

최신 미국특허 등록 목록

■ Compound membrane and acoustic device using same

- 등록번호: US 2014/0083795 A1
- 발명자: Xing-Zhi Huang, Jing He
- 출원인: American Audio Component (Shenzhen) Co., Ltd., Aac Acoustic Technologies (Shenzhen) Co., Ltd.,
- 초록: The present disclosure provides a compound membrane and an acoustic device including such a compound membrane. The compound membrane includes a polyetherimide film, and a thermoplastic polyurethane elastomer attached to one surface of the polyetherimide film.

■ Mems pressure sensor with multiple membrane electrodes

- 등록번호: US 2014/0054731 A1
- 발명자: Andrew Graham, Ando Feyh, Bernhard Gehl
- 출원인: Robert Bosch Gmbh
- 초록: In one embodiment, a MEMS sensor includes a first fixed electrode in a first layer, a cavity defined above the first fixed electrode, a membrane extending over the cavity, a first movable electrode defined in the membrane and located substantially directly above the first fixed electrode, and a second movable electrode defined at least partially within the membrane and located at least partially directly above the cavity.

■ Anti-biofouling Membrane for Water-Treatment

- 등록번호: US 2014/0083931 A1
- 발명자: Yung Chang, Nien-Jung Lin, Hui-Shan Yang, Yu-Ju SHIH, Sheng-Wen Hsiao, Juin-Yih Lai
- 출원인: Chung Yuan Christian University
- 초록: This invention discloses an anti-biofouling membrane for water-treatment. The anti-biofouling membrane for water-treatment comprises a substrate, and an anti-biofouling copolymer on the substrate. The anti-biofouling copolymer comprises a plurality of hydrophobic groups and a plurality of hydrophilic groups. The anti-biofouling copolymer can be stably coated on the surface of the substrate by the hydrophobic groups. And the hydrophilic groups can help the anti-biofouling membrane to present excellent anti-biofouling capability. Preferably, the anti-biofouling copolymer coated on the substrate will not decrease the permeability of the substrate. More preferably, the presented capability of the mentioned anti-biofouling membrane for water-treatment can achieve the commercial level filtering membrane.

■ Peel and stick decoupling membrane

- 등록번호: US 2014/0099464 A1
- 발명자: Carl Thomas Archbold, Scott Burton Harter
- 출원인: ST Global Partners, LLC
- 초록: A decoupling underlayment membrane is

described. The decoupling underlayment membrane includes: a set of mortar cavities; a set of through holes; and an adhesive layer coupled to an exterior surface of each mortar cavity in the set of cavities. A method of manufacturing a decoupling underlayment membrane includes: retrieving a membrane sheet; thermoforming a set of cavities into a top surface of the membrane sheet; pressing a set of through holes into the membrane sheet. A decoupling underlayment membrane includes: a set of starfish-shaped cavities arranged in a first repeating pattern and formed into a top surface of the membrane; a set of through holes arranged in a second repeating pattern; and a peel and stick adhesive layer coupled to a bottom surface of the membrane.

■ **Mechanical axial vibration in membrane separation treatment of effluents**

- 등록번호: US 2013/0341271 A1
- 발명자: Reginald A. Wiemers, Kohlheb Robert
- 출원인: Rockwater Resource, LLC
- 초록: Apparatus and methods are disclosed for mechanical axial vibration in membrane separation treatment processes. The apparatus includes a separation membrane element having an axial dimension, a membrane support structure having the element therein, and means for vibrating the membrane element (hydrodynamically or using motors) in the axial dimension.

■ **Synthetic amphiphiles for membrane protein manipulation**

- 등록번호: US 20130324707 A1
- 발명자: Samuel Helmer Gellman, Pil Seok Chae, Brian Kobilka, Soren RASUMSSEN
- 출원인: The Board Of Trustees Of The Leland

Stanford Junior University, Wisconsin Alumni Research Foundation

- 초록: The invention provides amphiphilic compounds and methods for manipulating membrane proteins. Compounds of the invention, for example, the compounds of Formulas I-XIX, can be prepared from readily available starting materials. The amphiphilic compounds can manipulate membrane protein at relatively low concentrations compared to many known detergents. The compounds can be used to aid the isolation of membrane proteins, for example, to aid their solubilization and/or purification. The compounds can also be used to aid the functional and structural determination of membrane proteins, including their stabilization and crystallization.

