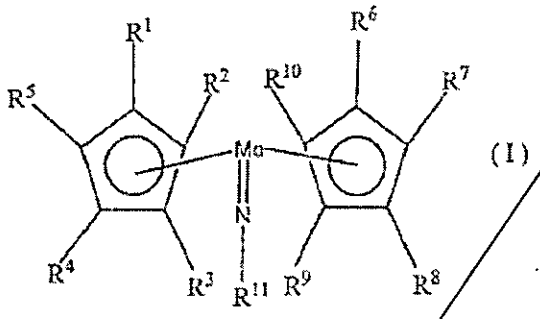
CLAIMS

1. A method for producing a thin film, comprising:

introducing, onto a substrate, a vapor that has been obtained by vaporizing a thin-film-forming material comprising a molybdenum imide compound represented by the following formula (I) and that comprises the molybdenum imide compound; and forming a thin film comprising molybdenum on the substrate by decomposing and/or chemically reacting the molybdenum imide compound,

[Chemical Formula I]

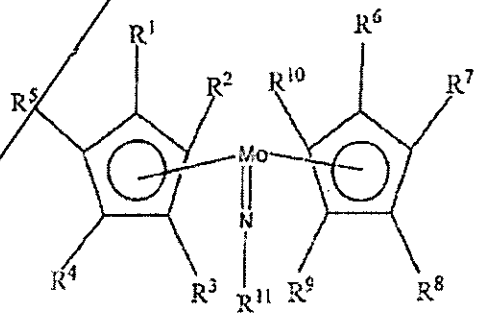


(I)

wherein R^1 though R^{10} each represent a hydrogen atom or a linear or branched alkyl group having 1 to 5 carbon atoms, and R^{11} represents a linear or branched alkyl group having 1 to 8 carbon atoms.

2. A thin-film-forming material, wherein the material comprises a molybdenum imide compound represented by the following formula (I) and is to be used for the method for producing a thin film as set forth in claim 1,

[Chemical Formula 2]

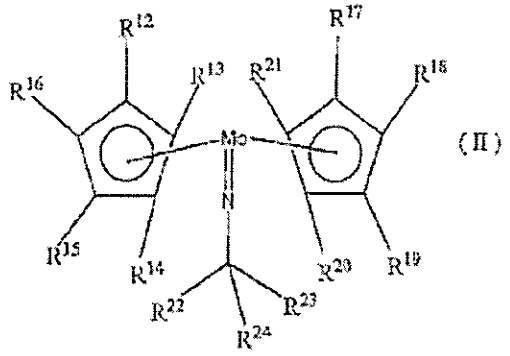


(I)

wherein R^1 though R^{10} each represent a linear group having 2 to 5 carbon atoms, or branched alkyl group having 1 or 2 or 4 or 5 carbon atoms, and R^{11} represents a linear group having 1 to 8 carbon atoms or a branched alkyl group having 1, 2 or 5 to 8 carbon atoms.

3. A molybdenum imide compound represented by the following formula (II),

[Chemical Formula 3]



(II)

wherein R^{12} through R^{21} each represent a hydrogen atom or a linear or branched alkyl group having 1 to 5 carbon atoms, R^{22} and R^{23} each represent a methyl group or an ethyl group, and R^{24} represents a linear or branched alkyl group having 2 to 5 carbon atoms.

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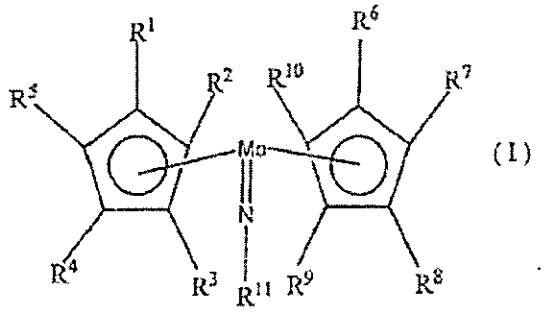
introducing, onto a substrate, a vapor that has been obtained by vaporizing a thin-film-forming material comprising a molybdenum imide compound represented by the following formula (I) and that comprises the molybdenum imide compound; and forming a thin film comprising molybdenum on the substrate by decomposing and/or chemically reacting the molybdenum imide compound,

[Chemical Formula I]



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2. A molybdenum imide compound represented by the following formula (II),

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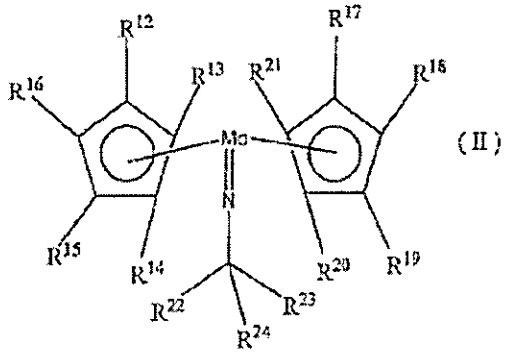

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wherein R^{12} through R^{21} each represent a hydrogen atom or a linear or branched alkyl group having 1 to 5 carbon atoms, R^{22} and R^{23} each represent a methyl group or an ethyl group, and R^{24} represents a linear or branched alkyl group having 2 to 5 carbon atoms.