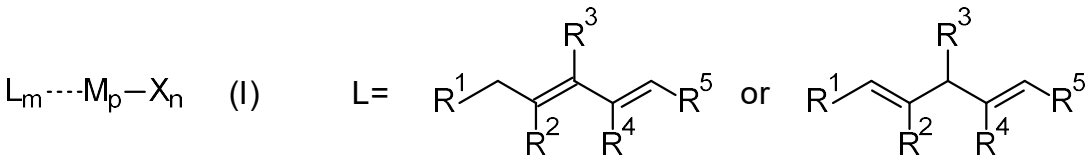
Claims

1. A process comprising bringing a compound of general formula (I) into the gaseous or aerosol state



and depositing the compound of general formula (I) from the gaseous or aerosol state onto a solid substrate, wherein

R^1, R^2, R^3, R^4, and R^5 are independent of each other hydrogen, an alkyl group, an alkenyl group, an aryl group or a silyl group,
p is 1 or 2,
M is Ni or Co,
X is a σ-donating ligand which coordinates M,
m is 1 or 2 and
n is 0 to 3.

2. The process according to claim 1, wherein M is in the oxidation state +1 or +2.

3. The process according to claim 2, wherein M is Co, m is 1, and all X are neutral σ-donating ligands.

4. The process according to claim 2, wherein M is Ni, m is 1, and one X is anionic and the remaining X, if any, are neutral.

5. The process according to claim 2, wherein M is Ni, m is 2, and n is 0.

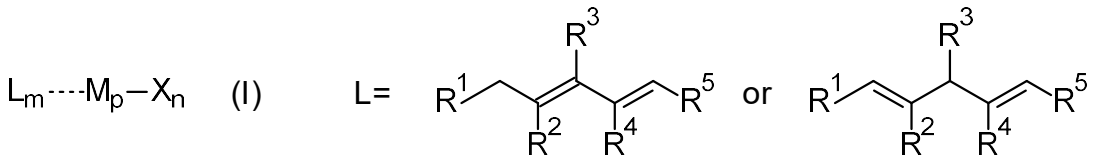
6. The process according to any of the claims 1 to 4, wherein at least one X is CO or a ligand which coordinates M via a phosphor or nitrogen atom.

7. The process according to any of the claims 1 to 6, wherein R is independent of each other hydrogen, methyl, ethyl, iso-propyl.

8. The process according to any of the claims 1 to 7, wherein the deposited compound of general formula (I) is exposed to a reducing agent.

9. The process according any of the claims 1 to 8, wherein a sequence of depositing the compound of general formula (I) onto a solid substrate and decomposing the deposited compound of general formula (I) is performed at least twice.

10. A compound of general formula (I),



wherein

R^1, R^2, R^3, R^4, and R^5 is independent of each other hydrogen, an alkyl group, an alkenyl group, an aryl group or a silyl group,

p is 1 or 2,

M is Ni or Co,

X is a σ-donating ligand which coordinates M, wherein at least one X coordinates M via a phosphor atom and contains two or more phosphor atoms,

m is 1 or 2 and

n is 1 to 3.

11. The compound of general formula (I) according to claim 10, wherein M is Co, m is 1, and all X are neutral σ-donating ligands.

12. The compound of general formula (I) according to claim 10, wherein M is Ni, m is 2, and n is 0.

13. The compound of general formula (I) according to claim 10, wherein R^2, and R^4 are independent of each other methyl, ethyl, iso-propyl, or tert-butyl and R^1, R^3, and R^5 are hydrogen.

14. Use of a compound of general formula (I) according to any of the claims 10 to 13 for a film formation process.