Graphene Oxide Promoted C–H Arylation of Benzene with Aryl Halides

**Significance:** Graphene oxide promoted the C–H arylation of benzene with aryl halides in the presence of t-BuOK to give the corresponding biaryls in ≤92% GC yield (15 examples).

**Comment:** The graphene oxide was characterized by TEM, AFM, Raman spectroscopy, XPS, SEM, and BET analyses. In the reaction of benzene with 4-iodoanisole, the catalytic activity of graphene oxide was superior to that of the other carbon materials (carbon nanotubes: 19% GC yield, active carbon: 11%, carbon black: 19%, natural graphite: 8%).

**Results:**

- **X = I, 88% GC yield**
- **X = Br, 8% GC yield**
- **X = Cl, 0% GC yield**
- **X = MeO, 62% GC yield**
- **X = OMe, 29% GC yield**
- **X = Et, 84% GC yield**
- **X = i-Pr, 58% GC yield**
- **X = I, 80% GC yield**
- **X = I, 52% GC yield**
- **X = Ph, 92% GC yield**
- **X = Cl, 69% GC yield**