

## Production of Lactic Acid from Glucose via Low-temperature Hydrolysis

Leian Bartolome, 김도현\*

KAIST

(dohyun.kim@kaist.edu\*)

We present a new chemical process for the production of lactic acid from glucose. Lactic acid is a raw material to produce polylactic acid (PLA), which is used to make biodegradable plastic. The process involves a sonication-assisted low-temperature hydrolysis of glucose. Glucose in 2.5 M NaOH (1:2 mol/mol glucose/NaOH) was hydrolyzed by sonication in various processing time. The temperature of the glucose/NaOH solution was also varied from 25 °C to 70 °C. To calculate the lactic acid yield, the products were analyzed by HPLC. GC was also performed to analyze the byproducts of the hydrolysis reaction.