

Sample: BŚ-Mxene-10mL FULL

Operator:

Submitter:

File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
S... \BŚ-Mxene-10mL FULL.SMP

Started:	11.05.2022 09:46:05	Analysis adsorptive:	N2
Completed:	12.05.2022 00:08:29	Analysis bath temp.:	77,300 K
Report time:	19.10.2023 09:11:55	Thermal correction:	Yes
Sample mass:	0,2280 g	Ambient free space:	27,1952 cm ³ Entered
Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Summary Report

Surface Area

BET Surface Area: 2,7959 m²/gt-Plot Micropore Area: 3,7714 m²/gt-Plot external surface area: -0,9755 m²/g

DFT Pore Size

Volume in Pores	<	1,308 nm	0,00064 cm ³ /g
Total Volume in Pores	<=	18,466 nm	0,00077 cm ³ /g
Area in Pores	>	18,466 nm	0,000 m ² /g
Total Area in Pores	>=	1,308 nm	0,141 m ² /g

Horvath-Kawazoe

Maximum pore volume at p/p° = 0,110060194: 0,001066 cm³/g

Median pore width: 1,1572 nm

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Isotherm Tabular Report

Relative Pressure (p/p°)	Absolute Pressure (kPa)	Quantity Adsorbed (cm ³ /g STP)	Elapsed Time (h:min)	Saturation Pressure (kPa)
			04:49	101.0062269
0.001720431	0.1736421	0.2870	05:23	100.9294591
0.003802328	0.3836710	0.3673	05:48	100.9042414
0.006096206	0.6146592	0.4153	06:13	100.8265134
0.008443407	0.8510273	0.4491	06:36	100.7919216
0.010915375	1.0999680	0.4769	07:02	100.7723512
0.059923867	6.0318886	0.6527	10:22	100.6592013
0.110060194	11.0796181	0.6892	10:27	100.6687139
0.160087720	16.1158913	0.6847	10:33	100.6691289
0.229595411	23.1112700	0.6515	10:38	100.6608532
0.279692382	28.1500271	0.6181	10:43	100.6463850
0.329623392	33.1724953	0.5784	10:49	100.6375641
0.379583958	38.1999354	0.5299	10:54	100.6363272
0.429526962	43.2244745	0.4716	11:00	100.6327386
0.479410438	48.2488794	0.4210	11:05	100.6421129
0.529317454	53.2792164	0.3653	11:10	100.6564509
0.579188777	58.3142486	0.3280	11:16	100.6826288
0.629248507	63.3553513	0.2953	11:21	100.6841504
0.679185864	68.3807204	0.2835	11:27	100.6804235
0.729055012	73.4027777	0.3018	11:32	100.6820836
0.778939528	78.4233214	0.3751	11:37	100.6796017
0.828683758	83.4354348	0.5382	11:43	100.6842888
0.859612972	86.5540185	0.7211	11:48	100.6895211
0.908845787	91.5145085	1.3527	11:54	100.6931097
0.956148400	96.2733387	3.5714	12:01	100.6886992
0.990703990	99.7106382	13.1628	12:15	100.6462467
0.901194867	90.7090896	1.8247	12:23	100.6542457
0.777485554	78.2891527	0.6871	12:29	100.6953149
0.676230254	68.0769083	0.4989	12:34	100.6711958
0.575550678	57.9534302	0.4670	12:40	100.6921413
0.475588434	47.8977200	0.3847	12:45	100.7125417
0.375191894	37.7885962	0.5002	12:51	100.7180507
0.275182298	27.7091494	0.6001	12:56	100.6937932
0.175159098	17.6334274	0.6705	13:01	100.6709191
0.130266416	13.1121551	0.6656	13:07	100.6564509

Sample: BŚ-Mxene-10mL FULL

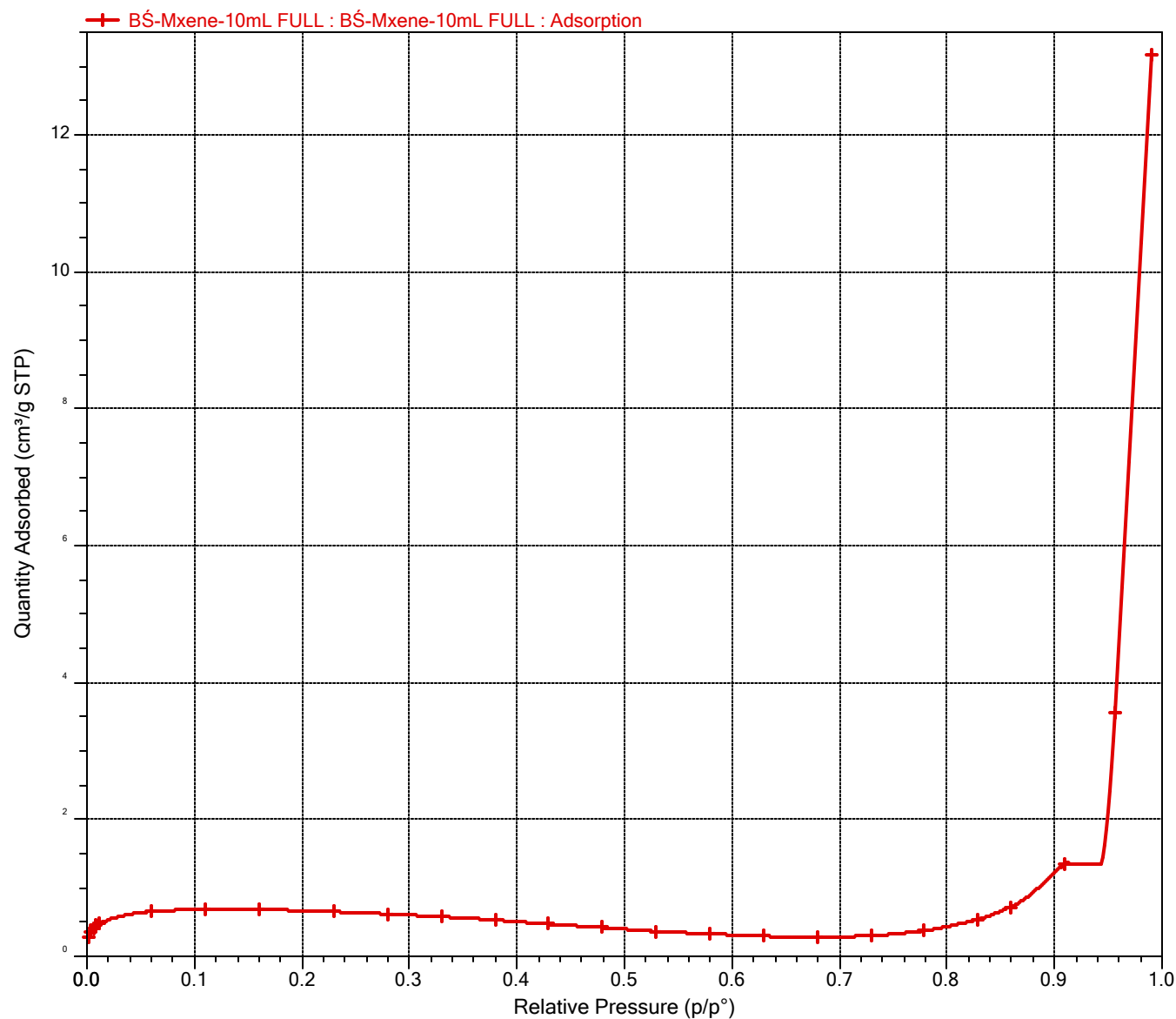
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Automatic degas:	No		

Isotherm Linear Plot



Sample: BŚ-Mxene-10mL FULL

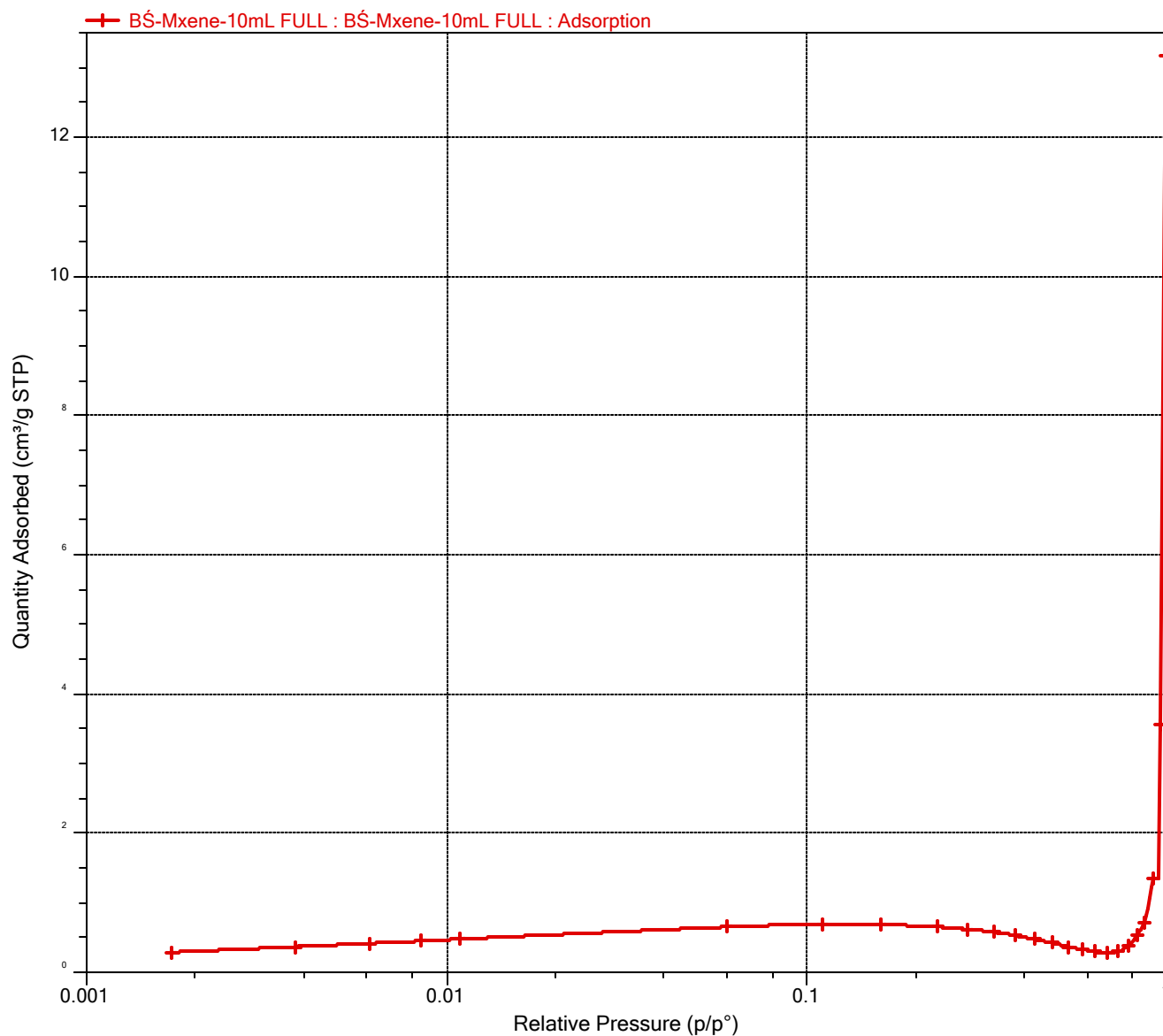
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Isotherm Log Plot



