

## Methyl Acrylate Polymerization with New Zirconium(IV) Complex/MAO System

조현용<sup>1,2</sup>, 홍대식<sup>3</sup>, Liqiang Cui<sup>1,2</sup>, 나래시 타르테<sup>1,2</sup>, 공영대<sup>4</sup>, 우성일<sup>1,2,\*</sup>  
<sup>1</sup>한국과학기술원; <sup>2</sup>초미세화학공정시스템 연구센터(CUPS); <sup>3</sup>LG화학기술원; <sup>4</sup>한국화학연  
구원  
(siwoo@kaist.ac.kr\*)

Since the 2,6-bis(benzimidazolyl) pyridine (BBIPy) was synthesized for potential complexing agents, several researchers reported the complexes which were contained the BBIPy ligand. We firstly synthesize the Zirconium(IV) complex bearing BBIPy ligand ((BBIPy)ZrCl<sub>2</sub>). The common feature of methyl acrylate (MA) polymerization method is atom transfer radical polymerization (ATRP). However, Cunningham et al. and other researchers reported about MA polymerization by catalyst with methylaluminumoxane (MAO).

In this study, the new complex, (BBIPy)ZrCl<sub>2</sub> is active catalytic system for the polymerization of MA monomer in the presence of MAO. The polymerization of MA is tried for different conditions such as different temperature, catalyst/MAO ratio, etc. The obtained Poly(methyl acrylate) (PMA) is analyzed by NMR and GPC. The effect of different temperature and MAO/Zr ratio on the polymerization activity of (BBIPy)ZrCl<sub>2</sub>/MAO is reported.