

Title (en)

NANOTUBE-BASED ELECTRONIC DETECTION OF BIOLOGICAL MOLECULES

Title (de)

ELEKTRONISCHER NACHWEIS BIOLOGISCHER MOLEKÜLE MITTELS NANORÖHREN

Title (fr)

DETECTION ELECTRONIQUE DE MOLECULES BIOLOGIQUES FONDEE SUR DES NANOTUBES

Publication

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Application

**EP 03768779 A 20031107**

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Abstract (en)

[origin: WO2004044586A1] Nanoscale field effect transistor devices with carbon nanotubes as the conducting channel are used to detect protein-protein binding. A coating of an electron-donating polymer is applied to a nanotube device, and a receptor compound is bound to the polymer. The receptor compound is configured to bind a specific biological molecule or molecules. The device coated with the polymer coating and receptor compound may be operated as a p-type field-effect transducer. For example, upon exposure to biological molecules bound by the receptor, the conductance at negative voltage may be markedly reduced, thereby establishing an electronic signal response.

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IPC 8 full level

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