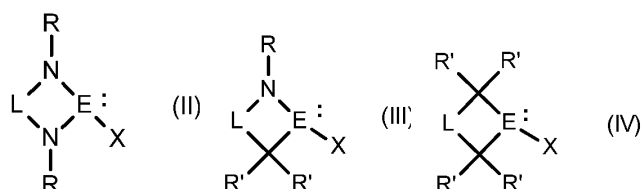


Claims

1. Process for preparing metal- or semimetal-containing films comprising
 (a) depositing a metal- or semimetal-containing compound from the gaseous state onto a
 solid substrate and
 (b) bringing the solid substrate with the deposited metal- or semimetal-containing com-
 pound in contact with a compound of general formula (II), (III), or (IV)



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wherein E is Ge or Sn,

R is an alkyl group, an alkenyl group, an aryl group, or a silyl group,

R' are an alkyl group, an alkenyl group, an aryl group, or a silyl group,

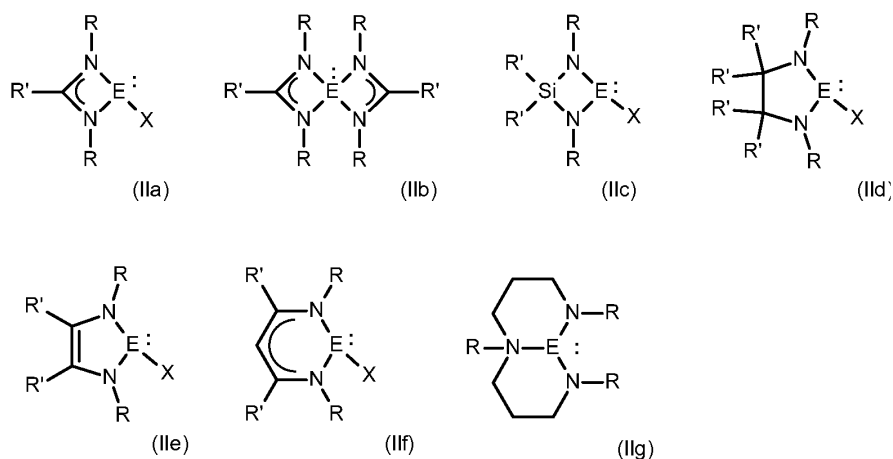
X is nothing, hydrogen, a halide, an alkyl group, an alkylene group, an aryl group, an
 alkoxy group, an aryl oxy group, an amino group, or a amidinate group, or an guanidinate
 group,

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L is an alkyl group, an alkenyl group, an aryl group, or a silyl group.

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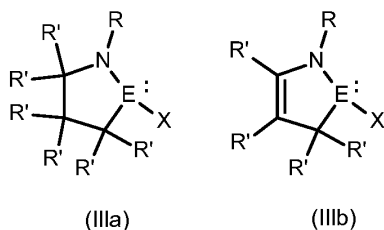
2. The process according to claim 1, wherein compound of the compound of general formula
 (II) is a compound of general formula (IIa), (IIb), (IIc), (IId), (Ile), (IIf)



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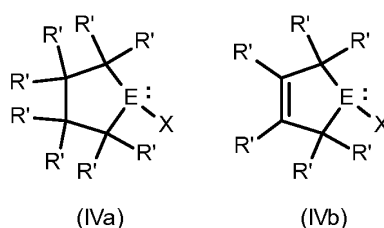
wherein R' is an alkyl group, an alkenyl group, an aryl group, or a silyl group.

3. The process according to claim 1, wherein the compound of general formula (III) is a com-
 pound of general formula (IIIa) or (IIIb)



4. The process according to claim 1, wherein the compound of general formula (IV) a compound of general formula (IVa) or (IVb).

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5. The process according to any of the claims 1 to 4, wherein R bears no hydrogen atom in the 1-position.
6. The process according to any of the claims 1 to 5, wherein the compound of general formula (II), (III), or (IV) has a molecular weight of not more than 600 g/mol.
7. The process according to any of the claims 1 to 6, wherein the compound of general formula (II), (III), or (IV) has a vapor pressure at least 1 mbar at a temperature of 200 °C.
8. The process according to any of the claims 1 to 7, wherein (a) and (b) are successively performed at least twice.
9. The process according to any of the claims 1 to 8, wherein the metal- or semimetal-containing compound contains Ti, Ta, Mn, Mo, W, Ge, Ga, As or Al.
10. The process according to any of the claims 1 to 9, wherein the metal- or semimetal-containing compound is a metal or semimetal halide.
11. The process according to any of the claims 1 to 10, wherein the temperature does not exceed 350 °C.
12. The process according to any of the claims 1 to 11, wherein the metal- or semimetal-containing compound and the compound of general formula (II), (III), or (IV) are brought into the gaseous state by heating them to a temperature of 20 °C to 200 °C.

13. The process according to any of the claims 1 to 12, wherein the metal- or semimetal-containing film is a metal or semimetal film, a metal or semimetal nitride film, a metal or semimetal carbide film, a metal or semimetal carbonitride film, a metal or semimetal alloy films, or an intermetallic compound film.
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14. The process according to any of the claims 1 to 13, wherein the metal- or semimetal-containing film has an electrical conductivity of at least 10^4 S/m.
15. The process according to any of the claims 1 to 14, wherein metal- or semimetal-containing film contains in sum less than 5 weight-% nitrogen.
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