

(51) International Patent Classification:  
C23C 18/54 (2006.01)(21) International Application Number:  
PCT/US2009/063631(22) International Filing Date:  
6 November 2009 (06.11.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
12/269,857 12 November 2008 (12.11.2008) US(71) Applicant (for all designated States except US): **LAM RESEARCH CORPORATION** [US/US]; 4650 Cushing Parkway, Fremont, CA 94538 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ZIELIENE, Albina** [LT/LT]; 4650 Cushing Parkway, Fremont, CA 94538 (US). **VASKELIS, Algirdas** [LT/LT]; 4650 Cushing Parkway, Fremont, CA 94538 (US). **NORKUS, Eugenijus** [LT/LT]; 4650 Cushing Parkway, Fremont, CA 94538 (US).(74) Agent: **GENCARELLA, Michael, L.**; Martine Penilla & Gencarella, LLP, 710 Lakeway Drive, Suite 200, Sunnyvale, CA 94085 (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, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, 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))

[Continued on next page]

(54) Title: PLATING SOLUTIONS FOR ELECTROLESS DEPOSITION OF RUTHENIUM

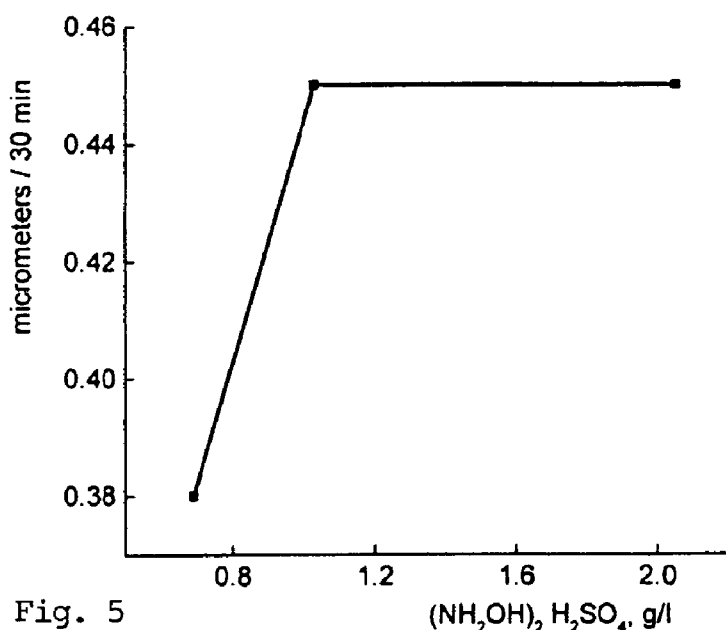


Fig. 5

(57) Abstract: An electroless ruthenium plating solution is disclosed herein. The solution includes a ruthenium source, a polyamino polycarboxylic acid complexing agent, a reducing agent, a stabilizing agent, and a pH-modifying substance. A method of preparing an electroless ruthenium plating solution is also provided.



---

**(88) Date of publication of the international search report:**

29 July 2010