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Innovation in catalytic methodology development through flow chemistry

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Until recently, many reactions have been exclusively performed in conventional batch LabWare. With the advent of microreactor technology, significant effort has been devoted to develop a wide variety of continuous-flow techniques to facilitate organic synthesis. Microreactor technology offers several advantages compared to traditional batch reactors, such as, enhanced heat- and mass-transfer, improved irradiation, safety of operation and the possibility to integrate several reaction steps and subsequent separations in a single streamlined process.⁽¹⁾

In this presentation, we will give an overview of our catalytic methodology development, exemplified by photoredox catalysis⁽²⁾ and C–H activation chemistry,⁽³⁾ and how these synthetic methods were impacted by continuous-flow microreactor technology.

References

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2. For some of our recent work, see: (a) X.-J. Wei, W. Boon, V. Hessel, T. Noel, *ACS Catal.* **2017**, *7*, 7136-7140. (b) C. Bottecchia, M. Rubens, S. Gunnoo, V. Hessel, A. Madder, T. Noel, *Angew. Chem. Int. Ed.* **2017**, *56*, 12701-12707. (c) D. Cambie, F. Zhao, V. Hessel, M. G. Debije, T. Noel, *Angew. Chem. Int. Ed.* **2017**, *56*, 1050-1054. (d) N. J. W. Straathof, S. E. Cramer, V. Hessel, T. Noel, *Angew. Chem. Int. Ed.* **2016**, *55*, 15549-15553.
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