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One-Pot Synthesis of Highly Substituted Polyheteroaromatic Compounds by Rhodium(III)-Catalyzed Multiple C–H Activation and Annulation

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Category

Synthesis of Materials and Unnatural Products

Key words

alkynes
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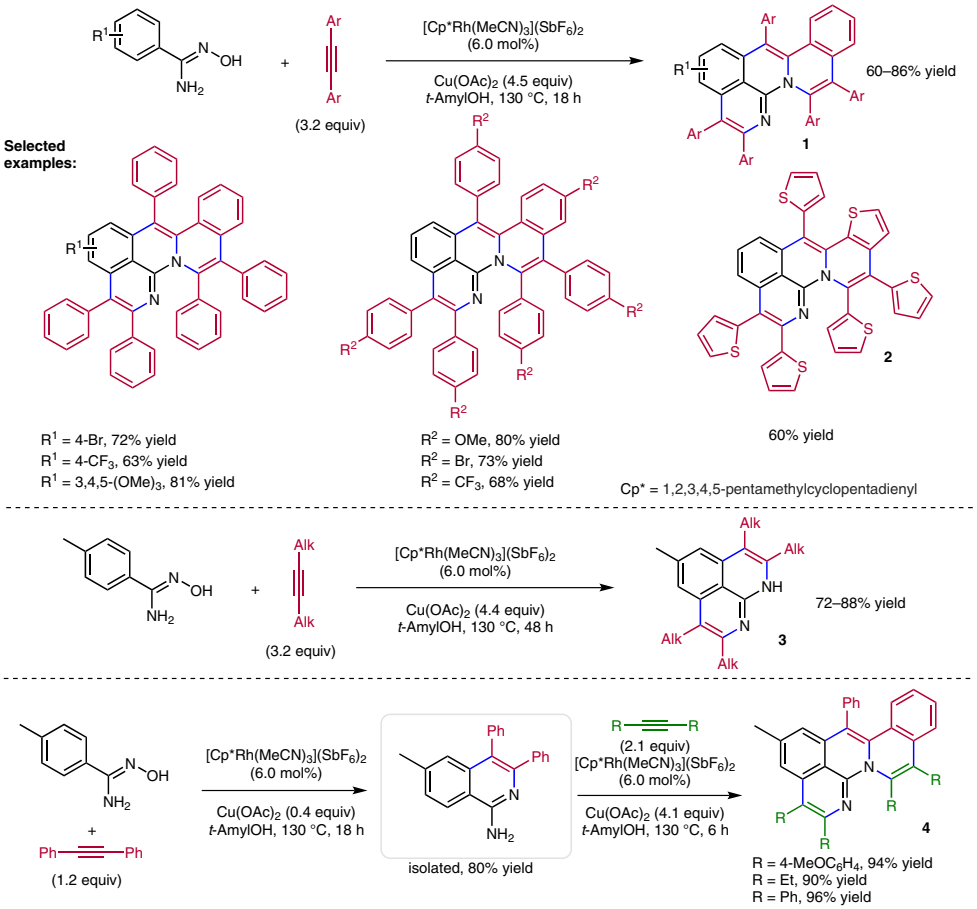
Simple Synthesis of Substituted Polyheteroaromatic Compounds



Significance: Highly substituted polyheteroaromatic compounds have attracted considerable interest for potential use as functional and luminescent materials. The authors report the one-pot synthesis of benzo(isoquinolino)naphthyridines by rhodium(III)-catalyzed multiple C–H activation and annulation starting from (*Z*)-*N*-hydroxybenzamidines and disubstituted alkynes. The reported compounds are obtained in high yields and can contain an array of substituents.

Comment: The authors found that an intermediate product can be isolated after one alkyne addition, and that the intermediate product can be reacted with different alkynes to further vary the substituents on the final product **4**. Interestingly, the method can also be applied to di(2-thienyl)-alkyne to give product **2** in 60% yield.

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