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(54) Title: SOLUTION BASED LANTHANIDE AND GROUP III PRECURSORS FOR ATOMIC LAYER DEPOSITION

(57) Abstract: Oxygen free cyclopentadienyl solvent based precursor formulations having the general formula: $(R_1R_2R_3R_4R_5Cp)_3$*M wherein R_1, R_2, R_3, R_4, and R_5 are H or hydrocarbon C_nH_m (n=l to 10, m = 1 to 2n+l), Cp is cyclopentadienyl and M is an element from the lanthanide series or Group III materials.