

## Analysis

Operator: thomas  
Sample ID: 1224  
Sample Desc:  
Sample weight: 0.0521 g  
Outgas Time: 24.0 hrs  
Analysis gas: Nitrogen  
Press. Tolerance: 0.100/0.050 (ads/des)  
Analysis Time: 544.1 min  
Cell ID: 0

Date: 2025/07/04

Filename: 897\_AI\_MCM\_41.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: 2025/07/04 3:21:16

## Report

Operator: thomas  
897\_AI\_MCM\_41.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

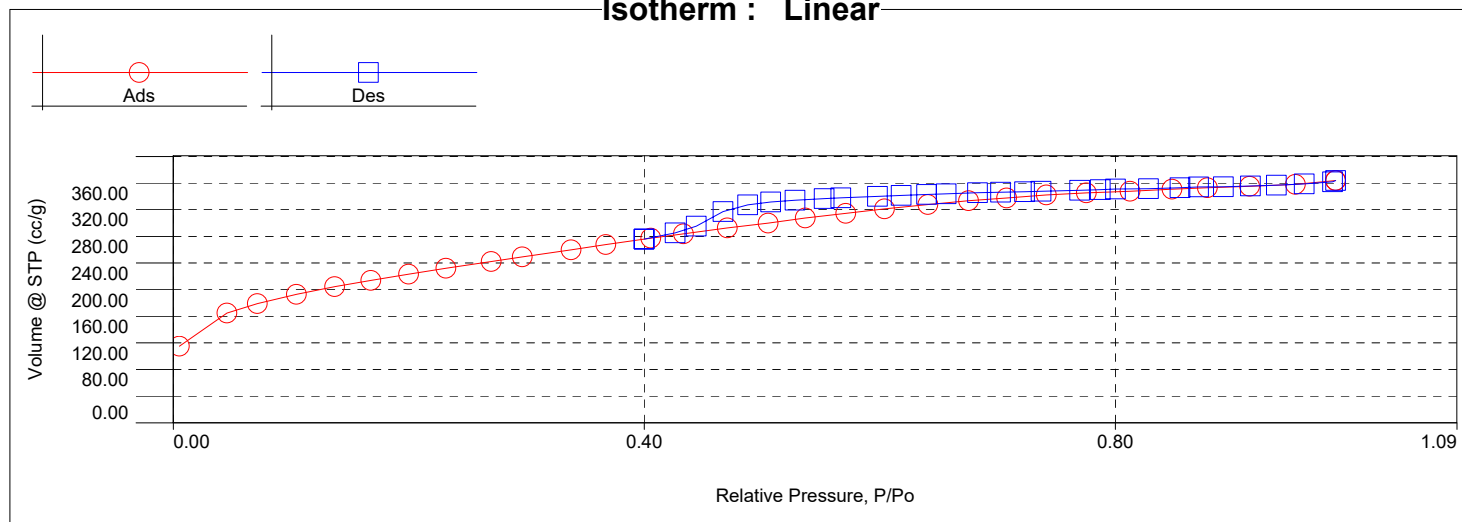
Calc. method: de Boer  
Moving pt. avg.: off  
Nitrogen  
Molec. Wt.: 28.013

