

Reaction of -CH activation catalyzed by copper (I) salts



Keywords: CH-Activation, Catalysis, Copper-(I) salts

Summary

Synthesis of derivatized heterocycles by -CH activation in reflux acetonitrile in the presence of copper salts.

Equipment

| Item # | Description |
|--------------|--|
| 8053 000 100 | XELSIUS Basic Unit, Software Version: 2.44 |
| 8053 000 201 | Reflux Condenser Module |
| 8053 000 206 | 5-Port-Reaction Cap and Vialset |

Chemicals

| | Description |
|----------|--|
| 1 mmol | Benzoxazole CAS: 273-53-0 |
| 1,2 mmol | Piperidine CAS: 110-89-4 |
| 0,1 mmol | Copper (II) chloride dihydrate - CAS: 10125-13-0 |
| 0,2 mmol | Acetic acid ->99% CAS: 64-19-7 |
| 20 ml | Acetonitrile - 99% - CAS: 75-05-8 |

Methode

Reagents and solvents were sequentially added to the flask. The reaction is left at 50°C overnight

Best practice working with Xelsius:

The reaction is favored by the possibility of conducting several experiments in parallel and it is possible to speed up both the optimization phase and the synthesis phase of different derivatives. Since amines are incompatible with many cartridges made of polymeric material due to their "solvent effect", it is advantageous to use the synthesizer in parallel.

References:

K. Cao, J.-L. Wang, L.-H. Wang, Y.-Y. Li, X.-H. Yu, Y. Huang, J. Yang and G. Chang Copper-Catalyzed Aerobic Oxidation for the Amination of Benzoxazole Under Air, (2014) Synthetic Communications, 44:19, 2848-2853, DOI: 10.1080/00397911.2014.919402

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nevolab

nevoLAB GmbH Am Gehrenbach 8 D 88167 Maierhöfen
info@nevolab.de +49 8383 929 566 0