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(54) Title: HYDROTHERMAL HYDROCATALYTIC TREATMENT OF BIOMASS USING WATER TOLERANT CATALYSTS

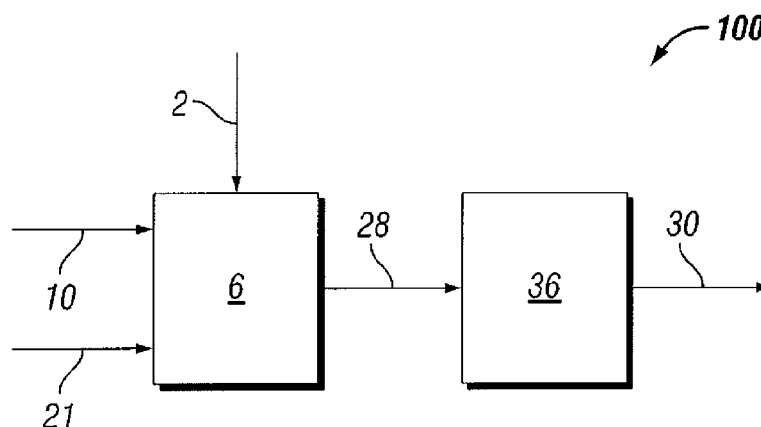


FIG. 1

(57) Abstract: A method of hydrothermal hydrocatalytic treating biomass is provided. Lignocellulosic biomass solids is provided to a hydrothermal digestion unit in the presence of a digestive solvent, and a supported hydrogenolysis catalyst containing (a) sulfur, (b) Mo or W, and (c) Co, Ni or mixture thereof, incorporated into a group 4 metal oxide support; (ii) heating the lignocellulosic biomass solids and digestive solvent in the presence of hydrogen, and the supported hydrogenolysis catalyst thereby forming a product solution containing plurality of oxygenated hydrocarbons, said catalyst retaining a crush strength of at least 50% after being subjected to an aqueous phase stability test compared with before the aqueous phase stability test or a crush strength of at least 0.25 kg after being subjected to an aqueous phase stability test.

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According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
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X,P	& WO 2012/174103 A1 (SHELL OIL CO [US]; SHELL INT RESEARCH [NL]; KOMPLIN GLENN CHARLES [US]) 20 December 2012 (2012-12-20) page 14, lines 3-9; claim 1 page 17, lines 19-33	1-12
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<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
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INTERNATIONAL SEARCH REPORT

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