F, I, methyl, ethyl, propyl, butyl, pentyl, benzyl or an isomer thereof, and dimethylamido.

4. The compound of claim 1, 2, or 3, wherein M is Ti and each of $R^1$, $R^4$, $R^5$, $R^6$, $R^7$, $R^8$, $R^9$, $R^{10}$, $R^{11}$, $R^{12}$, $R^{13}$, $R^{14}$, $R^{15}$ and $R^{16}$ is, independently, hydrogen or t-butyl.

5. A catalyst system comprising activator and the catalyst compound of claim 1, 2, 3, or 4.

6. The catalyst system of claim 5, further comprising chain transfer agent represented by the formula $AlR_3$, $ZnR_2$ (where each R is, independently, a $C_1$-$C_8$ aliphatic radical, preferably methyl, ethyl, propyl, butyl, penyl, hexyl, octyl, or an isomer thereof) or a combination thereof.

7. The catalyst system of claim 5 or 6, wherein the activator comprises alumoxane.

8. The catalyst system of claim 5, 6, or 7, wherein the activator comprises a non coordinating anion.

9. The catalyst system of claim 5, 6, 7, or 8, wherein the system comprises a support.

10. A process to polymerize olefins comprising contacting one or more olefins with the catalyst system of claim 5, 6, 7, 8, or 9.

11. The process of claim 10, wherein each X is, independently, selected from the group consisting of hydrocarbyl radicals having from 1 to 20 carbon atoms, hydrides, amides, alkoxides, sulfides, phosphides, halides, dienes, amines, phosphines, ethers, and a combination thereof, (two X's may form a part of a fused ring or a ring system).

12. The process of claim 10 or 11, wherein M is Hf, Ti and/or Zr.

13. The process of claim 10, 11, or 12, wherein z is 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12.

14. The process of claim 10, 11, or 12, wherein z is 0.

15. The process of claim 10, 11, or 12 wherein z is 1.