

Sharma, A.; Kumar, P.; Pal, R.; Jayaraman, N. 2016, "Dendritic bis- and tetrakis-iminodiacetic acid-boronate complexes in one-pot cross-coupling reactions", *J. Organomet. Chem.*, 819, 138-146.

This manuscript describes synthesis of dendritic *bis*- and *tetrakis*-iminodiacetic acid ligand systems, followed by utilizing these newly developed ligand systems in boronate ester formation. Hydrolysis of dendritic boronates to boronic acid is observed to be significantly slower than hydrolysis of monomeric boronates. Taking advantage of the slower hydrolysis of dendritic boronates, we have developed an iterative, multi-step, one pot C-C bond forming Suzuki-Miyaura cross-coupling reaction, leading to the formation of teraryls and tetraaryls, by involving judicious boronic acids, monomeric boronates, dendritic boronates and aryl bromides. The study thus not only covers a detailed synthesis of dendritic boronates, but also hydrolysis studies and subsequent involved investigation of the utility of dendritic boronates in iterative, one-pot cross-coupling reactions. Dendritic boronates are observed to be much more hydrolytically stable, than monomeric boronates that are known currently. The observation that dendritic boronates are even more hydrolytically stable than known instances currently, provides an avenue to conduct iterative one-pot cross-coupling reactions in a finer manner. In this study, we present such one-pot reactions, leading to ter- and tetraaryl, initiated from monoaryl reactants, in the form of boronates and halides.