Plasmonic Nanostructures for Biosensing

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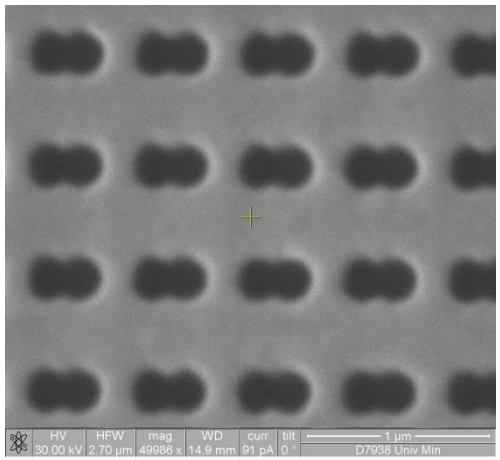
NNIN Facility utilized: Nanofabrication Center

(a)



(b)

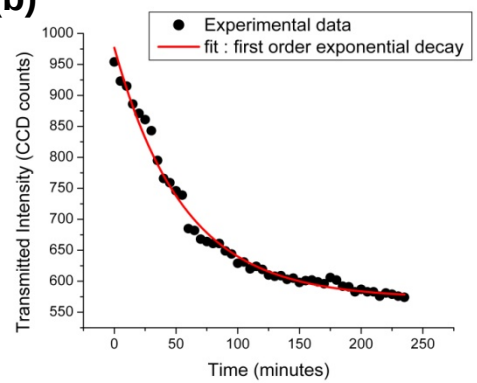


Fig.1

Fig. 1a: SEM image of a nanohole array used as a label-free biosensor[1]. Fig. 1b: Kinetic measurements of molecular binding events on the gold surface[2]. Fig. 2 presents a novel device developed in our group, a plasmonic Bragg resonator (fig. 2a and 2b), which permits to pack several nanohole array sensors very closely without cross-talking (fig. 2c)[3,4].

Minnesota Nanofabrication Center (NFC)facilities were used for all of papers listed below, and NSF NNIN support was acknowledged in all of them.

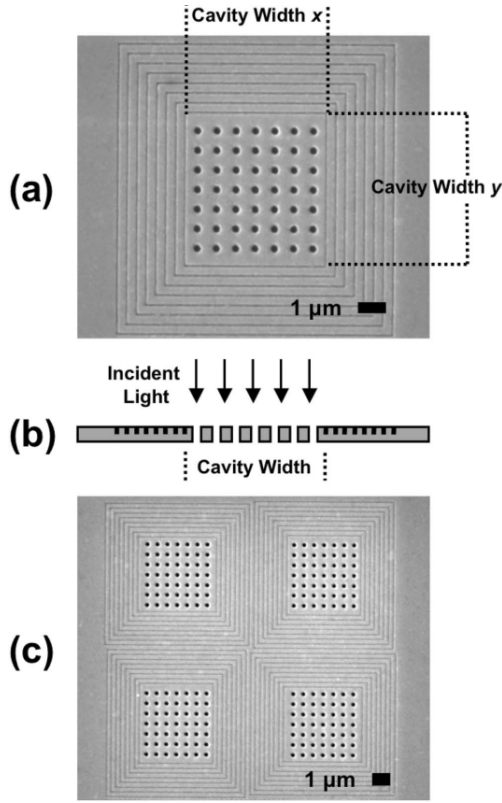


Fig.2

[1]A. Lesuffleur et al. Appl. Phys. Lett. **90**, 243110 (2007).

[2]A. Lesuffleur et al. Optics Express **16**(1) 219 (2008).

[3]*N. Lindquist et al. Phys. Rev. B **76**, 155109 (2007).*

[4]*N. Lindquist et al. Appl. Phys. Lett. **91**, 253105 (2007).*