

Title (en)

NOVEL ORGANOCUPROUS PRECURSORS FOR CHEMICAL VAPOR DEPOSITION OF A COPPER FILM

Title (de)

NEUE ORGANOKUPFER-VORLÄUFER FÜR CVD VON KUPFERFILMEN

Title (fr)

NOUVEAUX PRECURSEURS ORGANO-CUIVREUX DESTINES AU DEPOT CHIMIQUE EN PHASE VAPEUR D'UN FILM DE CUIVRE

Publication

**EP 1102872 A4 20080430 (EN)**

Application

**EP 99959960 A 19991207**

Priority

- KR 9900743 W 19991207
- KR 19990013236 A 19990415

Abstract (en)

[origin: WO0063461A1] An organocuprous compound of formula (I) of the present invention can be conveniently used in a low-temperature CVD process for the mass production of a contaminant-free copper film having good thermal stability, wherein: R1, R2 and R3 are each independently a C1-8 alkoxy, aryl or aryloxy group, R4 and R5 are each independently hydrogen, fluorine, a CnF2n+1 or CnH2n+1 group, n being an integer in the range of 1 to 6, R6 is hydrogen, fluorine or C1-4 alkyl group, and m is 1 or 2, when m is 1, C=C represents C2C, and when m is 2, C=C represents C=C.

IPC 1-7

**C23C 18/38**

IPC 8 full level

**C23C 18/08** (2006.01); **C07F 1/08** (2006.01); **C23C 16/18** (2006.01); **C23C 18/38** (2006.01); **C23C 24/08** (2006.01); **H01L 21/28** (2006.01); **H01L 21/285** (2006.01)

CPC (source: EP KR)

**C07F 1/08** (2013.01 - EP); **C23C 16/18** (2013.01 - EP); **C23C 18/38** (2013.01 - KR)

Citation (search report)

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- [X] DOPPELT P ET AL: "Alkyne complexes of copper(I) (1,1,1,5,5-hexafluoro-2,4-pentanedionato): syntheses and characterization of (eta<2>-bis(trimethylsilyl) acetylene) copper(I) (hfac), (mu-eta<2>-bis(trimethylsilyl) acetylene) bis(copper(I)) (hfac) and a series of (eta<2>-alkyne) Cu(hfac) complexes", JOURNAL OF ORGANOMETALLIC CHEMISTRY, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 517, no. 1, 28 June 1996 (1996-06-28), pages 53 - 62, XP004035961, ISSN: 0022-328X
- [PX] KANG S-W ET AL: "(hfac)Cu(I)(MP) (hfac=hexafluoroacetylacetone, MP=4-methyl-1-pentene) and (hfac)Cu(I)(DMB) (DMB=3,3-dimethyl-1-butene) for the chemical vapor deposition of copper film", THIN SOLID FILMS, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 350, no. 1-2, 15 August 1999 (1999-08-15), pages 10 - 13, XP004180583, ISSN: 0040-6090
- [PX] DATABASE CA [online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; RHEWE, SHI-WOO ET AL: "Property of hfac (hexafluoroacetylacetone)Cu(I)DMB (3,3-dimethyl-1- butene) as a liquid precursor for chemical vapor deposition of copper films", XP002473287, retrieved from STN Database accession no. 132:159098 & HAN'GUK CHAELEYO HAKHOECHI , 9(11), 1148-1152 CODEN: HCHAEU; ISSN: 1225-0562, 1999
- See references of WO 0063461A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

**WO 0063461 A1 20001026**; CN 1194117 C 20050323; CN 1290309 A 20010404; EP 1102872 A1 20010530; EP 1102872 A4 20080430; JP 2002542397 A 20021210; KR 100298125 B1 20010913; KR 19990046683 A 19990705; RU 2181725 C2 20020427; TW 524881 B 20030321

DOCDB simple family (application)

**KR 9900743 W 19991207**; CN 99802648 A 19991207; EP 99959960 A 19991207; JP 2000612535 A 19991207; KR 19990013236 A 19990415; RU 2000118774 A 19991207; TW 88122014 A 19991215