

Sample: 001-625-KI-CAC
Operator: Jack
Submitter: Am
File: C:\2020\DATA_INI\001-625.SMP

Started:	25-011-17 6:27:49PM	Analysis	
		Adsorptive:	N2
Completed:	26-011-17 6:55:33AM	Analysis Bath	
		Temp.:	-195.704 °C
Report Time:	01-022-17 6:03:56PM	Thermal	
		Correction:	No
Sample Mass:	0.1910 g	Warm Free	27.6671 cm ³
		Space:	Measured
Cold Free Space:	83.7949 cm ³	Equilibration	
		Interval:	10 s
Ambient Temperature:	22.00 °C	Low Pressure	5.000 cm ³ /g
Automatic Degas:	Yes	Dose:	STP

Summary Report

Surface Area

Single point surface area at P/Po = 0.201845721: 748.2817 m²/g

BET Surface Area: 726.6914 m²/g

Langmuir Surface Area: 967.0150 m²/g

t-Plot Micropore Area: 574.8799 m²/g

t-Plot External Surface Area: 151.8115 m²/g

BJH Adsorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 64.712 m²/g

BJH Desorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 68.3421 m²/g

Pore Volume

Single point adsorption total pore volume of pores less than 1249.773 Å width at P/Po = 0.984263997: 0.349330 cm³/g

Single point desorption total pore volume of pores less than 730.795 Å width at P/Po = 0.972785932: 0.348985 cm³/g

t-Plot micropore volume: 0.266402 cm³/g

BJH Adsorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.047780 cm³/g

BJH Desorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.047319 cm³/g

Pore Size

Adsorption average pore width (4V/A by BET): 19.2285 Å

Desorption average pore width (4V/A by BET): 19.2095 Å

BJH Adsorption average pore width (4V/A): 29.534 Å

BJH Desorption average pore width (4V/A): 27.695 Å

Sample: 001-626- KOH-CAC
Operator: Jack
Submitter: Am
File: C:\2020\DATA_INI\001-626.SMP

Started:	26-011-17 9:43:35AM	Analysis	
		Adsorptive:	N2
Completed:	27-011-17 12:33:09AM	Analysis Bath	
		Temp.:	-195.683 °C
Report Time:	01-022-17 6:03:59PM	Thermal	
		Correction:	No
Sample Mass:	0.1761 g	Warm Free	25.0765 cm ³
		Space:	Measured
Cold Free Space:	64.2053 cm ³	Equilibration	
		Interval:	10 s
Ambient Temperature:	22.00 °C	Low Pressure	
Automatic Degas:	Yes	Dose:	5.000 cm ³ /g STP

Summary Report

Surface Area

Single point surface area at P/Po = 0.202600453: 825.8336 m²/g

BET Surface Area: 805.4541 m²/g

Langmuir Surface Area: 1073.5670 m²/g

t-Plot Micropore Area: 613.7734 m²/g

t-Plot External Surface Area: 191.6807 m²/g

BJH Adsorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 68.476 m²/g

BJH Desorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 82.3445 m²/g

Pore Volume

Single point adsorption total pore volume of pores less than 0.000 Å width at P/Po = 1.003623644: 0.367052 cm³/g

Single point desorption total pore volume of pores less than 631.082 Å width at P/Po = 0.968372929: 0.368099 cm³/g

t-Plot micropore volume: 0.283633 cm³/g

BJH Adsorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.039114 cm³/g

BJH Desorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.047337 cm³/g

Pore Size

Adsorption average pore width (4V/A by BET): 18.2283 Å

Desorption average pore width (4V/A by BET): 18.2803 Å

BJH Adsorption average pore width (4V/A): 22.848 Å

BJH Desorption average pore width (4V/A): 22.995 Å

Sample: 001-627-RAW CAC
Operator: Jack
Submitter: Am
File: C:\2020\DATA_INI\001-627.SMP

