



(51) International Patent Classification:

B01D 67/00 (2006.01) B01D 71/70 (2006.01)

B01D 69/14 (2006.01) C08G 77/60 (2006.01)

B01D 71/02 (2006.01)

(21) International Application Number:

PCT/US2015/065258

(22) International Filing Date:

11 December 2015 (11.12.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/091,077 12 December 2014 (12.12.2014) US

62/091,071 12 December 2014 (12.12.2014) US

(71) Applicant: EXXONMOBIL RESEARCH AND ENGINEERING COMPANY [US/US]; 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (US).

(72) Inventors: LI, Quanchang; 912 Blossom Circle, Dayton, NJ 08810 (US). BHANDARI, Dhaval, Ajit; 157 Cross-pointe Drive, East Brunswick, NJ 08816 (US). MCCOOL, Benjamin, A.; 12 Appletree Drive, Annandale, NJ 08801 (US).

(74) Agents: WARD, Andrew, T. et al.; Exxonmobil Research and Engineering Company, 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: MEMBRANE FABRICATION METHODS USING ORGANOSILICA MATERIALS AND USES THEREOF

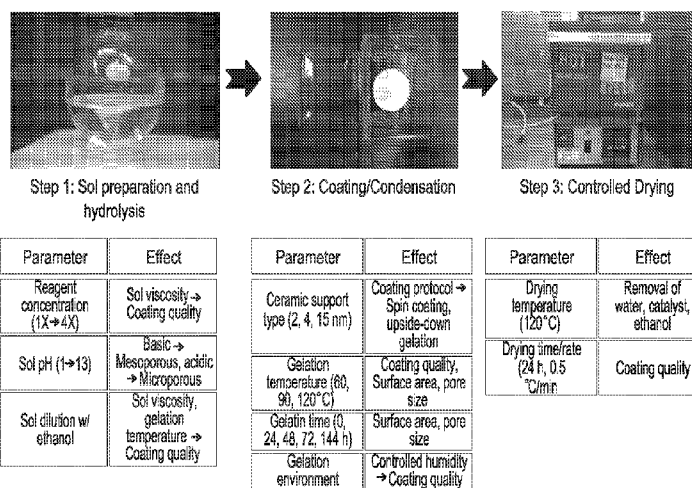


FIG. 1

(57) Abstract: Methods for fabricating a membrane with an organosilica material which is a polymer comprising independent units of Formula $[Z^3Z^4SiCH_2]_3$ (I), wherein each Z^3 represents a hydroxyl group, a C_1 - C_4 alkoxy group or an oxygen atom bonded to a silicon atom of another unit or an active site on the support and each Z^4 represents a hydroxyl group, a C_1 - C_4 alkoxy group, a C_1 - C_4 alkyl group, an oxygen atom bonded to a silicon atom of another unit or an active site on the support are provided. Methods of removing a contaminant from a hydrocarbon stream are also provided.