

Supplementary Materials:

Redesigning an Electrochemical MIP Sensor for PFOS: Practicalities and Pitfalls

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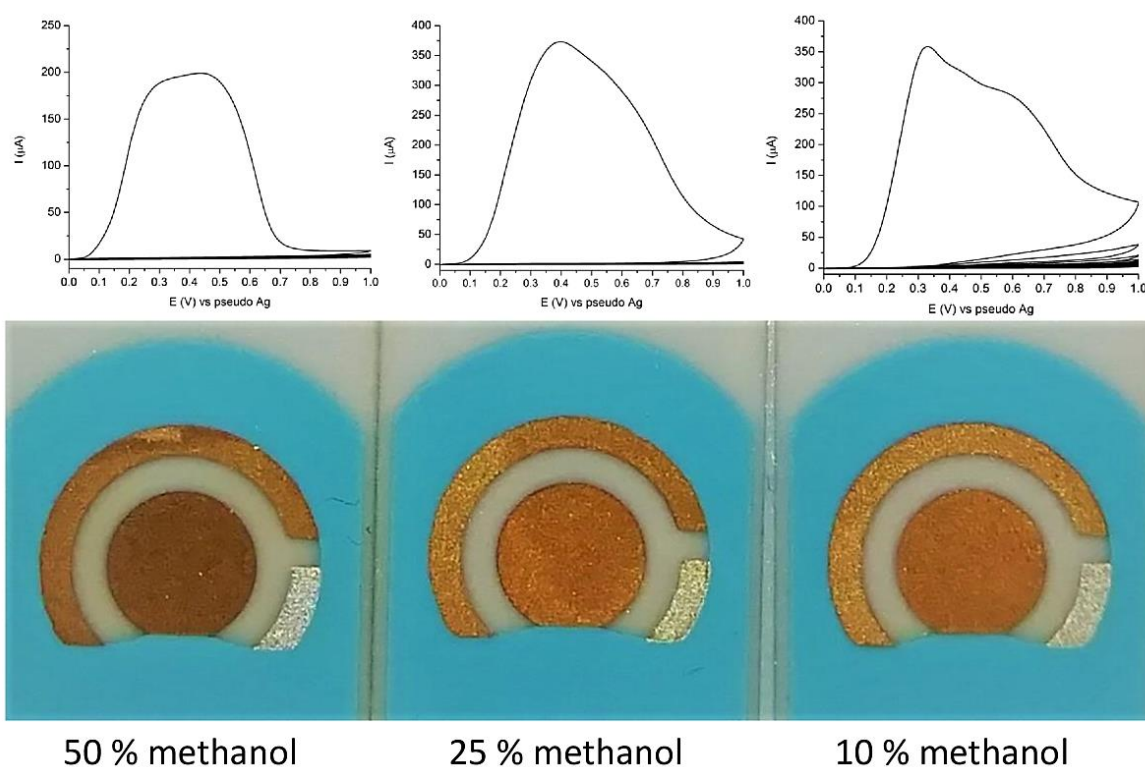


Figure S1. Effect of methanol content on the performances of Au-SPE.

With 50% methanol the first CV cycle of the electropolymerization presents a broad oxidation peak with a relative low current intensity (about 200 μA) and the working electrode (WE) appears darker at the end of the process. With 25% methanol the WE is slightly darker and the electropolymerization pattern presents a more defined oxidation peak. Only reducing the methanol concentration to 10%, the expected electropolymerization pattern with a first CV cycle characterized by multiple oxidation peaks was recorded. This was also the minimal concentration applicable to assure the complete dissolution of the PFOS, the target-template.

