

Improvement of Hydrolysis Resistance for PET by Copper Catalyzed Decarboxylation of Terminal Carboxylic Acid

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Polyester resin such as polyethylene terephthalate (PET) has high mechanical properties, a high chemical stability and a high transparency, and also has a high cost performance. Accordingly, the polyester resin is most widely used for fibers, bottles, films, sheets and containers.

However, polyester resin has a fundamental issue for hydrolysis of an ester bonding. Furthermore, a terminal acidic carboxyl group accelerates the hydrolysis of the ester bonding because it acts as a catalyst.

Herein, we will report improvement of hydrolysis resistance for PET by copper catalyzed decarboxylation of terminal carboxylic acid.

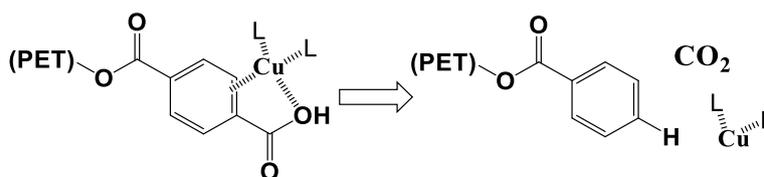


Fig.1

Copper Catalyzed Decarboxylation of Terminal Carboxylic Acid.

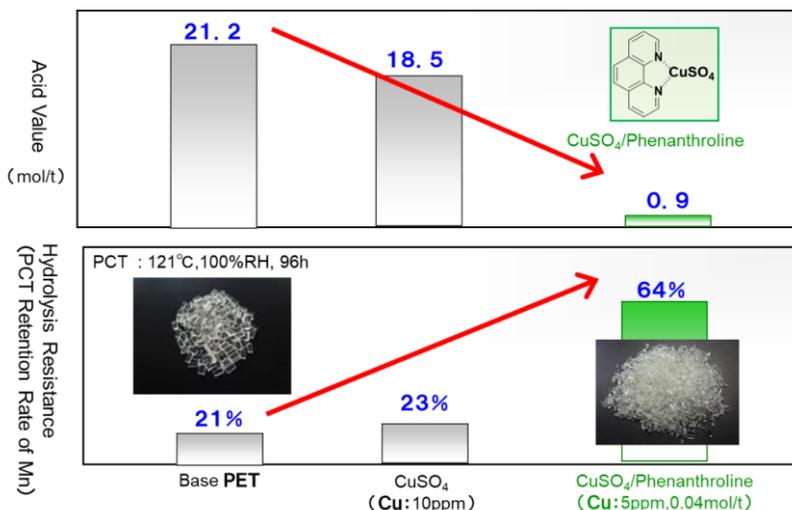


Fig.2

Improvement of Hydrolysis Resistance by using Copper Catalyzed Decarboxylation