

Supporting information

Actuated Plasmonic Nanohole Arrays for Sensing and Optical Spectroscopy Applications

Daria Kotlarek^a, Stefan Fossati^a, Priyamvada Venugopalan^{a,b,c}, Nestor Gisbert Quilis^a, Jiří Slabý^d, Jiří Homola^d, Médéric Lequeux^e, Frédéric Amiard^f, Marc Lamy de la Chapelle^f, Ulrich Jonas^g, Jakub Dostálek^a

^a Biosensor Technologies, AIT-Austrian Institute of Technology GmbH, Konrad-Lorenz-Straße 24, 3430 Tulln an der Donau, Austria. E-mail: Jakub.dostalek@ait.ac.at.

^b CEST Kompetenzzentrum für elektrochemische Oberflächentechnologie GmbH, TFZ, Wiener Neustadt, Viktor-Kaplan-Strasse 2, 2700 Wiener Neustadt, Austria

^c Current address: NYU Abu Dhabi, Saadiyat Campus, P.O. Box 129188, Abu Dhabi, United Arab Emirates

^d Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Chaberská 57, 18251, Praha 8, Czech Republic

^e Université Paris 13, Sorbonne Paris Cité, Laboratoire CSPBAT, CNRS, (UMR 7244), 74 rue Marcel Cachin, 93017 Bobigny, France

^f Institut des Molécules et Matériaux du Mans (IMMM - UMR CNRS 6283), Avenue Olivier Messiaen, 72085 Le Mans cedex 9, France

^g Macromolecular Chemistry, Department Chemistry-Biology, University of Siegen, Adolf Reichwein-Strasse 2, Siegen 57076, Germany

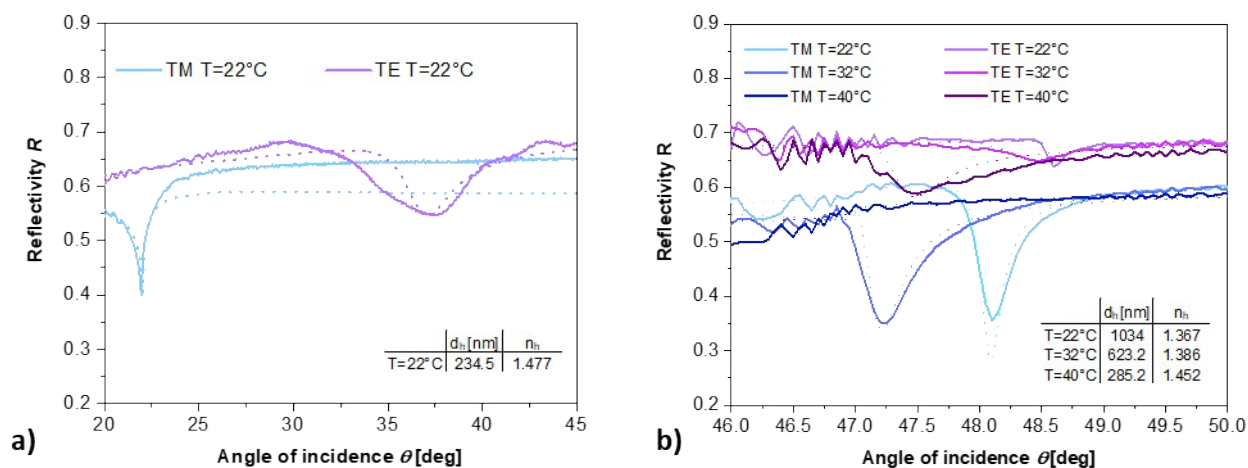


Figure S1. Measurement of thickness and the refractive index of a flat pNIPAAm-based polymer layer on a gold surface a) in a dry state and b) in water by using optical waveguide spectroscopy. Solid lines represent the measured angular scans and dashed curves are the fitted data.

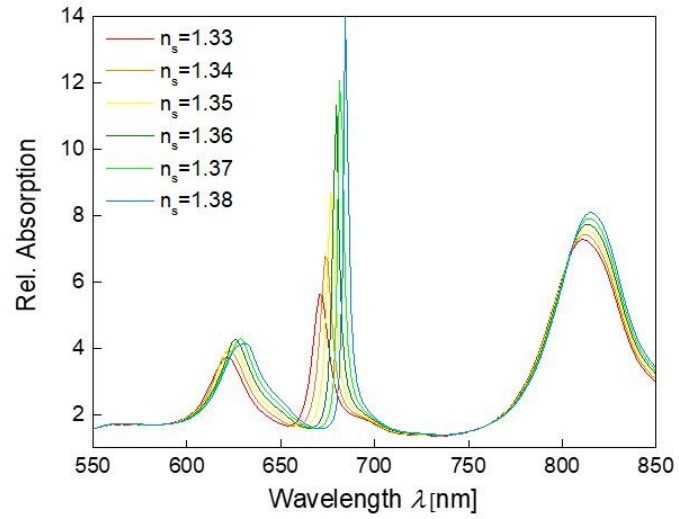


Figure S2. Simulated absorption spectra for the structure NHA+NP for the varied refractive index of superstrate n_s the substrate refractive index was of $n_h=1.47$, the gap distance between NP and NHA was set as $g=50$ nm, the period was $\Lambda=460$ nm, diameter averaged between $D=100-120$ nm, height $h=50$ nm.