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(74) Agents: BAKUN, Estelle, C. et al.; ExxonMobil Research and Engineering Company, P.O. Box 900, Annandale, NJ 08801-0900 (US).

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(71) Applicant: EXXONMOBIL RESEARCH AND ENGINEERING COMPANY [US/US]; 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (US).

(72) Inventors: KISS, Gabor; 4 Thomas Court, Hampton, NJ 08827 (US). FIATO, Rocco, Anthony; 27 Wexford Way, Basking Ridge, NJ 07920 (US). HERSHKOWITZ, Frank; 509 Lyons Road, P.O. Box 172, Liberty Corner, NJ 07938 (US). LONG, David, Chester; 20786 Silver Thistle Court, Ashburn, VA 20147 (US).

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(54) Title: PROCESS FOR THE PREPARATION OF LINEAR ALPHA-OLEFINS FROM SYNTHESIS GAS OVER A COBALT CATALYST

(57) Abstract: Linear alpha olefins having from four to twenty carbon atoms and low amounts of oxygenates are synthesized, by producing a synthesis gas containing H₂ and CO from natural gas and passing it over a non-shifting cobalt catalyst at reaction conditions of temperature, % CO conversion, and gas feed H₂:CO mole ratio and water vapor pressure, effective for the mathematical expression $200 - 0.6T + 0.03P_{H_2O} - 0.6X_{CO} - 8(H_2:CO)$ to have a numerical value greater than or equal to 50. This process can be integrated into a conventional Fischer-Tropsch hydrocarbon synthesis process producing fuels and lubricant oils.



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