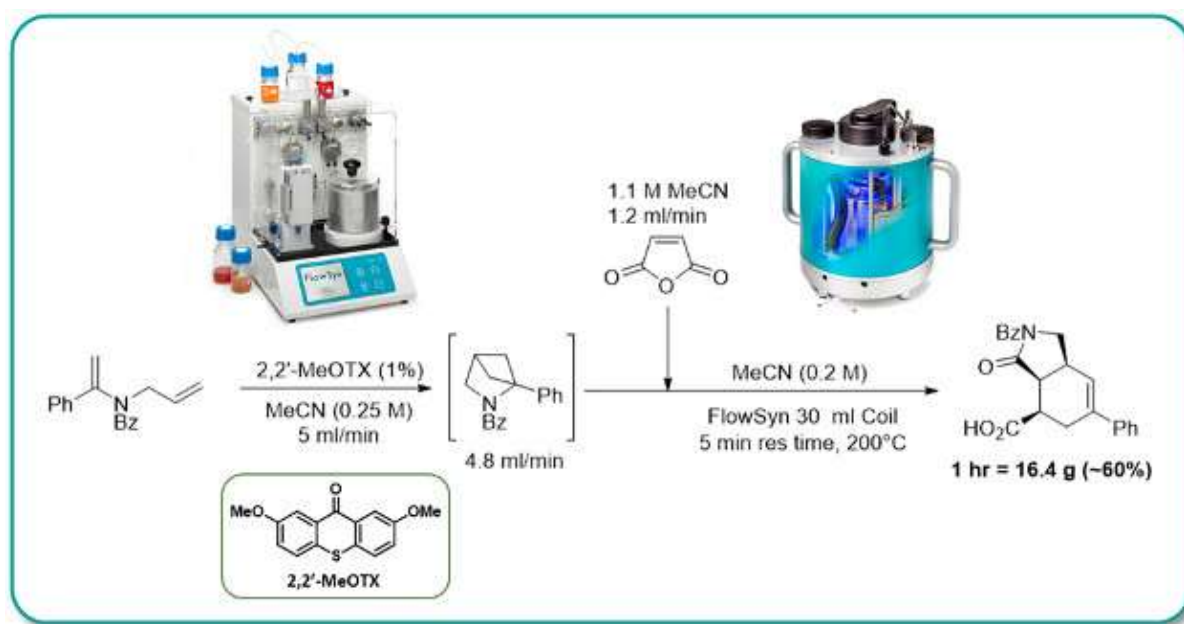


Publication 68: Multistep Continuous Flow Synthesis of Visible-Light-Mediated Photochemistry with a High-Temperature Cascade Reaction



A highly efficient visible-light-mediated photochemical [2 + 2] cycloaddition is coupled with an atom economic thermal cascade reaction in a continuous flow process.

By moving the photochemistry from ultraviolet (UV) to visible, it is made more energy-efficient and can be conducted with readily available equipment. The application of high-temperature flow chemistry to the thermal cascade step allows for safe and reliable scale-up with short reaction times.

This sequential photo/thermal transformation was performed with a throughput of 20g/hour using commercially available instrumentation.

The synthetic utility of flow chemistry is further showcased by the isolation of a reactive intermediate at quantities not possible under batch conditions.

[L. D. Elliott, K. I. Booker-Milburn, and A. J. J. Lennox, Org. Proc. Res. Dev., 2021](#)

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