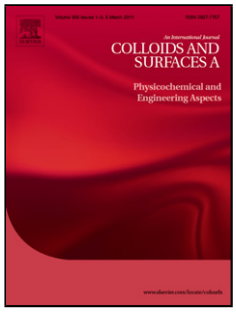


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# Adsorption behavior of branched polyoxyethylene ether carboxylate surfactants

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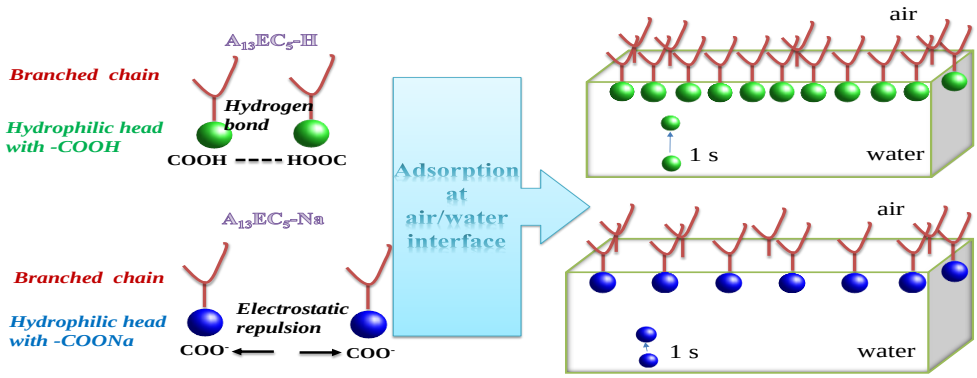
## Graphical abstract

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**Abstract**: In our work, branched anionic surfactant (3, 5, 7-trimethyl decanol polyoxyethylene ether carboxylate ($A_{13}EC_5$-Na)) has been successfully synthesized and characterized by fourier transform infrared (FT-IR) spectra. Static equilibrium surface tension, contact angle and dynamic surface tension of alcohol ether carboxylic acid ($A_{13}EC_5$-H), alcohol ether carboxylate ($A_{13}EC_5$-Na) and linear chain carboxylate ($A_{12}EC_5$-Na, as comparison) were investigated to study their spreading and adsorption behaviors. Electrolyte tolerance of anionic surfactants ($A_{13}EC_5$-Na and $A_{12}EC_5$-Na) was also studied to explore the application in enhanced oil recovery. The results