

Sample: Pulse Chemisorption Example  
 Operator: PTL  
 Submitter: Particle Technology Labs  
 File: R:\3Flex\data\Website examples 2022\Pulse Chemi.SMP

Started: 1/5/2016 10:07:52 AM      Sample mass: 0.7648 g  
 Completed: 1/5/2016 1:07:54 PM      Report time: 12/21/2022 5:14:27 PM

Comments: Material Name Client ID PTL Project# PTL ID

Pulse Chemisorption Report

Experiment 1 Pt-Al CO Pulse Chemisorption Loop  
 Analysis type: Pulse Chemisorption  
 Calibration: None  
 Measured flow rate: 2,230.8  $\mu\text{mol}/\text{min}$   
 Signal offset: 0.00000  
 Signal inverted: Yes  
 Number of Peaks Used for Saturation: 1

Peak Table				
Peak Number	Temperature at Maximum ( $^{\circ}\text{C}$ )	Quantity Adsorbed ( $\mu\text{mol}/\text{g}$ )	Cumulative Quantity ( $\mu\text{mol}/\text{g}$ )	
1	35.2	2.35171	2.35171	
2	35.1	2.34484	4.69655	
3	35.1	2.15294	6.84948	
4	35.2	0.52497	7.37445	
5	35.2	7.780e-02	7.45225	
6	35.1	0.00000	7.45225	

Pulse Chemisorption Analysis Summary								
Element	Percent of Sample Mass (%)	Percent Reduced (%)	MxOy X	MxOy Y	AMU	Stoichiometry Factor	Atomic Cross-Sectional Area ( $\text{nm}^2$ )	Density ( $\text{g}/\text{cm}^3$ )
platinum	0.500	100.00	1	0	195.090	1.000	0.0800	21.450

Active loop volume at 45.0  $^{\circ}\text{C}$ : 1.8014  $\mu\text{mol}$   
 Cumulative quantity: 7.45225  $\mu\text{mol}/\text{g}$   
 Metal dispersion: 29.0773 %  
 Metallic surface area: 0.3590  $\text{m}^2/\text{g}$  sample  
 Metallic surface area: 71.8059  $\text{m}^2/\text{g}$  metal  
 Crystallite size (hemisphere): 3.89550 nm  
 Crystallite size (cube): 3.24625 nm

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### Signal (a.u.) vs. Time

