

## Title (en)

NANOELECTRONIC DEVICES FOR DNA DETECTION, AND RECOGNITION OF POLYNUCLEOTIDE SEQUENCES

## Title (de)

NANOELEKTRONISCHE VORRICHTUNGEN ZUR DNA-DETEKTION UND ERKENNUNG VON POLYNUCLEOTIDSEQUENZEN

## Title (fr)

DISPOSITIFS NANOELECTRONIQUES POUR LA DETECTION D'ADN ET LA RECONNAISSANCE DE SEQUENCES POLYNUCLEOTIDIQUES

## Publication

**EP 1831670 A4 20100915 (EN)**

## Application

**EP 05855662 A 20051223**

## Priority

- US 2005047143 W 20051223
- US 63995404 P 20041228
- US 65727505 P 20050228
- US 66887905 P 20050405
- US 21202605 A 20050824
- US 73090505 P 20051027
- US 27474705 A 20051115
- US 73869405 P 20051121
- US 74883405 P 20051209

## Abstract (en)

[origin: WO2006071895A2] A nanotube device is configured as an electronic sensor for a target DNA sequence. A film of nanotubes is deposited over electrodes on a substrate. A solution of single-strand DNA is prepared so as to be complementary to a target DNA sequence. The DNA solution is deposited over the electrodes, dried, and removed from the substrate except in a region between the electrodes. The resulting structure includes strands of the desired DNA sequence in direct contact with nanotubes between opposing electrodes, to form a sensor that is electrically responsive to the presence of target DNA strands. Alternative assay embodiments are described which employ linker groups to attach ssDNA probes to the nanotube sensor device.

## IPC 8 full level

**G01N 21/00** (2006.01); **C12M 3/00** (2006.01); **C12Q 1/68** (2006.01); **G01N 27/00** (2006.01); **G01N 27/12** (2006.01); **G01N 33/00** (2006.01); **G01N 33/543** (2006.01)

## CPC (source: EP)

**B82Y 10/00** (2013.01); **C12Q 1/6825** (2013.01); **G01N 27/4145** (2013.01); **G01N 27/4146** (2013.01); **G01N 33/5438** (2013.01); **B01L 3/5027** (2013.01); **B82Y 15/00** (2013.01); **H01L 2924/0002** (2013.01)

## Citation (search report)

- No further relevant documents disclosed
- See references of WO 2006071895A2

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

## DOCDB simple family (publication)

**WO 2006071895 A2 20060706**; **WO 2006071895 A3 20070208**; EP 1831670 A2 20070912; EP 1831670 A4 20100915; JP 2008525822 A 20080717

## DOCDB simple family (application)

**US 2005047143 W 20051223**; EP 05855662 A 20051223; JP 2007549560 A 20051223