The Speaker

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Methodological Development with Highly Reactive Molecules

May 9th Tuesday 1-2 pm
F7B 322

Synopsis

An overview of our work utilising strained rings in conjunction with transition metals will be presented. Vinylaziridines and vinylcyclopropanes have been activated by Pd(0)-catalysts to form zwitterionic 1,3-dipoles that can undergo cycloaddition reactions with electron-deficient indoles to give new routes to the biologically relevant pyrroloindoline and cyclopentannulated indoline skeletons.[1] The ring-opening reactions of both vinylcyclopropanes and vinylaziridines with boronic acids in the presence of Pd(0) and Pd(II)-catalysts respectively will also be discussed. [2] The reactivity of cyclopropenes in the presence of gold catalysts has revealed new methods for the stereoselective synthesis of dienes and furans. In addition, uncatalysed strain-driven reactions of cyclopropenylcarbinol derivatives has enabled the synthesis of densely functionalised N-functionalised cyclopropanes. [3]

Representative Publications

