

Aminolysis of Polycarbonate under UV Irradiation to Obtain Ionic Liquids

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Nowadays, the majority of daily objects are made up by plastic, it is ubiquitous in different fields such as construction, electronics and packaging. Plastic has some advantages such as versatility and low cost; on another hand, poor management of plastic waste poses the issue of accumulation of plastic debris in environment.^[1] Chemical recycling to monomers is a viable strategy to tackle this problem.^[2] In this regard, we investigated the depolymerization of polycarbonate into bisphenol A. In the framework of our interest in plastic chemical recycling, we used ultrasound to promote the aminolysis of polycarbonate (PC). We used *N,N*-dimethylethylenediamine, *N,N*-dimethylpropylenediamine and 3-aminopropylimidazole as nucleophiles. The use of ultrasound allowed to carry out the reaction at low temperature, according to the holistic approach.^[3] In addition, in order to obtain value products we alkylated the obtained amides with different alkyl iodide to obtain Ionic Liquids.

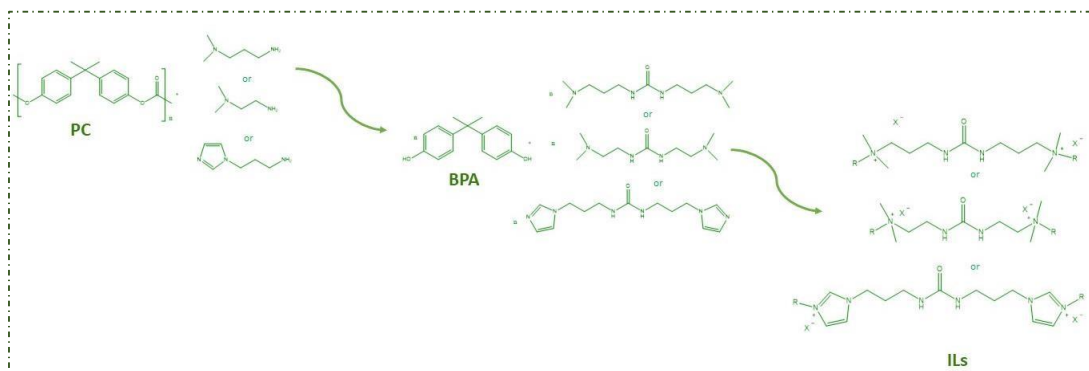


Figure 1. General process

References

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