Started:	27-011-17 4:31:56AM	Analysis	
Completed:	27-011-17 2:50:56PM	Adsorptive:	N2
Report Time:	01-022-17 6:04:03PM	Analysis Bath	
Sample Mass:	0.0571 g	Temp.:	-195.696 °C
Cold Free Space:	81.7763 cm ³	Thermal	
Ambient Temperature:	22.00 °C	Correction:	No
Automatic Degas:	Yes	Warm Free	27.5183 cm ³
		Space:	Measured
		Equilibration	
		Interval:	10 s
		Low Pressure	5.000 cm ³ /g
		Dose:	STP

Summary Report

Surface Area

Single point surface area at P/Po = 0.200817843: 923.5674 m²/g

BET Surface Area: 901.0417 m²/g

Langmuir Surface Area: 1196.0140 m²/g

t-Plot Micropore Area: 693.6494 m²/g

t-Plot External Surface Area: 207.3922 m²/g

BJH Adsorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 87.437 m²/g

BJH Desorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 103.4942 m²/g

Pore Volume

Single point adsorption total pore volume of pores less than 1283.897 Å width at P/Po = 0.984689712: 0.430543 cm³/g

Single point desorption total pore volume of pores less than 1096.822 Å width at P/Po = 0.982025460: 0.431053 cm³/g

t-Plot micropore volume: 0.319614 cm³/g

BJH Adsorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.063219 cm³/g

BJH Desorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.072732 cm³/g

Pore Size

Adsorption average pore width (4V/A by BET): 19.1131 Å

Desorption average pore width (4V/A by BET): 19.1358 Å

BJH Adsorption average pore width (4V/A): 28.921 Å

BJH Desorption average pore width (4V/A): 28.111 Å

Sample: 001-628- ZnAC₂-CAC
Operator: Jack
Submitter: Am
File: C:\2020\DATA_INI\001-628.SMP

Started:	30-011-17 9:40:52AM	Analysis	
		Adsorptive:	N2
Completed:	30-011-17 9:19:36PM	Analysis Bath	
		Temp.:	-195.712 °C
Report Time:	01-022-17 6:04:06PM	Thermal	
		Correction:	No
Sample Mass:	0.0687 g	Warm Free	25.1026 cm ³
		Space:	Measured
Cold Free Space:	64.5609 cm ³	Equilibration	
		Interval:	10 s
Ambient Temperature:	22.00 °C	Low Pressure	5.000 cm ³ /g
Automatic Degas:	Yes	Dose:	STP

Summary Report

Surface Area

Single point surface area at P/Po = 0.200893070: 672.1401 m²/g

BET Surface Area: 656.7483 m²/g

Langmuir Surface Area: 872.8989 m²/g

t-Plot Micropore Area: 500.5086 m²/g

t-Plot External Surface Area: 156.2397 m²/g

BJH Adsorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 54.067 m²/g

BJH Desorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 0.6153 m²/g

Pore Volume

Single point adsorption total pore volume of pores less than 1399.805 Å width at P/Po = 0.985978762: 0.294462 cm³/g

Single point desorption total pore volume of pores less than 903.160 Å width at P/Po = 0.978084395: 0.296155 cm³/g

t-Plot micropore volume: 0.230162 cm³/g

BJH Adsorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.041467 cm³/g

BJH Desorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.020279 cm³/g

Pore Size

Adsorption average pore width (4V/A by BET): 17.9345 Å

Desorption average pore width (4V/A by BET): 18.0377 Å

BJH Adsorption average pore width (4V/A): 30.678 Å

BJH Desorption average pore width (4V/A): 1318.213 Å

Sample: 001-629-CuSO₄-CAC
Operator: Jack
Submitter: Am
File: C:\2020\DATA_INI\001-629.SMP

