Palladacycle-Catalyzed Highly Enantioselective Arylation of Sulfonylimines

**Significance:** The rhodium- or palladium-catalyzed 1,2-addition of arylboron reagents to activated imines is a useful reaction for the synthesis of chiral amines. The palladium-catalyzed version is often affected by diminished yields due to competitive hydrolysis of the starting imine and/or homocoupling of the boronic acid. Peters and Schrapel address these issues with an efficient protocol using a chiral palladacycle catalyst that was developed in their group.

**Comment:** Virtually perfect enantioselectivity and high yields are achieved with a range of imine/boroxine combinations, with electron-poor boroxines giving lower yields. Boronic acids were found to be more reactive than boroxines, but the latter were chosen for this study to enable a reproducible protocol. The authors propose that an anionic acetate ligand on palladium facilitates transmetalation with the boroxine. The use of less coordinative anions (OTf–, TFA–) led to low or no reactivity. Preliminary results with cyclic ketimines show that the formation of a quaternary center is also possible.