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Automatic degas:	No		

BET Report

BET surface area: 2,7959 ± 0,0421 m²/g
 Slope: 1,551783 ± 0,023442 g/cm³ STP
 Y-intercept: 0,004979 ± 0,000593 g/cm³ STP
 C: 312,694879
 Qm: 0,6424 cm³/g STP
 Correlation coefficient: 0,9995439
 Molecular cross-sectional area: 0,1620 nm²

Relative Pressure (p/p°)	Quantity Adsorbed (cm ³ /g STP)	1/[Q(p°/p - 1)]
0.001720431	0.2870	0.006006
0.003802328	0.3673	0.010390
0.006096206	0.4153	0.014770
0.008443407	0.4491	0.018960
0.010915375	0.4769	0.023139
0.059923867	0.6527	0.097665

Sample: BŚ-Mxene-10mL FULL

Operator:

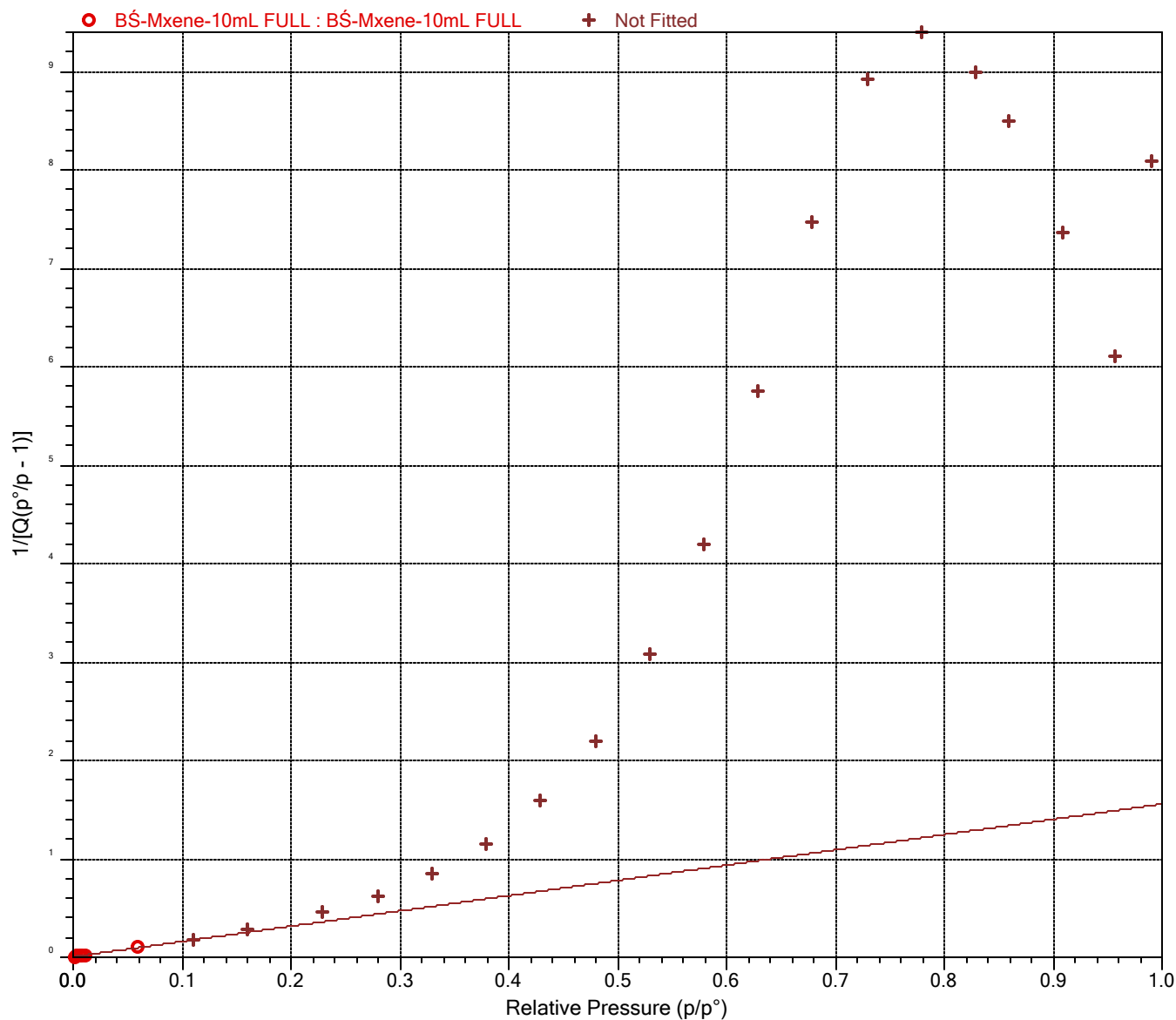
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Low pressure dose: 1,0000 cm³/g STP
Automatic degas: No

Analysis adsorptive: N2
Analysis bath temp.: 77,300 K
Thermal correction: Yes
Ambient free space: 27,1952 cm³ Entered
Equilibration interval: 30 s
Sample density: 1,000 g/cm³

BET Surface Area Plot



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Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

t-Plot Report

Micropore volume:	0,001439 cm ³ /g
Micropore area:	3,7714 m ² /g
External surface area:	-0,9755 m ² /g
Slope:	-0,630654 ± 0,115344 cm ³ /g-nm STP
Y-intercept:	0,930416 ± 0,049558 cm ³ /g STP
Correlation coefficient:	-0,968139
Surface area correction factor:	1,000
Density conversion factor:	0,0015468
Total surface area (BET):	2,7959 m ² /g
Thickness range:	0,35000 to 0,50000 nm
Thickness equation:	Carbon Black STSA

Thickness Curve

$$t = 2.98 + 6.45 (p/p^\circ) + 0.88 (p/p^\circ)^2$$

t-Plot Report - Data

Relative Pressure (p/p°)	Statistical Thickness (nm)	Quantity Adsorbed (cm ³ /g STP)	Fitted
0.059923867	0.33697	0.6527	
0.110060194	0.37005	0.6892	
0.160087720	0.40351	0.6847	
0.229595411	0.45073	0.6515	
0.279692382	0.48529	0.6181	
0.329623392	0.52017	0.5784	
0.379583958	0.55551	0.5299	
0.429526962	0.59128	0.4716	
0.479410438	0.62745	0.4210	
0.529317454	0.66407	0.3653	
0.579188777	0.70110	0.3280	
0.629248507	0.73871	0.2953	
0.679185864	0.77667	0.2835	

Sample: BŚ-Mxene-10mL FULL

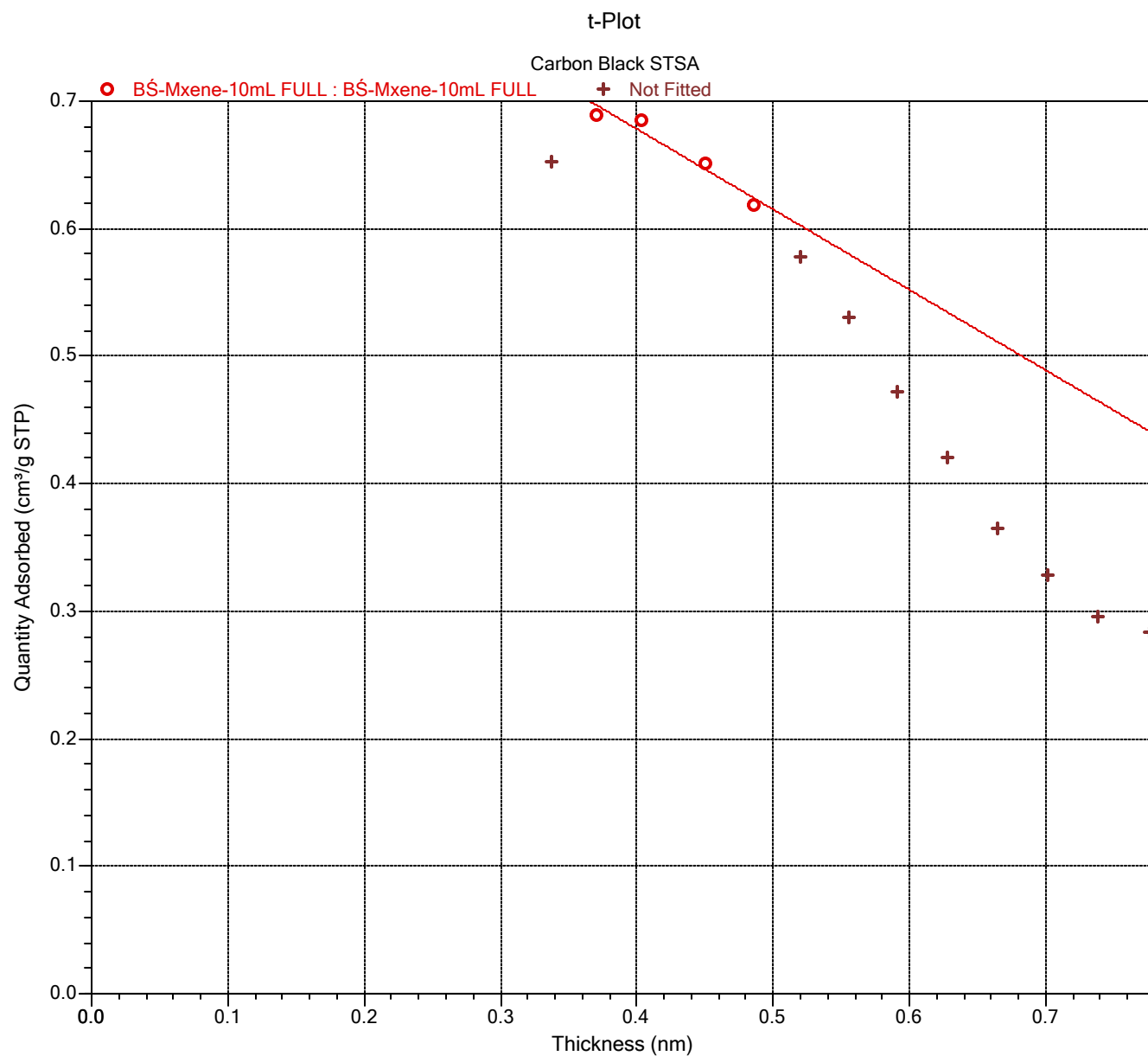
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Automatic degas: No