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]
5.32200e-03	115.1589	6.75323e-01	333.6796	7.69698e-01	349.2507
4.55840e-02	164.8246	7.07733e-01	337.7710	7.36916e-01	347.7097
7.14110e-02	178.9323	7.41401e-01	342.2722	7.22936e-01	347.0190
1.04542e-01	192.8580	7.75363e-01	345.3203	7.02546e-01	346.2821
1.37092e-01	204.4569	8.12541e-01	347.6997	6.82950e-01	345.5308
1.67782e-01	213.7483	8.48022e-01	350.9166	6.56344e-01	343.9920
1.99929e-01	223.1218	8.78129e-01	352.9583	6.39824e-01	342.8798
2.31601e-01	232.0547	9.14074e-01	355.3087	6.18121e-01	341.5840
2.70085e-01	242.2847	9.52813e-01	358.0121	5.97998e-01	340.1754
2.96480e-01	249.1505	9.86966e-01	363.8439	5.66897e-01	337.9671
3.37860e-01	259.6787	9.84390e-01	361.9254	5.52814e-01	336.6962
3.67338e-01	267.6977	9.60338e-01	358.8984	5.28076e-01	334.3479
4.05578e-01	277.2898	9.36680e-01	356.9372	5.07309e-01	331.7804
4.33347e-01	283.7076	9.14658e-01	355.6664	4.87765e-01	327.3507
4.70484e-01	292.7702	8.91632e-01	354.5890	4.66864e-01	317.2131
5.05209e-01	299.9648	8.70684e-01	354.2335	4.44100e-01	295.3766
5.36787e-01	307.5230	8.54969e-01	353.0721	4.26236e-01	285.3023
5.71155e-01	314.5203	8.28141e-01	351.6508	3.99852e-01	275.7989
6.04026e-01	321.4192	8.00111e-01	351.2035		
6.40897e-01	327.7523	7.87276e-01	350.2987		

## MBET summary

Slope = 4.366  
Intercept = 2.508e-02  
Correlation coefficient, r = 0.999764  
C constant = 175.053  
Surface Area = 793.157 m<sup>2</sup>/g

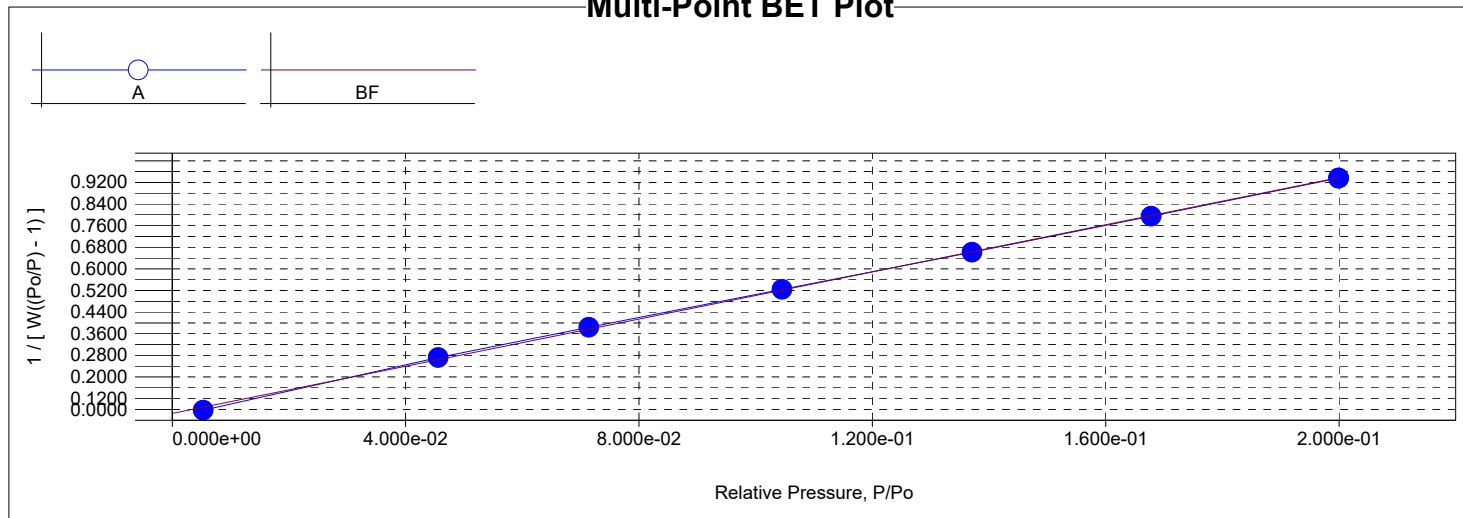
**Analysis**  
 Operator: thomas  
 Sample ID: 1224

