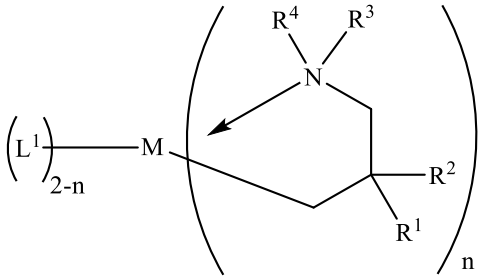
CLAIMS

What is claimed is:

1. A precursor having Formula I:



Formula I

wherein

(a) R^1 and R^2 (i) are each independently one of a C_1-C_6 linear alkyl group, a C_3-C_6 branched alkyl group, and a C_3-C_6 cyclic alkyl group or (ii) are linked to form one of a 3-member ring, a 4-member ring, a 5-member ring and a 6-member ring;

(b) R^3 and R^4 are each independently one of a C_1-C_6 linear alkyl group, a C_3-C_6 branched alkyl group and a C_3-C_6 cyclic alkyl group;

(c) n = 1 or 2;

(d) M is one of Cu, Zn, Cd, Mg, Ca, Sr and Ba; and

(e) L^1 is one of a C_1-C_6 linear alkyl group, a C_3-C_6 branched alkyl group and an amino group of formula $-NR^5R^6$ where R^5 and R^6 are each independently one of a C_1-C_6 linear alkyl group and a C_3-C_6 branched alkyl group.

2. The precursor of claim 1, wherein M is Cu.

3. The precursor of claim 1, wherein M is Zn.

4. The precursor of claim 1, wherein M is Cd.

5. The precursor of claim 1, wherein M is Mg.

6. The precursor of claim 1, wherein M is Ca.

7. The precursor of claim 1, wherein M is Sr.

8. The precursor of claim 1, wherein M is Ba.

9. The precursor of claim 1, wherein n = 1.

10. The precursor of claim 1, wherein n = 2.

11. The precursor of claim 1, wherein M = Zn, n = 2 and $R^{1\text{-}4}$ = Me.

12. The precursor of claim 1, wherein M = Mg, n = 2 and R^{1-4} = Me.

13. The precursor of claim 1, wherein M = Ca, n = 2 and R^{1-4} = Me.

14. The precursor of claim 1, wherein M = Sr, n = 2 and R^{1-4} = Me.

15. The precursor of claim 1, wherein M = Ba, n = 2 and R^{1-4} = Me.

16. The precursor of claim 1, wherein M = Zn, n = 1, L^1 = Me and R^{1-4} = Me.

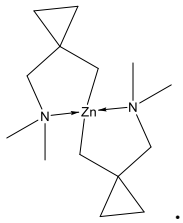
17. The precursor of claim 1, wherein M = Zn, n = 1, L^1 = Et and R^{1-4} = Me.

18. The precursor of claim 1, wherein M = Zn, n = 1, $L^1 = NR^5R^6$ with R^{5-6} = Et and R^{1-4} = Me.

19. The precursor of claim 1, wherein M = Cd, n = 2 and R^{1-4} = Me.

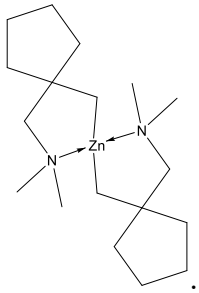
20. The precursor of claim 1, wherein M = Zn, n = 2, R^{1-3} = Me and R^4 = Et.

21. The precursor of claim 1 having the structure:



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22. The precursor of claim 1 having the structure:



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23. A method for forming a metal-containing film on at least one surface of a substrate comprising:

a. providing the at least one surface of the substrate in a reaction vessel;

b. forming a metal-containing film on the at least one surface by a deposition process chosen from a chemical vapor deposition (CVD) process and an atomic layer deposition (ALD) process using the precursor of any of claims 1-22 as a metal source compound for the deposition process.

24. A precursor supply package, comprising a vessel and the precursor of any of claims 1-22, wherein the vessel is adapted to contain and dispense the precursor.