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Synthesis of Planar Chiral Ferrocenes via Enantioselective Remote C–H Activation
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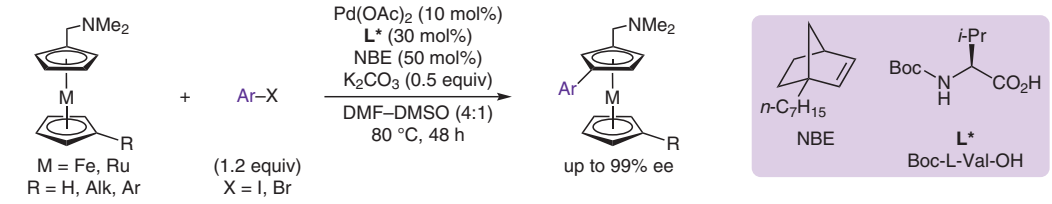
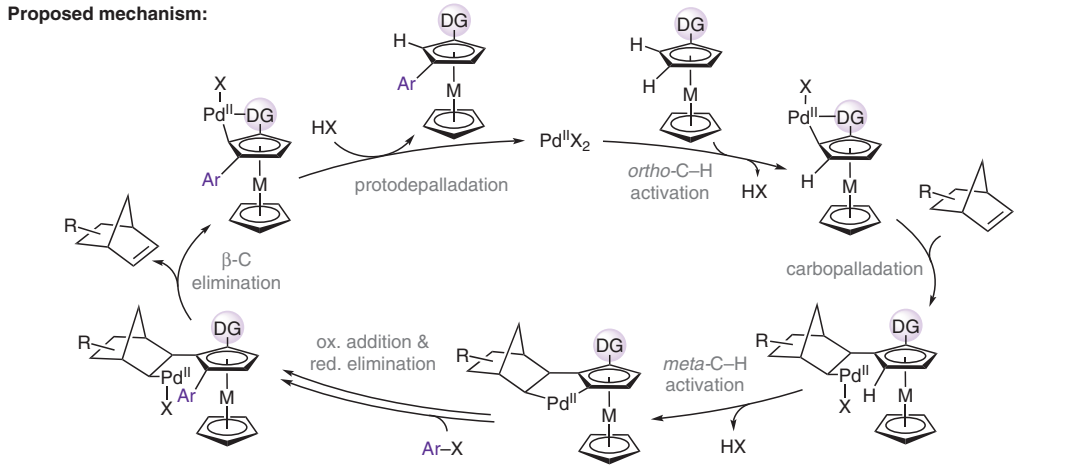
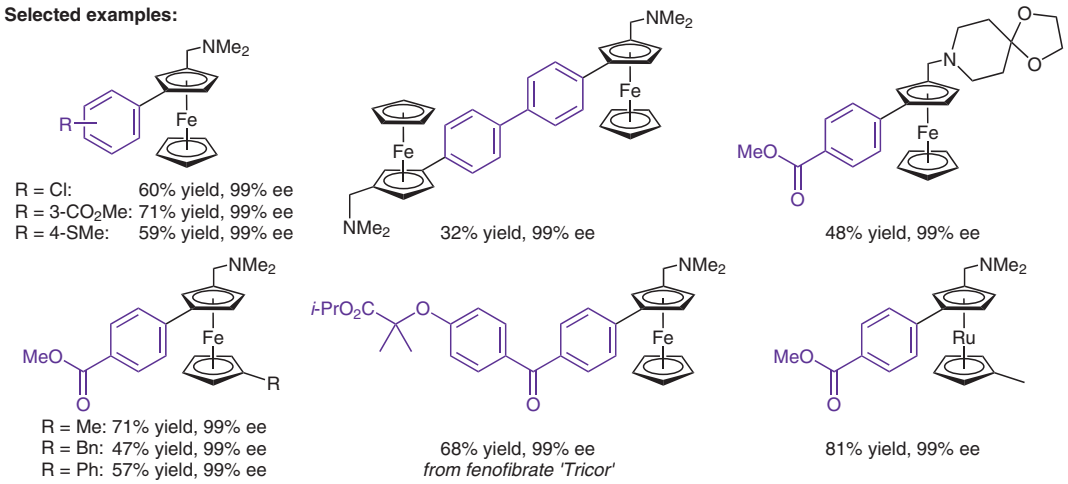
The Catellani Reaction meets C–H Activation: Synthesis of 1,3-Disubstituted Planar Chiral Metallocenes







Significance: The synthesis of planar 1,3-disubstituted chiral metallocenes via palladium-catalyzed remote C–H activation is reported. The reaction features high enantioselectivities and good functional group tolerance. Aryl iodides as well as bromides serve as compatible coupling partners.

Comment: An initial directed enantiodetermining C–H activation at the *ortho*-position, enabled by a chiral mono-N-protected natural amino acid ligand, is followed by a C–H activation of the remote *meta*-position using a bridgehead-substituted norbornene mediator, akin to the Catellani reaction.

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Category
Metals in Synthesis

Key words
Catellani reaction
palladium catalysis
planar chiral metallocenes
remote C–H activation

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