Started:	30-011-17 10:06:25PM	Analysis	
		Adsorptive:	N2
Completed:	31-011-17 10:40:13AM	Analysis Bath	
		Temp.:	-195.712 °C
Report Time:	01-022-17 6:04:09PM	Thermal	
		Correction:	No
Sample Mass:	0.0404 g	Warm Free	27.7241 cm ³
		Space:	Measured
Cold Free Space:	79.0580 cm ³	Equilibration	
		Interval:	10 s
Ambient Temperature:	22.00 °C	Low Pressure	5.000 cm ³ /g
Automatic Degas:	Yes	Dose:	STP

Summary Report

Surface Area

Single point surface area at P/Po = 0.300693605: 839.0978 m²/g

BET Surface Area: 39.7642 m²/g

Langmuir Surface Area: 1211.7604 m²/g

t-Plot External Surface Area: 208.0819 m²/g

BJH Adsorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 140.709 m²/g

Pore Volume

Single point adsorption total pore volume of pores less than 3873.040 Å width at P/Po = 0.995000000: 0.433569 cm³/g

Single point desorption total pore volume of pores less than 3873.040 Å width at P/Po = 0.995000000: 0.433569 cm³/g

t-Plot micropore volume: 0.329269 cm³/g

BJH Adsorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.075049 cm³/g

Pore Size

Adsorption average pore width (4V/A by BET): 436.1405 Å

Desorption average pore width (4V/A by BET): 436.1405 Å

BJH Adsorption average pore width (4V/A): 21.335 Å

DFT Pore Size

Volume in Pores	<	14.83 Å	:	0.25456 cm ³ /g
Total Volume in Pores	<=	147.61 Å	:	0.60436 cm ³ /g
Area in Pores	>	147.61 Å	:	0.000 m ² /g
Total Area in Pores	>=	14.83 Å	:	109.307 m ² /g

DFT Surface Energy

Total Area : 1274.233 m²/g

Horvath-Kawazoe

Maximum pore volume at P/Po = 0.551530618: 0.429742 cm³/g

Sample: 001-630-Na₂CO₃-CAC
Operator: Jack
Submitter: Am
File: C:\2020\DATA_INI\001-630.SMP

Started:	31-011-17 11:05:19AM	Analysis	
		Adsorptive:	N2
Completed:	31-011-17 10:28:05PM	Analysis Bath	
		Temp.:	-195.729 °C
Report Time:	01-022-17 6:04:12PM	Thermal	
		Correction:	No
Sample Mass:	0.0941 g	Warm Free	25.2006 cm ³
		Space:	Measured
Cold Free Space:	73.6520 cm ³	Equilibration	
		Interval:	10 s
Ambient Temperature:	22.00 °C	Low Pressure	5.000 cm ³ /g
Automatic Degas:	Yes	Dose:	STP

Summary Report

Surface Area

Single point surface area at P/Po = 0.201216119:	918.6860 m ² /g
BET Surface Area:	901.5779 m ² /g
Langmuir Surface Area:	1195.6562 m ² /g
t-Plot Micropore Area:	666.1636 m ² /g
t-Plot External Surface Area:	235.4143 m ² /g

BJH Adsorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 94.463 m²/g

BJH Desorption cumulative surface area of pores between 17.000 Å and 3000.000 Å width: 100.9962 m²/g

Pore Volume

Single point adsorption total pore volume of pores less than 1273.238 Å width at P/Po = 0.984559216: 0.428111 cm³/g

Single point desorption total pore volume of pores less than 789.692 Å width at P/Po = 0.974860916: 0.427786 cm³/g

t-Plot micropore volume: 0.305281 cm³/g

BJH Adsorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.064933 cm³/g

BJH Desorption cumulative volume of pores between 17.000 Å and 3000.000 Å width: 0.066433 cm³/g

Pore Size

Adsorption average pore width (4V/A by BET): 18.9939 Å

Desorption average pore width (4V/A by BET): 18.9794 Å

BJH Adsorption average pore width (4V/A): 27.496 Å

BJH Desorption average pore width (4V/A): 26.311 Å