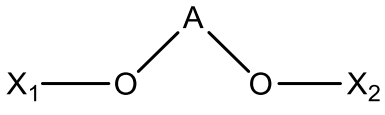
What is claimed is:

1. A process for preparing a procatalyst composition comprising the steps of:

(a) reacting a hydrocarbon-soluble organomagnesium compound or complex thereof in a hydrocarbon solvent with an active non-metallic or metallic halide to form a magnesium halide support;

(b) contacting the magnesium halide support and a compound containing titanium to form a supported titanium procatalyst; and

(c) contacting the supported titanium procatalyst with an electron donor modifier having the formula (I):



(I), wherein:

A is $–CR^1R^2CR^3R^4CR^5R^6–$ or $–SiR^7R^8–$;

each of X_1 and X_2 is hydrogen, R, or C(=O)R;

R is a C_1-C_{20} hydrocarbyl that is optionally substituted with one or more halogens or at least one functional group comprising at least one heteroatom; and

each of R^1 to R^8 is hydrogen or a C_1-C_{20} hydrocarbyl that is optionally comprised of at least one heteroatom,

wherein a total number of non-hydrogen atoms in R^1 to R^6 or R^7 to R^8 is greater than 2, wherein R^1 to R^6 or R^7 to R^8 optionally forms a cyclic structure,

and

wherein X_1 and X_2 are not both hydrogen.

2. The process of claim 1, wherein X_1 and X_2 are alkyl groups, wherein each of R^1, R^2, R^5, and R^6 is hydrogen, and wherein each of R^3, R^4, R^7, and R^8 is a branched or cyclic hydrocarbyl.

3. The process of claim 1, wherein the X_1–O group, the X_2–O group, or both groups are replaced with a functional group comprising at least one heteroatom selected from N, O, P, and S.

4. The process of claim 1, wherein step (c) includes addition of the electron donor modifier to the supported titanium procatalyst at a donor/titanium ratio of 0.01 to 100.

5. The process of claim 4, wherein step (c) includes addition of the electron donor modifier to the supported titanium procatalyst at a donor/titanium ratio of 0.1 to 10 and aging for at least 1 minute.

6. The process of claim 1, wherein a metallic halide is used in steps (a), (b), and/or (c).

7. The process of claim 6, wherein the metallic halide is an aluminum halide.

8. The process of claim 1, wherein the hydrocarbon solvent of step (a) is also present in steps (b) and (c).

9. A solution process for polymerization of ethylene and at least one additional polymerizable monomer to form a polymer composition, the process comprising:

contacting ethylene and the additional polymerizable monomer with a catalyst composition under polymerization conditions;

wherein the catalyst composition comprises a procatalyst composition and an alkyl-aluminum cocatalyst;

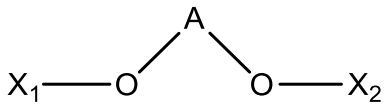
wherein the additional polymerizable monomer is a $C_{3\text{-}20}$ α-olefin; and

wherein the procatalyst composition is prepared according to a process comprising the steps of:

(a) reacting a hydrocarbon-soluble organomagnesium compound or complex thereof in a hydrocarbon solvent with an active non-metallic or metallic halide to form a magnesium halide support;

(b) contacting the magnesium halide support and a compound containing titanium to form a supported titanium procatalyst; and

(c) contacting the supported titanium procatalyst with an electron donor modifier having the formula (I):



(I), wherein:

A is $–CR^1R^2CR^3R^4CR^5R^6–$ or $–SiR^7R^8–$;

each of X_1 and X_2 is hydrogen, R, or C(=O)R;

R is a C_1-C_{20} hydrocarbyl that is optionally substituted with one or more halogens or at least one functional group comprising at least one heteroatom; and

each of R^1 to R^8 is hydrogen or a C_1-C_{20} hydrocarbyl that is optionally comprised of at least one heteroatom,

wherein a total number of non-hydrogen atoms in R^1 to R^6 or R^7 to R^8 is greater than 2,

wherein R^1 to R^6 or R^7 to R^8 optionally forms a cyclic structure, and

wherein X_1 and X_2 are not both hydrogen.

10. The process of claim 9, wherein X_1 and X_2 are alkyl groups, wherein each of R^1, R^2, R^5, and R^6 is hydrogen, and wherein each of R^3, R^4, R^7, and R^8 is a branched or cyclic hydrocarbyl.

11. The process of claim 9, wherein the X_1–O group, the X_2–O group, or both groups are replaced with a functional group comprising at least one heteroatom.