CLAIMS

1. A method for generating an internal and linear C_{10}-C_{16} alkene which comprises the following steps:
   i) mixing an unsubstituted linear terminal C_{10}-C_{16} alkene with a supported or non-supported metal precursor; and
   ii) heating the mixture obtained in step (i) at a temperature of between 150°C and 300°C, wherein the metal precursor gives rise to the *in situ* formation of isolated metal atoms which act as catalysts,
   characterized in that:
   - the metal precursor is used in an amount of less than 100 ppm by weight with respect to the unsubstituted linear terminal C_{10}-C_{16} alkene, wherein:
   steps (i) and (ii) are carried out in the absence of a solvent, and
   the metal of the metal precursor of step (i) is Ru.

2. The method according to claim 1, wherein the unsubstituted linear terminal C_{10}-C_{16} alkene of step (i) is an unsubstituted linear terminal C_{12}-C_{14} alkene.

3. The method according to any of claims 1 or 2, wherein the unsubstituted linear terminal C_{12}-C_{14} alkene of step (i) is selected from 1-dodecene and 1-tetradecene.

4. The method according to any of claims 1 to 3, wherein the metal precursor is selected from $Ru_3(CO)_{12}$, $RuCl_3$, $Ru(C_4H_8)_2COD$, $Ru(PPh)_3Cl_2$, Ru nanoparticles in colloidal form, and Ru nanoparticles as a pure metal.

5. The method according to any of claims 1 to 4, wherein the metal precursor is supported on inorganic oxides.

6. The method according to any of claims 1 to 5, wherein the unsubstituted linear terminal C_{10}-C_{16} alkene of step (i) is present in an amount of between 10,000 equivalents and 100,000,000 equivalents with respect to the metal precursor.

7. The method according to any of claims 1 to 6, wherein the metal precursor is used in an amount of between 1 ppm and 100 ppm by weight with respect to the

unsubstituted linear terminal C_{10}-C_{16} alkene.

8. The method according to any of claims 1 to 7, wherein step (ii) is carried out in a batch-type reactor with simple stirring or in a tank-type continuous reactor stirred with a continuous flow or fixed bed.

9. The method according to any of claims 1 to 8, wherein the temperature of step (ii) is between 200°C and 250°C.

10. The method according to any of claims 1 to 9, wherein step (ii) is carried out at a pressure of between 1 bar and 20 bar.

11. The method according to any of claims 1 to 10, wherein step (ii) is carried out under an inert atmosphere.

12. The method according to any of claims 1 to 11, wherein the reaction time of step (ii) is between 0.5 h and 72 h.