**IRON-CATALYZED C(SP2)–C(SP3) CROSS-COUPLING OF ALKYL GRIGNARD REAGENTS WITH POLYAROMATIC HYDROCARBONS**

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The development of new methods for iron-catalyzed cross-couplings has received enormous attention in the last two decades owing to the low cost, natural abundance, and environmental advantages of iron. [1-3] In particular, iron-catalyzed cross-couplings have been shown as a powerful platform in the activation of C–O electrophiles. Merging the use of sustainable iron catalysts with environmentally attractive C–O electrophiles represents an increasingly attractive goal within the field of catalysis. [4-6]

In this poster, our recent studies on the selective activation of C–O bonds in polyaromatic hydrocarbons by iron catalysis will be presented. These reactions are enabled by virtue of electronic activation of the aromatic ring by conjugation, and allow for the challenging C(sp2)-C(sp3) cross-coupling with organometallics susceptible to -hydride elimination. The ligand effect on the cross-coupling will be described. Representative examples to be presented include scope studies, reaction optimization, and investigation of the mechanism. [7]

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