Analysis adsorptive: N2
Analysis bath temp.: 77,300 K
Thermal correction: Yes
Ambient free space: 27,1952 cm³ Entered
Equilibration interval: 30 s
Sample density: 1,000 g/cm³



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Automatic degas:	No		

Horvath-Kawazoe Report

Cylinder Pore Geometry (Saito-Foley)

Maximum pore volume:	0,001066 cm ³ /g
at Relative Pressure:	0,110060194
Median pore width:	1,1572 nm
Relative pressure range:	1e-09 to 0.18

Diameter of adsorptive molecule:	0,3000 nm
Adsorptive density:	6.710e+14 molecules/cm ²
Adsorptive dispersion constant:	7.777e-59
Diameter of sample atom:	0,3400 nm
Sample Density:	3.845e+15 molecules/cm ²
Sample dispersion constant:	6.036e-59

Density conversion factor:	0,0015468
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Absolute Pressure (kPa)	Relative Pressure (p/p°)	Quantity Adsorbed (cm ³ /g STP)	Pore Width (nm)	Cumulative Pore Volume (cm ³ /g)	Smoothed Differential Pore Volume (cm ³ /g·nm)
0.17364	0.001720431	0.28695	1.077	0.0004	0.0012
0.38367	0.003802328	0.36735	1.191	0.0006	0.0010
0.61466	0.006096206	0.41527	1.275	0.0006	0.0008
0.85103	0.008443407	0.44911	1.342	0.0007	0.0008
1.09997	0.010915375	0.47694	1.401	0.0007	0.0007
6.03189	0.059923867	0.65267	2.056	0.0010	0.0002
11.07962	0.110060194	0.68922	2.525	0.0011	-0.0000
16.11589	0.160087720	0.68468	2.966	0.0011	-0.0000

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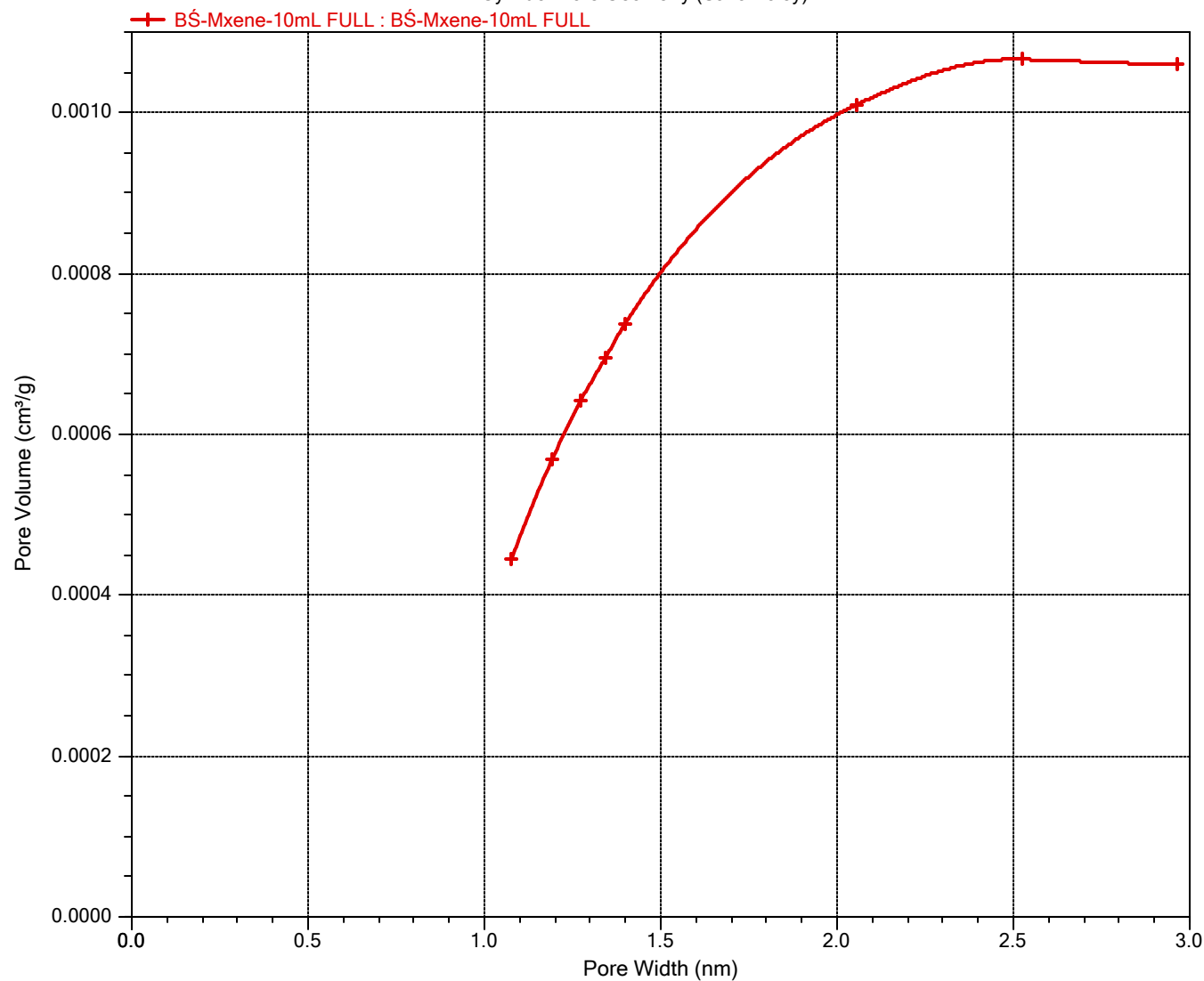
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Automatic degas:	No		

Horvath-Kawazoe Cumulative Pore Volume Plot

Cylinder Pore Geometry (Saito-Foley)



Sample: BŚ-Mxene-10mL FULL

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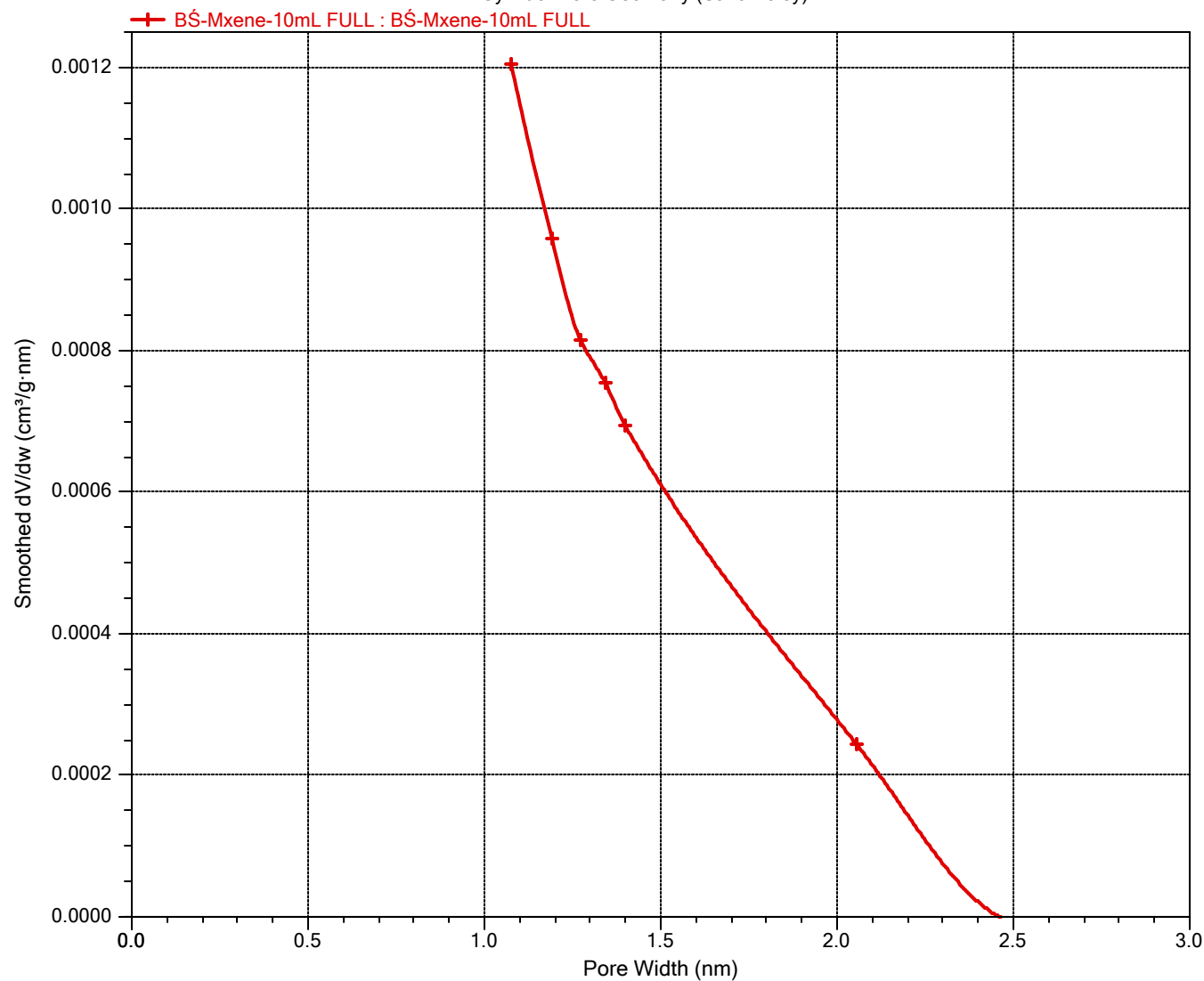
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 Thermal correction: Yes
 Ambient free space: 27,1952 cm³ Entered
 Equilibration interval: 30 s
 Sample density: 1,000 g/cm³

