Direct Ester to Arene Transformation

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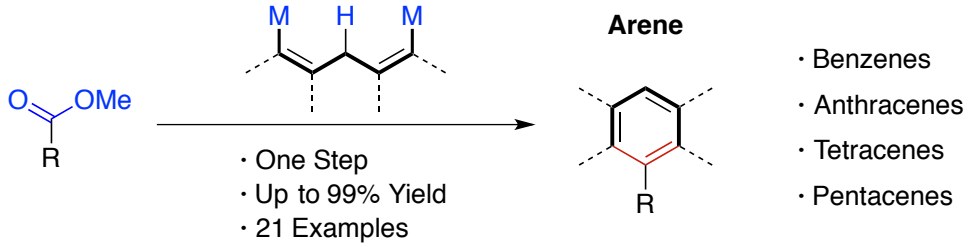
Carboxylic acid esters are ubiquitous intermediates in organic synthesis. A large and structurally distinct variety of this class of compounds is therefore available in almost every laboratory. On the other hand, arenes are privileged molecular scaffolds due to their stability, rigidity and the manifold use in functional or bioactive entities. While arenes are routinely prepared by transition metal catalyzed cross-coupling reactions using reaction specific substrates, a direct transformation of esters into arenes would give straightforward access to a striking number of high value products.

The poster will outline the first direct transformation of carboxylic acid esters into arenes by using 1,5-bifunctional organomagnesium reagents. These reagents were obtained by a two-fold iodine-magnesium exchange or by direct methods. Various esters were converted with these reagents to form the corresponding arenes in a one-step double addition, 1,4-elimination sequence, providing benzenes, anthracenes, tetracenes and pentacenes with up to 99% yield.



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