

(51) International Patent Classification:
B01J 41/14 (2006.01)(21) International Application Number:
PCT/US2011/056501(22) International Filing Date:
17 October 2011 (17.10.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/393,715 15 October 2010 (15.10.2010) US(71) Applicant (for all designated States except US):
SIEMENS INDUSTRY, INC. [US/US]; 3333 Old Milton Parkway, Alpharetta, Georgia 30005 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **LIN, Juchui, Ray** [US/US]; 9 Highland Avenue, Bedford, Massachusetts 01730 (US).(74) Agents: **WILKINS, Frederick, C.** et al.; Siemens Corporation-Intellectual Property Dept., 170 Wood Avenue South, Iselin, NJ 08830 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

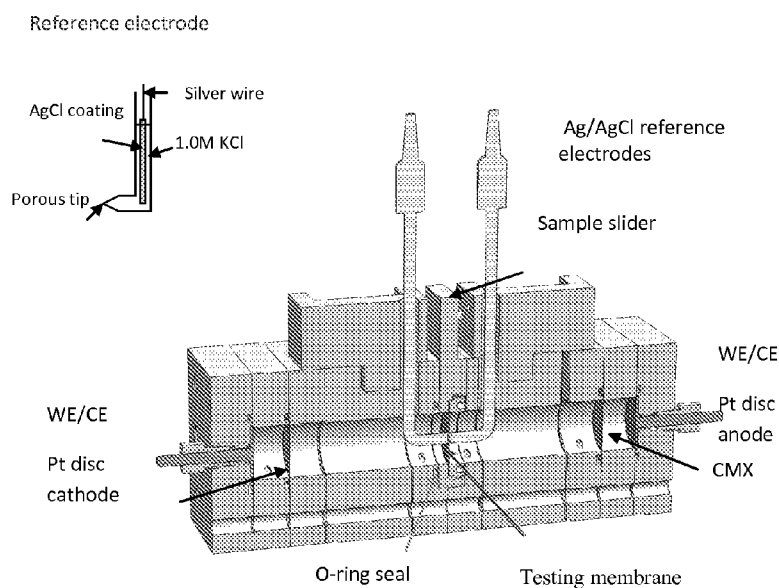
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(54) Title: ANION EXCHANGE MEMBRANES AND PROCESS FOR MAKING

Figure 1 Construction of the membrane test cell and the reference electrode

(57) **Abstract:** Embodiments of the present invention provide for anion exchange membranes and processes for their manufacture. The anion exchange membranes described herein are made the polymerization product of at least one functional monomer comprising a tertiary amine which is reacted with a quaternizing agent in the polymerization process.