

Response of different nanoparticles on a biosensor based on IODM

Luis Gonzalez Valle ^{1,2}, Miguel Holgado Bolaños ^{1,2}

¹ Center for Biomedical Technology (CTB), Universidad Politécnica de Madrid, Parque Científico y Tecnológico de la UPM, Campus de Montegancedo, 28223, Pozuelo de Alarcón, Madrid, Spain.

² Group of Organ and Tissue on-a-chip and In-Vitro Detection, Health Research Institute of the Hospital Clínico San Carlos, IdISSC. C/ Profesor Martín Lagos s/n, 4^a Planta Sur 28040, Madrid, Spain

luis.gvalle@upm.es

The Interferometric Optical Detection Method (IODM) is characterized by the use of two interferometric signals, employing two interferometric measurements: a first interferometric optical reference, and a second interferometric signal measurement observed in the sensing region of the signal interferometer. In this way, the optical reading system converts the changes caused by optical transduction into a unique and sensitive detection variable. The interferometers used are based on Fabry-Perot-based interferometers that act as biotransducers. In the present work, the signals obtained from magnetic nanoparticles coated with antibodies on these sensor surfaces are shown, with the aim of increasing the signal obtained with respect to the use of antibodies incubated directly.