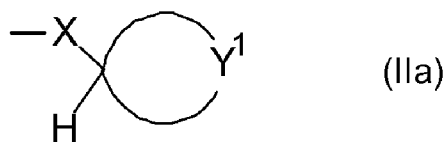
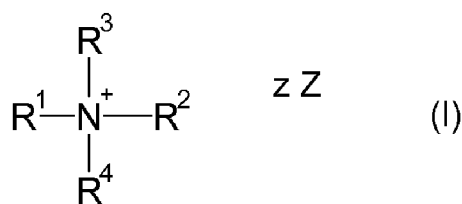




- (51) International Patent Classification: Not classified
- (21) International Application Number: PCT/IB2013/055728
- (22) International Filing Date: 12 July 2013 (12.07.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 61/671806 16 July 2012 (16.07.2012) US
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- (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, IS, JP, KE, KG, 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, PA, 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, RU, TJ,

[Continued on next page]

- (54) Title: COMPOSITION FOR MANUFACTURING INTEGRATED CIRCUIT DEVICES, OPTICAL DEVICES, MICROMACHINES AND MECHANICAL PRECISION DEVICES



(IIb)



(57) Abstract: Aqueous composition for developing photoresists applied to semiconductor substrates, said aqueous composition comprising a quaternary ammonium compound of formula I wherein (a) R^1 is selected from a C_4 to C_{30} organic radical of formula $-X-CR^{10}R^{11}R^{12}$, wherein R^{10} , R^{11} and R^{12} are independently selected from a C_1 to C_{20} alkyl and two or three of R^{10} , R^{11} and R^{12} may together form a ring system, and R^2 , R^3 and R^4 are selected from R^1 or a C_1 to C_{10} alkyl, C_1 to C_{10} hydroxyalkyl C_1 to C_{30} aminoalkyl or C_1 to C_{20A} alkoxyalkyl, and X is a chemical bond or a C_1 to C_4 divalent organic radical, or (b) R and R2 are independently selected from an organic radical of formula IIa or IIb (IIa) 20 or wherein Y is C_4 to C_{20} alkanediyl, Y 2 is a one-, two- or tricyclic C to C_{20} carbocyclic or heterocyclic aromatic system, and R^3 and R^4 are selected from R or a C to C 10 alkyl, C to C 10 hydroxyalkyl, C to C 30 aminoalkyl, or C to C 20 alkoxyalkyl, and X is a chemical bond or a C to C 4 divalent organic radical, and X is a chemical bond or a C to C 4 divalent organic radical, or 30 (c) at least two of R, R 2, R 3, and R 4 together form a saturated mono, bi or tricyclic C to C 30 organic ring system and the remaining R 3 and R 4, if any, together form a monocyclic C to C 30 organic ring system or are selected from a C to C 10 alkyl, C to C 10 hydroxyalkyl, C to C 30 aminoalkyl, or C to C_{20} alkoxyalkyl, and X is a chemical bond or a C_1 to C_4 divalent organic radical, or 3 (d) a combination thereof, and wherein Z is a counter-ion and z is an integer, which is chosen so that the overall bulky quaternary ammonium compound is electrically uncharged.



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).

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