

# 27<sup>th</sup> Lecture on Molecular Engine

第27回発動分子科学セミナー



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## “Biohybrid Catalysts Based on β-Barrel Proteins”

Grubbs-Hoveyda type ruthenium catalysts for olefin metathesis were covalently conjugated through thiol-ene click reaction at specific cysteine sites in the cavity of engineered  $\beta$ -barrel proteins nitrobindin (NB) and *Ferric hydroxamate uptake protein component A* (FhuA). These synthetic metalloproteins catalyze olefin metathesis (cross, ring-closing, ring-opening polymerization) in aqueous solutions. They can be also used in cascade reaction with rhodium-based biohybrid catalysts for hydrogenation to produce saturated compounds in one-pot fashion. By modifying the (first) ligand sphere as well as the (second) protein sphere at the active metal site, they can be optimized in a chemogenetic approach to give artificial metalloenzymes.

日時：2022年11月7日（月）  
16:00~17:30  
場所：B2棟 426大会議室  
連絡先：上野 隆史（内線 5844）

  
Molecular Engine