Orthoamide, LXII [1]. – Mikrowellen-unterstützte Formylierung schwach CH_2-acider Verbindungen mit dem Bredereck-Simchen Reagenz – Umwandlung der Kondensationsprodukte in Heteroaromaten

Orthoamides, LXII [1]. – Microwave Assisted Formylation of Weak CH_2-Acidic Compounds with the Bredereck-Simchen Reagent – Preparation of Heteroaromatic Compounds from the Condensation Products

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The diformylation of the dinitriles **4** and diesters **7** with the Bredereck-Simchen reagent $HC[N(CH_3)_2]_2[OC(CH_3)_3]$ (**1**) under microwave irradiation give the bis-enamines **6** and **8** with dramatically reduced reaction times and improved yields compared to conventional heating. The condensation products formed can be easily converted to bis-pyrazole and bis-isoxazole derivatives **13** and **20**, respectively. Methyl anthranilate reacts on prolonged heating with the orthoamide **21** to give ketene aminal **23** in low yield (8 %). Under microwave irradiation the same reagents lead to a mixture of **23** (14 %) and dihydropyrane **24** (28 %).

Key words: Bredereck-Simchen Reagent, Microwaves, Condensation Reactions, CH_2-Acidic and Heteroaromatic Compounds