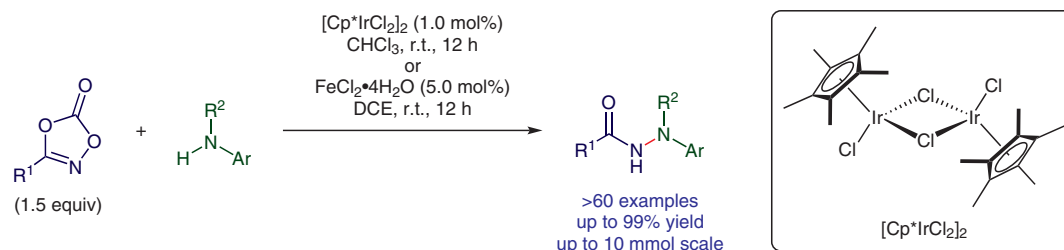


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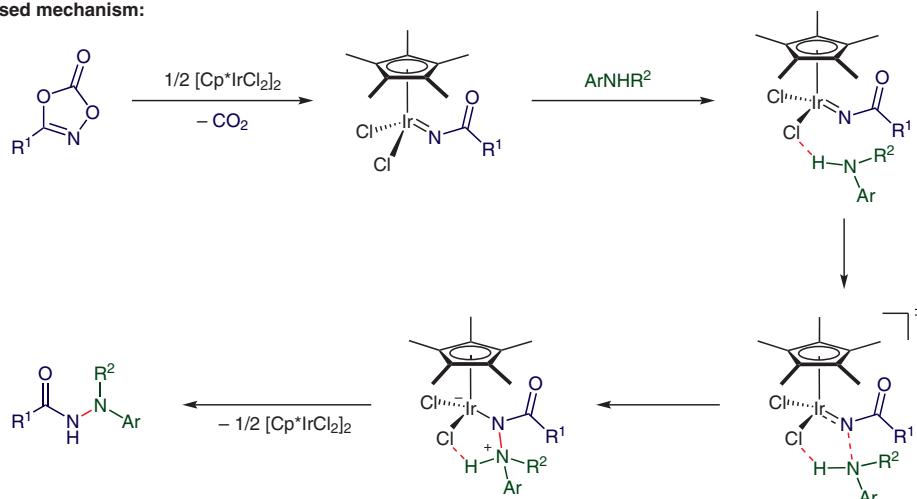
Nitrene-Mediated Intermolecular N–N Coupling for Efficient Synthesis of Hydrazides

Nat. Chem. 2021, 13, 378–385, DOI: 10.1038/s41557-021-00650-0.

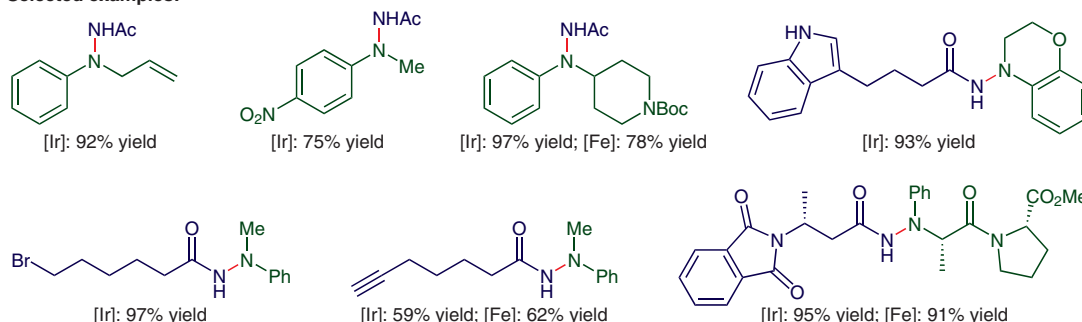
Synthesis of Hydrazides by N–N Coupling



Proposed mechanism:



Selected examples:



Significance: Chang, Chen, and co-workers report a synthesis of hydrazides from arylalkylamines and dioxazolones, which serve as nitrene precursors. Iridium complexes as well as simple iron halides were found to efficiently catalyze the transformation.

Comment: The reaction proceeds under mild conditions with excellent functional group tolerance, including pseudopeptides. Mechanistic studies indicate that the attack of the electrophilic iridium-nitrenoid intermediate by the amine is assisted by $\text{Cl} \cdots \text{HN}$ bonding.

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