Horvath-Kawazoe Differential Pore Volume Plot

Cylinder Pore Geometry (Saito-Foley)



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Automatic degas:	No		

Porosity Distribution by
Model: N2 - Cylindrical Pores - Oxide Surface
Method: Non-negative Regularization: 0,01000
Standard Deviation of Fit: 0,14209 cm³/g STP

Volume in Pores	<	1,308 nm	0,00064 cm ³ /g
Total Volume in Pores	<=	18,466 nm	0,00077 cm ³ /g
Area in Pores	>	18,466 nm	0,000 m ² /g
Total Area in Pores	>=	1,308 nm	0,141 m ² /g

Pore Width (nm)	Cumulative Pore Volume (cm ³ /g)	Incremental Pore Volume (cm ³ /g)	Cumulative Pore Area (m ² /g)	Incremental Pore Area (m ² /g)
1.308	0.00064	0.00000	0.000	0.000
1.344	0.00064	0.00000	0.000	0.000
1.380	0.00064	0.00000	0.000	0.000
1.416	0.00064	0.00000	0.000	0.000
1.451	0.00064	0.00000	0.000	0.000
1.487	0.00064	0.00000	0.000	0.000
1.523	0.00068	0.00005	0.119	0.119
1.559	0.00068	0.00000	0.119	0.000
1.594	0.00068	0.00000	0.119	0.000
1.630	0.00068	0.00000	0.119	0.000
1.666	0.00068	0.00000	0.119	0.000
1.702	0.00068	0.00000	0.119	0.000
1.737	0.00068	0.00000	0.119	0.000
1.773	0.00068	0.00000	0.119	0.000
1.809	0.00068	0.00000	0.119	0.000
1.844	0.00068	0.00000	0.119	0.000
1.880	0.00068	0.00000	0.119	0.000
1.916	0.00068	0.00000	0.119	0.000
1.952	0.00068	0.00000	0.119	0.000
1.987	0.00068	0.00000	0.119	0.000
2.023	0.00068	0.00000	0.119	0.000
2.059	0.00068	0.00000	0.119	0.000
2.095	0.00068	0.00000	0.119	0.000
2.130	0.00068	0.00000	0.119	0.000
2.166	0.00068	0.00000	0.119	0.000
2.238	0.00068	0.00000	0.119	0.000
2.309	0.00068	0.00000	0.119	0.000
2.381	0.00068	0.00000	0.119	0.000
2.452	0.00068	0.00000	0.119	0.000
2.524	0.00068	0.00000	0.119	0.000
2.595	0.00068	0.00000	0.119	0.000

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Automatic degas:	No		

Pore Width (nm)	Cumulative Pore Volume (cm ³ /g)	Pore Table		
		Incremental Pore Volume (cm ³ /g)	Cumulative Pore Area (m ² /g)	Incremental Pore Area (m ² /g)
2.667	0.00068	0.00000	0.119	0.000
2.738	0.00068	0.00000	0.119	0.000
2.810	0.00068	0.00000	0.119	0.000
2.881	0.00068	0.00000	0.119	0.000
2.953	0.00068	0.00000	0.119	0.000
3.024	0.00068	0.00000	0.119	0.000
3.096	0.00068	0.00000	0.119	0.000
3.167	0.00068	0.00000	0.119	0.000
3.239	0.00068	0.00000	0.119	0.000
3.310	0.00068	0.00000	0.119	0.000
3.382	0.00068	0.00000	0.119	0.000
3.453	0.00068	0.00000	0.119	0.000
3.525	0.00068	0.00000	0.119	0.000
3.596	0.00068	0.00000	0.119	0.000
3.668	0.00068	0.00000	0.119	0.000
3.739	0.00068	0.00000	0.119	0.000
3.811	0.00068	0.00000	0.119	0.000
3.882	0.00068	0.00000	0.119	0.000
3.954	0.00068	0.00000	0.119	0.000
4.025	0.00068	0.00000	0.119	0.000
4.096	0.00068	0.00000	0.119	0.000
4.168	0.00068	0.00000	0.119	0.000
4.239	0.00068	0.00000	0.119	0.000
4.311	0.00068	0.00000	0.119	0.000
4.382	0.00068	0.00000	0.119	0.000
4.454	0.00068	0.00000	0.119	0.000
4.525	0.00068	0.00000	0.119	0.000
4.597	0.00068	0.00000	0.119	0.000
4.668	0.00068	0.00000	0.119	0.000
4.740	0.00068	0.00000	0.119	0.000
4.811	0.00068	0.00000	0.119	0.000
4.883	0.00068	0.00000	0.119	0.000
4.954	0.00068	0.00000	0.119	0.000
5.026	0.00068	0.00000	0.119	0.000
5.205	0.00068	0.00000	0.119	0.000
5.491	0.00068	0.00000	0.119	0.000
5.777	0.00068	0.00000	0.119	0.000
6.098	0.00068	0.00000	0.119	0.000
6.420	0.00068	0.00000	0.119	0.000
6.742	0.00068	0.00000	0.119	0.000
7.099	0.00068	0.00000	0.119	0.000

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S...\BŚ-Mxene-10mL FULL.SMP

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Completed:	12.05.2022 00:08:29	Analysis bath temp.:	77,300 K
Report time:	19.10.2023 09:11:55	Thermal correction:	Yes
Sample mass:	0,2280 g	Ambient free space:	27,1952 cm ³ Entered
Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Pore Width (nm)	Cumulative Pore Volume (cm ³ /g)	Pore Table		
		Incremental Pore Volume (cm ³ /g)	Cumulative Pore Area (m ² /g)	Incremental Pore Area (m ² /g)
7.457	0.00068	0.00000	0.119	0.000
7.850	0.00068	0.00000	0.119	0.000
8.279	0.00068	0.00000	0.119	0.000
8.708	0.00068	0.00000	0.119	0.000
9.137	0.00068	0.00000	0.119	0.000
9.637	0.00068	0.00000	0.119	0.000
10.138	0.00068	0.00000	0.119	0.000
10.638	0.00068	0.00000	0.119	0.000
11.210	0.00068	0.00000	0.119	0.000
11.782	0.00068	0.00000	0.119	0.000
12.390	0.00068	0.00000	0.119	0.000
13.033	0.00068	0.00000	0.119	0.000
13.676	0.00068	0.00000	0.119	0.000
14.391	0.00068	0.00000	0.119	0.000
15.106	0.00068	0.00000	0.119	0.000
15.893	0.00077	0.00009	0.141	0.022
16.715	0.00077	0.00000	0.141	0.000
17.573	0.00077	0.00000	0.141	0.000
18.466	0.00077	0.00000	0.141	0.000

Sample: BŚ-Mxene-10mL FULL

Operator:

Submitter:

File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
S... \BŚ-Mxene-10mL FULL.SMP

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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Porosity Distribution by
Model: N2 - Cylindrical Pores - Oxide Surface
Method: Non-negative Regularization: 0,01000
Standard Deviation of Fit: 0,14209 cm³/g STP

Isotherm Table				
Relative Pressure (p/p°)	Experimental Quantity Adsorbed (cm ³ /g STP)	Fitted Quantity Adsorbed (cm ³ /g STP)	Absolute Residual (cm ³ /g STP)	Relative Residual
0.001995263	0.2998	0.4624	-0.1626	-0.542178
0.002511882	0.3226	0.4636	-0.1410	-0.437061
0.003162276	0.3478	0.4649	-0.1171	-0.336702
0.003981066	0.3719	0.4663	-0.0944	-0.253794
0.005011868	0.3956	0.4676	-0.0720	-0.182096
0.006309579	0.4185	0.4689	-0.0504	-0.120393
0.007943276	0.4424	0.4703	-0.0279	-0.063014
0.010000000	0.4685	0.4717	-0.0033	-0.006958
0.012355640	0.4871	0.4730	0.0141	0.028952
0.015186320	0.5061	0.4751	0.0310	0.061173
0.018485530	0.5263	0.4764	0.0499	0.094845
0.022294740	0.5474	0.4775	0.0699	0.127775
0.026653420	0.5686	0.4784	0.0903	0.158764
0.031598160	0.5893	0.4792	0.1101	0.186871
0.037162240	0.6085	0.4799	0.1286	0.211375
0.043374470	0.6255	0.4806	0.1450	0.231758
0.050259210	0.6397	0.4812	0.1585	0.247732
0.057835260	0.6504	0.4818	0.1686	0.259284
0.066115920	0.6590	0.4823	0.1766	0.268055
0.075109080	0.6681	0.4829	0.1852	0.277260
0.084815920	0.6771	0.4833	0.1937	0.286105
0.095232370	0.6846	0.4838	0.2008	0.293277
0.106348200	0.6889	0.4842	0.2046	0.297062
0.118147500	0.6892	0.4847	0.2046	0.296791
0.130609100	0.6892	0.4851	0.2041	0.296185
0.143706600	0.6888	0.4855	0.2033	0.295192
0.157410500	0.6857	0.4859	0.1998	0.291368
0.171685500	0.6800	0.4863	0.1937	0.284842
0.186492100	0.6737	0.4867	0.1871	0.277663
0.201792100	0.6667	0.4870	0.1797	0.269531
0.217539500	0.6586	0.4874	0.1712	0.259980
0.233689500	0.6490	0.4877	0.1613	0.248478
0.250196100	0.6384	0.4881	0.1504	0.235525
0.267011800	0.6271	0.4884	0.1387	0.221190
0.284089500	0.6148	0.4887	0.1261	0.205088

Sample: BŚ-Mxene-10mL FULL

Operator:

Submitter:

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S... \BŚ-Mxene-10mL FULL.SMP

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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Isotherm Table

