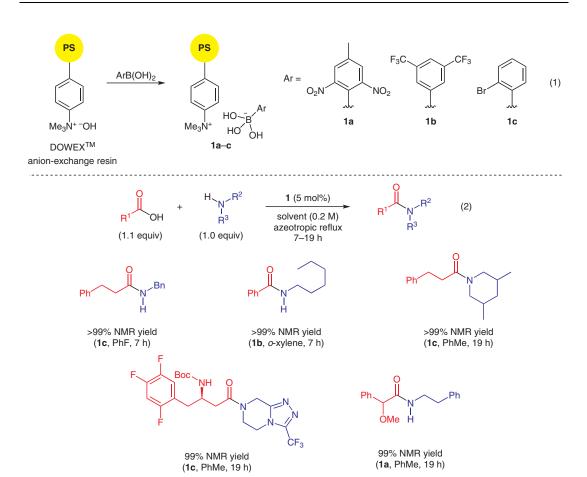
## Y. LU, K. WANG, K. ISHIHARA\* (NAGOYA UNIVERSITY, JAPAN)

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. <sup>1</sup>H 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

Polymer-Supported **Synthesis** 

Key words

ammonium boronates

carboxylic acids

amines

condensation

amides

