

Title (en)

NANOPOROUS MEMBRANES FOR FAST DIFFUSION OF IONS AND SMALL MOLECULES

Title (de)

NANOPORÖSE MEMBRANEN ZUR SCHNELLEN DIFFUSION VON IONEN UND KLEINEN MOLEKÜLEN

Title (fr)

MEMBRANES NANOPOREUSES POUR DIFFUSION RAPIDE D'IONS ET DE PETITES MOLÉCULES

Publication

EP 4175739 A4 20240110 (EN)

Application

EP 21836749 A 20210706

Priority

- US 202016921443 A 20200706
- US 2021040575 W 20210706

Abstract (en)

[origin: WO2022010941A1] A product includes a nanoporous membrane having a plurality of carbon nanotubes and a fill material in interstitial spaces between the carbon nanotubes for limiting or preventing fluidic transfer between opposite sides of the nanoporous membrane except through interiors of the carbon nanotubes. The longitudinal axes of the carbon nanotubes are substantially parallel, an average inner diameter of the carbon nanotubes is about 20 nanometers or less, and both ends of at least some of the carbon nanotubes are open. Moreover, the fill material is impermeable or having an average porosity that is less than the average inner diameter of the carbon nanotubes.

IPC 8 full level

B01D 71/02 (2006.01); **B01D 61/24** (2006.01); **B01D 67/00** (2006.01); **B01D 69/02** (2006.01)

CPC (source: EP IL US)

A61M 1/16 (2013.01 - EP IL); **A61M 1/34** (2013.01 - EP IL); **B01D 69/142** (2013.01 - EP IL); **B01D 71/0212** (2022.08 - EP IL US); **A61M 2205/0244** (2013.01 - EP IL)

Citation (search report)

- [X] WO 2008028155 A2 20080306 - VIRGINIA TECH INTELL PROP [US], et al
- [X] WO 2016070103 A1 20160506 - PORIFERA INC [US]
- [X] WO 2019104313 A1 20190531 - UNIV RUTGERS [US], et al
- [X] CN 104437120 B 20161005
- See also references of WO 2022010941A1

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 2022010941 A1 20220113; EP 4175739 A1 20230510; EP 4175739 A4 20240110; IL 299681 A 20230301

DOCDB simple family (application)

US 2021040575 W 20210706; EP 21836749 A 20210706; IL 29968123 A 20230104