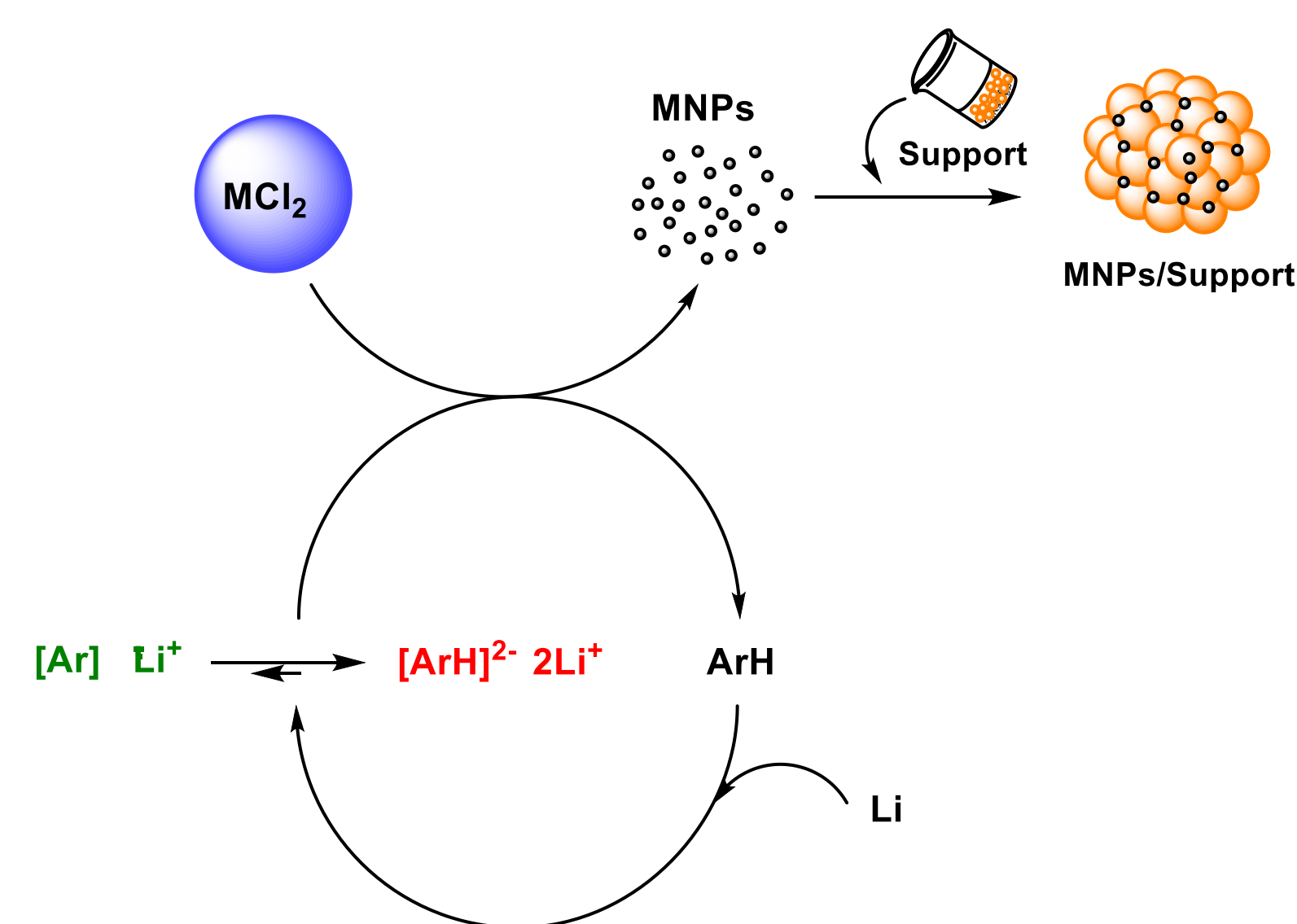


Preparation, characterization and application of metallic and bimetallic nanocatalysts in the synthesis of potentially bioactive compounds, through economic and sustainable processes

Lic. Joaquín F. Marchán García.
 Director: Dra. Yanina Moglie. Codirector: Dr. Gabriel Radivoy.
 INQUISUR-CONICET-UNS

