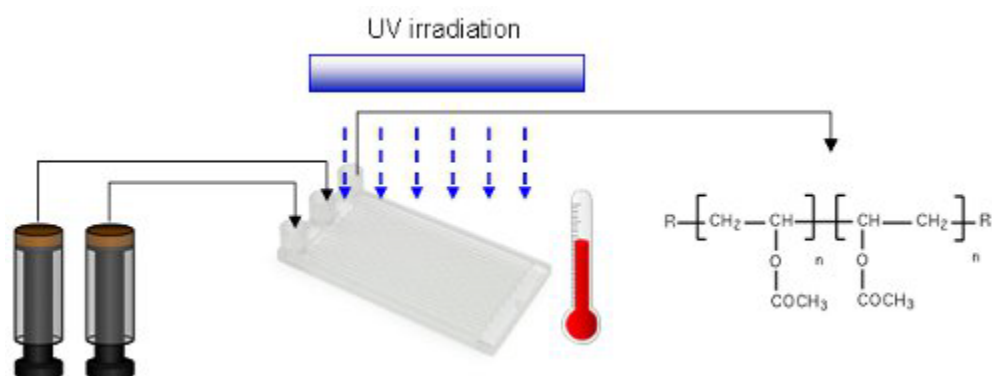


Publication 42: Improved Photo-Induced Cobalt-Mediated Radical Polymerization in Continuous Flow Photoreactors



The cobalt-mediated radical polymerisation of vinyl acetate has been shown to be a scalable UV reaction that is significantly improved when carried out under continuous flow-through conditions. Reaction rates are considerably increased and product quality is improved such that extensive cross-linking and the formation of insoluble polymers can be largely avoided.

Co-polymerisation of vinyl acetate with 1-octene was also improved and the flow reactor was found to be particularly useful for investigating the kinetics of these radical polymerisation processes.

Interestingly, when translating from batch to flow, the rate of polymerisation was observed to be approximately 4 fold faster even in the absence of UV irradiation.

[A. Kermagoret, B. Wenn, A. Debuigne, C. Jerome, T. Junkers, C. Detrembleur, Polym. Chem., 2015, DOI: 10.1039/C5PY00299K](#)

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