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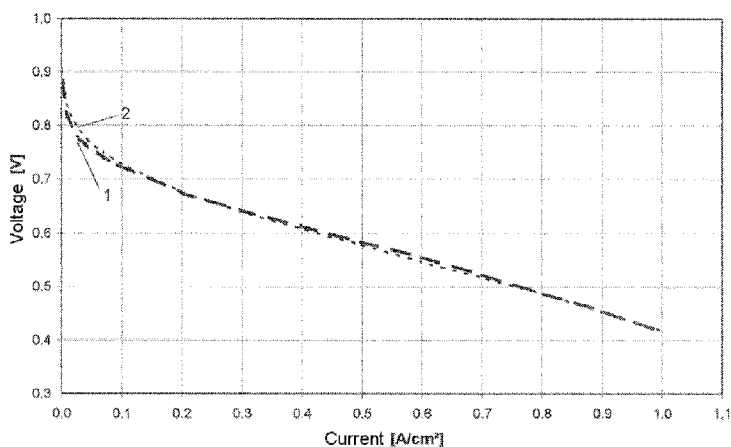
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(54) **Title:** IMPROVED POLYMER MEMBRANES, PROCESSES FOR PRODUCTION THEREOF AND USE THEREOF



(57) **Abstract:** The invention relates to improved polymer membranes, to processes for production thereof and to the use thereof.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2011/050922

## A. CLASSIFICATION OF SUBJECT MATTER

See extra sheet

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)

IPC: H01M 8/-, H01M 4/-, C08J 5/- B05D 5/-, F16J15/-

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)

WPI, EPODOC, CNPAT, CNKI, CNTXT, USTXT, membrane, gasket?, ion, PEM, polymer electrolyte membrane, electrolyte, MEA, electrode, polybenzimidazole, PBI, imagewise, polytetrafluoroethylene, PTFE, sulfonated, cell

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US20070020502A1 (SAMSUNG SDI CO., LTD.) 25 Jan. 2007 (25.01.2007) Paragraphs [0021]-[0029], fig.1	1-13
A	US20100003570A1 (DAIMLER AG) 07 Jan. 2010 (07.01.2010) Claims 1-17	1-13
A	US20020117815A1 (SUDDABY Kevin Grant, et al) 29 Aug. 2002 (29.08.2002) Claims 1-32	1-13

Further documents are listed in the continuation of Box C.

See patent family annex.

<p>* Special categories of cited documents:</p> <p>“A” document defining the general state of the art which is not considered to be of particular relevance</p> <p>“E” earlier application or patent but published on or after the international filing date</p> <p>“L” document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>“O” document referring to an oral disclosure, use, exhibition or other means</p> <p>“P” document published prior to the international filing date but later than the priority date claimed</p>	<p>“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>“&amp;”document member of the same patent family</p>
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Date of the actual completion of the international search 17 Oct. 2011 (17.10.2011)	Date of mailing of the international search report <b>03 Nov. 2011 (03.11.2011)</b>
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<p>Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451</p>	<p>Authorized officer  <b>YUAN, Haibin</b> Telephone No. (86-10)82245712</p>
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**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
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Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
US20070020502A1	25.01.2007	JP2007035621A	08.02.2007
		CN1901264A	24.01.2007
		KR20070012128A	25.01.2007
		KR100707162B1	13.04.2007
		CN100438187C	26.11.2008
US20100003570A1	07.01.2010	DE102006040749A1	06.03.2008
		WO2008025465A1	06.03.2008
		JP2010501990T	21.01.2010
US20020117815A1	29.08.2002	NONE	

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International application No.

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**Continuation of “A. CLASSIFICATION OF SUBJECT MATTER”:**

H01M 8/02 (2006.01)i

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C08J 5/22 (2006.01)i