OBJECTIVES

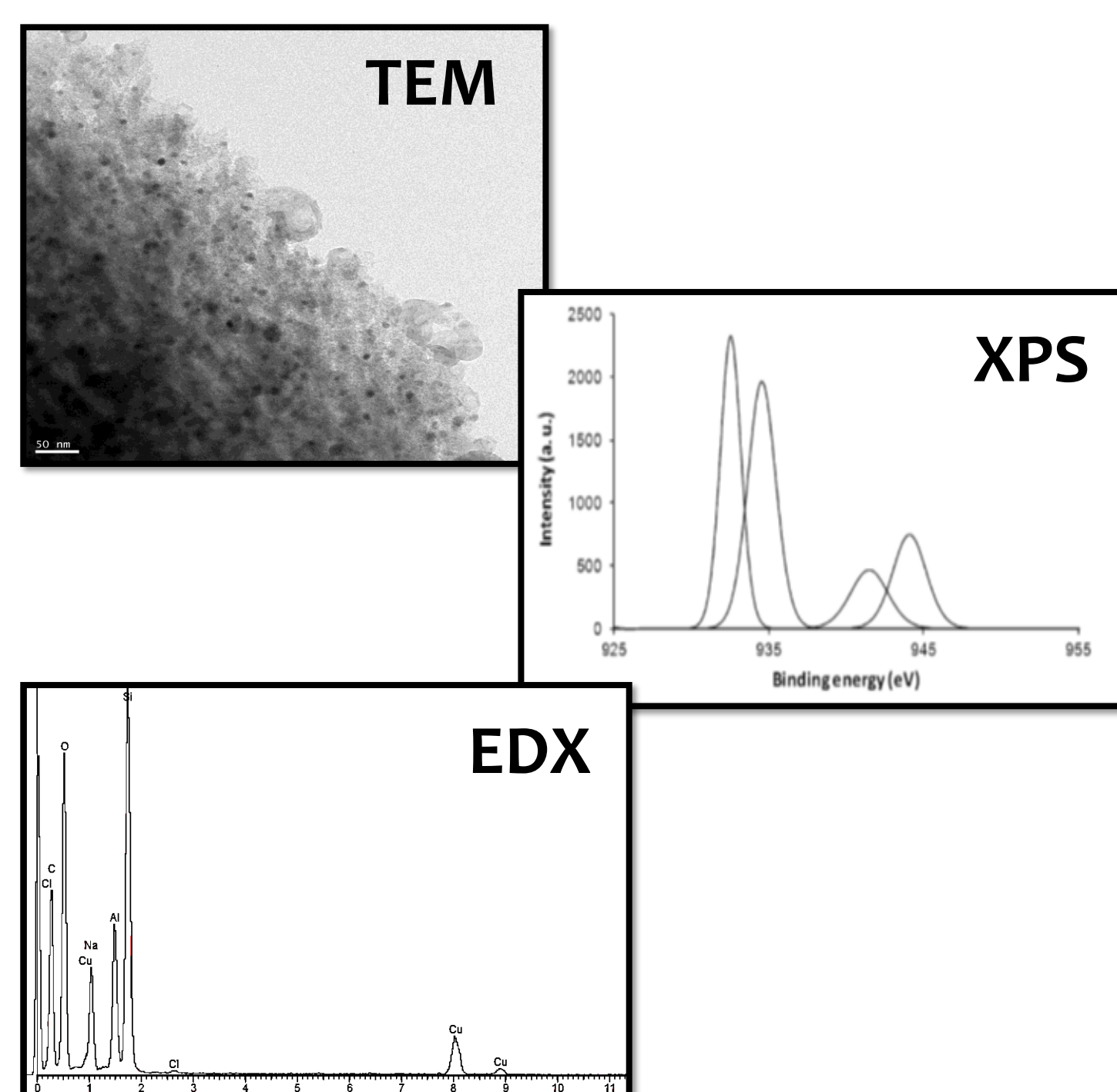
NANOCATALYSTS



Advantages:
 Easy preparation; reproducibility; easy handling and storage; variety of catalysts; recovery; reusability.

