NOVEL BORON CHEMISTRY

BACKGROUND

Boronate esters are used extensively by the fine chemical, organic electronic, pharmaceutical and agrochemicals industries, predominantly in carbon-carbon bond forming reactions. Despite the immense importance of boronate esters to these industries a simple, robust and inexpensive method of synthesizing the desired wide range of boronate ester starting materials did not exist until now.

THE TECHNOLOGY

Dr Michael Ingleson, from the School of Chemistry at The University of Manchester, has developed a novel methodology for the synthesis of a wide range of industrially important boronate esters. This novel borylation methodology has already been used to synthesize a wide range of boronate esters and the following benefits have been demonstrated:

- simple one pot reaction
- room temperature chemistry
- high yields
- highly regioselective
- functional group tolerant
- robust
- inexpensive: uses common and cheap reagents, no cryogens required
- easily scalable using existing equipment and plant.

KEY BENEFITS

This methodology enables the synthesis of a number of potentially important boronates which are not accessible using traditional approaches, creating novel compounds with improved properties.

PATENT

A patent application entitled ‘Process for the borylation of arenes and heteroaryls’ has been filed to protect this novel methodology.

OPPORTUNITY

For license to business partners interested in industrial application, technology scale-up and commercialisation.

CONTACT

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