

Press Release: Spectroelectrochemical analysis of a N-aryl- Δ 2-pyrazoline derivative

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Spectroelectrochemistry (SEC) couples reaction oriented electrochemistry and different species-focused spectroscopic methods (UV/VIS, IR, Raman, ESR, and NMR) for obtaining information on structural and molecular properties during electrochemical reactions. In particular, UV/VIS spectroelectrochemistry (UV/VIS-SEC) investigates chemical reactions involving or related to electron transfer and determines the structure of the reactants in situ. More information can be found in a technical poster.



By combining the information from electrochemical and spectroscopic techniques, UV/VIS spectroelectrochemistry (UV/VIS-SEC) allows a comprehensive analysis of electron-transfer processes and complex redox reactions. The anodic oxidation of a 5,5-disubstituted N-aryl-pyrazoline was investigated by combining cyclic voltammetry and UV/VIS spectroscopy. In situ measured UV/VIS absorbance depicted the absorption changes that accompanied the anodic oxidation of the N-aryl-pyrazoline derivative and could therewith prove the stability of the electrogenerated radical cation.

Due to the direct control of the spectrometer by the potentiostat, the electrochemical and optical information can be easily cross-correlated. The combination of an Autolab Potentiostat with a triggerable spectrometer provides a convenient and powerful tool for the in situ study of shorter lived species, reaction mechanisms and kinetics in a wide variety of electrochemical active organic, inorganic, and biological molecules.

For more information on this press release please contact the Marketing Department at Metrohm UK Ltd.

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Note to Editors:

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