

ABSTRACT

**CYCLOHEPTATRIENE MOLYBDENUM (0) PRECURSORS FOR DEPOSITION OF
MOLYBDENUM FILMS**

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Molybdenum(0) coordination complexes comprising at least one cycloheptatriene ligand and optionally one or more neutral ligands which coordinate to the metal center by carbon, nitrogen or phosphorous are described. Methods for
10 depositing molybdenum-containing films on a substrate are described. The substrate is exposed to a molybdenum precursor and a reactant to form the molybdenum-containing film (e.g., elemental molybdenum, molybdenum oxide, molybdenum carbide, molybdenum silicide, molybdenum nitride). The exposures can be sequential or simultaneous.

15 (fig. 2A)