ELECTROCHEMICAL FERRIER REARRANGEMENT IN FLOW

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Synthetic organic chemistry is a crucial field of research, as it provides methods for the synthesis of a wide range of chemical compounds, including those used in industrial processes, biologically active molecules, and pharmaceutical drugs. As multiple synthetic routes often exist for any given compound, electrochemistry enabled in continuous-flow processes stands out as an exceptional approach for accessing certain compounds, offering very high productivity while remaining environmentally friendly.

Herein, we report a flow-enabled electrochemical Ferrier rearrangement (**Fig. 1**), a transformation that typically relies on stoichiometric amounts of toxic oxidants or strong acids, but in our case performed with only catalytical amount of charge and electrolyte.[1] This work demonstrates how medically relevant compounds, such as 2,3-unsaturated glycosyl derivatives, can be obtained using electrochemistry integrated into a continuous-flow process. This approach not only outperforms the earlier batch version of the transformation in terms of yield and productivity, but also represents a significant advancement in the field of flow electrochemistry research.[2]

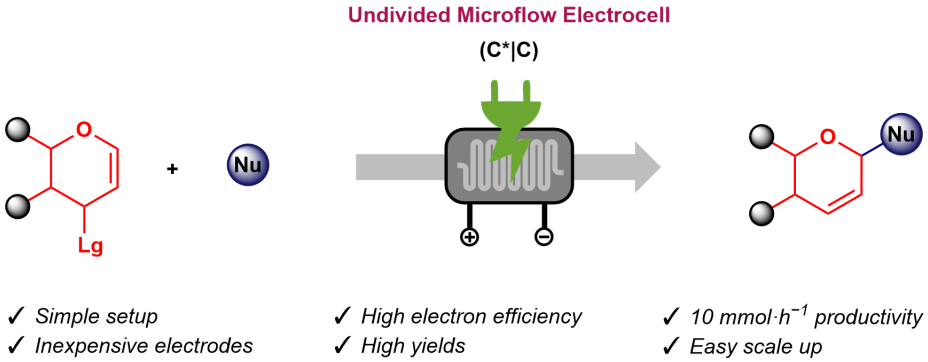

Fig. 1. Flow-enabled electrochemical Ferrier rearrangement

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Keywords: Organic chemistry, Flow synthesis, Flow electrochemistry, electrochemical synthesis, sugar chemistry, Ferrier rearrangement

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