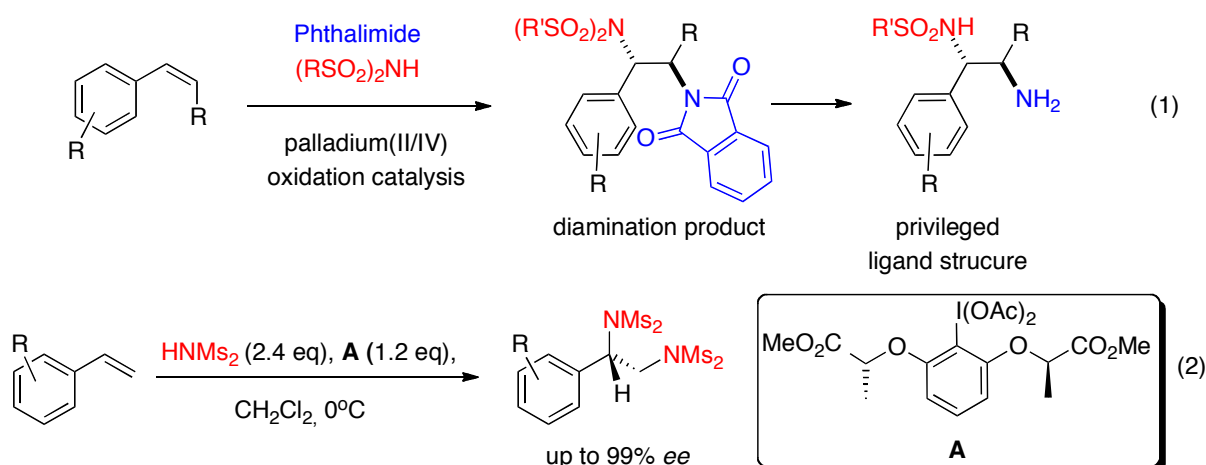


Oxidative Amination with and without Metals

Kilian Muñiz

The first part of the lecture will focus on concepts for palladium catalysed synthesis of vicinal diamines from alkenes.^{1,2} Key methodology is the use of high oxidation state metal catalysis such as palladium(IV) catalysis.³ These reactions have been elaborated for terminal and internal alkenes with and proceed under complete regio- and diastereoselectivity.^{4,5} The final products can be converted readily into different ligand motifs.



Within our ongoing programme to develop new metal-free amination reactions, we have recently reported novel transformations using defined hypervalent iodine reagents in combination with bisulfonimides as nitrogen sources.⁶ Unprecedented transformations of this type include the first enantioselective diamination of alkenes (eq. 2)^{7,8} and first examples of selective diamination of butadienes.⁹ Related transformations including allylic amination¹⁰ and amination of acetylenes¹¹ will also be discussed.

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