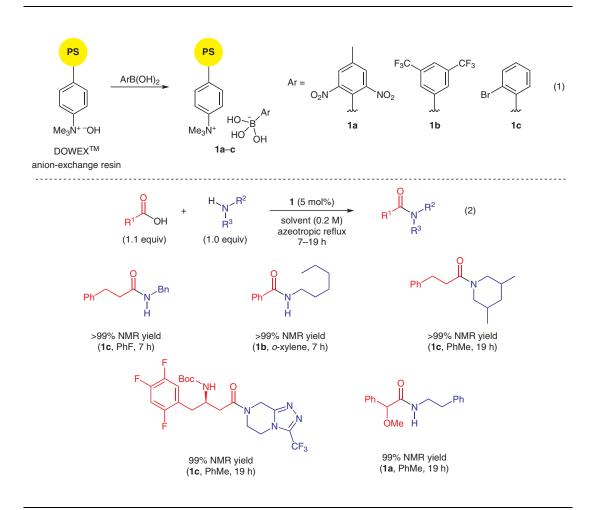
Y. LU, K. WANG, K. ISHIHARA* (NAGOYA UNIVERSITY, JAPAN) Design of Boronic Acid–Base Complexes as Reusable Homogeneous Catalysts in Dehydrative Condensations between Carboxylic Acids and Amines *Asian J. Org. Chem.* **2017**, *6*, 1191–1194.

Direct Amide Condensation by Using Supported Boronates



Significance: Polystyrene resin bound quaternary ammonium boronates **1a–c** were prepared by treatment of a commercial anion-exchange resin with the appropriate arylboronic acids (eq. 1). Boronates **1a–c** catalyzed the dehydrative condensation of carboxylic acids with amines under azeotropic reflux conditions to give the corresponding amides quantitatively (eq. 2). **Comment:** In the dehydrative condensation of 3phenylpropanoic acid with benzylamine, catalyst **1b** was recovered by decantation and reused nine times without loss of its catalytic activity. ¹H NMR spectroscopy studies suggested that free arylboronic acids were released from the resin into the solution during the reaction.

SYNFACTS Contributors: Yasuhiro Uozumi, Shun Ichii Synfacts 2017, 13(12), 1321 Published online: 17.11.2017 **DOI:** 10.1055/s-0036-1592021; **Reg-No.:** Y15217SF

Category

Polymer-Supported Synthesis

Key words

ammonium

boronates

carboxylic acids

amines

condensation

amides