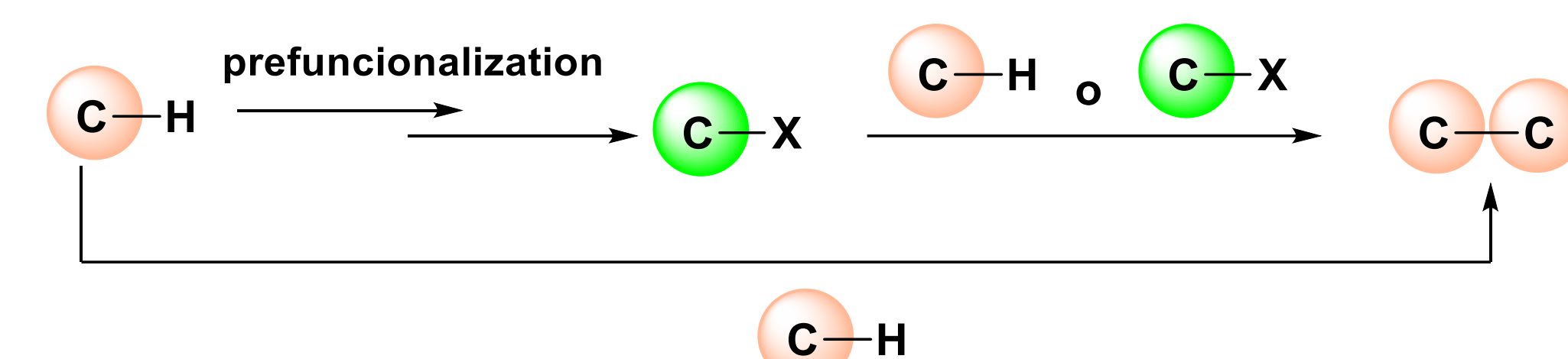
CHARACTERIZATION

Example of Copper nanoparticles on activated carbon



APPLICATION

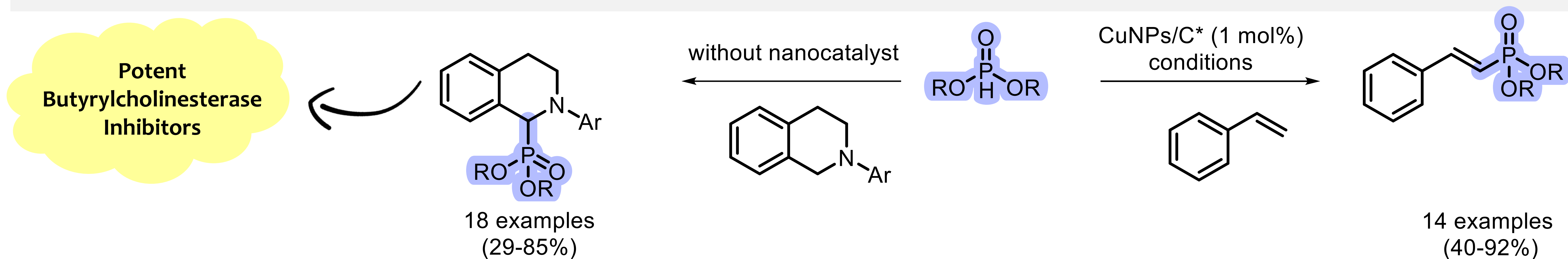
Cross dehydrogenative coupling (CDC) reaction scheme



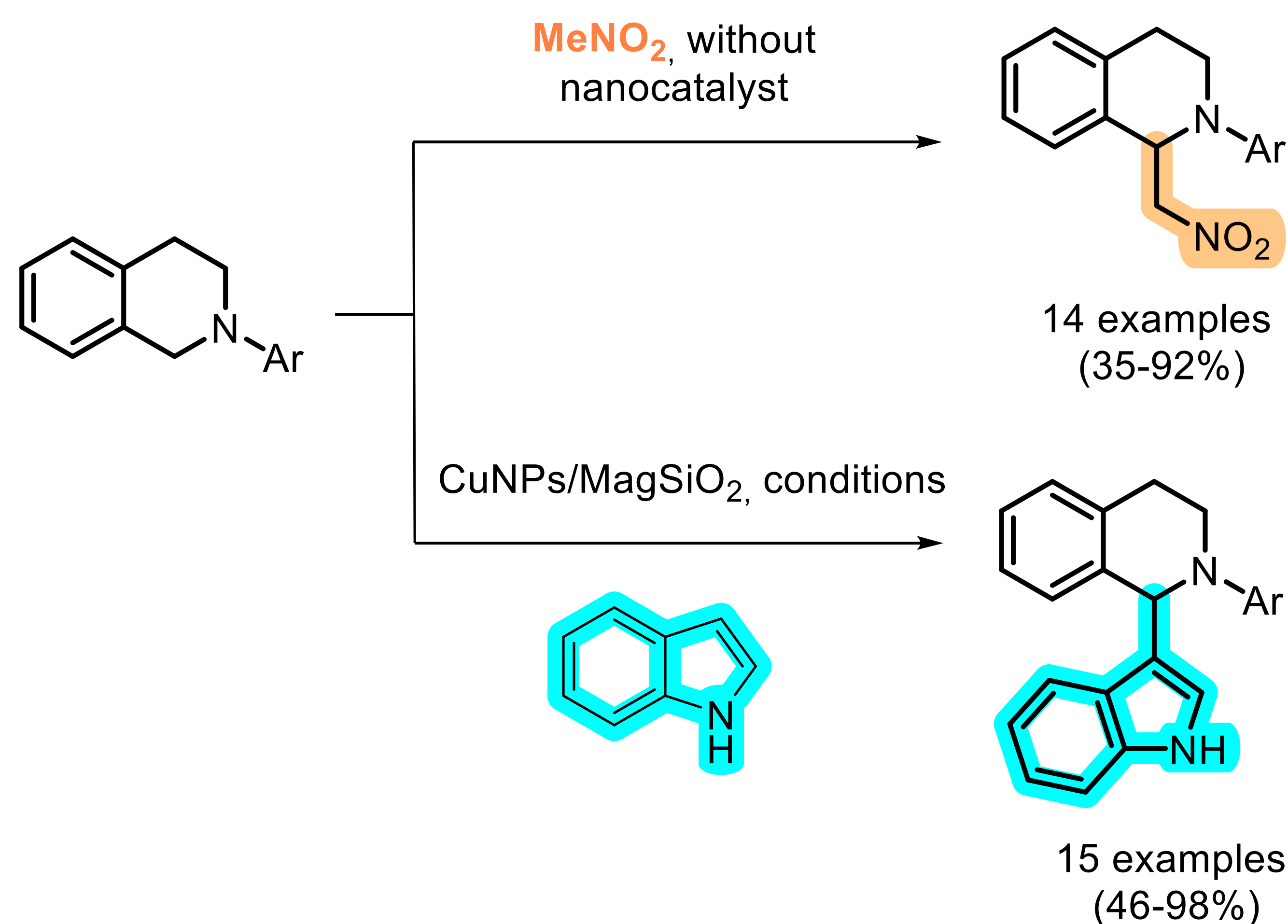
Advantages of CDC reaction:
 Step economy; atom economy; no prefuncionalization

