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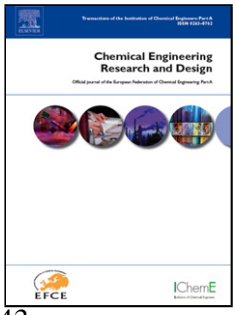

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Bio-inspired Dechlorination of Poly vinyl chloride

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Production of PVC through petroleum may involve chlorine as an element for the activity on microscopic (i.e., atomic or molecular) level and the same mechanism may involve for its dechlorination . Oxychlorination assisted pyrolysis is an important reaction towards the synthesis of PVC and the reverse reaction is possible for its degradation. Ethylene carbonate (EC) with hydroxyethyl carbamate (ED) supports the microbial susceptibility of PVC. EC with ED can be synthesized through an inexpensive route of using ethylene glycol (EG) with urea. *pseudomonas sp*. and *aspergillus sp.* are found to be responsible microbe for the resultant dechlorination. This approach provides a novel hybrid combination for PVC dechlorination and proposes EC- ED combination as a new green bio-inspiring reagent.

Keywords: Microscopic Reversibility, dechlorination, PVC, ethylene carbonate, bio-inspiring reagent

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