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(54) Title: HETEROALKYLCYCLOPENTADIENYL INDIUM-CONTAINING PRECURSORS AND PROCESSES OF USING
THE SAME FOR DEPOSITION OF INDIUM-CONTAINING LAYERS

(57) Abstract: Methods for forming an indium-containing film by a vapor deposition method using a heteroalkylcyclopentadienyl
Indium (I) precursor having a general formula: $\text{In}[\text{R}^1\text{R}^2\text{R}^3\text{R}^4\text{CpL}^1]$ or $\text{In}[\text{CpL}^1\text{L}^2\text{y}]$ wherein Cp represents a cyclopentadienyl ligand;
 R^1 to R^4 are each independently H, C_1 - C_4 linear branched or cyclic alkyls; L^1 and L^2 are each independently a substituent bonded to
the Cp ligand and consisting of an alkyl chain containing at least one heteroatom, such as Si, Ge, Sn, N, P, B, Al, Ga, In, O, S, Se, Te,
F, Cl, Br, I; and $y = 1 - 4$. Exemplary heteroalkylcyclopentadienyl Indium (I) precursors include $\text{In}(\text{Cp}(\text{CH}_2)_3\text{NMe}_2)$ or $\text{In}(\text{CpP/Pr}_2)$.

WO 2022/026582 A1