Catalytic Enantioselective γ-Alkylation of Carbonyl Compounds

**Significance:** The authors describe a new method for the catalytic enantioselective γ-(and δ-)alkylation of carbonyl compounds by cross-coupling γ-(and δ-)haloamides with alkylboranes. The reaction is catalyzed by nickel and uses a commercially available chiral diamine ligand to achieve high enantiomeric excess.

**Comment:** The reaction conditions tolerate alkyl chlorides as well as alkyl bromides as suitable electrophilic cross-coupling partners. Also, an aryl metal, a boronate ester, and a secondary alkyl metal compound are able to undergo the stereoselective cross-coupling with good enantiomeric excess.