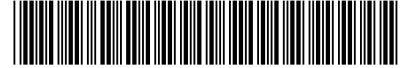


(19)



(11)

**EP 2 897 921 B1**

(12)

**EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:  
**20.12.2017 Bulletin 2017/51**

(51) Int Cl.:  
**B82Y 30/00** <sup>(2011.01)</sup>      **C04B 35/64** <sup>(2006.01)</sup>  
**C04B 35/573** <sup>(2006.01)</sup>      **C04B 35/575** <sup>(2006.01)</sup>  
**C04B 35/577** <sup>(2006.01)</sup>      **C04B 35/626** <sup>(2006.01)</sup>  
**C04B 35/645** <sup>(2006.01)</sup>      **H01B 1/18** <sup>(2006.01)</sup>

(21) Application number: **13839518.1**

(22) Date of filing: **19.09.2013**

(86) International application number:  
**PCT/US2013/060614**

(87) International publication number:  
**WO 2014/047283 (27.03.2014 Gazette 2014/13)**

**(54) PROCESS FOR PRODUCTION OF GRAPHENE/SILICON CARBIDE CERAMIC COMPOSITES**

VERFAHREN ZUR HERSTELLUNG VON GRAPHEN/SILICIUMCARBID-KERAMIKVERBUNDSTOFFEN

PROCÉDÉ DE PRODUCTION DE COMPOSITES CÉRAMIQUES À BASE DE GRAPHÈNE/CARBURE DE SILICIUM

(84) Designated Contracting States:  
**AL 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 RS SE SI SK SM TR**

- **GUITIERREZ, Humberto, R.**  
Louisville, KY 40213 (US)
- **TERRONES, Mauricio**  
State College, PA 16801 (US)

(30) Priority: **20.09.2012 US 201261703495 P**

(74) Representative: **Fritzsche, Thomas**  
**Fritzsche Patent**  
**Naupliastraße 110**  
**81545 München (DE)**

(43) Date of publication of application:  
**29.07.2015 Bulletin 2015/31**

- (73) Proprietors:
- **The Penn State Research Foundation**  
University Park, PA 16802-1504 (US)
  - **Consejo Superior De Investigaciones Científicas (CSIC)**  
28006 Madrid (ES)

(56) References cited:

**WO-A1-2010/123902**      **WO-A1-2011/086382**  
**US-A1- 2007 212 538**      **US-A1- 2007 212 538**  
**US-A1- 2011 177 322**

- (72) Inventors:
- **MIRANZO, Pilar**  
28031 Madrid (ES)
  - **OCAL, Carmen**  
08750 Molins de Rei (ES)
  - **OSENDI, Maria, Isabel**  
28007 Madrid (ES)
  - **BELMONTE, Manuel**  
28034 Madrid (ES)
  - **RAMIREZ, Cristina**  
28035 Madrid (ES)
  - **ROMAN-MANSO, Benito**  
49031 Zamora (ES)

- **ZHU KAIXING ET AL:** "Graphene covered SiC powder as advanced photocatalytic material", **APPLIED PHYSICS LETTERS, A I P PUBLISHING LLC, US, vol. 100, no. 2, 9 January 2012 (2012-01-09), pages 23113-23113, XP012156076, ISSN: 0003-6951, DOI: 10.1063/1.3676042 [retrieved on 2012-01-12]**
- **PILAR MIRANZO ET AL:** "In situ processing of electrically conducting graphene/SiC nanocomposites", **JOURNAL OF THE EUROPEAN CERAMIC SOCIETY., vol. 33, no. 10, 19 February 2013 (2013-02-19), pages 1665-1674, XP055266448, GB ISSN: 0955-2219, DOI: 10.1016/j.jeurceramsoc.2013.01.021**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

**EP 2 897 921 B1**