Nanoporous Alumina-based Interferometric Transducers Ennobled

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Electronic Supplementary Information

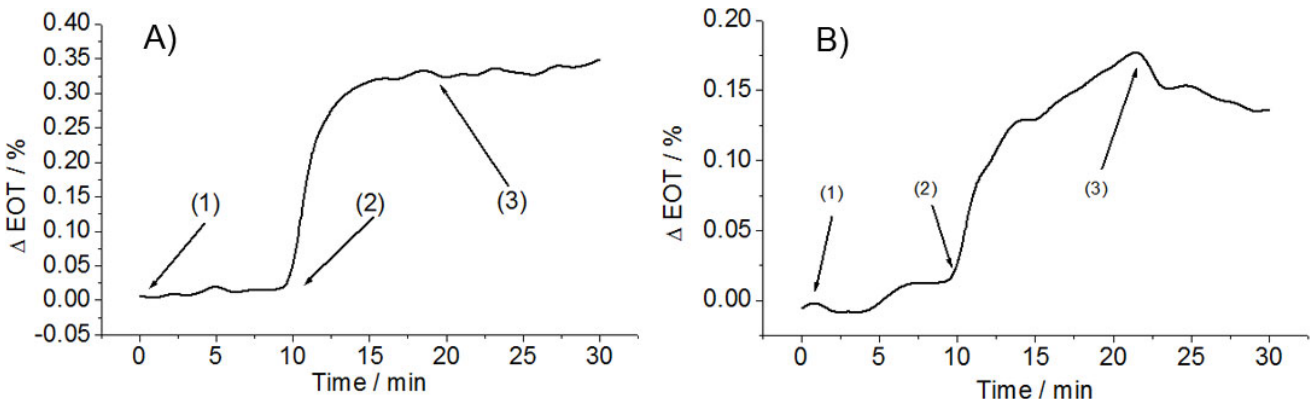

Figure S1. EOT evolution of a composite porous alumina/Pt film upon adsorption of (A) BSA: (1) 10 mM phosphate buffer pH 5.0; (2) 14.7 µM BSA in 10 mM phosphate buffer pH 5.0; (3) 10 mM phosphate buffer pH 5.0. B): adsorption of human IgG Ab: (1) 0.5 mM phosphate buffer pH 6.0; (2) 0.6 µM human IgG Ab in 0.5 mM phosphate buffer pH 6.0; (3) 0.5 mM phosphate buffer pH 6.0. Porous alumina etching conditions: 0.3 M oxalic acid, 2 min, 100 V, 0°C, followed by chemical etching in 5% H_3PO_4 for 150 min at 20°C, hydroxylated in H_2O_2, coated with 15 nm Pt.

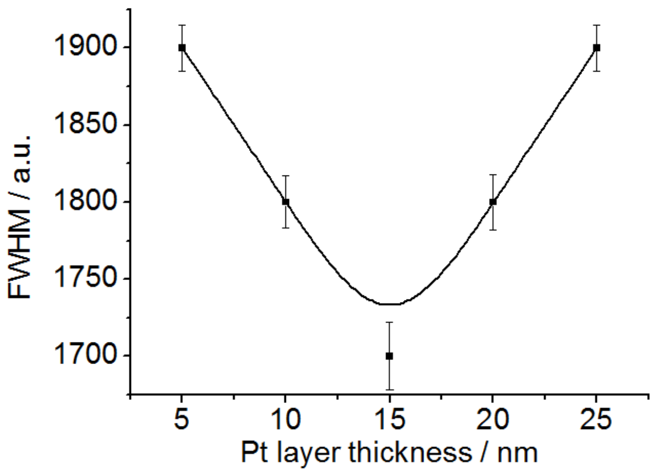

Figure S2. Dependence of the full width at half maximum of the Fourier transform of interferometric reflectance spectra measured for composite porous alumina/Pt films with various Pt layer thicknesses.

Table S1. Comparison of calculated RIU sensitivities for 1 μm thick porous alumina and porous silicon samples assuming 50% porosity upon pore-filing medium exchange from air to water.

	Porous alumina (n=1.768@600 nm)	Porous silicon (n=3.947@600 nm)
EOT in air (n=1)	1384 nm	2474 nm
EOT in water (n=1.333)	1550 nm	2640 nm
Δ EOT / nm	167 nm	166 nm
Δ EOT / %	**12.07%**	**6.71%**
RIU sensitivity (Δ EOT/ Δ n)	**36.25%**	**20.15%**