Relative Pressure (p/p°)	Experimental Quantity Adsorbed (cm ³ /g STP)	Fitted Quantity Adsorbed (cm ³ /g STP)	Absolute Residual (cm ³ /g STP)	Relative Residual
0.301380300	0.6016	0.4890	0.1126	0.187142
0.318838200	0.5875	0.4893	0.0982	0.167135
0.336417100	0.5724	0.4896	0.0828	0.144629
0.354071100	0.5560	0.4899	0.0660	0.118775
0.371757900	0.5382	0.4902	0.0479	0.089053
0.389435500	0.5188	0.4905	0.0283	0.054477
0.407065800	0.4976	0.4908	0.0068	0.013678
0.424610500	0.4769	0.4911	-0.0141	-0.029632
0.442034200	0.4586	0.4914	-0.0328	-0.071439
0.459305300	0.4414	0.4916	-0.0503	-0.113890
0.476393400	0.4242	0.4919	-0.0677	-0.159699
0.493271100	0.4055	0.4922	-0.0866	-0.213654
0.509911800	0.3859	0.4924	-0.1066	-0.276227
0.526293400	0.3681	0.4927	-0.1246	-0.338460
0.542394700	0.3541	0.4930	-0.1389	-0.392081
0.558200000	0.3425	0.4933	-0.1508	-0.440198
0.573690800	0.3319	0.4935	-0.1617	-0.487200
0.588853900	0.3213	0.4938	-0.1725	-0.536745
0.603677600	0.3114	0.4941	-0.1827	-0.586676
0.618153900	0.3021	0.4943	-0.1922	-0.636231
0.632272400	0.2936	0.4946	-0.2010	-0.684414
0.646028900	0.2881	0.4949	-0.2068	-0.717803
0.659417100	0.2853	0.4951	-0.2098	-0.735459
0.672435500	0.2840	0.4954	-0.2114	-0.744323
0.685081600	0.2835	0.4956	-0.2121	-0.748165
0.697355300	0.2858	0.4959	-0.2101	-0.735003
0.709256600	0.2905	0.4962	-0.2056	-0.707883
0.720789500	0.2967	0.4964	-0.1997	-0.673002
0.731953900	0.3039	0.4967	-0.1928	-0.634388
0.742756600	0.3146	0.4970	-0.1824	-0.579835
0.753200000	0.3288	0.4972	-0.1684	-0.512338
0.763289500	0.3454	0.4975	-0.1521	-0.440334
0.773030300	0.3635	0.4978	-0.1343	-0.369522
0.782430300	0.3821	0.4980	-0.1159	-0.303460
0.791496100	0.4011	0.4983	-0.0972	-0.242455
0.800232900	0.4223	0.4986	-0.0763	-0.180648
0.808648700	0.4475	0.4989	-0.0513	-0.114659
0.816752600	0.4782	0.4991	-0.0210	-0.043867
0.824552600	0.5151	0.4994	0.0157	0.030501
0.832053900	0.5581	0.5393	0.0189	0.033773

Sample: BŚ-Mxene-10mL FULL

Operator:

Submitter:

File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
S... \BŚ-Mxene-10mL FULL.SMP

Started:	11.05.2022 09:46:05	Analysis adsorptive:	N2
Completed:	12.05.2022 00:08:29	Analysis bath temp.:	77,300 K
Report time:	19.10.2023 09:11:55	Thermal correction:	Yes
Sample mass:	0,2280 g	Ambient free space:	27,1952 cm ³ Entered
Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Isotherm Table				
Relative Pressure (p/p°)	Experimental Quantity Adsorbed (cm ³ /g STP)	Fitted Quantity Adsorbed (cm ³ /g STP)	Absolute Residual (cm ³ /g STP)	Relative Residual
0.839267100	0.6008	0.5394	0.0614	0.102267
0.846200000	0.6418	0.5394	0.1024	0.159521
0.852860500	0.6812	0.5395	0.1417	0.208035
0.859257900	0.7190	0.5395	0.1795	0.249630

Sample: BŚ-Mxene-10mL FULL

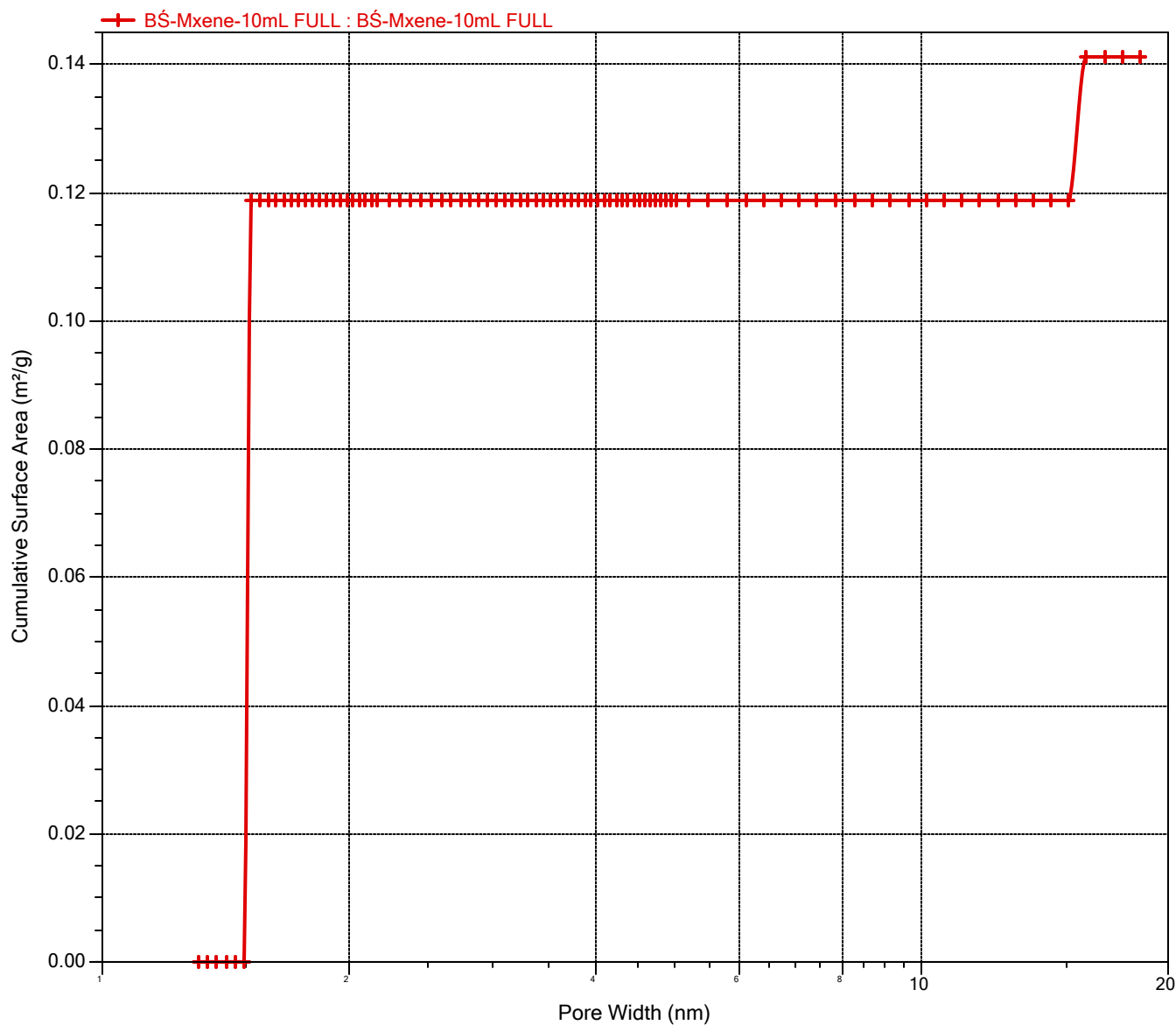
Operator:

Submitter:

File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
S... \BŚ-Mxene-10mL FULL.SMP

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Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Cumulative Surface Area vs. Pore Width



Sample: BŚ-Mxene-10mL FULL

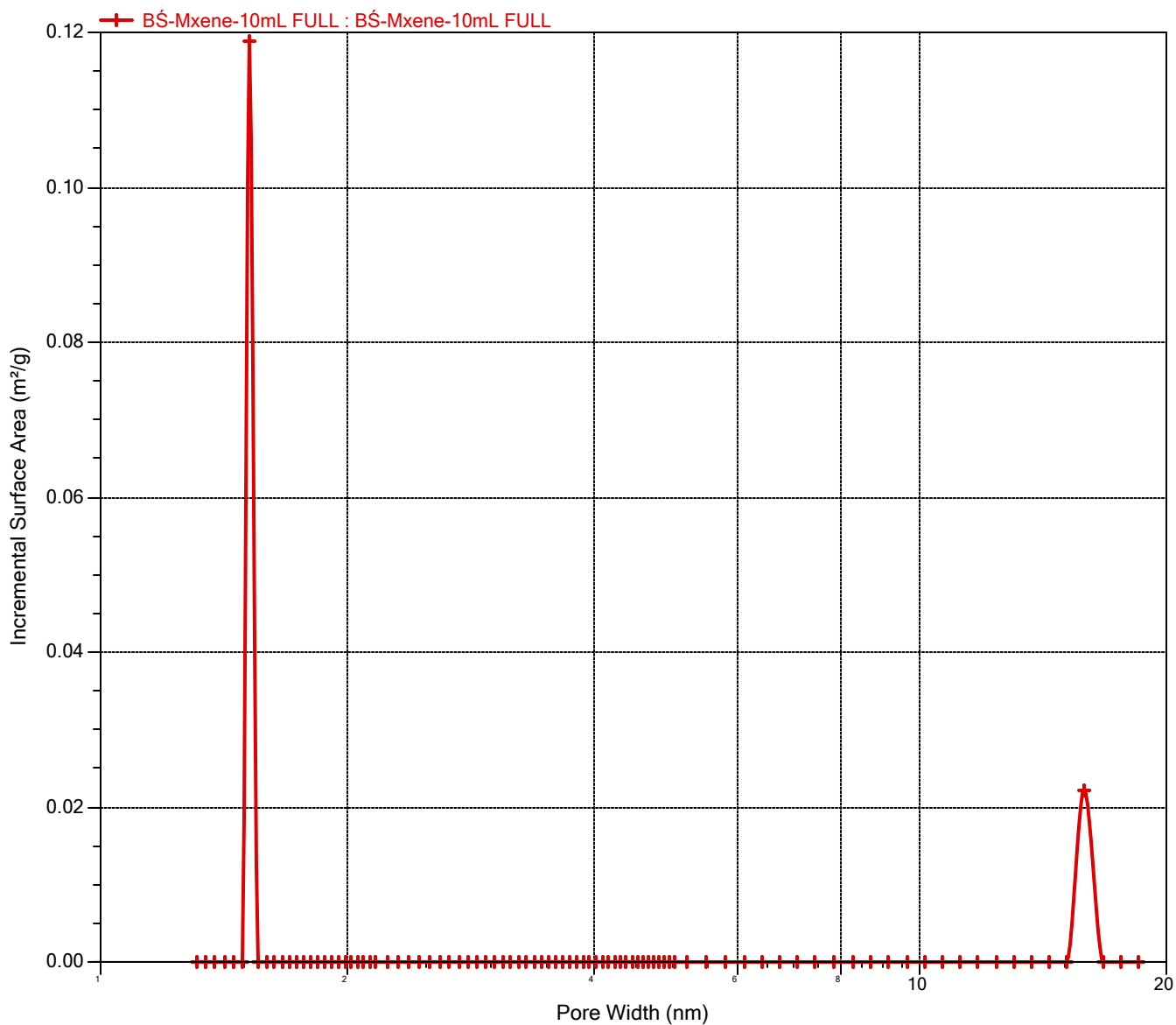
Operator:

