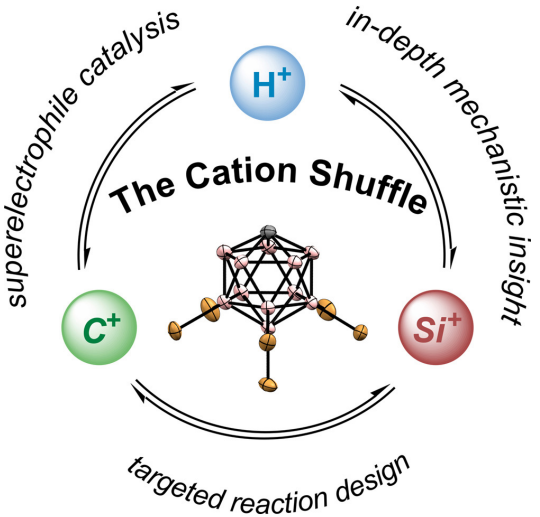
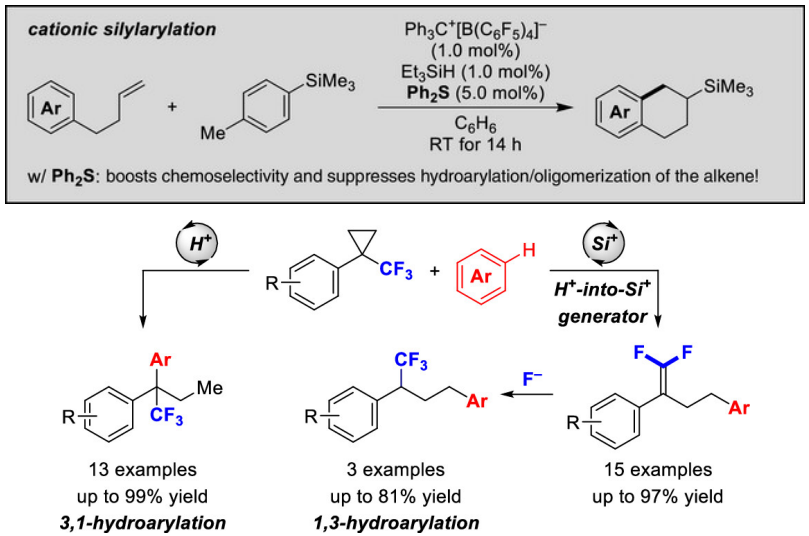
第101回有機元素化学セミナー

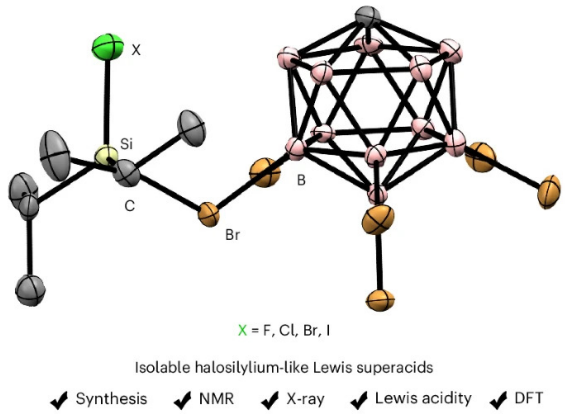
The 101st Organoelement Seminar Series

Dr. Hendrik Klare (Technische Universität Berlin, Germany)

"Juggling Cations: Catalysis with Superelectrophiles"







This talk highlights our research on silylium ion (R_3Si^+) chemistry, and how the development of a new protolysis approach to make such ions eventually led to a strategy that enables the on-demand interconversion of various cationic reactive intermediates.

We are interested in harnessing the reactivities of these superelectrophiles for designing new catalytic reactions. Since the highly electrophilic cation is usually irreversibly consumed within the first catalytic turnover, there is a need for its regeneration to close the catalytic cycle. Our concept to shuffle between silylium ions (R_3Si^+), carbenium ions (R_3C^+), and Brønsted acidic arenium ions as proton (H^+) equivalents allows for deliberately selecting one of these electrophiles for the desired transformation and regenerating that cation in a later step of the catalytic cycle from a neutral precursor.

17:00-18:15, October 7 (Wed), 2026@Room M-123 (1st floor, main building, Institute of Science Tokyo)

Host: Makoto Yamashita (Sch. of Sci.) (yamashita.m.6dbb@m.isct.ac.jp)