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Introduction

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Acknowledgment

References

Figures and tables

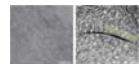
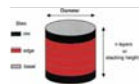
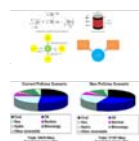


Table 1

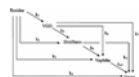


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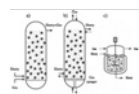
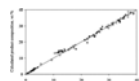


Table 3

Table 4



Table 5

Table 6

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Review

A review on the oil-soluble dispersed catalyst for slurry-phase  
hydrocracking of heavy oilManh Tung Nguyen<sup>a, b</sup>, Ngoc Thuy Nguyen<sup>a, b</sup>, Joungmo Cho<sup>a, b</sup>, Chulwoo Park<sup>a</sup>, Sunyoung Park<sup>a</sup>,  
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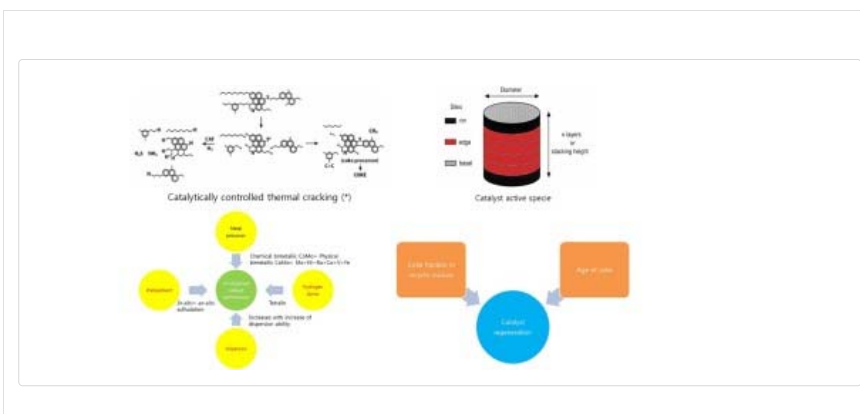
<https://doi.org/10.1016/j.jiec.2016.07.057>[Get rights and content](#)

## Abstract

Nowadays, unconventional-oil becomes a potential candidate for satisfying the world's energy demands due to the scarcity of other energy sources. However, it contains many impurities, such as heavy metal, sulfur-compounds, and nitrogen-compounds, and leads to quick deactivation of catalyst, high coke formation, and large pressure drop during the operation of a fixed bed or E-bed. Slurry phase hydrocracking (SHC) with the presence of oil-dispersed catalyst has been proven to be the best solution to overcome those problems. In oil-dispersed, the metal precursor, dispersion ability, and additive strongly affect the catalyst performance, and are all reviewed in this paper.

## Graphical abstract

\*: Russell R. Chianelli, Mohammad H. Siadati, Myriam Perez De la Rosa, Gilles Berhault, Jess P. Wilcoxon, Roby Bearden Jr. & Billie L. Abrams, *Catalysis Reviews: Science and Engineering* (2006), 1.



## Keywords

Slurry-phase hydrocracking; Oil-dispersed catalyst; Heavy oil process

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