Submitter:

File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
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Sample mass:	0,2280 g	Ambient free space:	27,1952 cm ³ Entered
Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Incremental Surface Area vs. Pore Width



Sample: BŚ-Mxene-10mL FULL

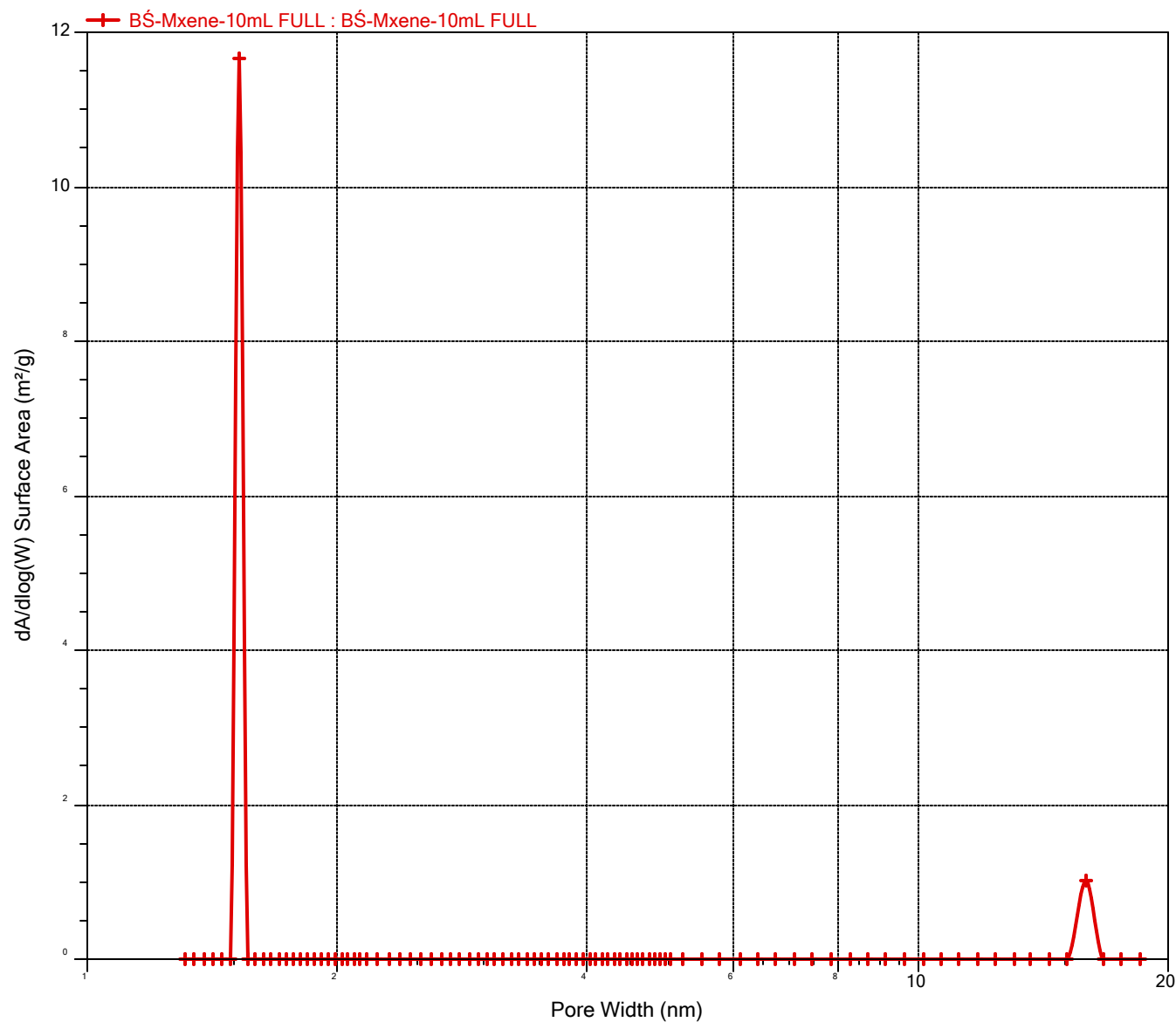
Operator:

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S... \BŚ-Mxene-10mL FULL.SMP

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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

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



Sample: BŚ-Mxene-10mL FULL

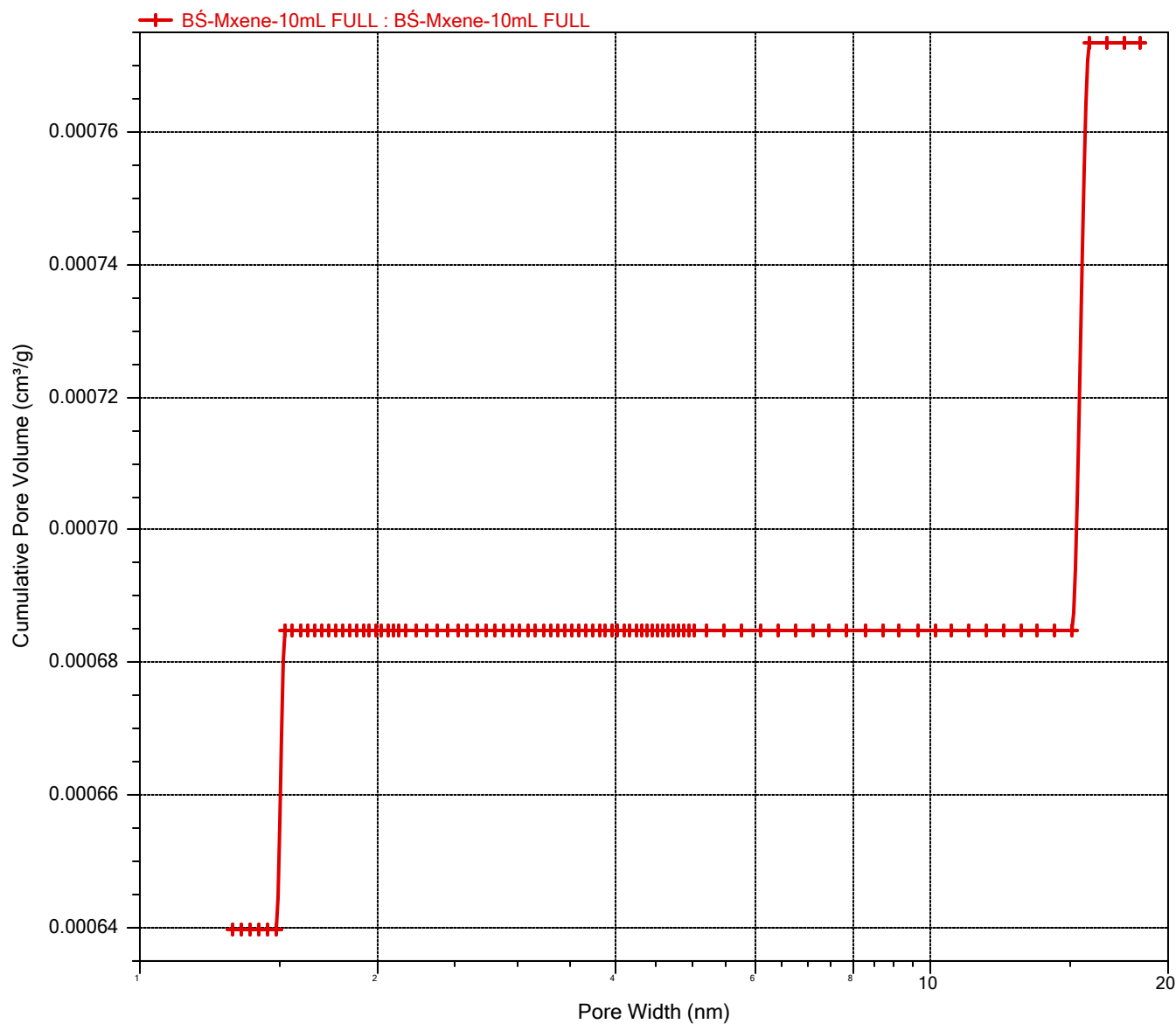
Operator:

Submitter:

File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
S... \BŚ-Mxene-10mL FULL.SMP

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Completed:	12.05.2022 00:08:29	Analysis bath temp.:	77,300 K
Report time:	19.10.2023 09:11:55	Thermal correction:	Yes
Sample mass:	0,2280 g	Ambient free space:	27,1952 cm ³ Entered
Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Cumulative Pore Volume vs. Pore Width



