Synthesys of Peptides via Ugi Reaction with Piv-aldehyde and S-4-methoxyphenyl ethylamine as amine

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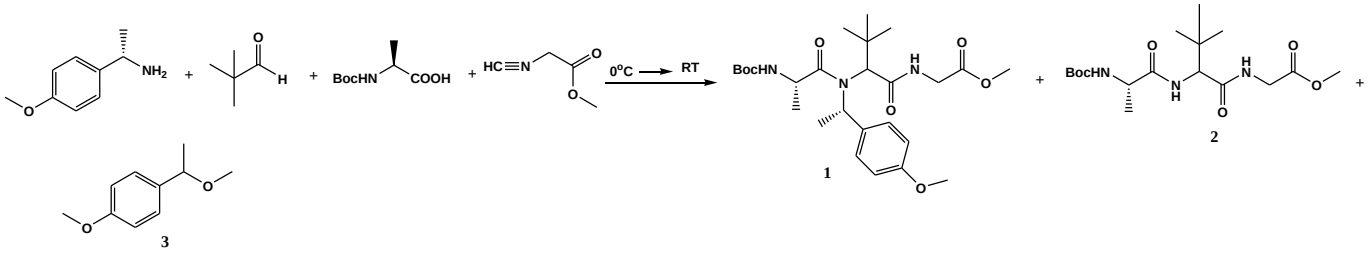
Annotation: Peptides are found in all living organisms. They control biochemical and physiological processes in the organisms. A multicomponent reaction (MCR) such as Ugi reaction provides a linear, peptide-like adduct. Influence of a solvent on the yield of reaction products and stereoselectivity is studied in the Ugi reaction [1-3].

L-alanine as acid component, (S)-p-methoxiphenylethylamine, trimethylacetaldehyde and methyl-2-isocianoacetate were used as initial components; methanol, 2,2,2-triftorethanol (TFE) and dichlormethane served as solvents. In the case of using dichlormethane as a result of reaction the end product was obtained, in the case of methanol together with the end product (1) an ammonia product (2) was isolated, and in the case of 2,2,2-triftorethanol only ammonia product.

Scheme 1



It was established that in case of dichlormethaneused as solvent the reaction runs in desired direction. As for stereoselectivity, influence of solvent substitution on the diastereometric composition of the product is insignificant.
Thus, it is established that dichlormethane is an appropriate solvent for the mentioned reaction.

References

[1]) *Dömling, A, Chem. Re*V. .(2006**)** v.106, p. 17
[2] *C. Hebach, U. Kazmaier*, Chem. Commun.**,** (2003), vol.5, p. 596-597.
[3] *U. Kazmaier, C. Hebach*, Synlett, (2003), vol.11, p. 1591-1594.