

# INVESTIGATION OF CYTOSINE OXIDATION ON SCREEN-PRINTED CARBON ELECTRODES BY MEANS OF EC-CE-MS

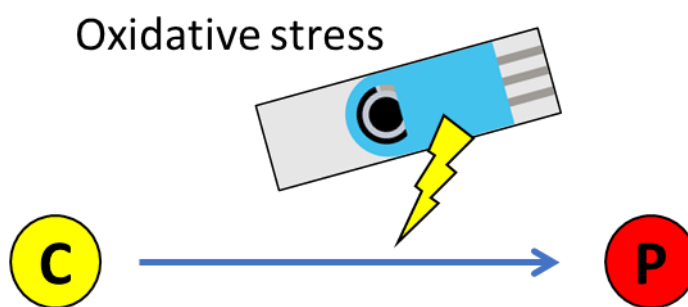
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Nucleobases are important analytical targets for investigations on DNA damage. In studies dealing with oxidative stress, different approaches can be used for oxidation processes. Next to one-electron oxidants, hydroxyl radicals or irradiation processes, electrochemistry is a suitable tool for simulation of oxidative stress due to well controllable experimental conditions. Understanding the processes happening on an electrode surface is not only important to understand biological processes but can also help in the development of electrochemical sensors.

In this study, the investigation of the electrooxidation of cytosine on bare screen-printed carbon electrodes is presented. Samples were analyzed by online electrochemistry-capillary electrophoresis (EC-CE) based on the setup developed by Palatzky et al [1]. Oxidation as well as separation were carried out under different conditions and products were characterized by MS, MS/MS, and DAD detection to elucidate the oxidation mechanism.



Literature:

[1] P. Palatzky, A. Zöpfl, T. Hirsch, F.-M. Matysik, *Electroanalysis* 2013, 25, 117-122.