

New applications of metal catalysis in natural product synthesis

Guest editor: Kay M. Brummond

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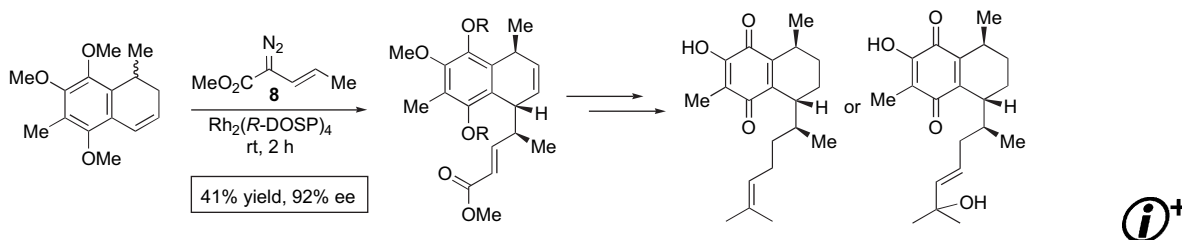
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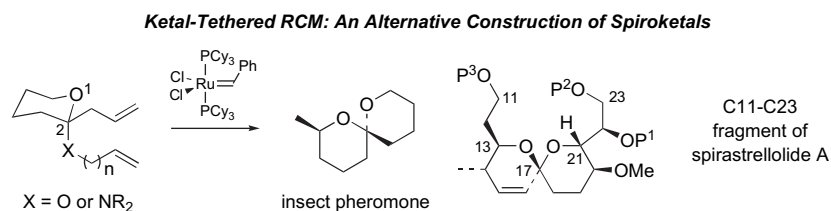
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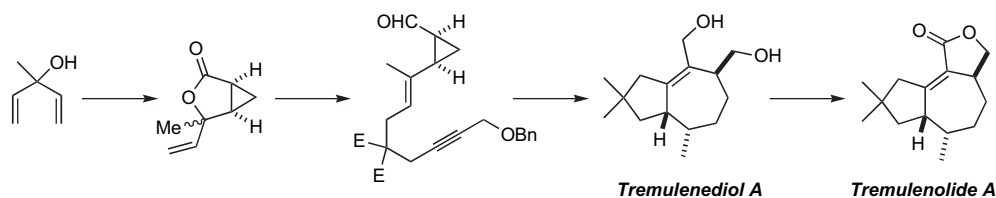
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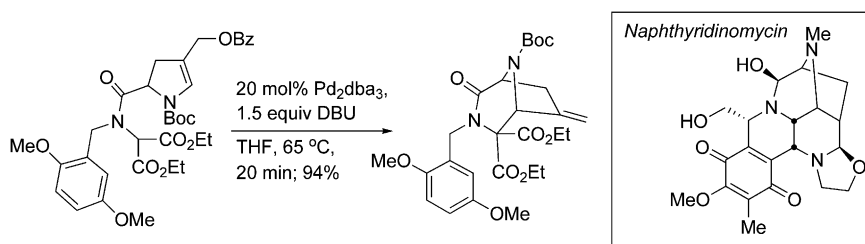
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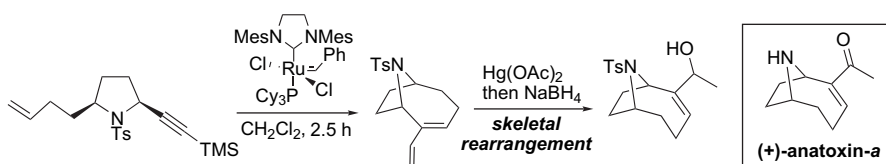
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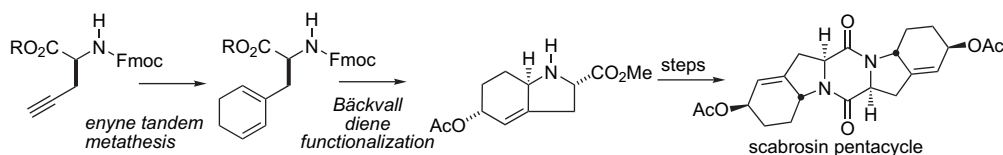
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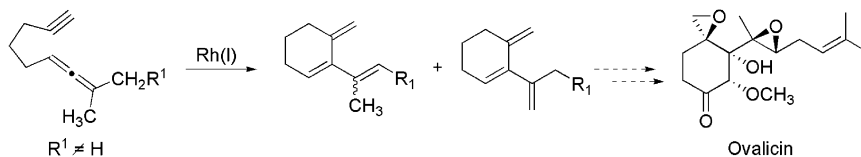
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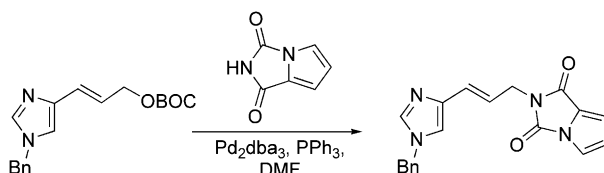


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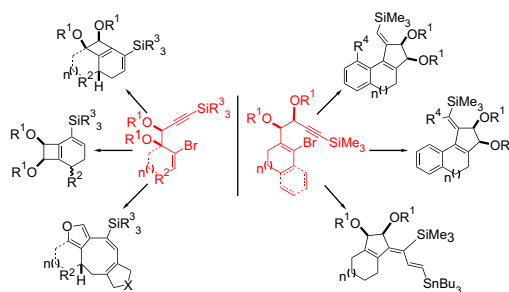
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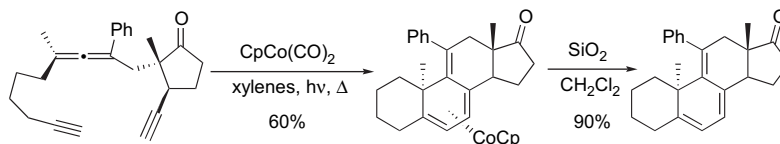
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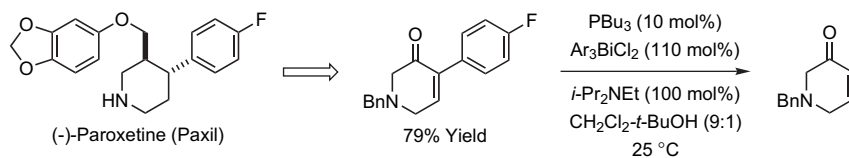
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Enantioselective total and formal syntheses of paroxetine (PAXIL) via phosphine-catalyzed enone α -arylation using arylbismuth(V) reagents: a regiochemical complement to Heck arylation

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Phillip K. Koech and Michael J. Krische*



Exposure of dihydropyridinone **1** to the arylbismuth(V) reagent (*p*-F-Ph)₃BiCl₂ in the presence of substoichiometric quantities of tributylphosphine results in aryl transfer to the transiently generated (β -phosphonio)enolate, ultimately providing the α -arylated enone **2**. This transformation, which represents a regiochemical complement to the Mizoroki–Heck arylation, is used strategically in concise formal and enantioselective total syntheses of the blockbuster antidepressant (–)-paroxetine (PAXIL).



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Supplementary data available via ScienceDirect

COVER

The cover graphic illustrates a projected synthesis of ovalicin which takes place through the cross-conjugated triene intermediate generated in excellent yield using a rhodium(I)-catalyzed allenic Alder-ene reaction discovered in our group.

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