

Separation of cotton from polyester-cotton blend fabrics by the depolymerization of polyester

김윤수, 김현빈, 김도현†

KAIST

(dohyun.kim@kaist.edu†)

Glycolysis is a promising method for the depolymerization of polyester which is widely used on a commercial scale due to simple process and least capital cost for the monomer production. The monomer produced during glycolysis method is bis(2-hydroxyethyl) terephthalate (BHET). By using this method we have successfully separated cotton from waste polyester-cotton blend fabrics. The polyester was depolymerized into BHET while the cotton maintained the original structure after the reaction. The collected cotton sheet was opened into fibers through conventional scutcher machine. The cotton fibers can be recycled to synthesize a new commercial product.

Key words : polyester-cotton blend fabrics, depolymerization, glycolysis, BHET, cotton fibers