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(54) Title: POLYMERIZATION USING LATE TRANSITION METAL CATALYST COMPLEXES FORMED IN SITU

(57) Abstract: The invention is directed towards the formation of polymers and copolymers using late transition metal polymerization catalyst complexes which are formed *in situ*. In the first process step of the instant invention, a composition having the formula MXZ_n is simultaneously contacted with a ligand and an activating cocatalyst. Referring to the formula, M is selected from the group consisting of Cu, Ag, and Au; X is selected from the group consisting of halides, hydride, triflate, acetates, borates, C_1 through C_{12} alkyl, C_1 through C_{12} alkoxy, C_3 through C¿12 ?cycloalkyl, C¿3 ?through C_{12} cycloalkoxy, aryl, thiolates, carbon monoxide, cyanate, olefins, and any other moiety into which a monomer can insert; Z is selected from the group consisting of halides, hydride, triflate, acetates, borates, C_1 through C¿12 ?alkyl, C_1 through C_{12} alkoxy, C_3 through C¿12 ?cycloalkyl, C_3 through C_{12} cycloalkoxy, aryl, tholates, carbon monoxide, cynate, olefins, a neutral coordinating ligand, and other moiety into which a monomer can insert; n equals 0, 1 or 2. In the second process step of the instant invention, olefinic monomers are contacted with the activated catalyst composition under polymerization conditions.