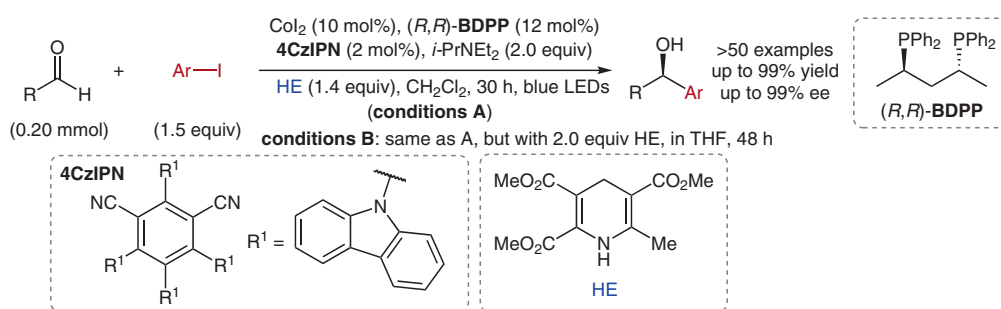


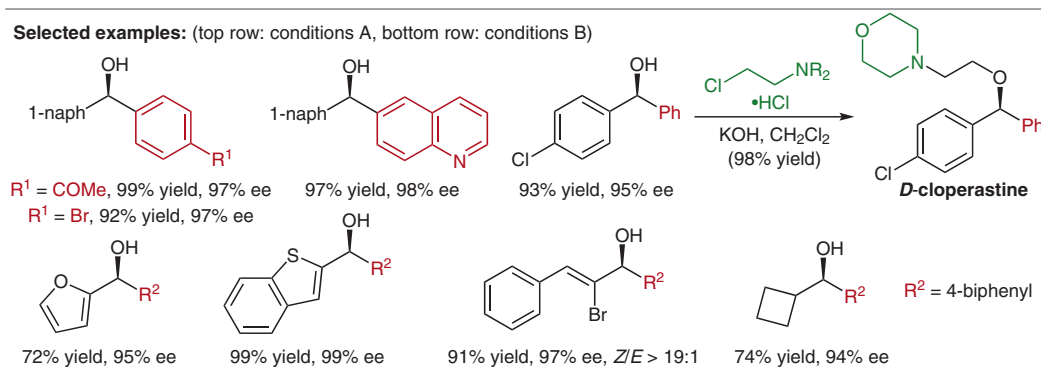
X. JIANG, H. JIANG, Q. YANG, Y. CHENG, L.-Q. LU\*, J. A. TUNGE, W.-J. XIAO\* (CENTRAL CHINA NORMAL UNIVERSITY, WUHAN, LANZHOU INSTITUTE OF CHEMICAL PHYSICS (LICP), HENAN NORMAL UNIVERSITY, XINXIANG, AND LANZHOU UNIVERSITY, P. R. OF CHINA)

Photoassisted Cobalt-Catalyzed Asymmetric Reductive Grignard-Type Addition of Aryl Iodides  
*J. Am. Chem. Soc.* **2022**, *144*, 8347–8354, DOI: 10.1021/jacs.2c02481.

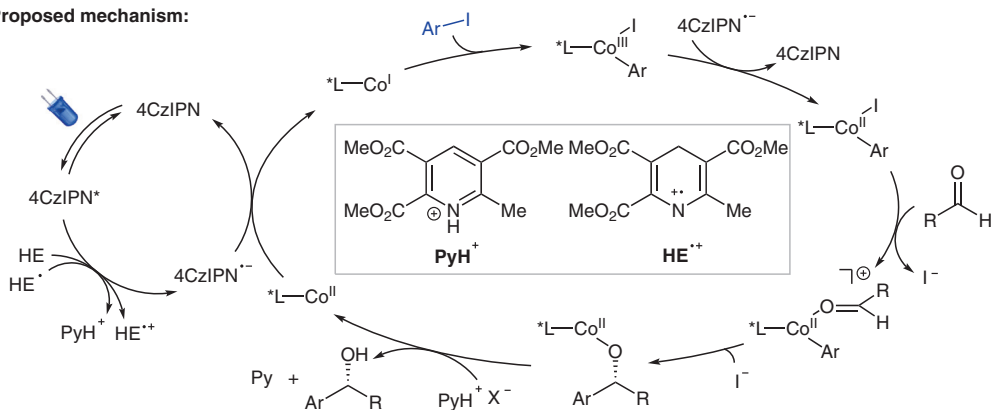
## Photoinduced Cobalt-Catalyzed Enantioselective Reductive Addition of Aryl Iodides to Aldehydes



Selected examples: (top row: conditions A, bottom row: conditions B)



Proposed mechanism:



**Significance:** A photoredox cobalt-catalyzed enantioselective approach to a Grignard-type addition of aryl iodides to aldehydes is reported. Notably, the mild reaction conditions enable a wide range of functional groups and heterocycles to be tolerated.

**Comment:** 4CzIPN is used as the photocatalyst, which can be excited under visible-light irradiation. The use of Hantzsch ester as the reductant is notable because it avoids the generation of stoichiometric metal waste.

SYNFACTS Contributors: Mark Lautens, Jeanne Masson-Makdissi  
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 Hantzsch esters  
 asymmetric reaction  
 Grignard-type addition

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