**Pd-PEPPSI-IPentCl – Selective Coupling of Secondary Organozinc Nucleophiles**

Significance: The authors report the new catalyst Pd-PEPPSI-IPentCl, which highly efficiently couples secondary alkylzinc reagents to (hetero)aryl bromides, chlorides and triflates. The corresponding alkylated aromatics are obtained in excellent yield and with high regioselectivity.

Comment: β-Hydride elimination (BHE) constitutes one of the main drawbacks for the cross-coupling of secondary alkyl reagents, especially if they react with electron-rich coupling partners. These problems are overcome by the new palladium-catalyst, which bears bulkier substituents and additionally, is characterized by a decreased electron density, thus favoring reductive elimination instead of BHE. Density functional theory (DFT) calculations support the theoretical selectivities.

**Selected examples:**

- **99% yield**
  - n/r > 99:1
  - Ar = Ar, O- and N-HetAr
  - R1 = Me, Et
  - R2 = Et, alkenyl, n-Pr
  - R1 + R2 = Boc-protected piperidine
  - X = Br, Cl, OTf

- **85% yield**
  - n/r = 49:1
  - Ar = Ar, O- and N-HetAr
  - R1 = Me, Et
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