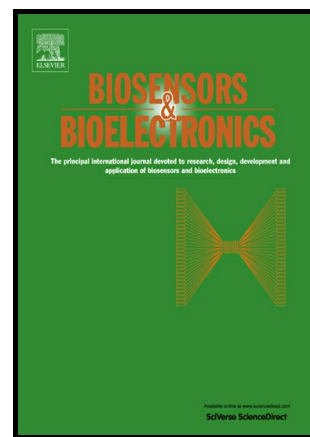


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AIE-based Superwetable Microchips for Evaporation and Aggregation Induced Fluorescence Enhancement Biosensing

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Abstract

Superwetable microchips with superhydrophilic microwells on superhydrophobic substrate have attracted increasing attention in fluorescence-based biological and medical diagnostics. However, traditional fluorophores often suffer from the aggregation-caused quenching (ACQ) problem at high concentration or in aggregated state. Here, we developed an AIE-based superwetable microchip by combining the evaporation-induced enrichment of superwetable microchips and the aggregation-induced emission of AIEgens together into one chip. Benefitting from the synergistic effect of the above two mechanisms, the AIE molecules (TPE-Z, a tetraphenylethene salt) were enriched from the diluted solution via evaporation and aggregated within the superhydrophilic

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