Plasmonic Biosensing Focus Review

Abstract
Plasmonic biosensing has been used for fast, real-time, and label-free probing of biologically relevant analytes, where the main challenges are to detect small molecules at ultralow concentrations and produce compact devices for point-of-care (PoC) analysis. This review discusses the most recent, or even emerging, trends in plasmonic biosensing, with novel platforms which exploit unique physicochemical properties and versatility of new materials. In addition to the well-established use of localized surface plasmon resonance (LSPR), three major areas have been identified in these new trends: chiral plasmonics, magnetoplasmonics, and quantum plasmonics. In describing the recent advances, emphasis is placed on the design and manufacture of portable devices working with low loss in different frequency ranges, from the infrared to the visible. (AU)

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