Abstract. Since mid-2011 researchers in our laboratories have been developing a process that we call the hexadehydro-Diels–Alder (HDDA) reaction. This net [4+2] cycloisomerization produces an o-benzyne derivative, which is then rapidly captured in a subsequent trapping event. The HDDA reaction is a rare example of a transformation that generates a high-energy, reactive intermediate by way of a highly exothermic reaction! This two-stage benzyne generation/trapping cascade results in the rapid assembly of structurally complex benzenoid products. This chemistry is both preparatively valuable and mechanistically enlightening. Fundamentally new modes of benzyne reactivity have been uncovered. I will discuss these developments in the historical context of underlying classical chemistry as well as from the perspective of its fundamental mechanistic and energetic features. In this presentation I will emphasize the more recently completed and ongoing aspects of our studies.

Thursday, January 29, 2015
5:00 PM
Cram Conference Room - 3440 Molecular Sciences Bldg

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