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Chip-based digital surface plasmon resonance sensing platform for ultrasensitive
biomolecular detection

Ming-Yang Pan^{a,b}, Kuang-Li Lee^a, Likarn Wang^b, Pei-Kuen Wei^{a,c,d}*

^aResearch Center for Applied Sciences, Academia Sinica, No. 128, Section 2, Academic Road, Taipei, 11529, Taiwan,

^bInstitute of Photonics Technologies, National TsingHua University, No. 101, Section 2, Kuang-Fu Road, Hsinchu, 30013, Taiwan

^cInstitute of Biophotonics, National Yang-Ming University No.155, Sec.2, Linong Street, Taipei, 112 Taiwan

^dNational Taiwan Ocean University, Department of Optoelectronics, Beining Rd., Jhongjheng District, Keelung, 202, Taiwan

*Corresponding author:

Abstract

A chip-based ultrasensitive surface plasmon resonance (SPR) sensor in a checkerboard nanostructure on plastic substrates is presented for digital detection. The sensing elements on the checkerboard are composed of silver-capped nanoslit arrays, which were fabricated using the thermal-embossing nanoimprint method, to meet the demand for low-cost and rapid fabrication. Sharp Fano resonances in the optimized nanoslit arrays provide high-intensity sensitivities

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