

ABSTRACT

DISUBSTITUTED ALKYNE DICOBALT HEXACARBONYL COMPOUNDS, METHOD OF MAKING AND METHOD OF USE THEREOF

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Described herein are cobalt compounds, processes for making cobalt compounds, cobalt compounds used as precursors for depositing cobalt-containing films (e.g., cobalt, cobalt oxide, cobalt nitride, cobalt silicide etc.); and cobalt films. Examples of cobalt precursor compounds are (disubstituted alkyne) dicobalt hexacarbonyl compounds. Examples of surfaces for deposition of metal-containing films include, but are not limited to, metals, metal oxides, metal nitrides, and metal silicides. Disubstituted alkyne ligands with alkyl groups such as linear alkyls and branched alkyls to form cobalt complexes which are used for selective deposition on certain surfaces and/or superior film properties such as uniformity, continuity, and low resistance.

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15 (No drawing to be published)