

Separate Metallic Nanoclusters with Ease

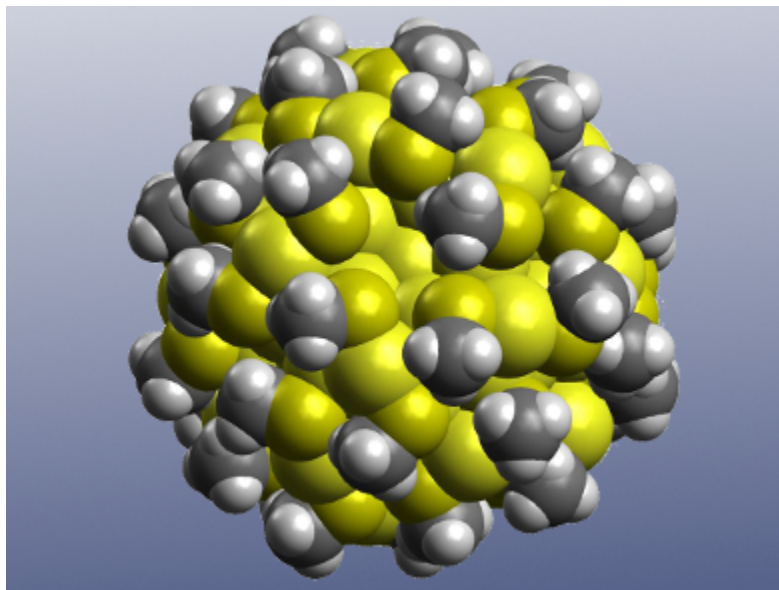
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Noble metal clusters, especially those of gold, can be precisely synthesized on an atomic level as stable ligand-protected species, such as $\text{Au}_{25}(\text{SR})_{18}$, $\text{Au}_{38}(\text{SR})_{24}$, and $\text{Au}_{144}(\text{SR})_{60}$ (SR denotes thiolates). While these clusters exhibit interesting electronic properties, their isolation is a non-trivial problem.

Robin H. A. Ras, Aalto University, Espoo, Finland, and Thalappil Pradeep, Indian Institute of Technology Madras, Chennai, India, and colleagues have found that a variety of gold clusters can be purified easily using thin-layer chromatography (TLC), an inexpensive technique widely used in organic chemistry. The researchers successfully demonstrate the separation of gold clusters with varied core sizes and protective ligands by taking advantage of differences in polarity.

By revealing the separation power of TLC for gold nanoclusters with atomic precision, the study greatly extends the scope of a classic analytical technique. In addition, it is also readily available as a convenient tool to monitor the process of gold cluster synthesis.

[Simple and Efficient Separation of Atomically Precise Noble Metal Clusters](#),

Atanu Ghosh, Jukka Hassinen, Petri Pulkkinen, Heikki Tenhu, Robin H. A. Ras, Thalappil Pradeep,

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