

Competitive Formation of β -Amino Acids, Propenoic, and Ylidenemalonic Acids by the Rodionov Reaction from Malonic Acid, Aldehydes, and Ammonium Acetate in Alcoholic Medium

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Received September 18, 2003

Abstract—The Rodionov reaction of 49 available aliphatic and aromatic aldehydes with malonic acid and ammonium acetate in alcoholic medium, resulting in formation of β -amino acids, propenoic, and ylidenemalonic acids, was studied. Certain regioselectivity regularities of the reaction were revealed. Among the variety of ketones studied, cyclohexanone is the only whose reaction yields a β -amino acid. Unusual dehydrofluorination of 6-chloro-2-fluorocinnamic acid under the Rodionov reaction was discovered.