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- (71) **Applicant: DOW GLOBAL TECHNOLOGIES LLC**
[US/US]; 2211 H.H. Dow Way, Midland, Michigan 48674 (US).
- (72) **Inventors: FROESE, Robert D.J.;** c/o The Dow Chemical Company, 1776 Building, 633 Washington Street, Midland, Michigan 48667 (US). **LU, Keran;** c/o The Dow Chemi-

cal Company, 230 Abner Jackson Parkway, Lake Jackson, Texas 77566 (US). **SAMMLER, Robert L.;** c/o The Dow Chemical Company, 1702 Building, 633 Washington Street, Midland, Michigan 48667 (US). **DEN DOELDER, Cornelis F.J.;** c/o Dow Benelux B.V., Herbert H. Dowweg 5, Hoek, 4542 NM Terneuzen (NL).

(74) **Agent: LUNN, Jennifer H. et al.;** c/o Dinsmore & Shohl LLP, Fifth Third Center, One South Main Street, Suite 1300, Dayton, Ohio 45402 (US).

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(54) **Title:** LONG-CHAIN BRANCHED ETHYLENE-BASED POLYMERS

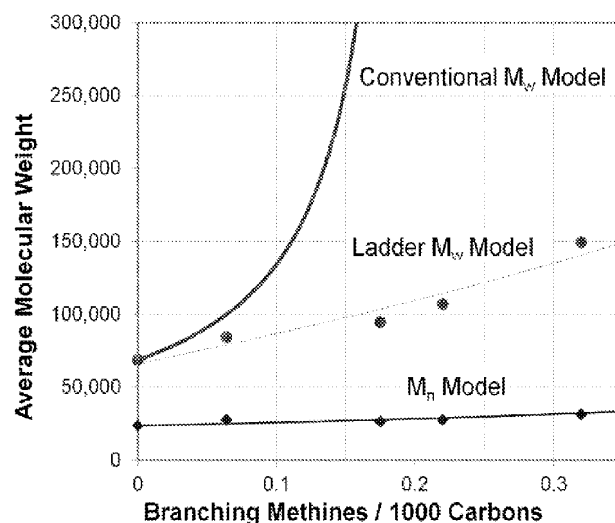


FIG. 1

(57) **Abstract:** Embodiments of this disclosure are directed to ethylene-based polymers. The ethylene-based polymer are polymerized units derived from ethylene, diene, and optionally, one or more C3-C12 α -olefins. The ethylene-based polymer includes a melt viscosity ratio (V0.1/V100) at 190 C greater than 20. The V0.1 is the viscosity of the ethylene-based polymer at 190 C at a frequency of 0.1 radians/second, and the V100 is the viscosity of the ethylene-based polymer at 190 C at a frequency of 100 radians/second. Additionally, the ethylene-based polymer includes an average g' greater than 0.86, where the average g' is an intrinsic viscosity ratio determined by gel permeation chromatography using a triple detector.

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