

MECHANOCHEMICAL CONVERSION OF 1,2,3-TRICHLOROPROPANE INTO HOMOALLYLIC ALCOHOLS

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Currently, the invention of cost-efficient technologies for capture and remediation of persistent organic pollutants (POPs) is of growing interest and importance. We propose an innovative concept for remediation of POPs, based on their capture with macrocyclic hosts followed by mechanochemical conversion into value-added products (Fig.1). As a proof of concept, we have developed a high-yielding method for the synthesis of useful homoallylic alcohols [1] from 1,2,3-trichloropropane (TCP), a chlorinated POP with high chemical resistance [2]. The reaction is performed in the presence of cyclohexanohemicucurbiturils (cycHCs) [3] as plausible TCP-capturing macrocycles, that are prepared via mechanochemistry. The macrocyclic hosts can be completely recovered and reused after the reaction.

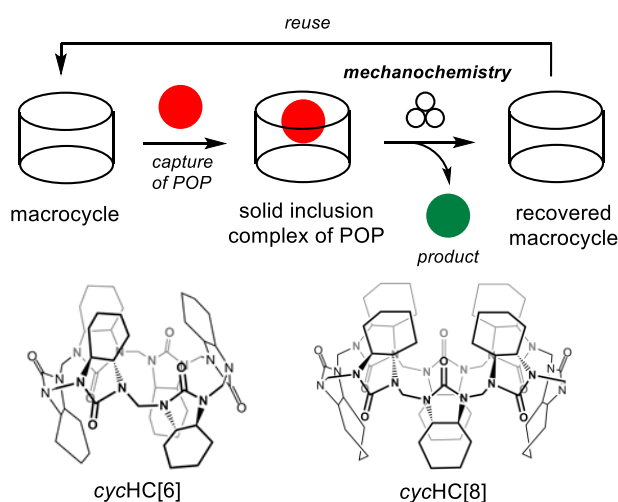


Fig.1. Remediation of POPs via mechanochemical conversion into value-added products

References

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