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(54) Title: PROPYLENE VIA METATHESIS WITH LOW OR NO ETHYLENE

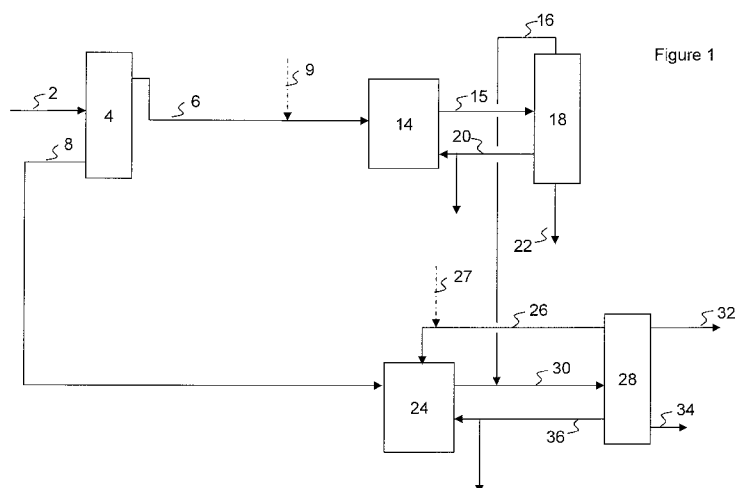


Figure 1

(57) Abstract: A process for producing propylene is disclosed, including: fractionating a mixed C4 hydrocarbon stream to recover a first fraction comprising isobutene and a second fraction comprising 2-butene; contacting the first fraction with a first metathesis catalyst in a first metathesis reaction zone; recovering an effluent from the first metathesis reaction zone comprising at least one of ethylene, propylene, unreacted isobutene, C5 olefins, and C6 olefins; contacting the second fraction and the ethylene in the effluent with a second metathesis catalyst in a second metathesis reaction zone; recovering an effluent from the second reaction zone comprising at least one of unreacted ethylene, propylene, unreacted 2-butene, fractionating the effluent from the first metathesis reaction zone and the effluent from the second metathesis reaction zone to recover an ethylene fraction, a propylene fraction, one or more C4 fractions, and a fraction comprising at least one of C5 and C6 olefins.