L. E. CANNE*, S. J. BARK, S. B. H. KENT (THE SCRIPPS RESEARCH INSTITUTE, LA JOLLA, USA)

Extending the Applicability of Native Chemical Ligation

J. Am. Chem. Soc. **1996**, *118*, 5891–5896.

Extension of Native Chemical Ligation

Generalized native chemical ligation of unprotected peptide segments:

Synthesis of N^α(substituted) peptide segments:

Synthesis of (aminooxy)ethanethiol derivative:

Significance: The authors have extended the applicability of native chemical ligation (NCL) of unprotected peptide segments by the use of X-Gly and Gly-X ligation sites. This increases the number of suitable sites for NCL by a factor of three, to include more than 50 of the 400 dipeptide sequences found in proteins.

Comment: In this NCL method, the [peptide]₁^αCOSR reacts with a second peptide having an N^α-[(oxy)ethanethiol] group to afford the thioester-linked product, which rearranges to form a ligation product linked by an N-substituted amide bond. In addition, the substitution on the amide bond can be removed by treatment with Zn in acidic medium.

SYNFACTS Contributors: Hisashi Yamamoto, Manthana Chaithanya

Synfacts 2019, 15(02), 0202 Published online: 18.01.2019

DOI: 10.1055/s-0037-1611959; Reg-No.: H17418SF

2019 © Georg Thieme Verlag Stuttgart · New York