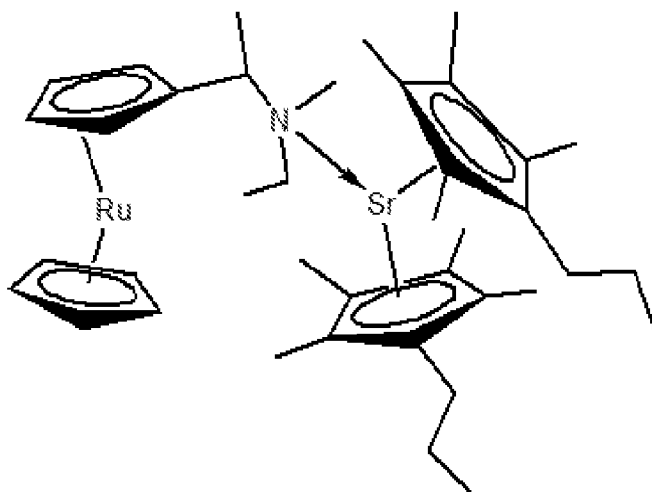




- (51) **International Patent Classification:**
H01L 21/205 (2006.01) H01L 27/108 (2006.01)
H01L 21/8242 (2006.01)
- (21) **International Application Number:**
PCT/US2010/027614
- (22) **International Filing Date:**
17 March 2010 (17.03.2010)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/161,016 17 March 2009 (17.03.2009) 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, 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, 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, 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).

[Continued on next page]

(54) **Title:** METHOD AND COMPOSITION FOR DEPOSITING RUTHENIUM WITH ASSISTIVE METAL SPECIES**FIG. 1**

(57) **Abstract:** A method of forming a ruthenium-containing film in a vapor deposition process, including depositing ruthenium with an assistive metal species that increases the rate and extent of ruthenium deposition in relation to deposition of ruthenium in the absence of such assistive metal species. An illustrative precursor composition useful for carrying out such method includes a ruthenium precursor and a strontium precursor in a solvent medium, wherein one of the ruthenium and strontium precursors includes a pendant functionality that coordinates with the central metal atom of the other precursor, so that ruthenium and strontium co-deposit with one another. The method permits incubation time for ruthenium deposition on non-metallic substrates to be very short, thereby accommodating very rapid film formation in processes such as atomic layer deposition.



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