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Diffusion and binding of CO on Pt nanowires NURI ONCEL, WOUTER J. VAN BEEK, JEROEN HUIJBEN, HAROLD J.W. ZANDVLIET, BENE POELSEMA, Solid State Physics, MESA+ Research Institute for Nanotechnology, University of Twente — Room temperature scanning tunneling microscopy (STM) has been used to study the diffusion and binding of CO molecules on Pt nanowires. The perfectly straight Pt nanowires (with a cross-section of only one atom) are grown on Ge(001) surfaces. CO molecules bind on a bridge position of the Pt dimers and they are mobile at room temperature. The interaction between adsorbed CO molecules is strongly repulsive, which leads to low saturation coverage and "restricted" 1D Brownian motion along the nanowires.

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