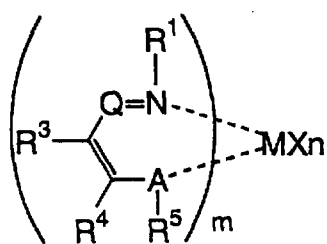


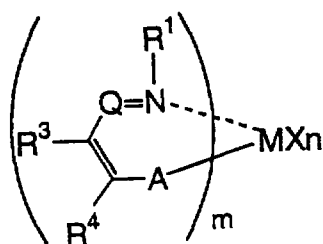
ABSTRACT

The present invention is intended to provide an olefin polymerization catalyst comprising a novel transition metal compound and having an excellent olefin polymerization activity and to provide a process for olefin polymerization using this catalyst. The olefin polymerization catalyst comprises a transition metal compound (A-1) represented by the formula (I) or a transition metal compound (A-2) represented by the formula (II), and optionally, at least one compound (B) selected from the group consisting of an organometallic compound (B-1), an organoaluminum oxy-compound (B-2) and a compound (B-3) which reacts with the transition metal compound (A-1) or (A-2) to form an ion pair.

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(I)



(II)

wherein M is a transition metal atom of Group 3 to Group 11 of the periodic table; m in the formula (I) is an integer of 1 to 3, and m in the formula (II) is an integer of 1 to 6; Q is -N= or -C(R²)=; A is -O-, -S-, -Se- or -N(R⁶)-; R¹ to R⁶ are each a hydrogen atom, a hydrocarbon group or the like, and two

or more of them may be bonded to form a ring; n is a number satisfying a valence of M ; and X is a halogen atom, a hydrocarbon group or the like.