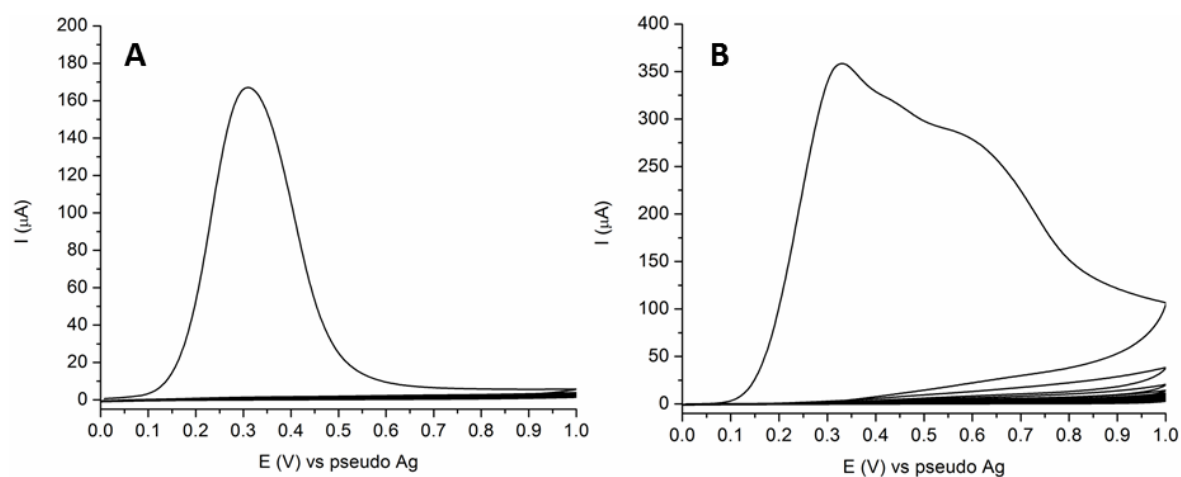


Figure S2. Comparison of the electropolymerization pattern of imprinted (A) and non-imprinted (B) polymers on Au-SPE.

Table S1. Charge transfer resistances ($R_{ct-o-PD}$) for the MIP and NIP: AEp after electropolymerization, AEx, after extraction, AR, after rebinding.

MIP	$R_{ct-o-PD}$ (k Ω)	χ^2
AEp	125	0.03
AEx	21.7	0.02
AR	20.5	0.005
NIP	$R_{ct-o-PD}$ (k Ω)	χ^2
AEp	2.37	0.005
AEx	2.15	0.03
AR	2.32	0.005

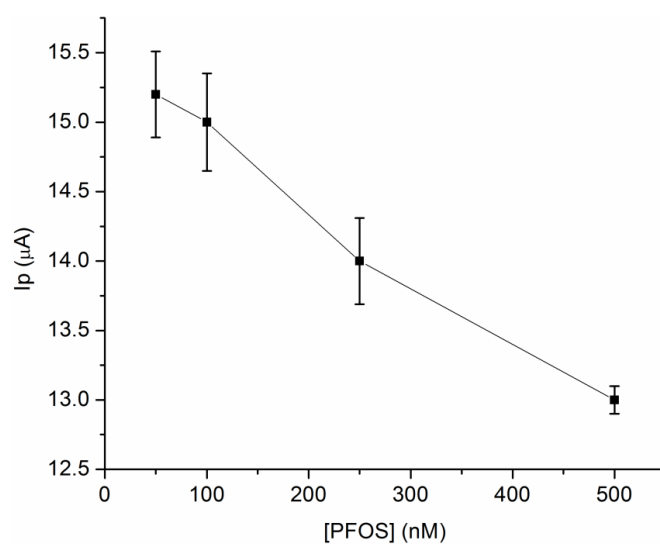


Figure S3. Calibration plot of PFOS at bare Au-SPE.

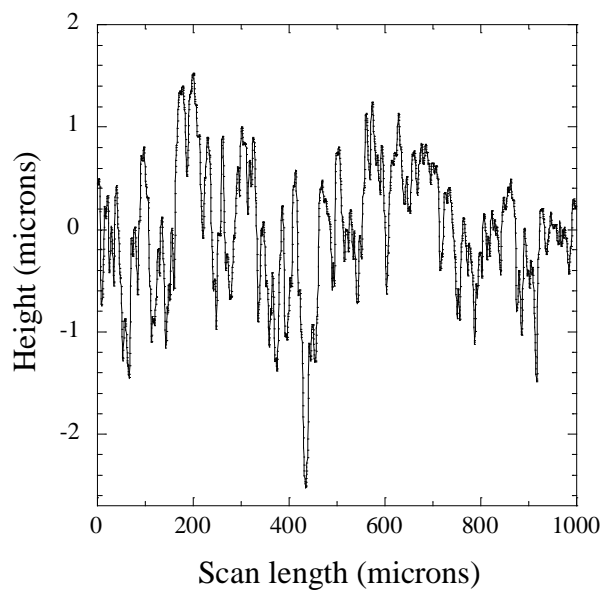


Figure S4. Example of surface scan recorded by the stylus profiler.

