Accepted Manuscript

Fast scanning voltammetric detector for high performance liquid chromatography

Dmytro Bavol, Matteo Scampicchio, Jiri Zima, Jiri Barek, Hana Dejmkova

PII: S0013-4686(18)31266-0

DOI: 10.1016/j.electacta.2018.05.199

Reference: EA 31985

To appear in: *Electrochimica Acta*

Received Date: 5 February 2018

Revised Date: 28 May 2018

Accepted Date: 30 May 2018

Please cite this article as: D. Bavol, M. Scampicchio, J. Zima, J. Barek, H. Dejmkova, Fast scanning voltammetric detector for high performance liquid chromatography, *Electrochimica Acta* (2018), doi: 10.1016/j.electacta.2018.05.199.

Fast Scanning Voltammetric Detector for High Performance Liquid Chromatography

Dmytro Bavol[a,b], Matteo Scampicchio[a], Jiri Zima[b], Jiri Barek[b], and Hana Dejmkova[a,b]

[a] Free University of Bolzano, Faculty of Science and Technology, Piazza Universita 5, 39100 Bolzano, Italy
[b] Charles University, Faculty of Science, Department of Analytical Chemistry, University Research Centre Supramolecular Chemistry, UNESCO Laboratory of Environmental Electrochemistry, Albertov 6, CZ-128 43 Prague 2, Czech Republic (dejmkova@natur.cuni.cz)

Abstract:

This article describes the application of fast scan differential pulse voltammetry on a glassy carbon electrode as a working electrode in a wall-jet arrangement in combination with a high performance liquid chromatography. During the characterization of electrochemical detection, the separability, the repeatability, and the concentration characteristics for determination of common antioxidants in standard solutions were found. Finally, as an application of the technique, the optimized procedure has been used for the first time to determine antioxidants contained in tea samples by applying a simple extraction procedure.

Keywords: high performance liquid chromatography; fast scan differential pulse voltammetry; glassy carbon electrode; antioxidants.

Graphical abstract