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(54) **Title:** PREPARATORY HIGH PERFORMANCE LIQUID CHROMATOGRAPHIC (HPLC) SEPARATION TECHNIQUE FOR QUANTITATIVE FRACTIONATION OF HEAVY PETROLEUM STREAMS

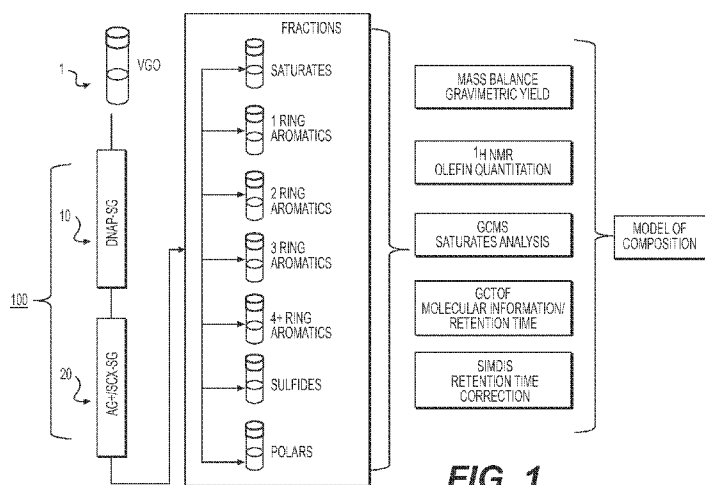


FIG. 1

(57) **Abstract:** A method and system for performing quantitative fractionation of a hydrocarbon sample is disclosed. The method includes introducing the hydrocarbon sample in a separation system having a first separation column and a second separation column. Separate fraction removal steps are performed for the elution of saturates, aromatic ring classes, sulfides, and polars fractions. The method allows to collect the separated fractions and obtain the material balance information of the hydrocarbon sample. The method further includes performing an analysis on the at least one aromatic ring class fraction to identify and quantify an olefins fraction in the hydrocarbon sample.