演 題: Gold nanoclusters as oxidation catalysts

講演者: Prof. Hannu Häkkinen
Chemistry and Physics, NSC, University of Jyväskylä, Finland

日  時: 2008年11月4日(火)15:00-16:30
会  場: 北海道大学創成科学研究棟
5階大会議室 05-213号室

要  旨: Since 1980’s the catalytic activity of nanometer-sized gold clusters has been a very active research area [1,2]. In this talk I will review current theoretical understanding on the reasons why small gold clusters are effective oxidation catalysts at low temperatures [3-5]. I will also discuss ideas on how to use chemically protected, but activated gold cluster “superatoms” [6] as precisely controlled nanocatalysts for the simple CO oxidation model reaction.

Figure: A schematic presentation of an assembly of strictly mono-dispersed, partially methylthiolate-protected 2 nm gold clusters. The area of exposed, metallic gold core could be used as template for oxidation reactions.

References