Reaktionsbeteiligung von Oximfunktionen bei der Dehydrierung von 2-Phenylpiperidin-Derivaten

Neighbouring Group Effect of Oxime Functions in the Dehydrogenation of 2-Phenylpiperidine Derivatives

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Mercury(II)-induced dehydrogenation of α-(2-phenylpiperidin-1-yl)-acetophenone oximes **7** gives rise to two different iminium compounds which subsequently react with the neighbouring oxime group. With the mercury(II)-EDTA reagent, (*E*)-**7** forms the cyclic nitrones **9** and **11a, b**, whereas (*Z*)-**7** is transformed into oxadiazines **12** and **13a, b**. The pairs of diastereomers **11a, b** and **13a, b** result from the equilibrium involving an iminium oximate species. The introduction of electron donor or acceptor groups into the phenyl substituent in (*E*)-**15** and (*E*)-**16** does not influence significantly the direction of dehydrogenation. With mercury(II) acetate in dilute acetic acid no specifity of the oxime configuration is observed, and the nitrones and oxadiazines are produced together. This may be explained by a reaction with the acetate ion at the iminium oxime stage. NMR experiments in $CDCl_3$ have shown that treatment of nitrone **2** and oxadiazine **3** with CF_3COOD causes ring cleavage by prototropy and after longer reaction times generates the same imidazole **23**.

Key words: Hg(II)-induced Dehydrogenation, Oxime Participation, Nitrone, Oxadiazine, Iminium Oximate