Insights: Publications

Homologation of β-Amino Acids through Quinone-Catalyzed Oxidative Decarboxylation/Mukaiyama-Mannich Addition

Chem. Commun., 53, 3062

JANUARY 1, 2017 Written by Thomas J. O'Connor, Ph.D.

A new method for amino acid homologation by way of formal C–C bond functionalization is reported. This method utilizes a 2-step/1-pot protocol to convert α-amino acids to their corresponding N-protected β-amino esters through quinone-catalyzed oxidative decarboxylation/ *in situ* Mukaiyama–Mannich addition. The scope and limitations of this chemistry are presented. This methodology provides an alternative to the classical Arndt–Eistert homologation for accessing β-amino acid derivatives. The resulting N-protected amine products can be easily deprotected to afford the corresponding free amines.

Related People



Thomas J. O'Connor, Ph.D.
t 206.626.7745
toconnor@ktslaw.com