

Title (en)  
 DEVICE FOR THE PRODUCTION OF SI NANOWIRES BY MEANS OF ELECTRODEPOSITION AT AMBIENT TEMPERATURE, METHOD FOR PREPARING SAME AND RESULTING NANOWIRES

Title (de)  
 VORRICHTUNG ZUR HERSTELLUNG VON SI-NANODRÄHTEN MITTELS ELEKTROLYTISCHER ABSCHIEDUNG BEI RAUMTEMPERATUR, HERSTELLUNGSVERFAHREN DAFÜR UND AUF DIESE WEISE ERZEUGTE NANODRÄHTE

Title (fr)  
 DISPOSITIF D'ÉLABORATION À TEMPÉRATURE AMBIANTE DE NANOFILS DE SI PAR ÉLECTRODÉPOSITION, PRÉCÉDÉ DE PRÉPARATION ET NANOFILS OBTENUS

Publication  
**EP 2462259 A1 20120613 (FR)**

Application  
**EP 09786111 A 20090804**

Priority  
 IB 2009006466 W 20090804

Abstract (en)  
 [origin: WO2011027184A1] The invention relates to: a device for the cold production of pure silicon nanowires by means of electrodeposition in an enclosure insulated from the atmosphere, the associated method, and the resulting nanowires. The device includes at least one deposition solution (1a), an ionic solvent (1b), and a substrate (2) characterised in that it includes at least one nanoporous membrane (2a). The device and the associated method allow a large number of amorphous pure silicon nanowires having uniform diameters and desired lengths to be produced more cheaply, as well as allowing crystalline silicon nanowires to be obtained by means of vacuum annealing following production.

IPC 8 full level  
**C25D 1/02** (2006.01); **C25D 1/10** (2006.01); **C25D 3/66** (2006.01); **C25D 9/08** (2006.01); **D01F 9/08** (2006.01)

CPC (source: EP)  
**C25D 1/02** (2013.01); **C25D 1/10** (2013.01); **C25D 3/665** (2013.01); **C25D 9/08** (2013.01); **B82Y 30/00** (2013.01)

Citation (search report)  
 See references of WO 2011027184A1

Citation (examination)  

- R. AL-SALMAN ET AL: "Template assisted electrodeposition of germanium and silicon nanowires in an ionic liquid", PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol. 10, no. 41, 5 September 2008 (2008-09-05), pages 6233 - 6237, XP055049073, ISSN: 1463-9076, DOI: 10.1039/b809075k
- ZEIN EL ABEDIN S ET AL: "Electrodeposition of nanoscale silicon in a room temperature ionic liquid", ELECTROCHEMISTRY COMMUNICATIONS, ELSEVIER, AMSTERDAM, NL, vol. 6, 24 March 2004 (2004-03-24), pages 510 - 514, XP003019567, ISSN: 1388-2481, DOI: 10.1016/J.ELECOM.2004.03.013

Designated contracting state (EPC)  
 AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2011027184 A1 20110310; WO 2011027184 A8 20121122; EP 2462259 A1 20120613**

DOCDB simple family (application)  
**IB 2009006466 W 20090804; EP 09786111 A 20090804**