RESULTS

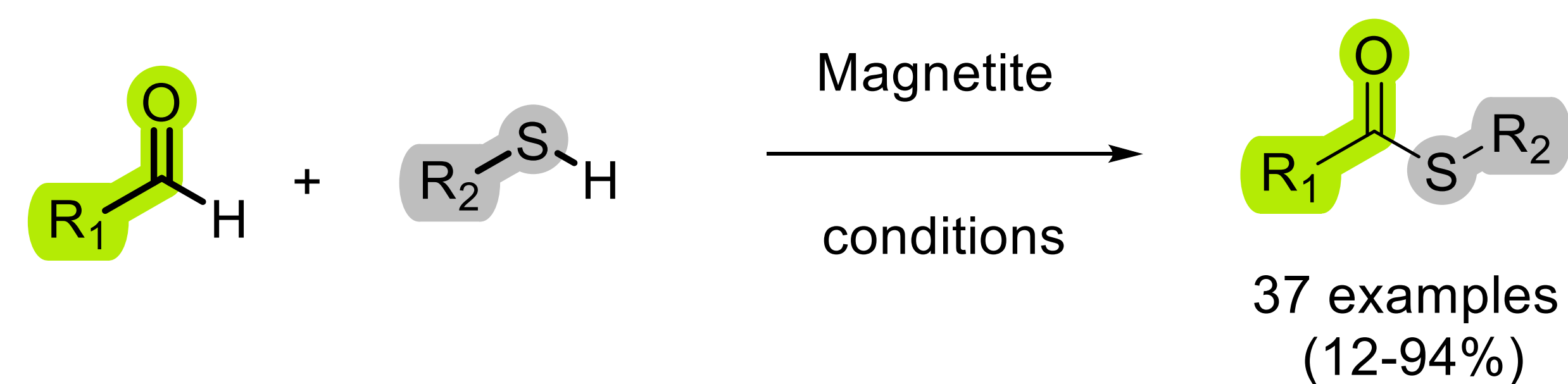
C-P BOND FORMATION ¹



C-C BOND FORMATION ²



C-S BOND FORMATION ³



PUBLICATIONS:

The results mentioned above were published in different Journals in the recent years:
 C-P Bond Formation: a) Bjerg, E. E.; Marchán-García, J.; Buxaderas, E.; Moglie, Y.; Radivoy, G. *J. Org. Chem.* **2022**, *87*, 13480–13493. b) Manuscript in preparation (vinyl phosphonates).
 C-C Bond Formation: a) Marchán-García, J.; Buxaderas, E.; Stratico, D. N.; Richmond, V.; Cavallaro, V.; Murray, A. P.; Radivoy, G.; Moglie, Y. *Bioorg. Chem.* **2024**, *143*, 107008. b) Manuscript in preparation (indoles derivatives).
 C-S Bond Formation: Marchán-García, J.; Álvarez, M.; Radivoy, G.; Moglie, Y. *European J. Org. Chem.* **2024**, e202400827. (Manuscript accepted).

