MODIFIED SUZUKI REACTION USING BISARYL TOSYLATES WITH DIARYLBORINIC ACIDS

Celeste Mercado, Jiangtao Hao, and David A. Boyles
Department of Chemistry and Chemical Engineering
South Dakota School of Mines and Technology
Rapid City, SD 57701

ABSTRACT

The Suzuki cross-coupling reaction is a recent reaction which has largely supplanted the classic coupling of aryl bromides at extreme conditions using a copper catalyst. Although many variations of the Suzuki reaction are currently in development, phenolic substrates typically have required conversion to the corresponding trifluoromethanesulfonate (as the aryl triflate) with subsequent reaction with arylboronic acids. Recently, we have undertaken to modify this reaction by use of the less expensive and more robust aryl toluenesulfonates (aryl tosylates). These compounds should, in principle, react with diarylborinic acids which have found extensive use in our laboratory.

Accordingly, the tosylate of bisphenol A was prepared as an inexpensive and more stable alternative to the bistriflate previously utilized. This compound was reacted with the electron-rich bis(4-benzyloxyphenyl)borinic acid under catalytic conditions in an attempt to transfer both aryl groups. The results of this reaction are described.