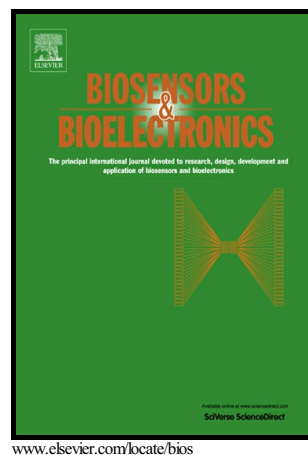


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Versatile transduction scheme based on Electrolyte-Gated Organic Field-Effect Transistor used as Immunoassay readout system

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Abstract

We report on an innovative heterogeneous bisphenol A (BPA) immunoassay based on an electrolyte-gated organic field-effect transistor whose organic semiconductor is poly(2,5-bis(3-tetradecylthiophen-2-yl)thieno[3,2-b]thiophene) co-crystallized with an alkyl derivative of bisphenol A. A decrease of the transistor output current is first observed upon antibody specific binding onto the organic semiconductor. Upon bisphenol A addition, the competitive dissociation of the antibody from the semiconductor surface leads to an opposite increase of the output current. We present here a proof-of-concept for bisphenol A detection; the device

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