

04/12/02
2002 0735 26



162162

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 December 2001 (13.12.2001)

PCT

(10) International Publication Number
WO 01/95690 A1

- (51) International Patent Classification⁷: **H95H 1/00**, H01L 21/302, 21/461
- (21) International Application Number: PCT/US01/18413
- (22) International Filing Date: 6 June 2001 (06.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/209,947 6 June 2000 (06.06.2000) US
- (71) Applicant: **EKC TECHNOLOGY, INC.** [US/US]; 2520 Barrington Court, Hayward, CA 94545 (US).
- (72) Inventors: **MALONEY, David, J.**; 6237 Camino Del Lago, Pleasanton, CA 94566 (US). **LEE, Wai, M.**; 40898 Abuelo Way, Fremont, CA 94539 (US). **ROMAN, Paul, J. Jr.**; 3674 Fairlands Drive, Pleasanton, CA 94588 (US). **FURY, Michael, A.**; 1123 Greenwich Street, San Francisco, CA 94109 (US). **HILL, Ross, H.**; 294 Hart Street, Coquitlam, British Columbia V3K 4A9 (CA).
- (74) Agents: **BALANCIA, Victor, N. et al.**; Pennie & Edmonds LLP, 1155 Avenue of the Americas, New York, NY 10036 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

WO 01/95690 A1

(54) Title: METHOD OF MAKING ELECTRONIC MATERIALS

(57) Abstract: The present invention involves fabrication of a hard mask. An embodiment involves the conversion of a precursor into a top-surface imaging layer during a direct patterning step. Another embodiment of the present invention is a method of forming an etched pattern in a substrate. A further embodiment of the present invention is a method of forming an implanted region in a substrate. Preferred precursors are formed from a metal complex comprising at least one ligand selected from the group consisting of acac, carboxylato, alkoxy, azide, carbonyl, nitrate, amine, halide, nitro, and mixtures thereof and at least one metal selected from the group consisting of Li, Al, Si, Ti, V, Cr, Mn, Fe, Ni, Co, Cu, Zn, Sr, Y, Zr, Nb, Mo, Ru, Rh, Pd, Ag, In, Sn, Ba, La, Pr, Sm, Eu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Pb, Th, U, Sb, As, Ce, Mg, and mixtures thereof.



ACTION