

**PRODUCING POLYOLEFIN PRODUCTS WITH IMPROVED STIFFNESS,
TOUGHNESS, AND PROCESSABILITY**

ABSTRACT

Polymers, and systems and methods for making and using the same are described herein. A polymer includes ethylene and at least one alpha olefin having from 4 to 20 carbon atoms. The polymer is formed by a trimmed catalyst system including a supported catalyst including bis(n-propylcyclopentadienyl) hafnium (R₁)(R₂) and a trim catalyst comprising meso-O(SiMe₂Ind)₂Zr(R₁)(R₂), wherein R₁ and R₂ are each, independently, methyl, chloro, fluoro, or a hydrocarbyl group.

(Fig. 1)