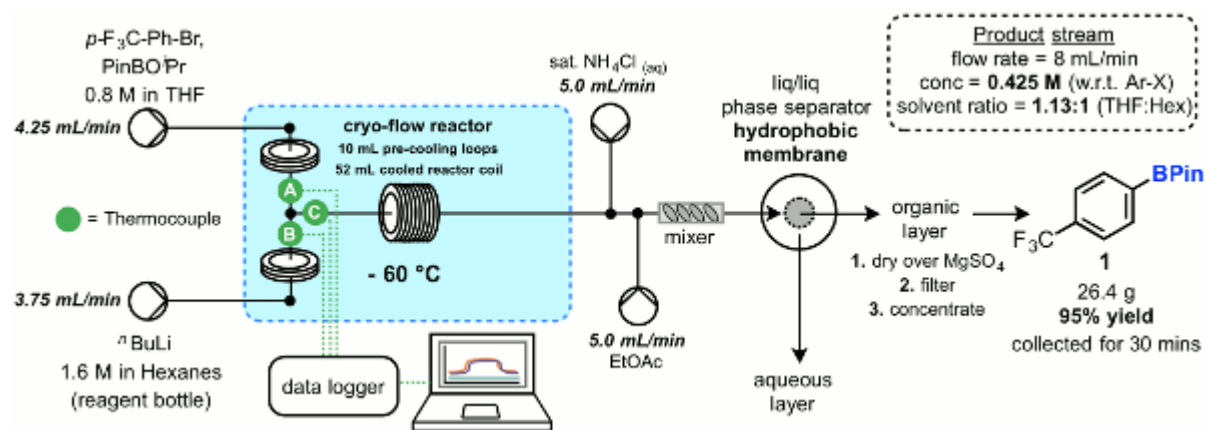


## Publication 34: Synthesis and Scale-up of Boronic Acids using a Flexible Flow-Through Chemistry Platform



Boronic acids are important and widely utilised synthetic intermediates. However, often the one that you really want isn't commercially available and you have to make it - on scale. Continuous processing provides an attractive option whereby precise temperature control can afford high purity products.

A series of aryl boronic acids have been prepared at a rate of production of up to 50 g/h by continuous lithium-halogen exchange followed by in situ borylation.

Larger internal diameter coil reactors were found to be necessary to prevent blockages and a flexible flow reactor platform employing an easily exchanged range of pre-cooling and reactor coils in conjunction with a Polar Bear cryo-reactor was utilised and demonstrated to provide effect control of reaction temperatures. The use on an integrated in-line continuous liquid-liquid separation device was also exemplified to effect continuous purification of the product stream.

[J. A. Newby, L. Huck, D. W. Blaylock, P. M. Witt, S. V. Ley, D. L. Browne, Chem Eur J., 2014, 20, 263-271](#)