

OB02

Electrochemical Alkyl Transfer Reaction of Alkylborane Generated from Hydroboration of Alkene with Dialkylborane to Nitrile

다이알킬보레인의 알켄 수소화붕소 첨가반응에서 생성된
알킬보레인의 니트릴로의 전기화학적 가알킬 전이반응

최정훈, 조한원, 주충렬, 홍태기*
한양대학교 화학과, *한서대학교 화학과

The electrochemical alkyl transfer reactions of organoboranes to nitriles were carried out in an undivided cell. Especially, the organoboranes were prepared from the hydroboration of alkenes with various dialkylboranes and dialkoxyboranes. Alkyl and aryl anions generated electrochemically from organoboranes by use of platinum cathode and magnesium sacrificial anode are transferred to the carbon of cyano group to produce the corresponding imines, followed by hydrolysis to generate the product ketones.

To obtain the optimal conditions, the electrochemical reactions were tested at kinds of electrode, solvent, electrolyte, and etc. From experiments, the best results were obtained at platinum cathode, magnesium anode, tetrabutylammonium tetrafluoroborate in DMF.

