-01	371.062
2.956720e-01	4.9840e-01	241.081	4.668880e-01	6.1928e-01	396.100
3.324020e-01	5.2255e-01	257.695	5.022020e-01	6.4805e-01	410.261

### BJH desorption summary

Surface Area = 387.795 m<sup>2</sup>/g  
Pore Volume = 0.734 cc/g  
Pore Diameter Dv(d) = 3.316 nm

### BJH method Desorption dV(logd)



### Desorption

Diameter [nm]	Pore Volume [cc/g]	Pore Surf Area [m <sup>2</sup> /g]	dV(d) [cc/nm/g]	dS(d) [m <sup>2</sup> /nm/g]	dV(logd) [cc/g]	dS(logd) [cc/g]
3.3156	1.4437e-01	1.7418e+02	8.1145e-01	9.7896e+02	6.1935e+00	7.4720e+03
3.4825	1.9359e-01	2.3070e+02	3.1572e-01	3.6263e+02	2.5312e+00	2.9074e+03
3.6460	2.1381e-01	2.5289e+02	1.1809e-01	1.2956e+02	9.9123e-01	1.0875e+03
3.8314	2.2606e-01	2.6568e+02	6.1394e-02	6.4095e+01	5.4151e-01	5.6533e+02
4.0266	2.3858e-01	2.7811e+02	6.5622e-02	6.5189e+01	6.0830e-01	6.0429e+02
4.2361	2.4560e-01	2.8475e+02	3.0757e-02	2.9043e+01	2.9994e-01	2.8322e+02
4.4739	2.5597e-01	2.9402e+02	4.1944e-02	3.7500e+01	4.3198e-01	3.8622e+02
4.7138	2.6249e-01	2.9955e+02	2.8039e-02	2.3793e+01	3.0427e-01	2.5819e+02
4.9842	2.7051e-01	3.0598e+02	2.6006e-02	2.0871e+01	2.9837e-01	2.3945e+02
5.2951	2.7742e-01	3.1121e+02	2.2054e-02	1.6660e+01	2.6882e-01	2.0307e+02
5.6318	2.8382e-01	3.1575e+02	1.7785e-02	1.2632e+01	2.3056e-01	1.6375e+02
5.9911	2.9268e-01	3.2167e+02	2.4712e-02	1.6499e+01	3.4080e-01	2.2754e+02
6.3961	2.9599e-01	3.2374e+02	7.3279e-03	4.5827e+00	1.0788e-01	6.7464e+01
6.8328	3.0552e-01	3.2931e+02	2.2586e-02	1.3222e+01	3.5523e-01	2.0796e+02
7.3578	3.0922e-01	3.3133e+02	5.8986e-03	3.2067e+00	9.9873e-02	5.4295e+01
7.9977	3.1973e-01	3.3658e+02	1.6119e-02	8.0619e+00	2.9668e-01	1.4838e+02
8.7208	3.2173e-01	3.3750e+02	2.5157e-03	1.1539e+00	5.0481e-02	2.3154e+01
9.5826	3.3456e-01	3.4286e+02	1.3818e-02	5.7681e+00	3.0466e-01	1.2717e+02
10.5969	3.3971e-01	3.4480e+02	4.6812e-03	1.7670e+00	1.1412e-01	4.3076e+01
11.6820	3.4937e-01	3.4811e+02	9.0225e-03	3.0894e+00	2.4252e-01	8.3042e+01
13.1793	3.5490e-01	3.4979e+02	2.8753e-03	8.7268e-01	8.7101e-02	2.6436e+01

Continued on next page

<b>Analysis</b>		<b>Report</b>		
<b>Operator:</b>	thomas	<b>Operator:</b>	thomas	<b>Date:</b> 2025/07/17
<b>Sample ID:</b>	1223	<b>Filename:</b>	896_FZM_0030 not calc.qps	

## Desorption continued

Diameter	Pore Volume	Pore Surf Area	dV(d)	dS(d)	dV(logd)	dS(logd)
[nm]	[cc/g]	[m <sup>2</sup> /g]	[cc/nm/g]	[m <sup>2</sup> /nm/g]	[cc/g]	[cc/g]
15.5110	3.7229e-01	3.5427e+02	6.3502e-03	1.6376e+00	2.2621e-01	5.8335e+01
18.3609	3.9439e-01	3.5908e+02	7.4625e-03	1.6257e+00	3.1481e-01	6.8583e+01
22.0139	4.0804e-01	3.6157e+02	3.1415e-03	5.7081e-01	1.5872e-01	2.8840e+01
27.7226	4.5883e-01	3.6889e+02	7.1824e-03	1.0363e+00	4.5598e-01	6.5792e+01
41.7705	5.6983e-01	3.7952e+02	5.2798e-03	5.0560e-01	4.9690e-01	4.7584e+01
79.1894	7.3236e-01	3.8773e+02	3.0202e-03	1.5256e-01	5.2881e-01	2.6711e+01
110.0632	7.3406e-01	3.8780e+02	2.1363e-04	7.7638e-03	5.4116e-02	1.9667e+00