Houk-Jung Organic Colloquium

Synthetic Half-Reactions

Abstract: This lecture will describe the concept of synthetic half-reactions and its applications towards understanding the interplay of chemical reactivity and conformational interconversions. Apart from electrochemistry, which offers half-reaction formalism to predict reactivity, there is no accepted system that dissects chemical transformations into simple components with the goal of matching uphill steps with cognate downhill processes. Such a system would allow one to look at organic reactivity from a different perspective, deemphasizing the role of molecular orbitals in favor of more intuitive enthalpic arguments. Given the frequent, although often questionable, use of the term "driving force" in organic chemistry, it stands to reason that such treatment of reactivity is long overdue. I will describe the origins of the theory of synthetic half-reactions and demonstrate their utility on examples from our and others' laboratories.

Prof. Andrei Yudin
Department of Chemistry
University of Toronto

UCLA College | Physical Sciences Chemistry & Biochemistry

Thursday, June 1, 2023 | 4:00 PM
Mani L. Bhuamik Collaboratory - YH 4222
Dongwon Yoo Seminar & Conference Hall

Questions: Isaiahgtz@chem.ucla.edu