



Journal of Dispersion Science and Technology >

Volume 34, 2013 - [Issue 2](#)

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Dynamic Interfacial Tensions Between Offshore Crude Oil and Enhanced Oil Recovery Surfactants

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Pages 234-239 | Received 02 Dec 2011, Accepted 03 Jan 2012, Accepted author version posted online: 10 Feb 2012, Published online: 30 Jan 2013

Cite this article <https://doi.org/10.1080/01932691.2012.658324>

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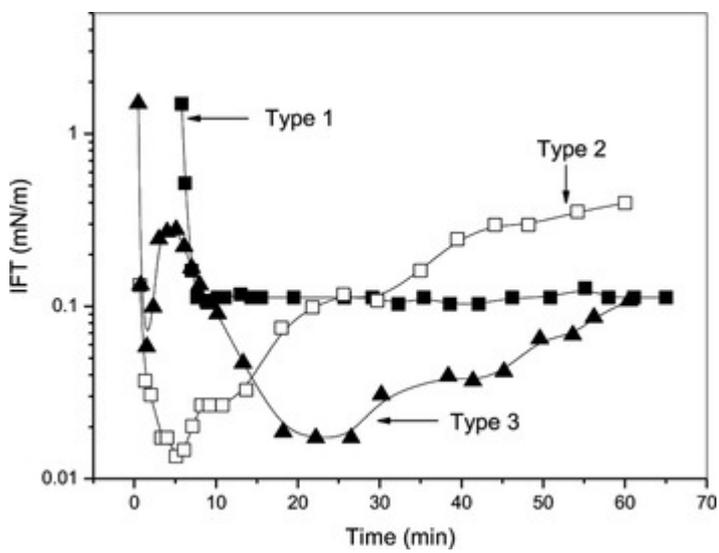
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Abstract

The dynamic interfacial tensions between offshore crude oil and different types of EOR surfactants were investigated by spinning drop method at 65 degree under the condition of weak base (pH ~ 8) in the present work. Effects of surfactant concentration on the dynamic interfacial tension were investigated. In the presence of weak alkali, the active components of crude oil can react at the interface to produce surface-active species in situ. The interactions among the added surfactants, the petroleum active components and in situ produced surface-active species together determine the dynamic interfacial tension behaviors, whose curves show "L", "V," and "W" shapes, respectively. Surfactant type and concentration play the crucial roles on dynamic interfacial tension behaviors.



Keywords:

Crude oil

dynamic interfacial tension

enhanced oil recovery

surfactant

Acknowledgements

The authors thank financial supports from the National Science & Technology Major Project (2011ZX05011-004) and National High Technology Research and Development Program (2008AA092801) of China.

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