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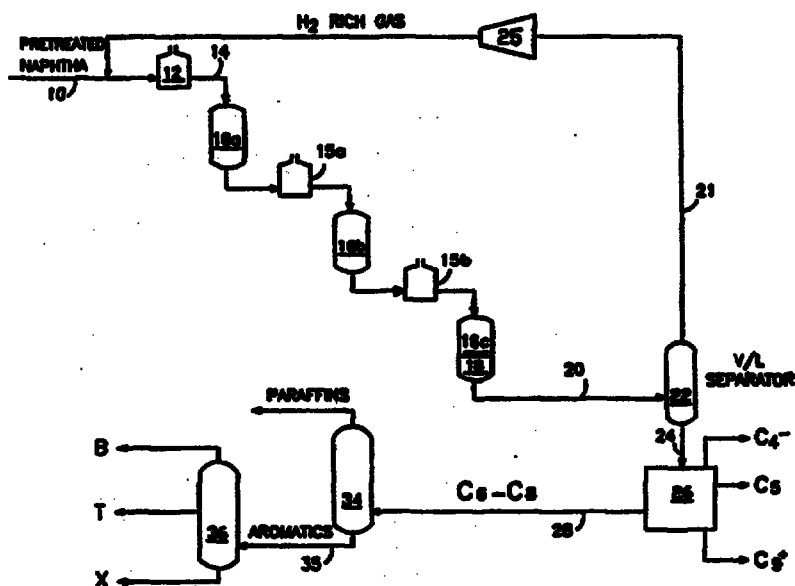


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(54) Title: **HYDROCARBON CONVERSION**



(57) Abstract

This is a process for upgrading a petroleum naphtha fraction. The naphtha (10) is subjected to reforming (16a, 16b, 16c) and the reformat is cascaded to a benzene and toluene synthesis zone (18) over a synthesis catalyst comprising a molecular sieve of low acid activity. The preferred molecular sieve is steamed ZSM-5. The benzene and toluene synthesis zone (18) is operated under conditions compatible with the conditions of the reformer such as pressures of above about 50 psig (446 kPa) and temperatures above about 800 °F (427 °C). In one aspect of the invention, the benzene and toluene synthesis catalyst includes a metal hydrogenation component such as cobalt, nickel, platinum and palladium. In one mode of operation, the benzene and toluene synthesis catalyst replaces at least a portion of the catalyst of the reformer. The process produces a product containing an increased proportion of benzene and toluene, and reduced proportion of C8 aromatics, particularly ethylbenzenes, as compared to the reformat.