Sample: BŚ-Mxene-10mL FULL

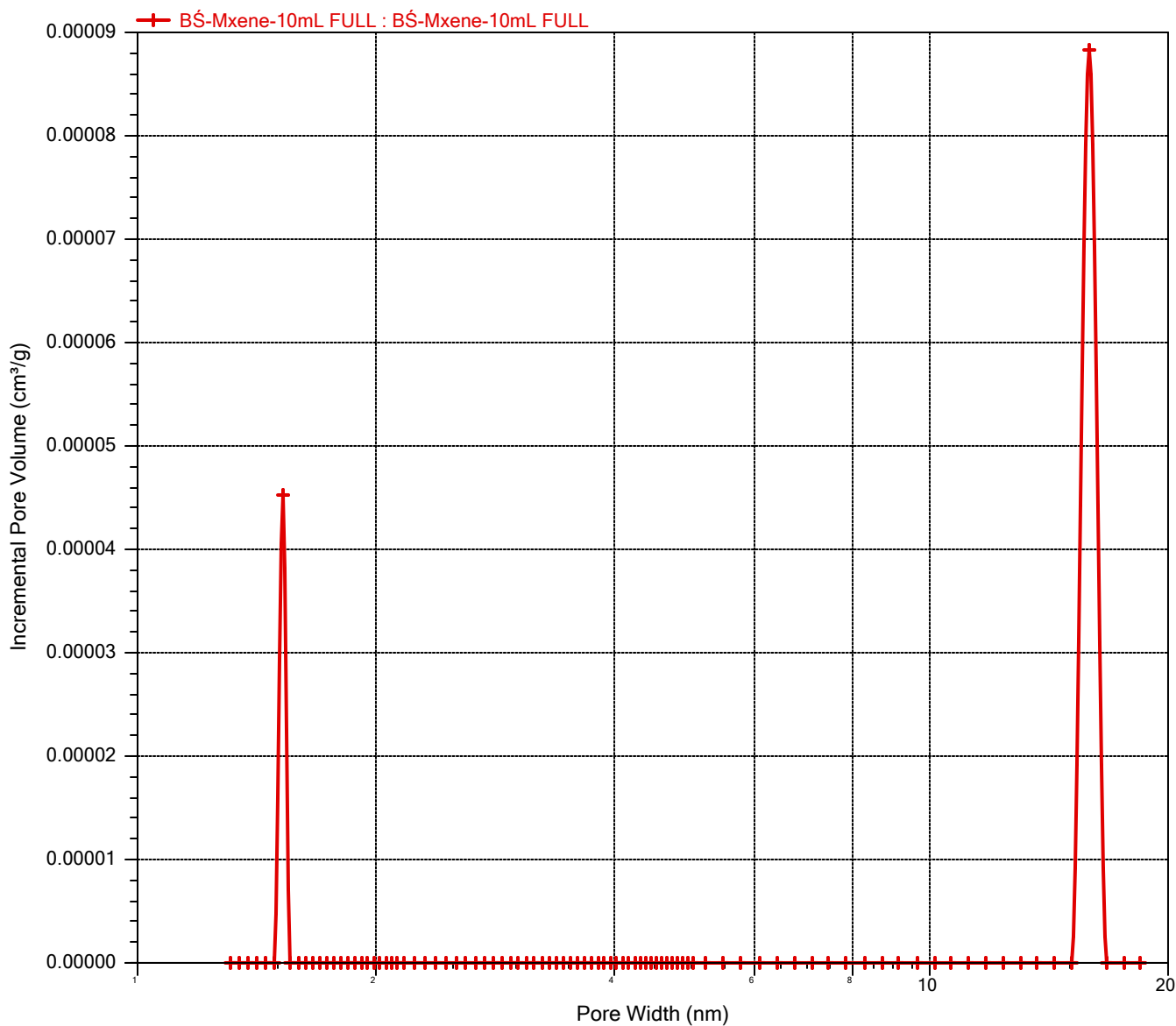
Operator:

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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Incremental Pore Volume vs. Pore Width



Sample: BŚ-Mxene-10mL FULL

Operator:

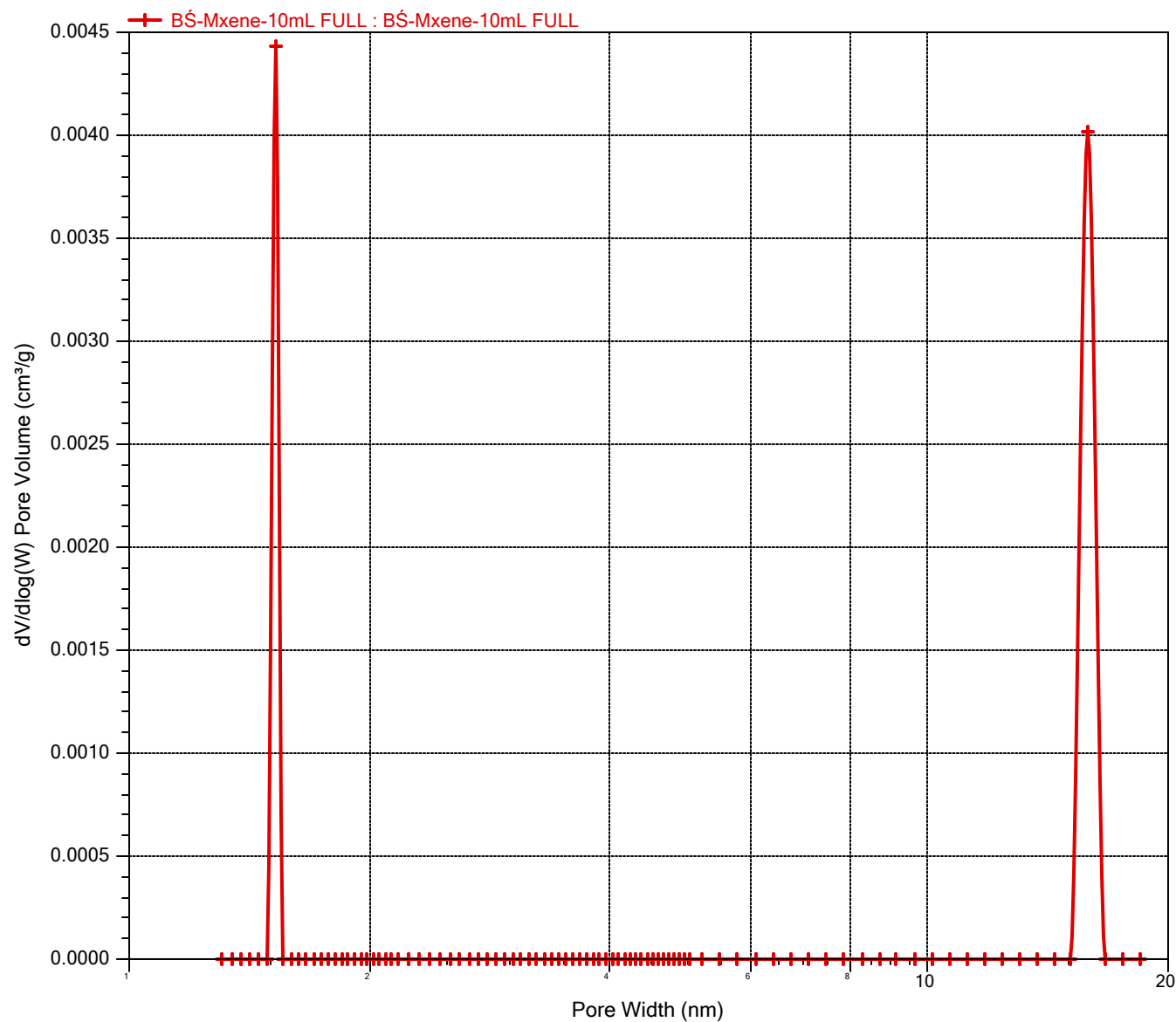
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 Completed: 12.05.2022 00:08:29
 Report time: 19.10.2023 09:11:55
 Sample mass: 0,2280 g
 Analysis free space: 81,2506 cm³
 Low pressure dose: 1,0000 cm³/g STP
 Automatic degas: No

Analysis adsorptive: N₂
 Analysis bath temp.: 77,300 K
 Thermal correction: Yes
 Ambient free space: 27,1952 cm³ Entered
 Equilibration interval: 30 s
 Sample density: 1,000 g/cm³

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



Sample: BŚ-Mxene-10mL FULL

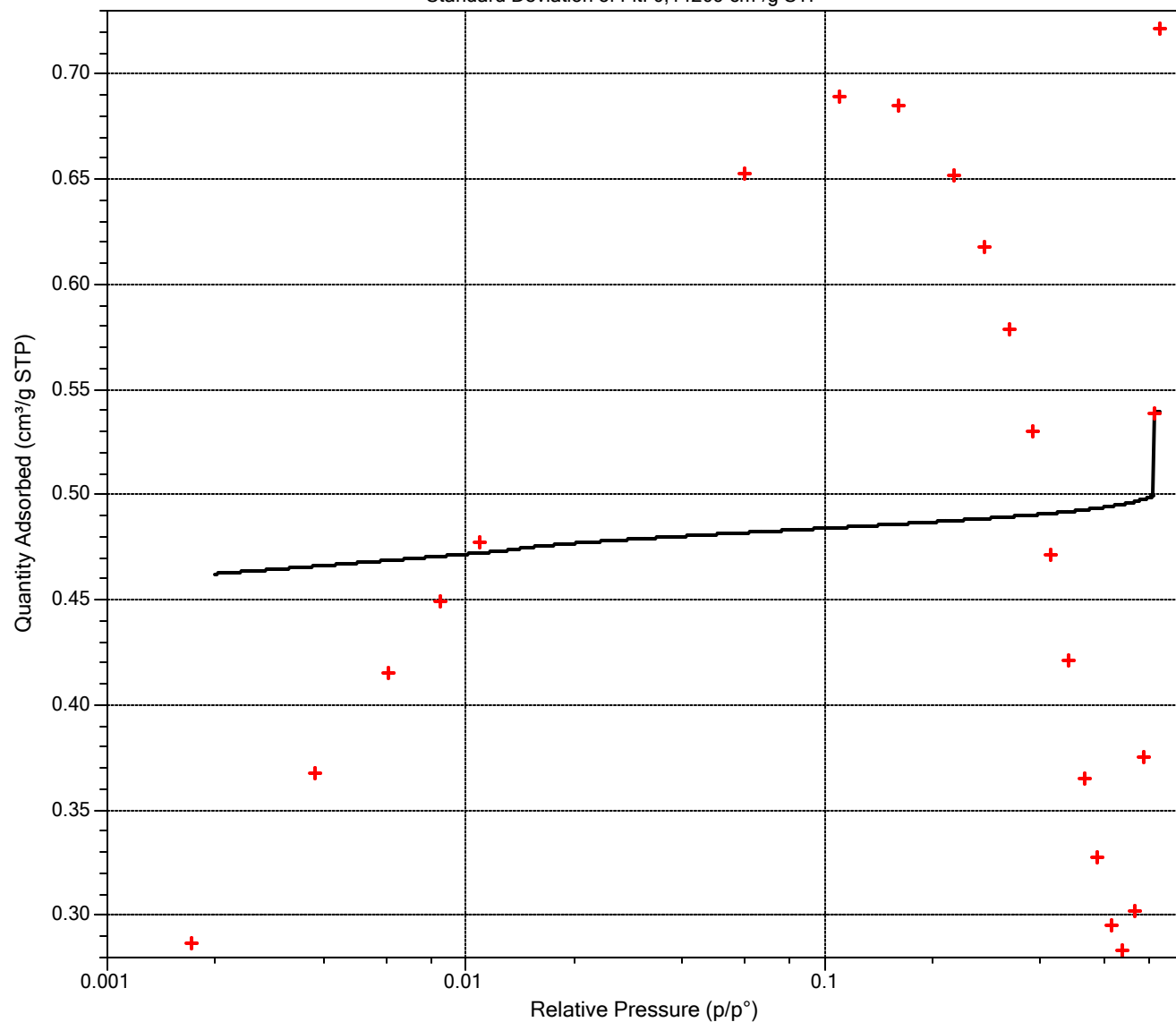
Operator:

