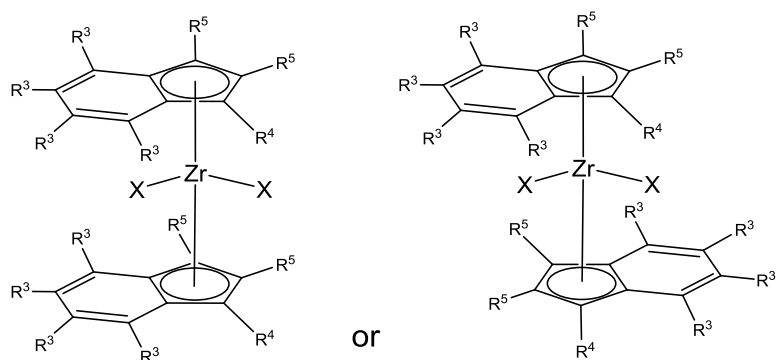


METHOD TO PREPARE ETHYLENE COPOLYMERS

ABSTRACT

5 Catalyst systems and methods for making and using the same. A method of polymerizing olefins to produce a polyolefin polymer with a multimodal composition distribution, includes contacting ethylene and a comonomer with a catalyst system. The catalyst system includes a first catalyst compound and a second catalyst compound that are co-supported to form a commonly supported catalyst system. The first catalyst compound
10 includes a compound with the general formula $(C_5H_aR^1_b)(C_5H_cR^2_d)HfX_2$. The second catalyst compound includes at least one of the following general formulas:



In both catalyst systems, the R groups can be independently selected from any number of substituents, including, for example, H, a hydrocarbyl group, a substituted hydrocarbyl group,
15 or a heteroatom group, among others.

(Fig. 1)