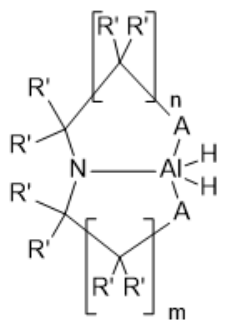
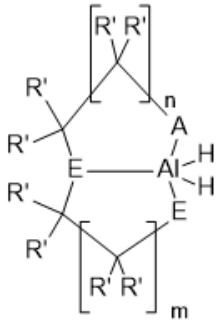
Claims

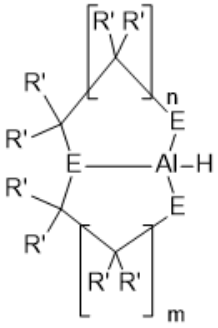
1. Process for preparing inorganic metal-containing films comprising bringing a solid substrate in contact with a compound of general formula (I), (II), (III), or (IV) in the gaseous state



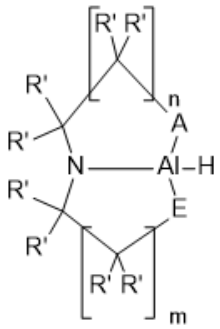
(I)



(II)



(III)



(IV)

wherein A is NR_2 or OR with R being an alkyl group, an alkenyl group, an aryl group, or a silyl group,
E is NR or O,
n is 0, 1 or 2, m is 0, 1 or 2, and
R' is hydrogen, an alkyl group, an alkenyl group, an aryl group, or a silyl group,
wherein a metal-containing compound is deposited from the gaseous state onto the solid substrate before bringing it in contact with a compound of general formula (I), (II), (III), or (IV).

2. The process according to claim 1, wherein R is methyl, ethyl, tert-butyl, trimethylsilyl or two R form together a five membered ring and R' is hydrogen.

3. The process according to claim 1 or claim 2, wherein if E is NR or A is OR, R in NR or OR bears no hydrogen atom in the 1-position.

4. The process according to any one of claims 1 to 3, wherein the metal-containing compound contains Ti, Ta, Mn, Mo, W, Al, Co, Ga, Ge, Sb, or Te.

5. The process according to any one of claims 1 to 4, wherein the metal-containing compound is a metal halide.

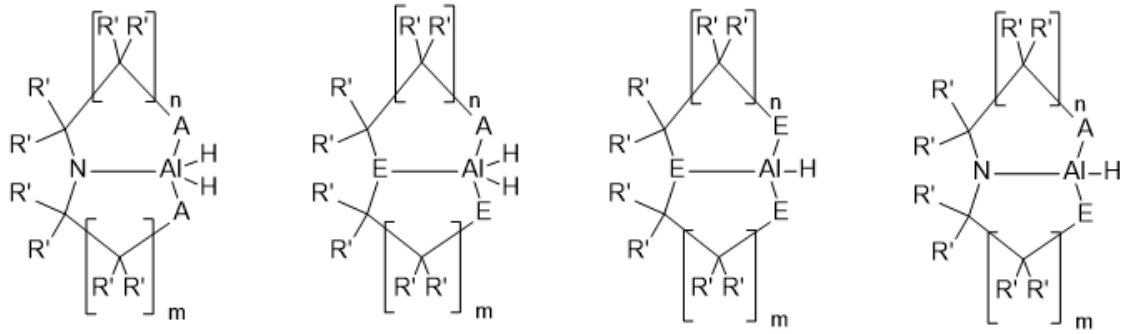
6. The process according to any one of the claims 1 to 5, wherein the sequence containing bringing a solid substrate in contact with a compound of general formula (I), (II), (III), or (IV) and depositing a metal-containing compound or decomposing the

adsorbed compound of general formula (I), (II), (III), or (IV) is performed at least twice.

7. The process according to any one of the claims 1 to 6, wherein the compound of general formula (I) has a molecular weight of not more than 600 g/mol.

8. The process according to any one of the claims 1 to 7, wherein the compound of general formula (I) has a vapor pressure at least 1 mbar at a temperature of 200 °C.

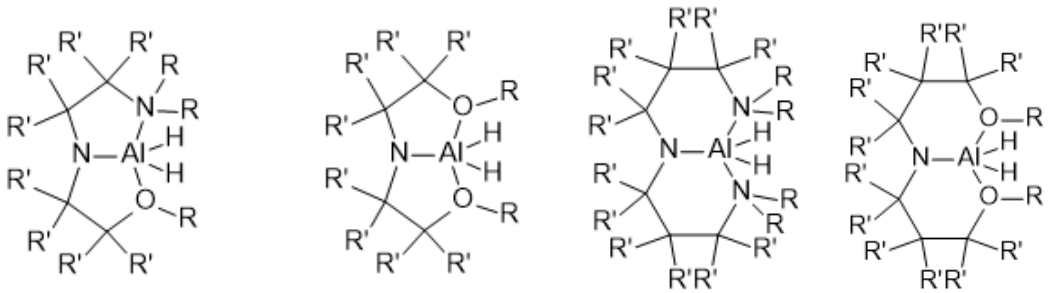
9. A compound of general formula (I), (II), (III), or (IV)



(I) (II) (III) (IV)

wherein A is NR_2 or OR with R being an alkyl group, an alkenyl group, an aryl group, or a silyl group,
E is NR or O,
n is 0, 1 or 2, m is 0, 1 or 2, and
R' is hydrogen, an alkyl group, an alkenyl group, an aryl group, or a silyl group
wherein at least one E or A contains oxygen or n is 2 or m is 2.

10. The compound according to claim 9, wherein the compound is a compound of general formula (Ib), (Ic), (Ih), (Ij)



(Ib) (Ic) (Ih) (Ij)

11. The compound according to claim 9 or claim 10, wherein R' is hydrogen and R is R is methyl, ethyl, tert-butyl or trimethylsilyl, or two R form together a five-membered ring.