

Abstract

A process and system for producing light olefins from inferior oils, comprising the steps of: subjecting an inferior oil to a thermal conversion reaction in the presence of hydrogen to obtain a conversion product; separating the conversion product to obtain a first separated product; separating the first separated product to obtain an upgraded oil and a pitch; subjecting the upgraded oil to hydro-upgrading to obtain a hydro-upgraded oil; separating the hydro-upgraded oil to obtain a hydro-upgraded heavy oil; and subjecting the hydro-upgraded heavy oil to catalytic cracking to obtain a catalytic cracking product comprising a light olefin. The process and system can realize not only an efficient green conversion of the inferior oil, but also an economic utilization of the inferior oil to produce light olefins.

Fig. 1a