

Title (en)

A METHOD FOR THE MANUFACTURE OF A SILICON POLYTYPE MATERIAL

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES SILIKONPOLYTYPENSTOFFES

Title (fr)

PROCÉDÉ DE FABRICATION D'UN MATÉRIAU À BASE DE POLYTYPE DE SILICIUM

Publication

EP 2443063 A1 20120425 (EN)

Application

EP 09776683 A 20090604

Priority

EP 2009004014 W 20090604

Abstract (en)

[origin: WO2010139346A1] A method of manufacturing a macroporous silicon polytype material comprising the steps of a) mixing a nanopowder consisting of a silicon compound with a nanopowder consisting of a metal able to reduce the silicon compound to silicon to form a mixture, b) heating the mixture in a gas atmosphere consisting of an inert gas optionally with an proportion of a reducing gas for the silicon compound at an elevated temperature in the range from 500°C to 1000°C for a period of several hours to reduce the silicon compound to silicon, and c) subsequently treating the resultant product in an acid to remove any excess metal and metal compound resulting from step b) and leave a macroporous silicon polytype material. A macroporous silicon polytype material with an almost direct bandgap is also described and claimed.

IPC 8 full level

C01B 33/021 (2006.01)

CPC (source: EP)

B82Y 30/00 (2013.01); **C01B 33/02** (2013.01); **C01B 37/00** (2013.01); **C01B 37/02** (2013.01); **C01P 2002/01** (2013.01); **C01P 2002/70** (2013.01); **C01P 2002/85** (2013.01); **C01P 2004/04** (2013.01); **C01P 2004/38** (2013.01); **C01P 2004/60** (2013.01); **C01P 2004/61** (2013.01); **C01P 2004/62** (2013.01); **C01P 2004/64** (2013.01); **C01P 2006/16** (2013.01); **C01P 2006/60** (2013.01)

Citation (search report)

See references of WO 2010139346A1

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 TR

DOCDB simple family (publication)

WO 2010139346 A1 20101209; EP 2443063 A1 20120425

DOCDB simple family (application)

EP 2009004014 W 20090604; EP 09776683 A 20090604