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(54) Title: HYDROLIQUEFACTION OF CARBONACEOUS FEEDSTOCK

(57) Abstract: Herein is described a method for the production of liquid hydrocarbon composition, comprising i) providing carbonaceous feedstock (a); ii) subjecting the carbonaceous feedstock (a) to catalytic hydroliquefaction (10) in the presence of hydrogen to obtain a product mixture comprising liquid hydrocarbons and off-gas; iii) separating (20) the liquid hydrocarbons and the off-gas to obtain a first liquid fraction (b-1) and a first gaseous fraction (c-1) iv) converting (30) in gas phase at least part of the light oxygenates comprised in the first gaseous fraction (c-1) and v) converting in the presence of water steam at least part of the carbon monoxide (CO) comprised in the first gaseous fraction (c-1) and/or produced in step iv) to carbon dioxide (CO₂) and hydrogen (H₂) by water gas shift reaction, to obtain a CO₂ and H₂ enriched first gaseous fraction (c-1e); and vi) separating (40) non-condensables from the CO₂ and H₂ enriched first gaseous fraction (C-1e) to obtain a second gaseous fraction (c-2) and a second liquid fraction (b-2); vii) recovering (50) at least part of H₂ from the second gaseous fraction (c-2) and recirculating at least part, of the recovered H₂ to step ii); viii) recovering the first liquid fraction (b-1) and/or the second liquid fraction (b-2) to provide a liquid hydrocarbon composition.

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