### SUNADA LAB.

#### [Precise Design of Functional Metal Clusters]

Institute of Industrial Science, Department of Materials and Environmental Science

**Functional Metal Cluster Science** 

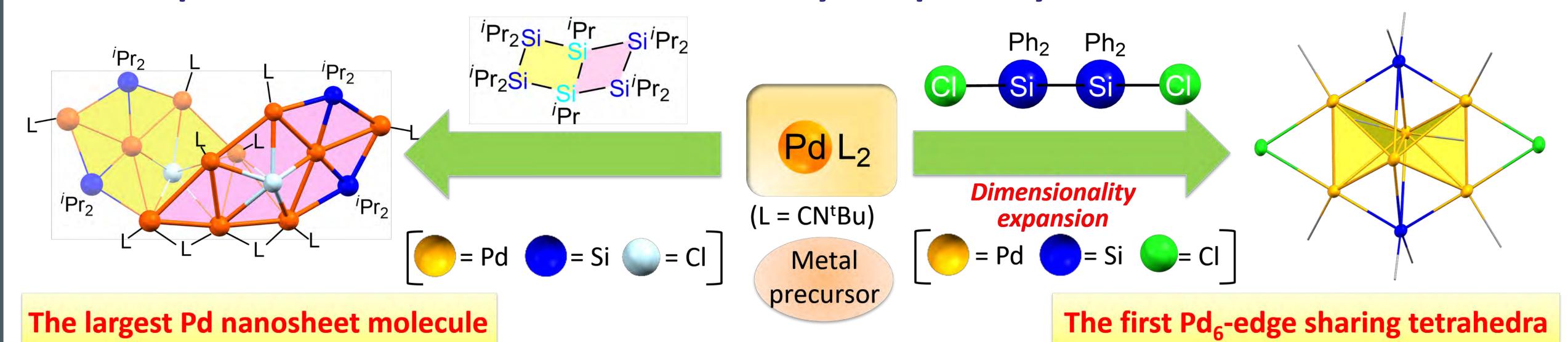
Department of Applied Chemistry

http://www.sunadalab.iis.u-tokyo.ac.jp

## Development of well-designed metal clusters

Nanosized metal compounds have attracted much interests owing to their own unique properties attributed to the nanosized effect. Our research interests focus on the design and synthesis of a series of well-defined nanosized transition metal clusters, and their application as functional materials.

#### **♦** Development of nanosized metal clusters by template synthesis

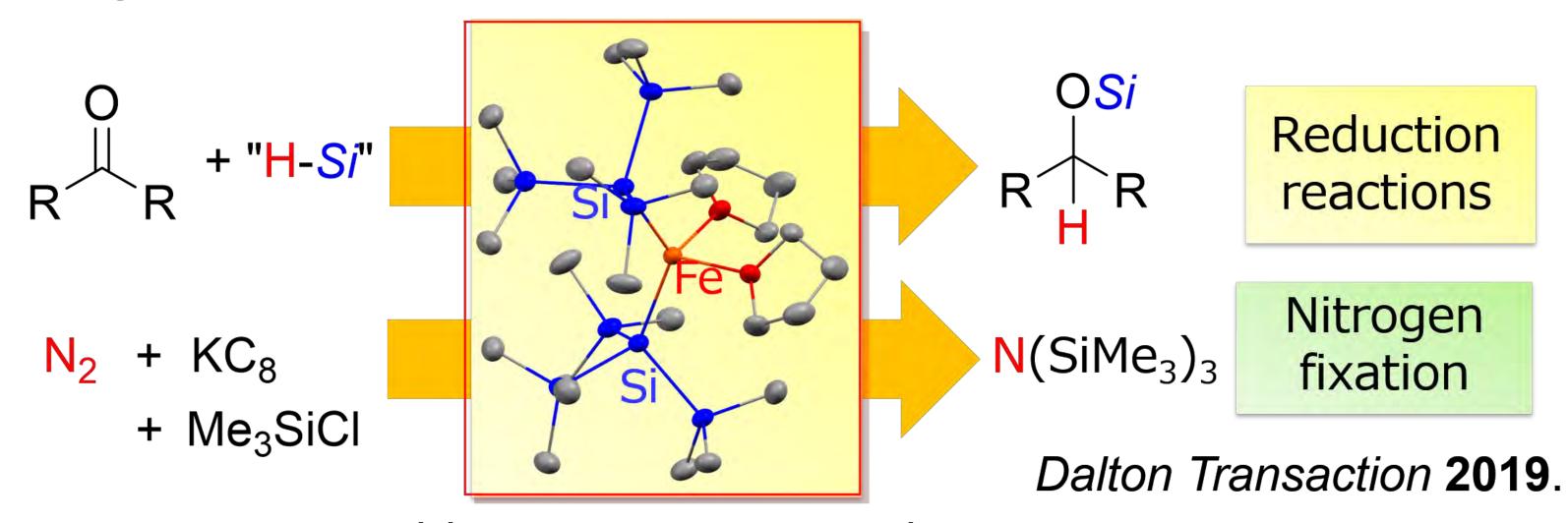


(Nature Communications **2013**.)

(Chemistry –A European Journal 2019. Press release by IIS.)

- ✓ Well-designed metal cluster can be synthesized by "template synthesis"
  - Metal arrangement can be finely tuned by "ligand exchange"
    - Application as catalysts, photo- and electronic- devices

# ◆Synthesis of novel complexes consisting of both transition metal and the main group elements



- ✓ Development of new iron-based catalyst showing high reactivity.
- ✓ A variety of catalysis are realized without the use of precious metal catalysts.