Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

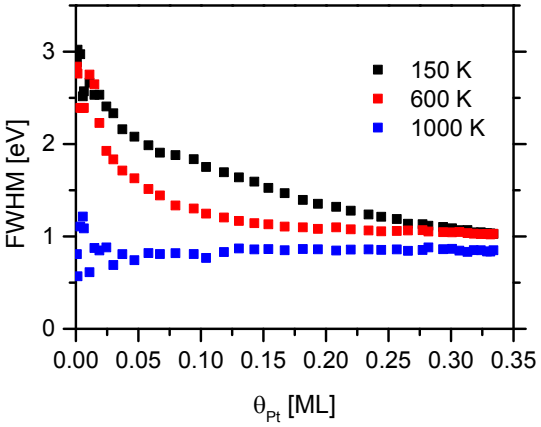

Figure S1: *Full width at half maximum for Pt 4f$_{7/2}$ spectra of Pt nanoclusters on* h-*BN/Rh(111) prepared and recorded at 150 K and after annealing to 600 and 1000 K. hν = 180 eV.*

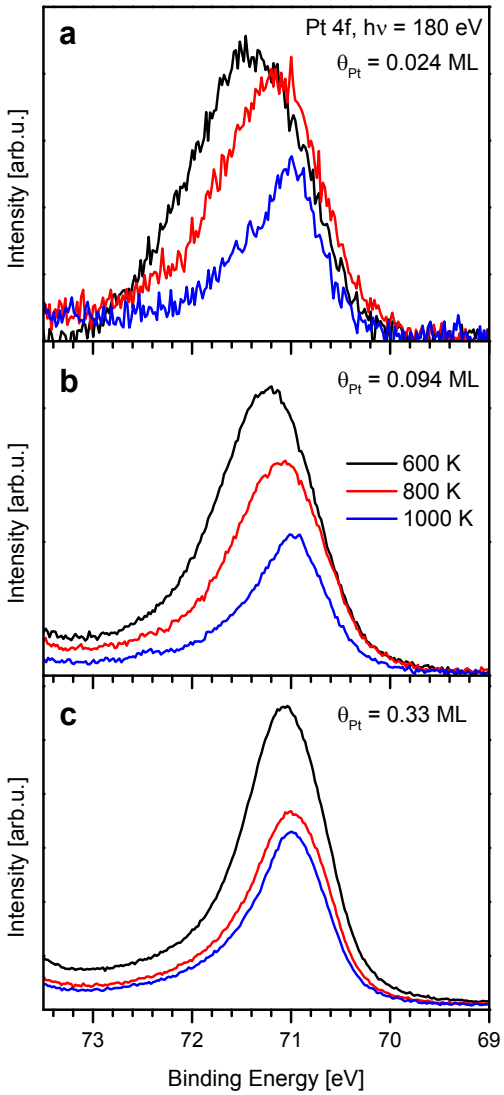

Figure S2: *Selected Pt 4f$_{7/2}$ XP-spectra measured after annealing Pt nanocluster arrays on* h-*BN/Rh(111) to 600, 800 and 1000 K for θ$_{Pt}$ = 0.024, 0.094, and 0.33 ML.*

Additional supporting material:

STM movies

Stability of the clusters over time under UHV conditions

180426_20.avi: *STM video of 0.005 ML Pt clusters on hBN/Rh(111) covering 63 min at RT. U= -1.0 V, I= 1.0 nA.*

180507_20: *STM video of 0.09 ML Pt clusters on hBN/Rh(111) covering 30 min at RT. U= -1.0 V, I= 1.0 nA.*

Stability of the clusters in a CO atmosphere

180420_21and22.avi: *STM video of 0.09 ML Pt clusters on hBN/Rh(111) covering 169 min at RT. The Pt clusters are stable for 47 min. Then, upon dosing of 2E-10 mbar CO, the clusters are rapidly removed from the h-BN pores. U= 1.0 V, I= 1.0 nA.*

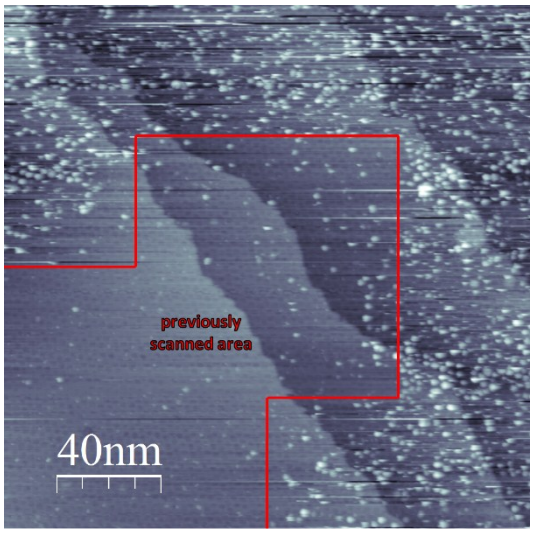

Figure S3: *STM image of a larger region after removal of Pt clusters including the same area of "180420_21and22.avi" proofs that the cluster depletion is tip induced. U= 1.0 V, I= 1.0 nA.*