

Bas van den Berg

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Project	Organocatalysis in Microreactors
Fields of interest	Flow chemistry, polymer chemistry, organic chemistry, surface functionalization and characterization
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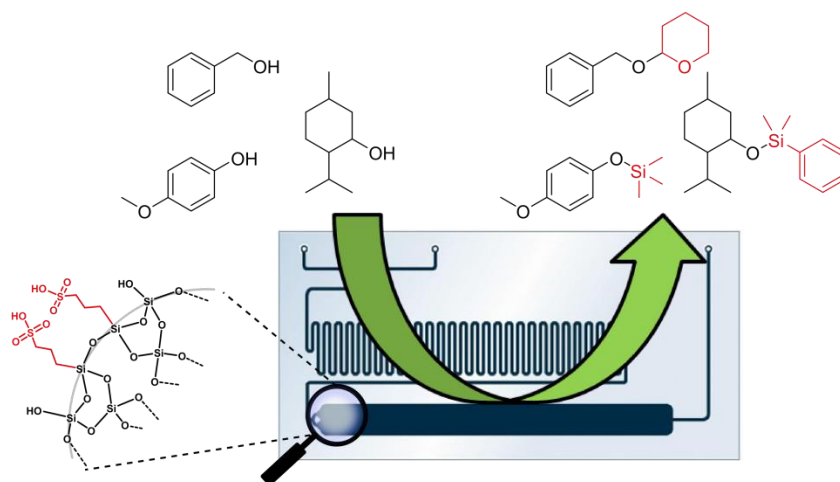


Introduction

Traditionally, reactions have been performed in the ubiquitous round-bottom flask. However, scale-up of certain reactions (e.g. exothermic reactions or reactions where dangerous reagents are used) pose safety issues. Microreactors have been developed to deal with these problems. Because of small channels and large surface areas, heat transfer and mixing are much better than in standard batch-type glassware. This enables the use of “forbidden” reactions at high temperatures with excellent control over reaction conditions, often avoiding formation of by-products and waste.

Goal

The overall goal is to develop a method for using solid-supported catalysts in continuous flow. We developed a novel surface functionalization technique for mesoporous silica onto which we can do thiol-ene click chemistry. Mesoporous silica with sulfonic acid groups has been used as a catalyst for silylation reactions of alcohols and currently, we are investigating polymerizations in continuous flow.



Acknowledgement

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