Extended Abstract

Validation of Disposable Stochastic Sensors Based on Nanolayer Depositon(s) of Silver and AgC Composite on Plastic for the Assay of α-Amylase in Whole Blood and Saliva †

Alexandrina Lungu-Moscalu [1,2,*], Raluca-Ioana Stefan-van Staden [1,2] and Marius Badulescu [3]

[1] Faculty of Applied Chemistry and Material Science, University Politehnica of Bucharest, Bucharest 060021, Romania; ralucavanstaden@gmail.com

[2] Laboratory of Electrochemistry and PATLAB, National Institute of Research for Electrochemistry and Condensed Matter, 202, Splaiul Independentei Str., Bucharest 060021, Romania

[3] Low Temperature Plasma Laboratory, National Institute for Lasers, Plasma and Radiation Physics (NILPRP), 409 Atomistilor St., Magurele 077125, Romania; bad_mariuss@yahoo.com

* Correspondence: alex_ly15@yahoo.com; Tel.: +40-770508382

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Abstract: Nanolayer deposition(s) of Ag and AgC composite on a plastic substrate was used to design disposable stochastic sensors. The first sensor was based on an Ag nanofilm deposited on plastic; for the second sensor, an AgC composite was deposited on plastic, and, for the third sensor, on the plastic was deposited first a nanofilm of Ag and on top of it a nanofilm of the AgC composite. α-Cyclodextrin was used to modify the active surface of the sensor.

Keywords: interleukins; stochastic sensors; method validation

Wide linear concentration ranges were obtained as follows: for the assay of α-amylase in whole blood: 1.00×10^{-7}–1.00×10^{3} U mL^{-1}, and for the assay of α-amylase in saliva: 1.5×10^{-15}–1.5×10^{2} U mL^{-1}. α-Amylase was reliably determined from whole blood and saliva samples using the proposed disposable stochastic sensors.

Validation of the proposed sensors and screening method was done using real samples of whole blood and saliva.

Conflicts of Interest: The author declares no conflict of interest.