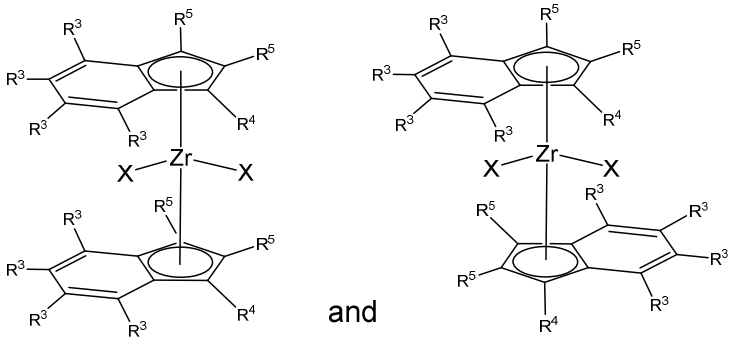
CLAIMS

What is claimed is:

1. A polyolefin polymer comprising ethylene and an alpha-olefin having 4 to 20 carbon atoms, wherein the polefin polymer is formed using a catalyst blend comprising a first catalyst compound and a second catalyst compound that are co-supported forming a commonly supported catalyst system, wherein the first catalyst compound comprises the following formula:

$$(C_5H_aR^1{}_b)(C_5H_cR^2{}_d)HfX_2$$

wherein each R^1 is independently H, a hydrocarbyl group, a substituted hydrocarbyl group, or a heteroatom group; each R^2 is independently H, a hydrocarbyl group, a substituted hydrocarbyl group, or a heteroatom group; a and c are ≥ 3; a+b = c+d = 5; at least one R^1 and at least one R^2 is a hydrocarbyl or substituted hydrocarbyl group; adjacent groups R^1 and R^2 groups may be coupled to form a ring; and each X is independently a leaving group selected from a labile hydrocarbyl, substituted hydrocarbyl, or heteroatom group; and the second catalyst compound comprises a mixture of enantiomers:



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wherein the ratio of one enantiomer to the other enantiomer at least about 3, wherein each R^3 is independently H, a hydrocarbyl group, a substituted hydrocarbyl group, or a heteroatom group; R^4 is a hydrocarbyl group, a substituted hydrocarbyl group, or a heteoatom group; each R^5 is independently H, a hydrocarbyl group, a substituted hydrocarbyl group, or a heteroatom group; wherein R^3, R^4, and R^5 may be the same or different; and each X is independently a leaving group selected from a methyl group or a benzyl group.

2. The polyoefin polymer of claim 1, wherein the meso enantiomer is about 19 parts in the mixture, and the rac enantiomer is about 1 part in the mixture.