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(54) Title: CARBON-POLYMER ELECTROCHEMICAL SYSTEMS AND THEIR FABRICATION USING LAYER-BY LAYER TECHNOLOGY

(57) Abstract: One aspect of the invention provides ion-exchange and gas-diffusion membranes, fabricated by a layer-by-layer approach, for use, e.g., in electrochemical cells; a process for making membrane electrode assemblies fabricated using porous frameworks, LBL composite membranes and LBL carbon-Polymer electrodes; and the application of the membrane and electrode assemblies to a variety of devices, both electrochemical and otherwise.



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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US05/33528

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: **H01M 6/18( 2006.01)**

USPC: 429/304,306

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 429/304,306

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

US-PGPUB, USPAT, DERWENT, EPO, JPO

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0071915 A1 (SCHUBERT et al) 13 June 2002, all	1
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A		2-94
A	US 2003/0039742A1 (QIU et al) 27 February 2003, all	1-94
A	US 2003/0157260A1 (RUBNER et al) 21 August 2003, a11	1-94
A	US2003/0228523A1 (DeLONGCHAMP et al) 11 December 2003, all	1-94
A	US 2003/0124368A1 (LYNN et al) 03 July 2003	1-94

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