**Report**  
 Operator: thomas  
 897\_AI\_MCM\_41.qps

Date: 2025/07/04  
 Filename:

Date: 2025/07/17

### Multi-Point BET Plot



### Multi-Point BET

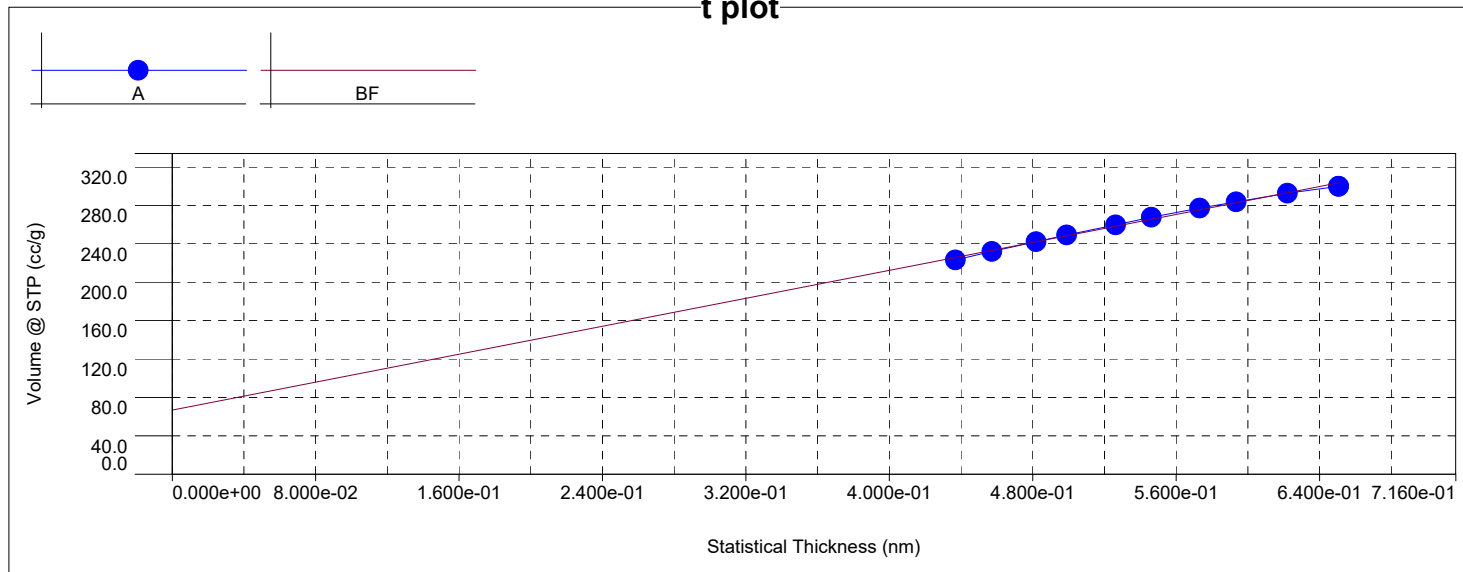
Relative Pressure [P/Po]	Volume @ STP [cc/g]	1 / [ W((Po/P) - 1) ]	Relative Pressure [P/Po]	Volume @ STP [cc/g]	1 / [ W((Po/P) - 1) ]
5.32200e-03	115.1589	3.7175e-02	1.37092e-01	204.4569	6.2172e-01
4.55840e-02	164.8246	2.3185e-01	1.67782e-01	213.7483	7.5467e-01
7.14110e-02	178.9323	3.4388e-01	1.99929e-01	223.1218	8.9610e-01
1.04542e-01	192.8580	4.8435e-01			

### V-t method summary

Thickness method: DeBoer  
 Slope = 36.394  
 Intercept = 66.734  
 Correlation coefficient, r = 0.997286

