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Ni- and Pd-Catalyzed Organozinc Coupling with CO₂

**Significance:** This is the first study reporting the mild carboxylation of organozinc reagents using Pd or Ni catalysts and CO₂ as electrophile. The reaction tolerates a variety of functional groups and yields the respective carboxylic acids generally in good to excellent yields.

**Comment:** This reaction makes use of CO₂ as a C1 source which is appealing due to its natural abundance and absence of toxicity. It would be interesting to evaluate the possible potential of this protocol for an asymmetric carboxylation.

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**Examples:**

- **Examples using functionalized arylzinc reagents:** 10 mol% Pd(OAc)₂, 20 mol% Cy₃P (THF, 0 °C, 1 atm CO₂)
  - OMe: 97%
  - EtOOC: 76%
  - K: 75%
  - NC: 73%
  - S: 73%

- **Examples using functionalized alkylzinc reagents:** 5 mol% [Ni(Cy₃P)₂]₂(N₂) (toluene, 0 °C, 1 atm CO₂)
  - OMe: 90%
  - EtOOC: 80%
  - Cl: 92%
  - EtOOC: 86%