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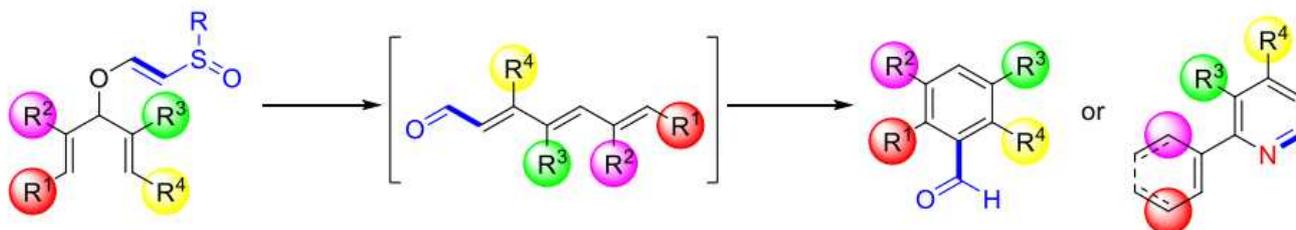
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A new cascade method for the synthesis of highly substituted arenes

Substituted benzenes and pyridines are the core skeleton of a variety of biologically active pharmaceuticals and natural products, and thus elaboration of substituent patterns of arenes is a vital research topic. The incorporation of substituents onto aromatic compounds can be done by using classical electrophilic and nucleophilic aromatic substitution reactions, as introduced in every organic chemistry textbook. However, controlling regioselectivity can be problematic in these methodologies and indeed limits substrate scope.

We recently discovered that highly substituted arenes could be synthesized in a single step from "Gadget" divinyl carbinols by a cascade Claisen rearrangement, sulfoxide elimination, (imine formation), 6π electrocyclization, and auto-oxidation sequence. Several bond-forming and cleavage events are taking place under thermal conditions. We share ongoing efforts and mechanistic details in this talk.

This work



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