Thioxanthone-Catalyzed Single-Step Synthesis of β- and γ-Amino Acid Derivatives

Significance: Glorius and co-workers report a thioxanthone-catalyzed iminocarboxylation of alkenes and (hetero)arenes with bifunctional oxime esters. A variety of substrates, ranging from simple alkenes such as ethylene, to heteroaromatic systems, are tolerated under the mild reaction conditions, affording the corresponding β- and γ-amino acid derivatives in modest to excellent yields.

Comment: Experimental and computational studies support a photoinduced triplet–triplet energy transfer mechanism in which N–O bond homolysis leads to the formation of a C-centered ester and N-centered iminyl radical pair. The potential of the method is demonstrated by syntheses of various biologically active molecules.