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Aromatic Homologation by Non-Chelate-Assisted Rh^{III}-Catalyzed C-H Functionalization of Arenes with Alkynes *Angew. Chem. Int. Ed.* **2014**, *53*, 3484–3487.

Extending Arenes via C-H Activation with Rhodium

Selected examples:

Significance: Extending the conjugation length of arenes is of great interest to the materials chemistry community due to the impartation of new electrical and photophysical properties. The previously reported method for rhodium-catalyzed arene homologation was achieved with a boronic acid functionalized substrates (*J. Org. Chem.* **2011**, 76, 2867); in contrast, Pham and Cramer report a C—H functionalization to achieve the same transformation.

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Comment: While dibutyl alkynes were used most prominently in this paper, the authors were also able to demonstrate that other alkynes, including those bearing aryl groups, could be incorporated. A proposed mechanism for the transformation is included in the paper.

Category

Synthesis of Materials and Unnatural Products

Key words

polyaromatic hydrocarbons

rhodium

C-H functionalization

