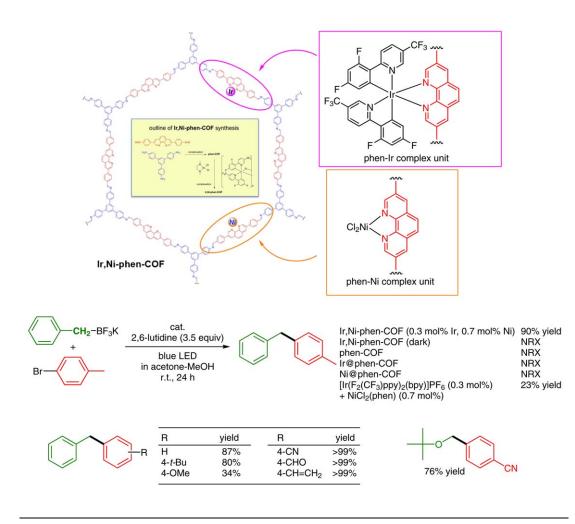
A. LÓPEZ-MAGANO, B. ORTÍN-RUBIO, I. IMAZ, D. MASPOCH, J. ALEMÁN\*, R. MAS-BALLESTÉ\* (UNIVERSIDAD AUTÓNOMA DE MADRID, SPAIN) Photoinduced Cross-Coupling with a Supported Iridium–Nickel Bimetallic Catalyst *ACS Catal.* **2021**, *11*, 12344–12354, DOI: 10.1021/acscatal.1c03634.

## Photoinduced Cross-Coupling with a Supported Iridium–Nickel Bimetallic Catalyst



**Significance:** A covalent organic framework containing phenanthroline units (**phen-COF**) was prepared by condensation of 1,3,5-tris(4-aminophenyl)benzene with 3,8-bis(4-formylphenyl)-1,10phenanthroline. A heterobimetallic **phen-COF** composite, **Ir,Ni-phen-COF**, was obtained by complexation of **phen-COF** with  $[[F_2(F_3C)ppy]_2Ir-\mu Cl]_2[F_2(F_3C)ppy] = 2-(2,4-difluorophenyl)-5-(trifluo$ romethyl)pyridine] and NiCl<sub>2</sub>·glyme.**Ir,Ni-phen-COF** catalyzed the C(sp<sup>3</sup>)–C(sp<sup>2</sup>) bond-forming crosscoupling of alkylborates with aryl bromides underphotoirradiation conditions. **Comment:** The cross-coupling did not take place in darkness. Heterogeneous **Ir,Ni-phen-COF** exhibited a better catalytic performance than homogeneous bimetallic systems using ppy-Ir and phen-Ni complexes [e.g., 4-MeC<sub>6</sub>H<sub>4</sub>Bn; yield: 90% (heterogeneous); 23% (homogeneous)]. **Ir,Ni-phen-COF** was recovered by centrifugation and reused seven times with a slight loss of its catalytic activity.

## Category

Polymer-Supported Synthesis

## Key words

covalent organic framework

iridium catalysis

nickel catalysis

photocatalysis

cross-coupling

of the