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(54) Title: PROCESS FOR PREPARING HYDROCARBON MIXTURE EXHIBITING UNIQUE BRANCHING STRUCTURE

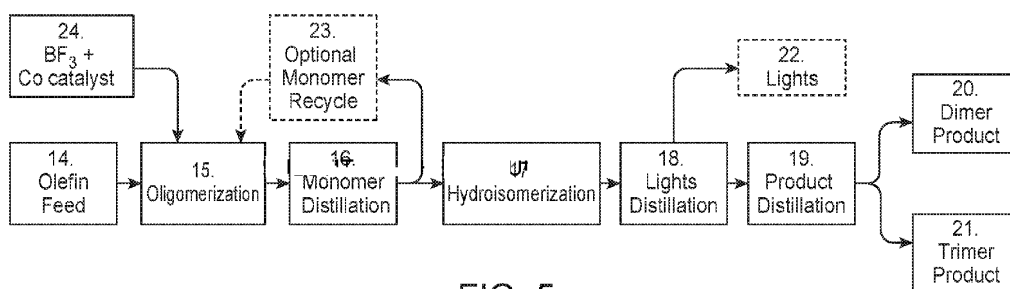


FIG. 5

(57) Abstract: Provided herein is a unique process that prepares a saturated hydrocarbon mixture with well-controlled structural characteristics that address the performance requirements driven by the stricter environmental and fuel economy regulations for automotive engine oils. The process allows for the branching characteristics of the hydrocarbon molecules to be controlled so as to consistently provide a composition that has a surprising CCS viscosity at -35°C (ASTM D5329) and Noack volatility (ASTM D5800) relationship. The process comprises providing a specific olefinic feedstock, oligomerizing in the presence of a BF₃ catalyst, and hydroisomerizing in the presence of a noble-metal impregnated, 10-member ring zeolite catalyst.

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