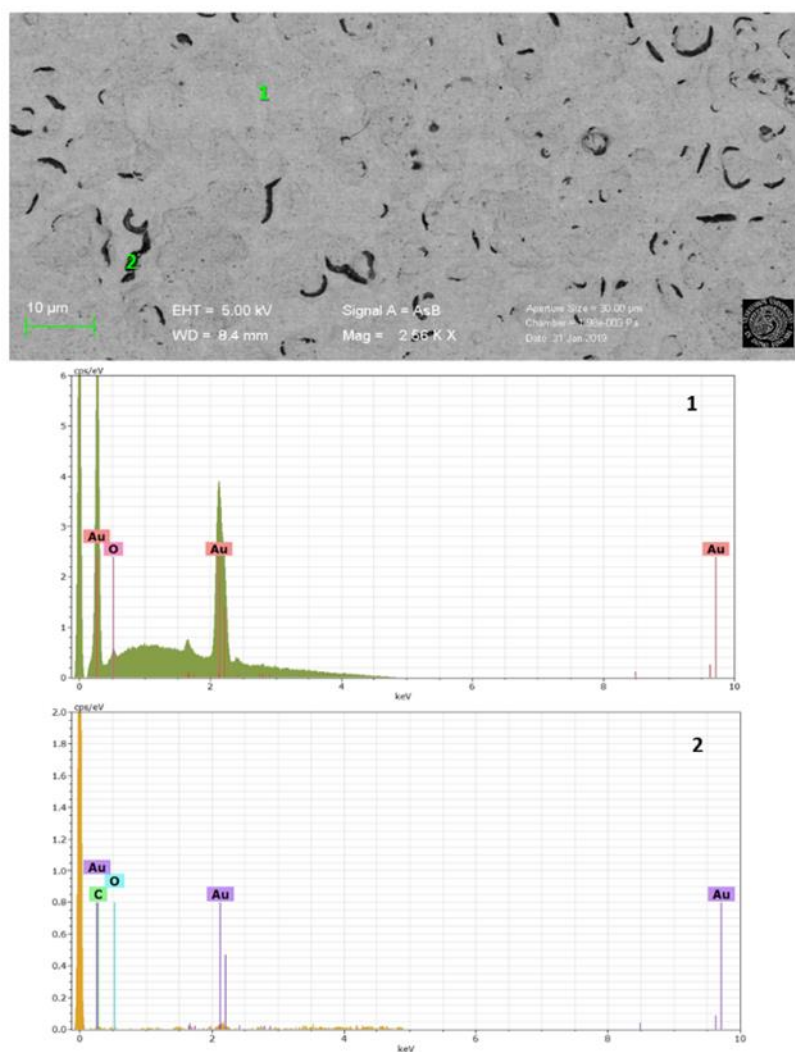


Figure S5. SEM image of the bare working electrode surface of an Au-SPE and EDS spectra of the point 1 and 2 in the image. These analysis are representative of the whole working electrode surface.

