

第1回精密無機材料化学研究セミナー

演題 **Atomic-Level Engineering and Characterization of Nanocluster Catalysts**

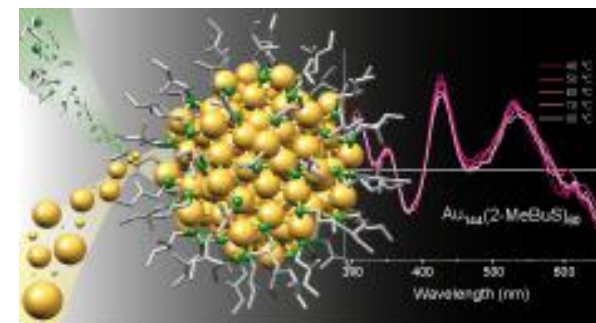
講師 **Dr. Noelia Barrabés (Institute of Materials Chemistry / TU Wien)**

日時 **2025年3月19日(水) 10:00-11:30**

場所 **材料物性棟1号館1階大会議室**

主催 **多元物質科学研究所
精密無機材料化学研究部門**

講演内容



To advance the application of nanoclusters in chiral catalysis, we aim to understand and precisely tune their catalytic properties at the atomic level through ligand engineering and chiral spectroscopic techniques. Recently, we achieved a high-yield enantiopure synthesis of chiral nanoclusters with novel ligands, exhibiting enhanced chiral properties and remarkable stability under harsher conditions. Notably, we demonstrated enantiopure, chiral, and highly stable gold nanoclusters, including the observation of ‘super’ chirality in Au_{144} , unveiling the intricate interplay between hierarchical chirality in ligands and cluster structure. These findings highlight the critical role of ligands in modulating the structural, catalytic, and chiral properties of gold nanoclusters, paving the way for the design of advanced materials with tailored functionalities.

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