



Converging Chemistry and Biology: Chemoenzymatic Cascade Reactions and Biohybrid Catalysts

Guest Editor:

Dr. Daniel Friedrich Sauer

Rheinisch-Westfälische
Technische Hochschule Aachen
University, Aachen, Germany

Deadline for manuscript
submissions:

closed (30 June 2021)

Message from the Guest Editor

Dear Colleagues,

Breaking and forming carbon-carbon bonds is one of the most important reactions throughout all areas of chemistry. The discovery of water-stable, well-defined molecular ruthenium complexes containing an alkylidene moiety for olefin or alkyne metathesis reactions enabled fascinating possibilities in polymer and synthetic chemistry. The chemical step is either catalyzed by the molecular catalyst itself, or by embedment of the catalyst into a protein, creating artificial metalloenzymes. Furthermore, the metathesis reaction occurs in water-enabled modification of proteins or cell-surfaces.

This Special Issue aims to highlight the recent progress and advances of aqueous metathesis reactions in a protein-context. This Special Issue includes, but is not limited to, the creation of artificial metalloenzymes able to catalyze carbon-carbon bond formations, olefin metathesis as part of a chemoenzymatic cascade with either enzymes and/or whole cells, new methods of bioorthogonal labeling of proteins or production/degradation of synthetic polymers with artificial metalloenzymes.

