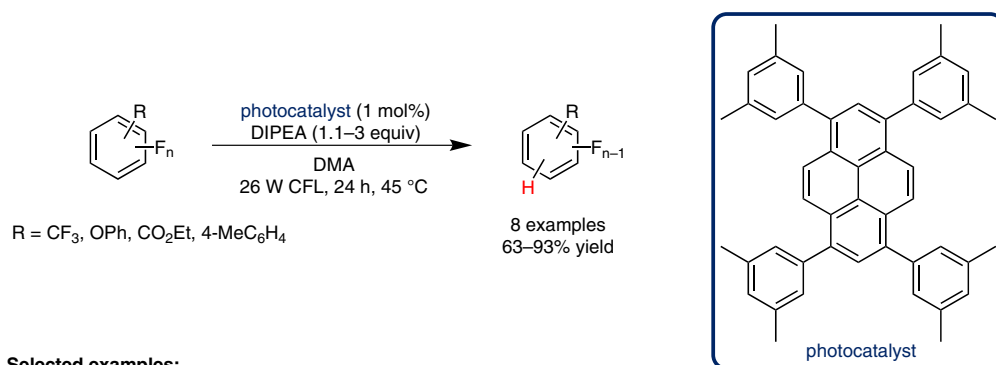


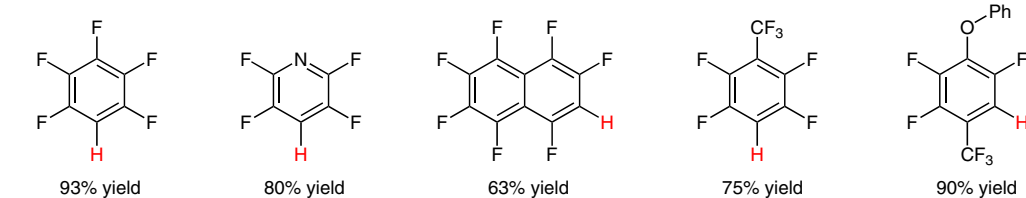
J. LU, N. S. KHETRAPAL, J. A. JOHNSON, X. C. ZENG, J. ZHANG* (UNIVERSITY OF NEBRASKA-LINCOLN, USA)

" π -Hole- π " Interaction Promoted Photocatalytic Hydrodefluorination via Inner-Sphere Electron Transfer
J. Am. Chem. Soc. **2016**, *138*, 15805–15808.

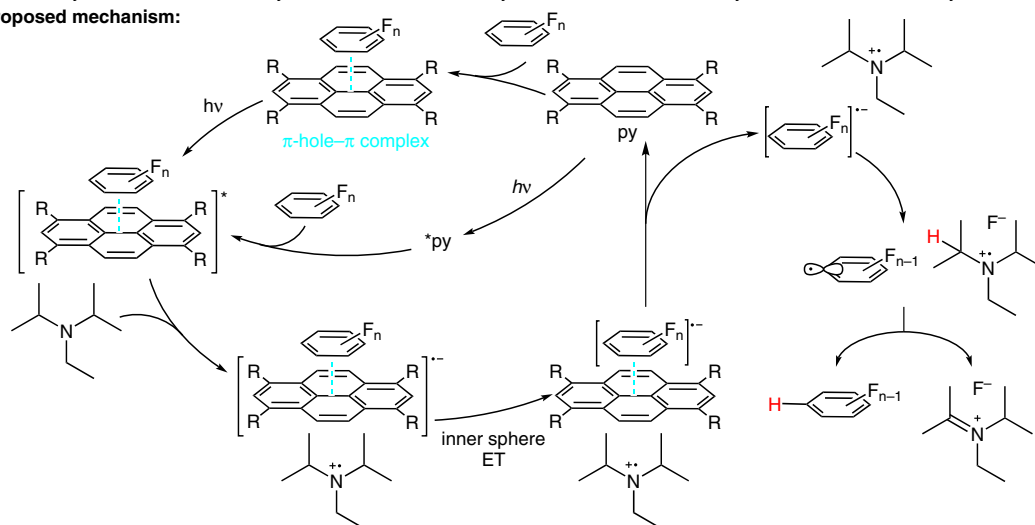
Photocatalytic Hydrodefluorination Promoted by π -Hole- π Interactions



Selected examples:



Proposed mechanism:



Significance: Zhang and co-workers report a metal-free, photocatalytic hydrodefluorination of polyfluoroarenes under mild conditions by using pyrene-based photocatalysts. The partially fluorinated arenes are obtained in good yields.

Comment: The authors present a new example of a weak, noncovalent interaction in small-molecule catalysis. Although the energetics for the electron transfer are unfavorable, the weak π -hole- π interactions between the photocatalyst and the fluoroarene promote the electron transfer, thereby initiating the hydrodefluorination.

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