From sulfonium salts to samarium catalysis: new radical chemistry for synthesis

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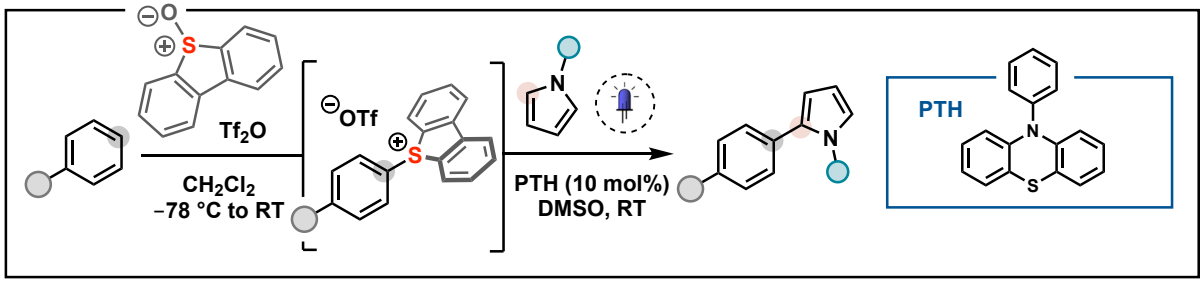
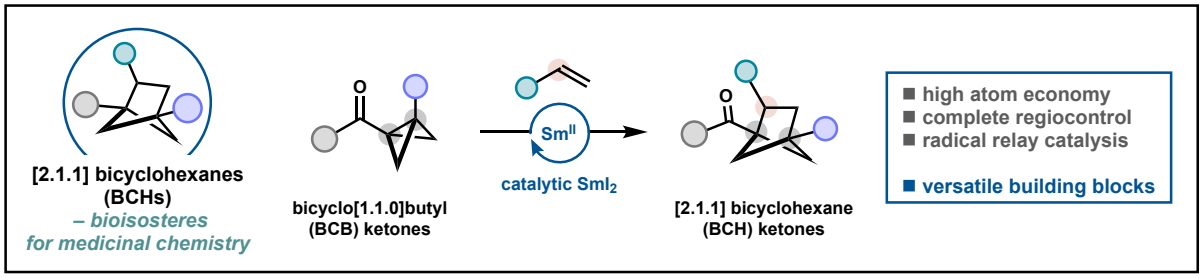
Part I – Our approach to the development of transition metal-free cross-coupling processes is based on the proposal that sulfur can replace metals in activating substrates and generating reactive intermediates for exploitation in C–C bond-formation. In particular, we will describe the exploitation of *in situ* generated aryl sulfonium salts in photocatalytic[1] and photochemical[2] coupling processes involving aryl radicals.



Part II – Samarium(II) iodide is one of the most widely-used single electron transfer (SET) reductants in chemistry. We will showcase the reagent's ability to unlock key steps in natural product synthesis[3] and will describe our recent studies on catalysis with SmI_2.[4,5,6]



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