NU Tech
Technology Partnership of Nagoya University, Inc.

(E-10)

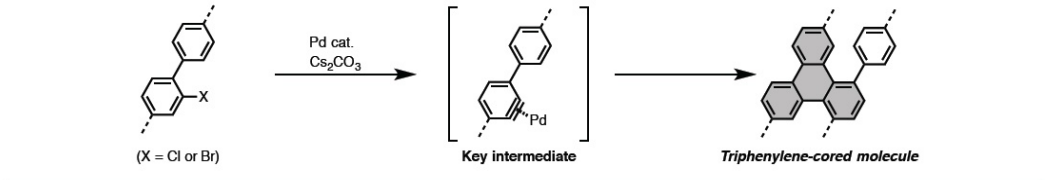
Development of New Catalytic System to Generate Benzyne from Haloarenes

Background:

Benzyne is a highly reactive intermediate and is regarded as a valuable intermediate in organic synthesis due to the reactive unsaturated bond. Classically, employment of a strong base is necessary to generate benzyne from haloarenes, which limits the substrate scope and functional group compatibility. Alternatively, o-trimethylsilylphenyl triflate has been widely used as an efficient precursor that generates benzyne by treatment with cesium fluoride. However, multistep syntheses are required to prepare the benzyne precursor.

Technology Overview:

Researchers at Nagoya University developed a method to generate benzyne from simple haloarenes under mildly basic reaction conditions. They focused on a palladium-catalyzed reaction that generates benzyne from bromo- or chloroarenes.



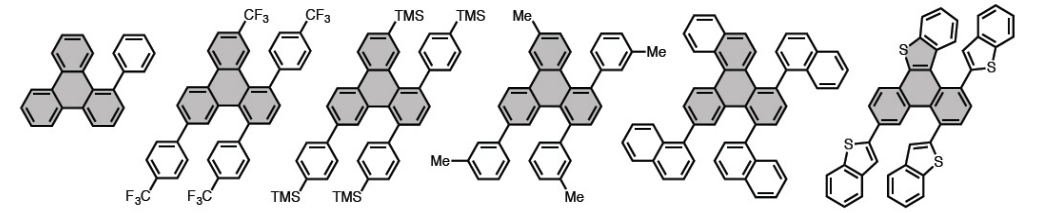


Figure 1: Novel method to generate benzyne from haloarenes

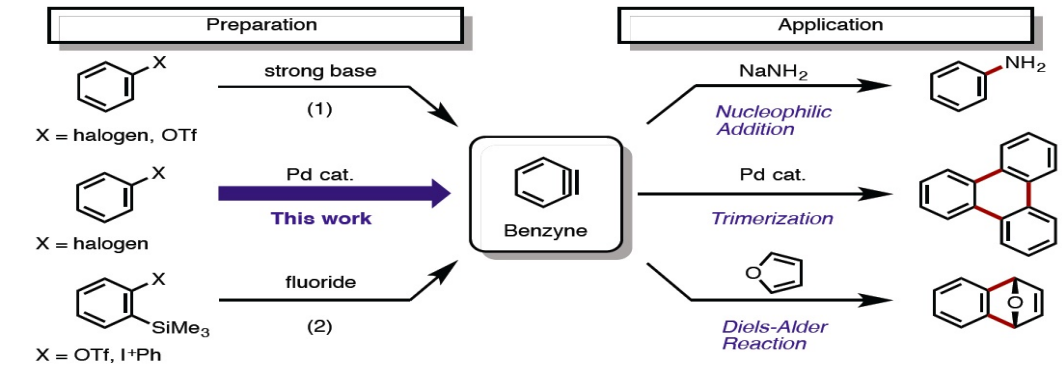


Figure 2: General preparation methods and applications of benzyne

IP Status:

A patent application has been filed

Contact

Rena Shimizu, Ph.D., TEL: 919-535-8724 Email: rshimizu@tpnu.org
Technology Partnership of Nagoya University, Inc.
One Copley Parkway, Suite 305, Morrisville, NC 27560

名古屋大学
NAGOYA UNIVERSITY