Electronic Supporting Material

Evaluation of different functional groups for covalent immobilization of enzymes in the development of biosensors with oxygen optical transduction

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Fig. ESI-1. Optimization of the EPD parameters for the deposition of the oxygen-sensitive particles.

Fig. ESI-2. Optimization of the EPD parameters for the deposition of the enzyme functionalized particles.

Fig. ESI-3. Comparison of the glucose sensing chips obtained with PolymP\textsuperscript{®}-H, PolymP\textsuperscript{®}-Cl, PolymP\textsuperscript{®}-Link and PolymP\textsuperscript{®}-Epoxy.
Fig. ESI-1. Variation of the signal response of the oxygen sensitive particles onto a golden chip versus deposition time at different deposition voltages in the determination of 8 ppm O$_2$ solubilized in water at RT. $\lambda_{\text{exc/em}}$=395/650 nm, slits width $\text{exc/em}$ = 20/20 nm, decay time 200 $\mu$s, gate time 5 ms, detector voltage 600 V.

Fig. ESI-2. Variation of the signal response of the GOx functionalized particles onto oxygen-sensitive functionalized gold chip versus deposition time at different deposition voltages. [Glucose]= 100 mg mL$^{-1}$, $\lambda_{\text{exc/em}}$=395/650 nm, slits width $\text{exc/em}$ = 20/20 nm, decay time 200 $\mu$s, gate time 5 ms, detector voltage 600 V.
Fig. ESI-3. Response of the chips functionalized with a) PolymP^®-H, b) PolymP^®-Cl, c) PolymP^®-Link and d) PolymP^®-Epoxy and oxygen-sensitive particles in the determination of glucose.