K. HOLLANDERS, E. RENDERS, C. GADAIS, D. MASULLO, L. VAN RAEMDONCK, C. C. D. WYBON, C. MARTIN, W. A. HERREBOUT, B. U. W. MAES*, S. BALLET* (VRIJE UNIVERSITEIT BRUSSEL AND UNIVERSITY OF ANTWERP, BELGIUM)

Zn-Catalyzed Nicotinate-Directed Transamidations in Peptide Synthesis
ACS Catal. **2020**, *10*, 4280–4289.

Zinc-Catalyzed Peptide Synthesis by Using a Nicotinate-Directed Protocol

Category

Peptide Chemistry

Key words

zinc catalysis

palladium catalysis

butylnicotinate
amino amides

directing group

transamidation

Synfact
of the
Month

Preparation of nic amino acid amides:

Selected examples:

Application:

Significance: Development of new systems for peptide-bond formation is an ongoing challenge to organic chemists. The authors report a new strategy using *tert*-butyl nicotinate amino amides, formed from amino acids and *tert*-butyl 2-chloro-nicotinate with palladium catalysis, as excellent nucleophiles for the synthesis of dipeptides.

Comment: Various *tert*-butyl nicotinate amino amides were smoothly generated in high yields and high enantioselectivities. The products and amino acid ester HCl salts were easily converted into the corresponding dipeptides by using zinc catalysis. Furthermore, this protocol can also be applied in the synthesis of tripeptides.

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 Synfacts 2020, 16(05), 0605 Published online: 20.04.2020
 DOI: 10.1055/s-0040-1707597; Reg-No.: H06220SF

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