

Title (en)  
FUNCTIONALIZATION OF A SUBSTRATE

Title (de)  
FUNKTIONALISIERUNG EINES SUBSTRATS

Title (fr)  
FONCTIONNALISATION D'UN SUBSTRAT

Publication  
**EP 2837047 A4 20151223 (EN)**

Application  
**EP 13775065 A 20130415**

Priority  
• CA 2774591 A 20120413  
• US 201213446927 A 20120413  
• US 201261673147 P 20120718  
• US 201361806855 P 20130330  
• CA 2013050291 W 20130415

Abstract (en)  
[origin: WO2013152446A1] A method of increasing a work function of an electrode is provided. The method comprises obtaining an electronegative species from a precursor using electromagnetic radiation and reacting a surface of the electrode with the electronegative species. An electrode comprising a functionalized substrate is also provided.

IPC 8 full level  
**C23C 8/08** (2006.01); **C23C 8/36** (2006.01); **H01L 21/28** (2006.01); **H01L 51/50** (2006.01)

CPC (source: CN EP)  
**C23C 8/26** (2013.01 - EP); **C23C 8/36** (2013.01 - EP); **C23C 8/38** (2013.01 - EP); **H10K 50/17** (2023.02 - CN EP)

Citation (search report)  
• [XYI] JEONG C H ET AL: "CHARACTERISTICS OF ORGANIC LIGHT-EMITTING DEVICES BY THE SURFACE TREATMENT OF INDIUM TIN OXIDE SURFACES USING ATMOSPHERIC PRESSURE PLASMAS", JAPANESE JOURNAL OF APPLIED PHYSICS, JAPAN SOCIETY OF APPLIED PHYSICS, JP, vol. 44, no. 1, 10 February 2004 (2004-02-10), pages L41 - L44, XP001502004, ISSN: 0021-4922, DOI: 10.1143/JJAP.44.L41  
• [XYI] CHAN I-M ET AL: "Plasma treatments of indium tin oxide anodes in carbon tetrafluoride (CF<sub>4</sub>)/oxygen (O<sub>2</sub>) to improve the performance of organic light-emitting diodes", THIN SOLID FILMS, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 444, no. 1-2, 15 October 2003 (2003-10-15), pages 254 - 259, XP004467881, ISSN: 0040-6090, DOI: 10.1016/S0040-6090(03)01197-0  
• [XYI] "Organic Light Emitting Diode - Material, Process and Devices", 27 July 2011, INTECH, ISBN: 978-953-30-7273-9, article SUNYOUNG SOHN ET AL: "Transparent Conductive Oxide (TCO) Films for Organic Light Emissive Devices (OLEDs)", pages: 233 - 274, XP055218546, DOI: 10.5772/18545  
• [YA] M. G. HELANDER ET AL: "Chlorinated Indium Tin Oxide Electrodes with High Work Function for Organic Device Compatibility", SCIENCE, vol. 332, no. 6032, 20 May 2011 (2011-05-20), US, pages 944 - 947, XP055218407, ISSN: 0036-8075, DOI: 10.1126/science.1202992  
• See references of WO 2013152446A1

Designated contracting state (EPC)  
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

DOCDB simple family (publication)  
**WO 2013152446 A1 20131017**; CA 2870236 A1 20131017; CN 104272489 A 20150107; EP 2837047 A1 20150218; EP 2837047 A4 20151223; JP 2015522707 A 20150806; JP 6412493 B2 20181024; KR 102074255 B1 20200206; KR 20150002812 A 20150107

DOCDB simple family (application)  
**CA 2013050291 W 20130415**; CA 2870236 A 20130415; CN 201380019756 A 20130415; EP 13775065 A 20130415; JP 2015504828 A 20130415; KR 20147031808 A 20130415