

Heterogeneity at the Atomic and Molecular Levels in and on Noble Metal Nanorods

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When chemists create colloidal nanomaterials with ligand shells, the natural tendency is to picture the Platonic ideal of a single nanorod with a uniform ligand shell. In the case of rods containing multiple metals, it is generally assumed that the nanoscale composition is predicted by the bulk phase diagram of the metals. In this talk I will show how the experimental reality of ligand density, ligand dynamics, and spatial location of metals within individual metallic nanorods are far more complex than the community may have imagined.