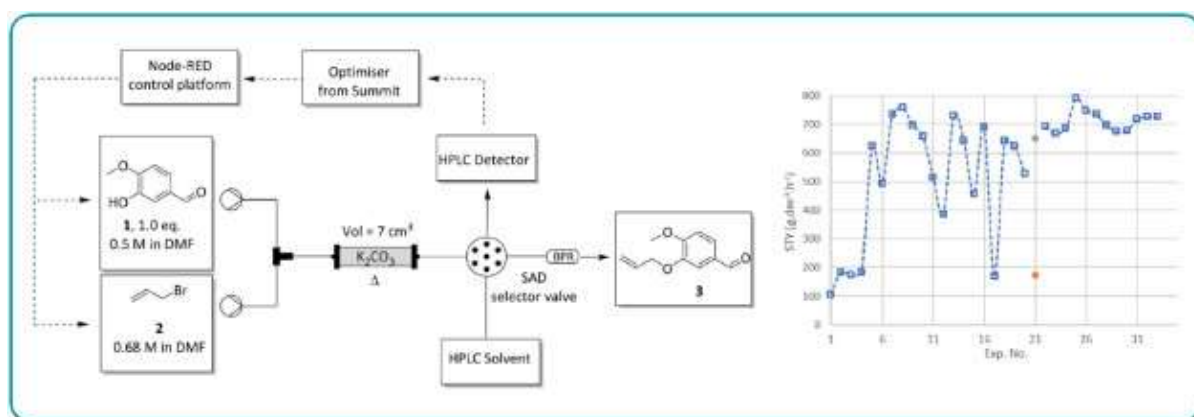


Publication 71: Use of Open-Source Software to Implement Closed-Loop Reaction Optimisation under Flow-Through Conditions



Researchers at the University of Pretoria (South Africa) have developed a general platform for performing closed loop reaction optimisation by integrating a Uniqsis [FlowSyn Maxi](#) continuous flow reactor with an analytical HPLC.

The FlowSyn Maxi was controlled over ethernet using an open-source Node-Red dashboard running on a Raspberry Pi linked to the single objective optimisation algorithm SUMMIT.

An autonomous optimisation of a representative allylation reaction in flow was performed over 33 iterations in a 12-hour period.

[C. J. van der Westhuizen, J. du Toit, N. Neyt, D. Riley & J.-L. Panayides, Digital Discovery, 2022, D2DD00036A](#)