

Proof of Concept Funding

We are a synthetic organic research group at the University of Nottingham, with interests in the development of new methodology and interrogation of reaction mechanism. In 2017 I was awarded proof of concept funding from Dial-a-Molecule to purchase a Scilogex microcentrifuge ([link](#)). Access to this equipment has underpinned two research projects in my laboratory, and continues to be employed as a powerful tool for high-throughput isolation of small amounts of solids from reaction mixtures.

1. Synthesis of Air-stable, Odorless Thiophenol Surrogates via Ni-Catalyzed C–S Cross-Coupling.

In this project, we developed a convenient method for the synthesis of *S*-aryl isothiuronium salts by Ni-catalysed coupling of aryl iodides and thiourea.¹ These salts are air-stable, odourless surrogates for thiophenols which can be isolated directly from the reaction mixture as non-hygroscopic solids. Development of a chromatography-free method for isolation of these salts was considered essential in order to improve the sustainability and scalability of the method. To this end, we used the microcentrifuge in early screening to rapidly assess conditions for product precipitation, both in terms of efficiency of precipitation and purity of the precipitated product.

2. Synthesis of Designer Polymers.

As part of a collaborative effort with the Adriaenssens group at Lincoln, we have been investigating a fundamentally new approach to designer polymers. The microcentrifuge provided by the Dial-a-Molecule funding was again employed in the early stages of this project to isolate precipitated polymers which were then assessed for microstructural integrity and PDI. This research is ongoing, and will be published in due course.

¹ Magné, V.; Ball, L. T. *Chem. Eur. J.* **2019**, *25*, 8903-8910. *Selected as Hot Paper.*
<https://onlinelibrary.wiley.com/doi/abs/10.1002/chem.201901874>