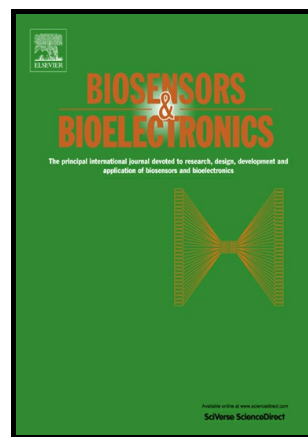


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# A potentiometric non-enzymatic glucose sensor using a molecularly imprinted layer bonded on a conducting polymer

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## Abstract

A non-enzymatic potentiometric glucose sensor for the determination of glucose in the micromolar level in saliva was developed based on a molecularly imprinted polymer (MIP) binding on a conducting polymer layer. A MIP containing acrylamide, and aminophenyl boronic acid, as a host molecule to glucose, was immobilized on benzoic acid-functionalized poly(terthiophene) (pTBA) by the amide bond formation onto a gold nanoparticles deposited-screen printed carbon electrode (pTBA/AuNPs/SPCE). Aromatic boronic acid was incorporated into the MIP layer to stably capture glucose and create a potentiometric signal through the changed pKa value of polymer film by the formation of boronate anion-glucose

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