α-Dicarbonylmonophenylhydrazones as Nucleophiles and Neighbouring Groups

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C-Aminomethylation, Mercury(II)-EDTA Dehydrogenation, Intramolecular Cyclization

The α-dicarbonylmonophenylhydrazones 1 and 8 do not react as simple „CH-acidic compounds“ in the Mannich condensation reaction. In a concerted reaction with aminals in absolute dioxane they give rise to the products 5a–e and 10a–e with better practicability and much higher yields compared with the conventional method. The formal Mannich bases 5a/5b/5d and 10a/10b/10d with a cyclic amine part show in the dehydrogenation, using mercury-EDTA, a neighbouring group participation of the phenylhydrazono moiety yielding the corresponding lactams. With 5c only cyclization occurs leading to 1,2,4-triazine 19 in low yield, while 10c shows no dehydrogenation but an amine elimination to the vinyl-azo compound 21 with consecutive cycloaddition leading to the 1,2-diazine 23.