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(54) Title: CONTINUOUS-FLOW DUAL-BED REACTOR FOR PRODUCTION OF LIQUID-PHASE HYDROCARBON MIXTURE ON FISCHER-TROPSCH CATALYSIS USING SYNTHETIC GAS

(57) Abstract: The present invention relates to a process of preparing liquid-phase hydrocarbon mixture, which comprises continuously conducting Fischer-Tropsch synthesis reaction in the upper part and hydrocracking reaction in the lower part by using a continuous-flow dual-bed reactor which comprises two fixed-bed reactors filled with catalysts and continuously placed in upper and lower parts and a hydrogen-supplying pipe between the upper and the lower fixed-bed reactors and continuously supplying hydrogen in the lower fixed-bed reactor, thereby remarkably increasing the yield of C<sub>10</sub>-C<sub>20</sub> liquid-phase hydrocarbon mixture as compared to the conventional Fischer-Tropsch synthesis reaction.

#### INTERNATIONAL SEARCH REPORT

International application No. PCT/KR 2008/004125

A. CLASSIFICATION OF SUBJECT MATTER

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IPC8: **B01J 8/04** (2006.1); **C07C 1/04** (2006.1)

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC8: B 01 J, C 07 C

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) EPODOC, wpi

C. DOCUM	MENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where a	Relevant to claim No.	
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Α	US 6156809 A (CLARK et al.) 5 Dec	1-8	
Α	US 6277894 B1 (AGEE et al.) 21 Au The whole document.		
А	US 5028634 A (FIATO) 2 July 1991 The whole document.	(02.07.1991)	1-8
Further of	documents are listed in the continuation of Box C.	See patent family annex.	
* Special c "A" documen to be of p filing dat "L" documen cited to special re "O" documen means documen	ategories of cited documents: t defining the general state of the art which is not consider particular relevance oplication or patent but published on or after the internation	"T" later document published after the priority date and not in conflict was to understand the principle or the cannot be considered novel or car is an inventive step when the document of particular relevant cannot be considered to involve document is combined with documents, such combination by	with the application but citory underlying the invention ce; the claimed invention to be considered to involvent is taken alone ce; the claimed invention an inventive step when the cone or more other such peing obvious to a personal city under the claimed invention one or more other such peing obvious to a personal city under the claimed invention of the claimed invent
Date of the a	ctual completion of the international search 2 June 2009 (02.06.2009)	Date of mailing of the international sea 10 July 2009 (10.0	
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lategory*	Citation of document, with in	dication, where appropriate, of the relevant passag	es Relevant to claim No
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