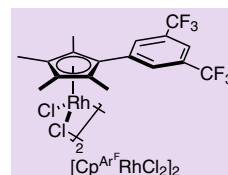
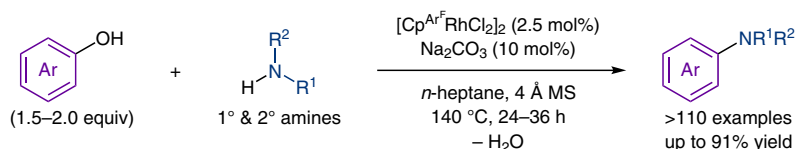


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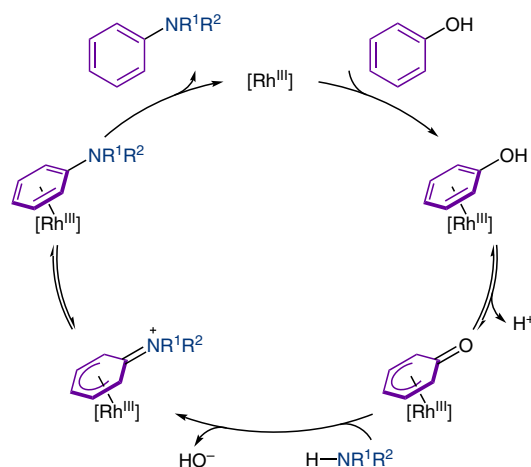
Catalytic Amination of Phenols with Amines

J. Am. Chem. Soc. **2022**, *144*, 1144–1151, DOI: 10.1021/jacs.1c12622.

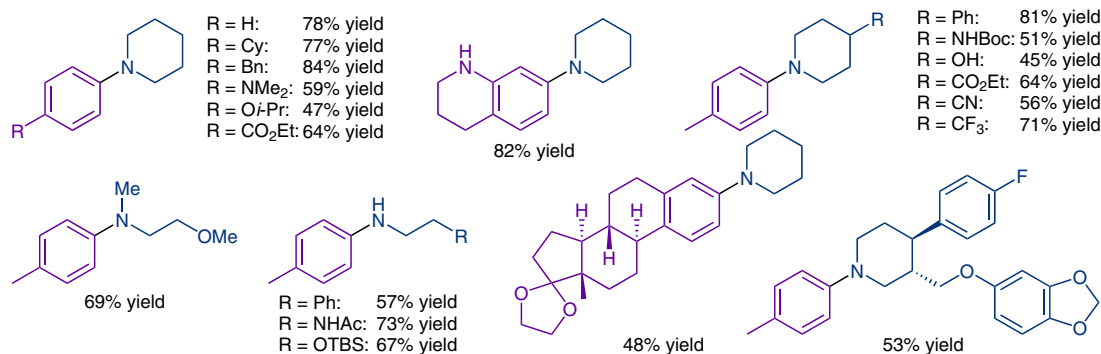
The Direct Coupling of Phenols and Amines under Rhodium Catalysis



Proposed mechanism:



Selected examples:



Significance: A redox-neutral strategy for the dehydrative coupling of phenols and amines enabled by a dimeric cyclopentadienyl rhodium(III) complex is disclosed. The reaction proceeds under mild conditions, releasing water as the sole by-product. This method is also applicable to late-stage functionalization.

Comment: Starting from readily available primary or secondary amines and phenols, this transformation provides access to a wide range of valuable anilines in good yields. Mechanistic experiments support a keto–enol tautomerization of phenol as the key step, facilitated by η^6 -coordination of the aryl ring by the rhodium complex.

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Metals in Synthesis

Key words

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anilines

cross-coupling

phenols

rhodium catalysis

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