Micropore volume = 0.103 cc/g  
 Micropore area = 230.212 m<sup>2</sup>/g  
 External surface area = 562.945 m<sup>2</sup>/g

### t plot



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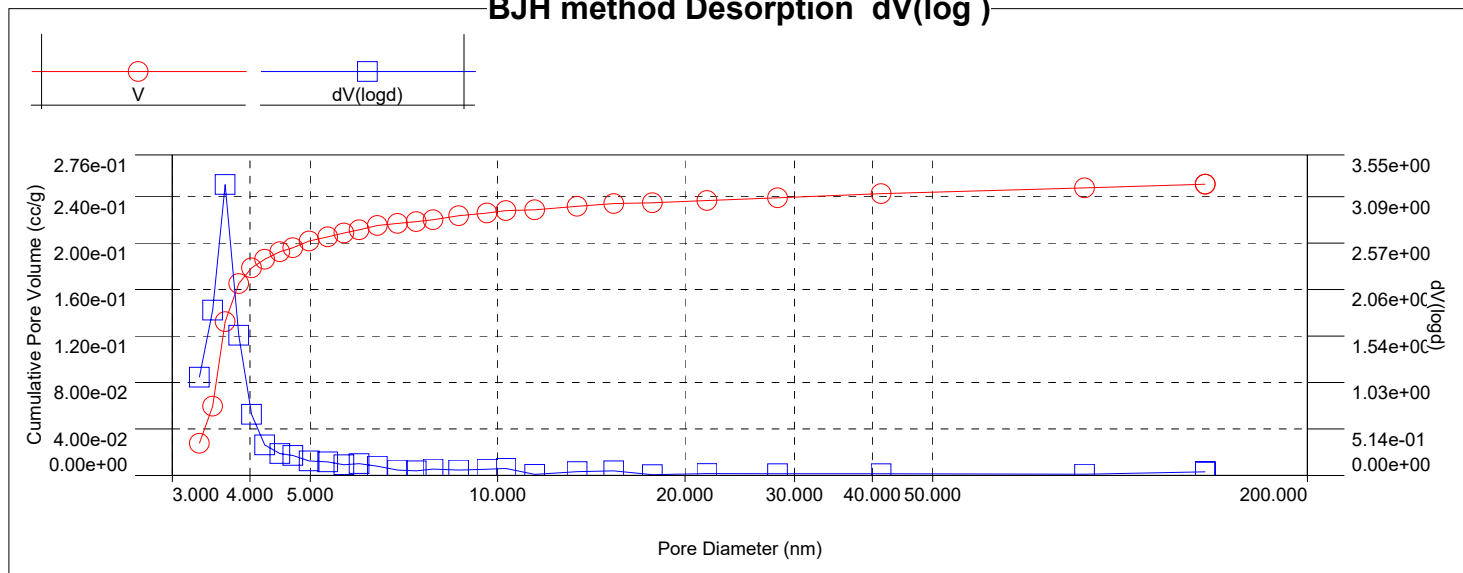
### t-Plot Method Micropore Analysis

Relative Pressure	Thickness [(nm)]	Volume @ STP [(cc/g)]	Relative Pressure	Thickness [(nm)]	Volume @ STP [(cc/g)]
1.999290e-01	4.3684e-01	223.122	3.673380e-01	5.4620e-01	267.698
2.316010e-01	4.5721e-01	232.055	4.055780e-01	5.7312e-01	277.290
2.700850e-01	4.8187e-01	242.285	4.333470e-01	5.9350e-01	283.708
2.964800e-01	4.9893e-01	249.151	4.704840e-01	6.2213e-01	292.770
3.378600e-01	5.2620e-01	259.679	5.052090e-01	6.5059e-01	299.965

