

Author's Accepted Manuscript

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PII: S0039-9140(18)30475-2
DOI: <https://doi.org/10.1016/j.talanta.2018.05.016>
Reference: TAL18656

To appear in: *Talanta*

Received date: 26 February 2018
Revised date: 29 April 2018
Accepted date: 2 May 2018

Cite this article as: Abdullah A. Abdullah, Yavuz Yardım and Zühre Şentürk, The performance of cathodically pretreated boron-doped diamond electrode in cationic surfactant media for enhancing the adsorptive stripping voltammetric determination of catechol-containing flavonoid quercetin in apple juice, *Talanta*, <https://doi.org/10.1016/j.talanta.2018.05.016>

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The performance of cathodically pretreated boron-doped diamond electrode in cationic surfactant media for enhancing the adsorptive stripping voltammetric determination of catechol-containing flavonoid quercetin in apple juice

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Abstract

In the present paper, an electroanalytical methodology was developed for the determination of an important catechol-containing flavonoid derivative, quercetin using adsorptive stripping voltammetry at a cathodically pretreated boron-doped diamond electrode. In cyclic voltammetry, the compound showed a couple of oxidation/reduction peak at low positive potentials, and additional two oxidation peaks at more positive potentials. The sensitivity of the stripping voltammetric measurements was significantly improved when the cationic surfactant, cetyltrimethylammonium bromide (CTAB) was present in the electrolyte solution. Using square-wave stripping mode, a highly linear analytical curve was obtained for

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