Synthesis and One-Electron Oxidation Chemistry of Stable β,β-Dimesityl Enols with Heteroaryl Substituents

Michael Schmittel[a], Mukul Lal[a], Wolfdieter A. Schenk[b], Michael Hagel[b], Nicolai Burzlaff[b], and Anja Langels[c]

[a] Organische Chemie 1 der Universität Siegen, Fachbereich 8, Adolf-Reichwein-Str., 57068 Siegen, Germany
[b] Institut für Anorganische Chemie der Universität Würzburg, Am Hubland, D-97074 Würzburg, Germany
[c] Institut für Organische Chemie der Universität Würzburg, Am Hubland, D-97074 Würzburg, Germany

Reprint requests to Prof. Dr. M. Schmittel. Fax: +49(0)271-740-3270.
E-mail: schmittel@chemie.uni-siegen.de

Z. Naturforsch. **58b,** 877 – 884 (2003); received May 19, 2003

Four novel stable enols (one characterized by X-ray crystal structure analysis) were synthesized and investigated under oxidative conditions to yield benzofurans. Depending on the donor qualities of the heteroaryl substituent the reaction following the one-electron oxidation could be stopped on the stage of the cyclohexadienyl cation whose lifetime was measured. Oxidation potentials were determined for the enols, the enolates and the α-carbonyl radicals. Oxidation of benzofurans yielded dimeric species or intramolecular cyclization products.

Key words: Stable Conjugated Enols, One-Electron Oxidation, Radical Cations, Benzofurans, Cyclic Voltammetry