■ **Fluoropolymer Hollow Fiber Membrane with Fluoro-copolymer and Fluoro-terpolymer bonded end portion(s)**

- 등록번호: US 2014/0042076 A1
- 발명자: Robert E. Jerman, Cornelius Brown, JR., Kenneth Donald Hobbs, Carlos Ruano, Charles Edward Wolanski
- 출원인: Markel Corporation
- 초록: A hollow fiber membrane fluid transport device is disclosed wherein the fibers are comprised of Polytetrafluoroethylene (PTFE), and the potting materials are comprised of fluorocopolymer and or fluoroterpolymer based materials. The potting of the device utilizes a compressed chemically resistant fluorocopolymer and or fluoroterpolymer film, allows for ease of manufacture without destruction of the PTFE hollow fibers, with high packing densities, and without the processing complexity of pre-melting, extruding, or chemical crosslinking of any polymeric adhesives. Furthermore, the PTFE hollow fibers can be treated with a fluoropoly-

meric solvent solution before the chemically resistant film is applied to enhance the adhesion of the PTFE fiber to the film. PTFE hollow fibers, and its respective fluoro-co and terpolymers as potting films impart high packing densities, superb chemical resistance and temperature resistance without membrane contamination, or low fiber pull strength, as is sometimes observed with standard potting materials such as polyurethane and epoxy.

■ Membrane-enabled reverse lung

- 등록번호: US 2014/0065054 A1
- 발명자: Gary Patrick Noyes
- 출원인: Oceaneering International, Inc.
- 초록: An air revitalization apparatus and method simultaneously removes carbon dioxide, water vapor, and heat from air and produces oxygen gas, hydrogen gas, and concentrated carbon dioxide gas, does not require an explosion proof enclosure, and includes a fan configured to blow air into a first gas-liquid contactor, an electrochemical cell including first through fourth passages configured to emit hydrogen gas, permit a flow of a carbonate-hydroxide solution, permit a flow of carbonate-bicarbonate solution, and emit oxygen gas, respectively, the first and fourth passages separated by at least three gas-impermeable membranes, and a second gas-liquid contactor, where the first gas-liquid contactor, second passage, and a first pump are configured to circulate the carbonate-hydroxide solution therethrough, where the second gas-liquid contactor, third passage, and a second pump are configured to circulate the carbonate-bicarbonate solution therethrough, and where the output of the first passage is operationally coupled to the

second gas-liquid contactor.

■ Hybrid nanoparticle tfc membranes

- 등록번호: US 2014/0050846 A1
- 발명자: Christopher James Kurth, Jeffrey Alan Koehler, Meijuan Zhou, Brett Anderson Holmberg, Robert Leon Burk
- 출원인: Nanoh2O, Inc.
- 초록: Reverse osmosis membranes made by interfacial polymerization of a monomer in a nonpolar (e.g. organic) phase together with a monomer in a polar (e.g. aqueous) phase on a porous support membrane. Interfacial polymerization process is disclosed for preparing a highly permeable RO membrane, comprising: contacting on a porous support membrane, a) a first solution containing 1,3-diaminobenzene, and b) a second solution containing trimesoyl chloride, wherein at least one of solutions a) and b) contains nanoparticles when said solutions are first contacted, and recovering a highly permeable RO membrane.

■ Separator membranes for lithium ion batteries and related methods

- 등록번호: US 2014/0045033 A1
- 발명자: Zhengming Zhang, Xuefa Li, Lie Shi, Premanand Ramadass, Paul M. Halmo, Xiaomin Zhang
- 출원인: Celgard Llc
- 초록: A battery separator for a secondary lithium battery includes a microporous /porous membrane with a ceramic coating of one or more layers, a layer may include one or more particles and/or binders.

■ Polymerized ionic liquid block copolymers as battery membranes

- 등록번호: US 2014/0088207 A1
- 발명자: Yossef A. Elabd, Karen I. Winey, Yuesheng Ye, Jae-hong Choi, Tsen-Shan Sharon Sharick
- 출원인: The Trustees Of The University Of Pennsylvania, Drexel University
- 초록: The present invention is directed to compositions useful for use in separators for use in lithium ion batteries, and membranes, separators, and devices derived therefrom.