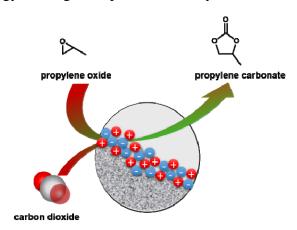
## CONTINUOUS TRANSFORMATION OF CARBON DIOXIDE USING SUPPORTED IONIC LIQUIDS

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The utilization of  $CO_2$  as raw material is highly desirable to produce valuable products. In this regard, ionic liquids have attracted considerable interest as they can be used as tailored catalysts for the conversion of  $CO_2$  to chemical feedstocks [1]. Moreover, the liaison of ionic liquids with supercritical  $CO_2$  (sc $CO_2$ ) provides a convenient tool for the immobilization of catalysts while simultaneously utilizing sc $CO_2$  as both solvent and reactant.

In here, we present our investigations towards the use of supported ionic liquid phases (SILPs) as catalysts for the conversion of scCO<sub>2</sub>, aiming for the continuous production of valuable products such as cyclic carbonates or formamides. A set of ionic liquids with different core and anions was initially evaluated under homogeneous conditions in batch mode. Eventually, a continuous flow process using supported ionic liquids was developed, and a considerable impact of ionic liquid structure, support material, and immobilization strategy on long-term process stability was observed [2].



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<sup>[1]</sup> Cokoja, M.; Wilhelm, M. E.; Anthofer, M. H.; Herrmann, W. A.; Kuhn, F. E. ChemSusChem **2015**, 8, 2436-2454.

<sup>[2]</sup> Sainz Martinez, A.; Hauzenberger, C.; Sahoo, A.R.; Csendes, Z.; Hoffmann, H.; Bica, K. ACS Sus. Chem. Eng. **2018**, 6, 13131-13139.