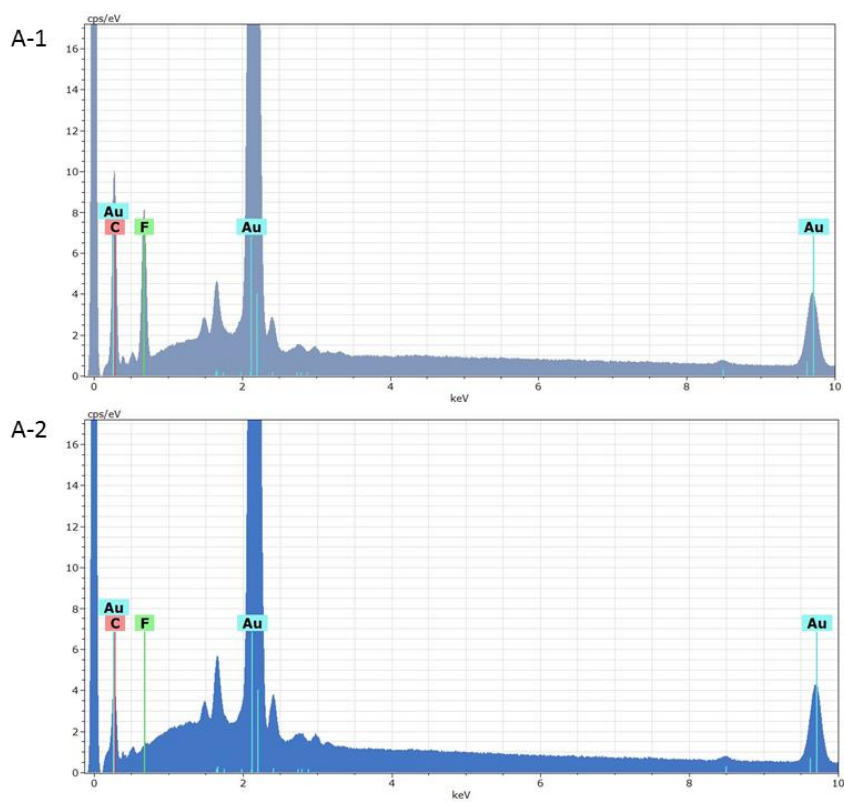


Figure S6. EDS spectra of the point 1 (A-1) and 2 (A-2) in Figure 4A.

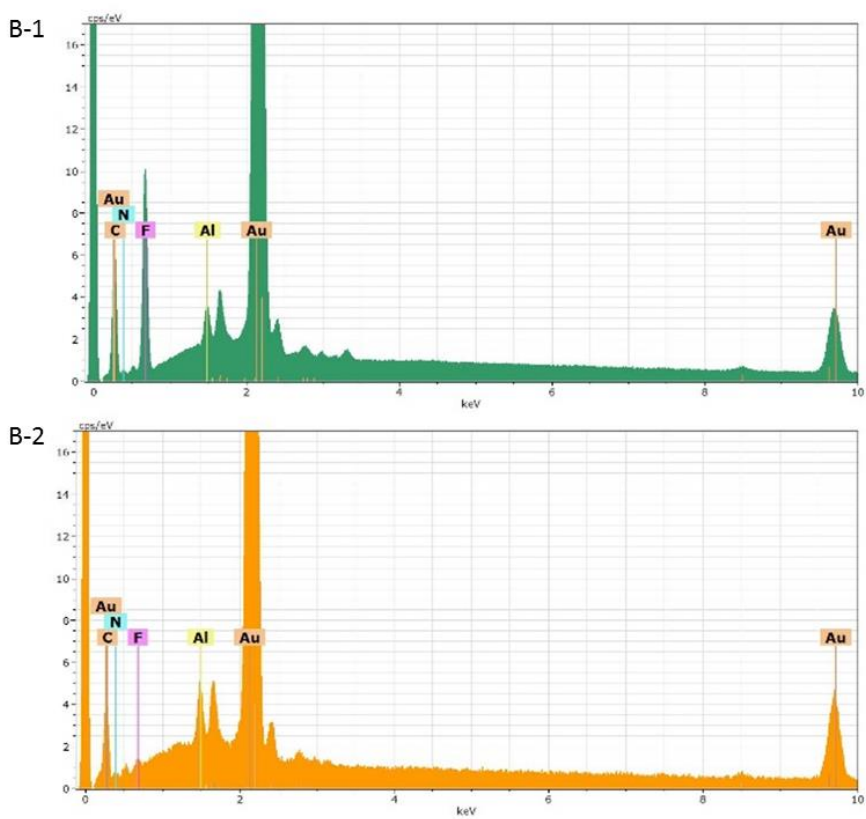


Figure S7. EDS spectra of the point 1 (B-1) and 2 (B-2) in Figure 5B.