### BJH desorption summary

Surface Area = 236.305 m<sup>2</sup>/g  
Pore Volume = 0.251 cc/g  
Pore Diameter Dv(d) = 3.649 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]
3.3171	2.7693e-02	3.3395e+01	1.4245e-01	1.7178e+02	1.0877e+00	1.3117e+03
3.4843	5.9624e-02	7.0051e+01	2.2804e-01	2.6179e+02	1.8293e+00	2.1000e+03
3.6491	1.3233e-01	1.4975e+02	3.8354e-01	4.2042e+02	3.2219e+00	3.5317e+03
3.8371	1.6508e-01	1.8389e+02	1.7564e-01	1.8310e+02	1.5515e+00	1.6174e+03
4.0236	1.7869e-01	1.9742e+02	7.2994e-02	7.2566e+01	6.7614e-01	6.7218e+02
4.2232	1.8607e-01	2.0441e+02	3.4696e-02	3.2863e+01	3.3732e-01	3.1950e+02
4.4674	1.9254e-01	2.1021e+02	2.3460e-02	2.1005e+01	2.4125e-01	2.1601e+02
4.6901	1.9601e-01	2.1316e+02	2.0458e-02	1.7448e+01	2.2091e-01	1.8840e+02
4.9806	2.0176e-01	2.1778e+02	1.3971e-02	1.1220e+01	1.6013e-01	1.2860e+02
5.3355	2.0539e-01	2.2050e+02	1.2181e-02	9.1321e+00	1.4961e-01	1.1216e+02
5.6625	2.0863e-01	2.2279e+02	9.0918e-03	6.4224e+00	1.1850e-01	8.3711e+01
5.9895	2.1143e-01	2.2466e+02	9.4108e-03	6.2849e+00	1.2976e-01	8.6659e+01
6.4087	2.1520e-01	2.2701e+02	6.9701e-03	4.3504e+00	1.0279e-01	6.4159e+01
6.9064	2.1689e-01	2.2799e+02	3.7244e-03	2.1571e+00	5.9205e-02	3.4290e+01
7.4024	2.1851e-01	2.2887e+02	3.0091e-03	1.6260e+00	5.1266e-02	2.7703e+01
7.8775	2.2009e-01	2.2967e+02	3.8232e-03	1.9413e+00	6.9332e-02	3.5205e+01
8.6607	2.2352e-01	2.3126e+02	2.9783e-03	1.3756e+00	5.9305e-02	2.7391e+01
9.6155	2.2588e-01	2.3224e+02	3.1174e-03	1.2968e+00	6.8986e-02	2.8698e+01
10.3096	2.2792e-01	2.3303e+02	3.2310e-03	1.2536e+00	7.6675e-02	2.9749e+01
11.4716	2.2870e-01	2.3330e+02	4.5626e-04	1.5909e-01	1.2030e-02	4.1947e+00
13.4193	2.3164e-01	2.3418e+02	1.3364e-03	3.9835e-01	4.1201e-02	1.2281e+01

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<b>Analysis</b>			<b>Report</b>		
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<b>Sample ID:</b>	1224	<b>Filename:</b>	897_AI_MCM_41.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]
15.3703	2.3405e-01	2.3480e+02	1.4175e-03	3.6889e-01	5.0115e-02	1.3042e+01
17.7206	2.3466e-01	2.3494e+02	2.0503e-04	4.6280e-02	8.3458e-03	1.8839e+00
21.6943	2.3670e-01	2.3532e+02	4.1139e-04	7.5853e-02	2.0461e-02	3.7726e+00
28.1677	2.3903e-01	2.3565e+02	2.9166e-04	4.1418e-02	1.8789e-02	2.6682e+00
41.3091	2.4250e-01	2.3598e+02	1.8994e-04	1.8392e-02	1.7768e-02	1.7205e+00
87.7244	2.4754e-01	2.3621e+02	6.7540e-05	3.0796e-03	1.2778e-02	5.8263e-01
137.1067	2.5067e-01	2.3630e+02	1.2945e-04	3.7765e-03	4.0760e-02	1.1891e+00