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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Goodness of Fit

Standard Deviation of Fit: 0,14209 cm³/g STP


Sample: BŚ-Mxene-10mL FULL

Operator:

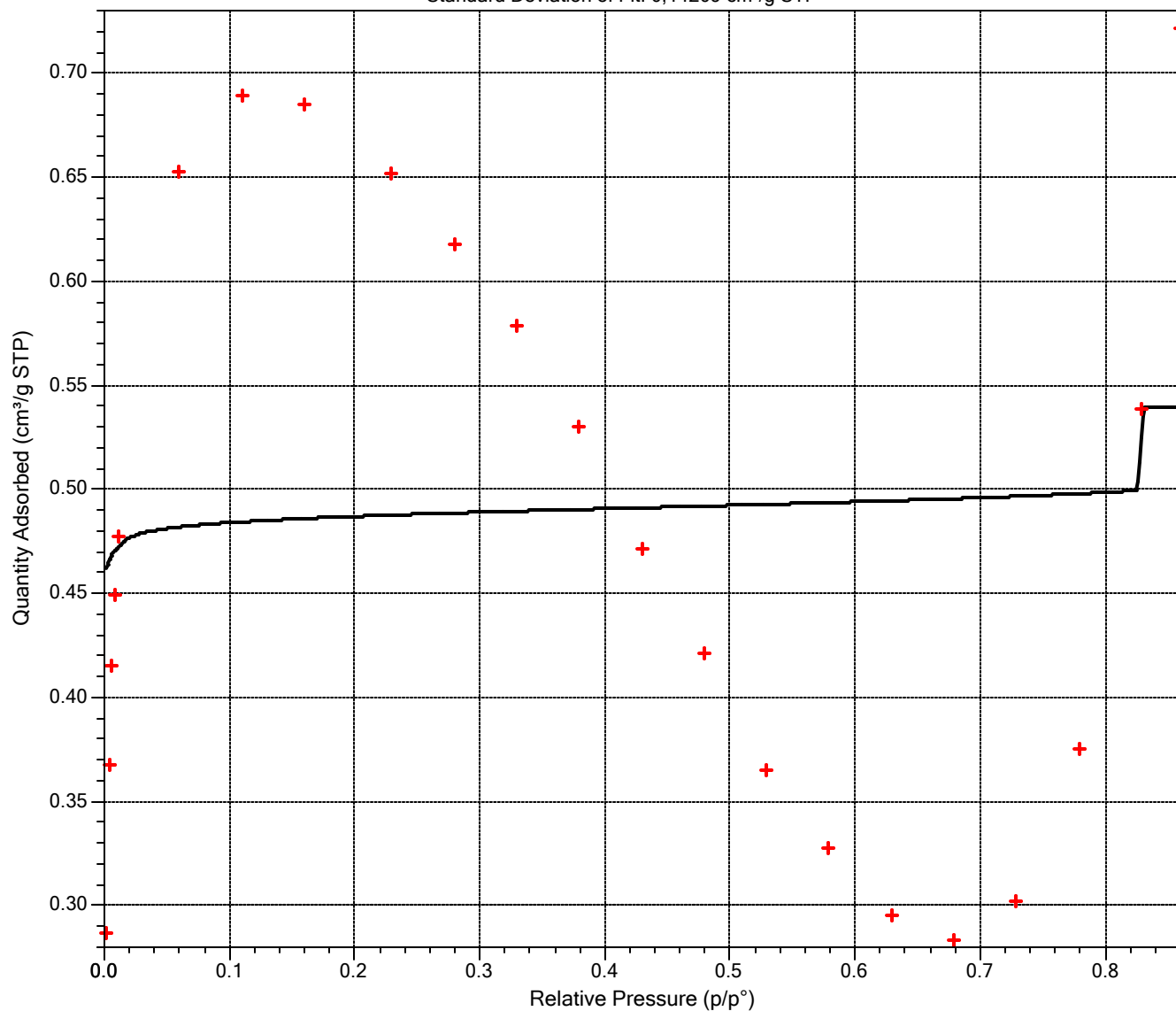
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Low pressure dose: 1,0000 cm³/g STP
Automatic degas: No

Analysis adsorptive: N2
Analysis bath temp.: 77,300 K
Thermal correction: Yes
Ambient free space: 27,1952 cm³ Entered
Equilibration interval: 30 s
Sample density: 1,000 g/cm³

Goodness of Fit

Standard Deviation of Fit: 0,14209 cm³/g STP


Sample: BŚ-Mxene-10mL FULL
 Operator:
 Submitter:
 File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Sample Information

Method: FULL- N2@77K- ADS/DES
 Sample: BŚ-Mxene-10mL FULL
 Operator:
 Submitter:
 Mass type: Calculated
 Empty tube: 38,0999 g
 Sample + tube: 38,3279 g
 Sample mass: 0,2280 g
 Density: 1,000 g/cm³
 Type of data: Automatically collected
 Instrument type: 2460
 Original instrument type: 2460
 Comments:

Sample Tube

Sample tube: W1
 Ambient free space: 1,0000 cm³
 Analysis free space: 1,0000 cm³
 Non-ideality factor: 0,0000620
 Use isothermal jacket: Yes
 Use filler rod: No
 Vacuum seal type: None

Degas Conditions

Degas conditions: FULL- N2@77K- ADS/DES

Smart VacPrep evacuation
 Backfill sample tube: Automatic
 Evacuation rate: 0,27 kPa/s
 Unrest. evacuation from: 0,27 kPa
 Vacuum level: 7e-02 kPa
 Evacuation time: 60 min
 Temperature ramp rate: 10,0 K/min
 Target temperature: 363 K
 Hold pressure: 13,3 kPa

Heating Phase

Sample prep: Stage	Temperature (K)	Ramp Rate (K/min)	Time (min)
1	523	10,0	720

Sample: BŚ-Mxene-10mL FULL

Operator:

Submitter:

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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Analysis Conditions

Analysis conditions: FULL- N2@77K- ADS/DES
 Isotherm collection: Target Pressure
 Absolute pressure dosing: No

Pressure Table

Starting Pressure (p/p°)	Pressure Increment (p/p°)	Ending Pressure (p/p°)
0,000000000		0,010000000
0,010000000	0,050000000	0,995000000
0,995000000	0,100000000	0,150000000

Preparation

Fast evacuation: No
 Evacuation rate: 0,27 kPa/s
 Unrestricted evacuation from: 0,27 kPa
 Vacuum setpoint: 1,3 Pa
 Evacuation time: 4,00 h

Leak test: No
 Use TranSeal: No

Free Space

Entered

Ambient free space: 27,1952 cm³
 Analysis free space: 81,2506 cm³

p° and Temperature

p° type: Measured in Psat tube for each point
 Temperature type: Entered
 Temperature: 77,300 K

Dosing

Use first pressure fixed dose: No
 Use maximum volume increment: No
 Target tolerance: 5.0% or 0,6666 kPa
 Low pressure dosing: Yes
 Dose amount: 1,0000 cm³/g STP
 Minimum equilibration delay: 0,50 h
 Maximum equilibration delay: 2,00 h
 Maximum number of decants: 6

Sample: BŚ-Mxene-10mL FULL

Operator:

Submitter:

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Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

	Equilibration Relative Pressure (p/p°)	Equilibration Interval (s)
1	1,000000000	30

Minimum equilibration delay at p/p° >= 0.995: 600 s

Sample Backfill

Backfill at start of analysis: Yes

Backfill at end of analysis: Yes

Backfill gas: N2

Adsorptive Properties

Adsorptive:	Nitrogen @ 77.35 K (N2)
Non-condensing adsorptive:	No
Maximum manifold pressure:	123,323 kPa
Therm. tran. hard-sphere diameter:	0,38600 nm
Molecular cross-sectional area:	0,162 nm ²
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 (kPa)	Temperature (K)
1	80,0192	75,40
2	84,5947	75,85
3	89,9104	76,35
4	96,0481	76,90
5	98,9411	77,15
6	101,3028	77,35
7	103,7071	77,55
8	107,3945	77,85
9	113,7597	78,35
10	120,4064	78,85

Report Options

Inside diameter of sample tube: 9,53 mm

Sample: BŚ-Mxene-10mL FULL

Operator:

Submitter:

File: C:\Users\barto\OneDrive - Zachodniopomorski Uniwersytet Technologiczny w
S... \BŚ-Mxene-10mL FULL.SMP

Started:	11.05.2022 09:46:05	Analysis adsorptive:	N2
Completed:	12.05.2022 00:08:29	Analysis bath temp.:	77,300 K
Report time:	19.10.2023 09:11:55	Thermal correction:	Yes
Sample mass:	0,2280 g	Ambient free space:	27,1952 cm ³ Entered
Analysis free space:	81,2506 cm ³	Equilibration interval:	30 s
Low pressure dose:	1,0000 cm ³ /g STP	Sample density:	1,000 g/cm ³
Automatic degas:	No		

Sample Log

Date	Time	Log Message
11.05.2022	09:46:05	Starting a sample analysis for C:\ASAP 2460\data\2022\Maślana\BŚ-Mxene-10mL FULL.SMP on port 1.
11.05.2022	14:46:04	Low pressure data collection started
11.05.2022	20:03:07	Standard data collection started.
11.05.2022	23:55:53	Termination started.
12.05.2022	00:08:29	Finished a sample analysis for C:\ASAP 2460\data\2022\Maślana\BŚ-Mxene-10mL FULL.SMP on port 1.