OB01

Practical Electrochemical Alkyl Transfer Reaction of Unsymmetrical Organoborane to the Carbonyl Compound
비대칭 유기보레인화합물로부터 카르보닐화합물로의 전기화학적 알킬기 이동 반응의 실용적 방법

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The alkyl transfer was proceeded electrochemically from unsymmetrical organoborane to the carbonyl compounds such as aldehydes and ketones using copper sacrificial anode in DMF. The unsymmetrical organoboranes utilized in this reaction were prepared *via* hydroboration of alkenes or terminal alkynes with borane, such as 9-BBN, dithexylborane, disiamylborane, catecholborane, and etc.

Alkyl anions, generated electrochemically from unsymmetrical organoboranes by use of platinum cathode and copper sacrificial anode, are transferred to the carbonyl carbon to produce the corresponding alcohols in good yields.

Electrochemical synthesis using various unsymmetrical organoboranes has been achieved in an undivided electrolytic cell under nitrogen atmosphere. The approximate rate and stoichiometry of the reaction of organoborane with the selected carbonyl compounds containing various functional groups were examined under the optimal condition in order to enlarge the scope of its applicability of electrochemical alkyl transfer reaction.