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(54) Title: POLYOLEFINS WITH HIGH LEVELS OF LONG CHAIN BRANCHING

(57) Abstract: The present invention provides a method of forming a polyolefin resin having a relatively high densities and a long chain branch index ("LCB") greater than about 1. The method of the invention comprises forming a reaction mixture by combining molecular hydrogen, a first olefin, an optional second olefin, a diluent, and a vanadium-containing catalyst system at a sufficient temperature to allow formation of the polyolefin resin and initiating polymerization of the reaction mixture.

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