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Pawan, K. [US/US]; 11318 Williamsburg Drive, Houston,
TX 77024 (US). **DEKMEZIAN, Armenag**, [US/US];
2806 Evergreen Cliff Trail, Kingwood, TX 77345 (US).

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(74) Agents: **RUNYAN, Charles, E.** et al.; ExxonMobil Chem-
ical Company, P.O. Box 2149, Baytown, TX 77522-2149
(US).

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(71) Applicant (*for all designated States except US*): **EXXON-
MOBIL CHEMICAL PATENTS INC.** [US/US]; A Cor-
poration of the State of Delaware, 5200 Bayway Drive,
Baytown, TX 77520-2101 (US).

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(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **WENG, Weiquing**
[US/US]; 15418 Driftwood Oak Court, Houston, TX
77059 (US). **MEHTA, Aspy, K.** [US/US]; 21210 Atas-
cocita Point Drive, Humble, TX 77346 (US). **AGARWAL,**

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(54) Title: OLEFIN POLYMERIZATION PROCESS TO PRODUCE BRANCHED POLYMER COMPOSITIONS

(57) Abstract: A method of lowering MFR response of a high-melt-flow-rate-polymer-producing metallocene catalyst is provided. The method includes contacting the metallocene catalyst with a sufficient quantity of α,ω -diene monomer such that when the catalyst composition is contacted with polymerizable reactants under suitable polymerization conditions, the resulting polymer has an MFR rate in the range of 0.1 to 1000. Hydrogen and ethylene may also be present in the polymerization. Additionally a catalyst composition is provided which includes a high-melt-flow-rate-polymer-producing metallocene catalyst and a sufficient quantity of α,ω -diene monomers such that when the catalyst composition is contacted with a monomer under polymerization conditions, the resulting polymer has an MFR rate in the range of 0.1 to 1000.