

Sample: Static (Volumetric) Chemisorption Example
 Operator: Chemist
 Submitter: Particle Technology Labs
 File: R:\3Flex\data\Website examples 2022\Static Chemi.SMP

Started: 7/20/2022 2:20:52 PM Analysis gas: CO
 Completed: 7/21/2022 12:01:08 AM Analysis temperature: 35.0 °C
 Report time: 12/21/2022 4:32:59 PM Equilibration interval: 20 s
 Sample mass: 0.8547 g Low pressure dose: None
 Measured free space: 16.8793 cm³ Ambient free space: 16.9799 cm³
 Thermal correction: Yes

Comments: Material Name Client ID PTL Project# PTL ID

Element	Percent of Sample Mass (%)	Percent Reduced (%)	Difference Summary			Stoichiometry Factor	Atomic Cross-Sectional Area (nm ²)	Density (g/cm ³)
			MxOy X	MxOy Y	AMU			
platinum	0.500	100.00	1	0	195.090	1.000	0.0800	21.450

Analysis Results

Dispersion: 50.3381 %
 Metallic area: 0.6215 m²/(g of sample)
 Metallic area: 124.3091 m²/(g of metal)
 Crystallite size (hemisphere): 2.25020 nm
 Crystallite size (cube): 1.87517 nm
 Y-intercept quantity adsorbed: 12.901 ± 0.259 µmol/g
 Slope: 0.000738 ± 0.000020
 Correlation coefficient: 0.997899

Repeat Results

Dispersion: 20.1255 %
 Metallic area: 0.2485 m²/(g of sample)
 Metallic area: 49.6996 m²/(g of metal)
 Crystallite size (hemisphere): 5.62822 nm
 Crystallite size (cube): 4.69019 nm
 Y-intercept quantity adsorbed: 5.158 ± 0.263 µmol/g
 Slope: 0.000714 ± 0.000020
 Correlation coefficient: 0.997695

Difference Results

Dispersion: 30.2245 %
 Metallic area: 0.3732 m²/(g of sample)
 Metallic area: 74.6389 m²/(g of metal)
 Crystallite size (hemisphere): 3.74765 nm
 Crystallite size (cube): 3.12304 nm
 Y-intercept quantity adsorbed: 7.746 ± 0.123 µmol/g
 Slope: 0.000025 ± 0.000009
 Correlation coefficient: 0.734631

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Difference Tabular Report

Pressure (mmHg)	Total Quantity Adsorbed ($\mu\text{mol/g}$)	Repeat Estimated Quantity Adsorbed ($\mu\text{mol/g}$)	Difference Quantity Adsorbed ($\mu\text{mol/g}$)
99.390611	15.749 *	7.879	7.870
145.563035	17.698 *	9.849	7.850
198.290040	19.664 *	11.634	8.029
249.350022	21.465 *	13.303	8.162
299.228242	22.841 *	15.034	7.807
349.337311	24.485 *	16.319	8.166
399.482972	26.090 *	17.816	8.275
449.211060	27.361 *	19.139	8.221

* Included in calculation of line fit.

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Difference Plot

