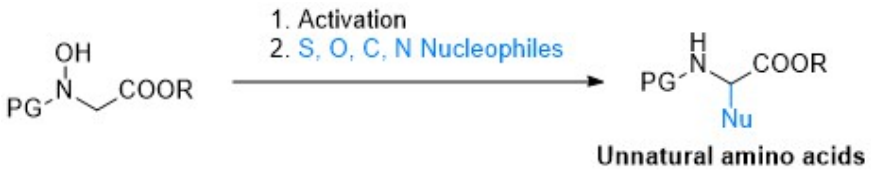
Interrupted Polonovski strategy for the functionalization of amino acids and peptides

C. Marty[1], J. Waser[1]*

[1]Laboratory of Catalysis and Organic Synthesis, Institute of Chemical Sciences and Engineering, Ecole Polytechnique Fédérale de Lausanne

Unnatural amino acids are an essential class of compounds in peptides and other biologically active products. Many methods have been developed to access them, but they still often require toxic reagents or strongly oxidative or basic conditions. We report here the a functionalization of carbamate-protected hydroxylamine glycine substrates, employed as imine surrogates[1], in an interrupted Polonovski reaction to modify the backbone of the amino acids. The addition of numerous S, N, O and C nucleophiles was achieved in a one-pot procedure under mild basic conditions.



[1] Xu, H., Nazli, A., Zou, C., Wang, Z. P., & He, Y. *Chem. Comm.* **2020**, *56*, 14243-14246.