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## Effects of Different Anionic Surfactants on Methane Hydrate Formation

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### Nomenclature

$\theta$  contact angle

$h$  height of droplet

$r$  radius of droplet

$\Delta n$  methane consumption

$P$  pressure of the reactor

$V$  volume of the gas phase in the reactor

$T$  temperature of the reactor

$R$  universal gas constant

$m$  hydration number

$\Delta V$  molar volume difference between hydrates and water

$z$  compressibility factor

### Abstract

In this work, the effects of anionic surfactants on methane hydrate formation were studied. For comparison, three anionic surfactants with the same carbon chain but different head groups, sodium dodecyl sulfonate (SDSN), sodium dodecyl sulfate (SDS) and sodium dodecyl benzene sulfonate

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