Contaminant desorption from a dolomite plate with synthetic and bio surfactant molecules: A Molecular Dynamics study

Ana Beatriz Salazar-Arriaga[1], Héctor Domínguez[1]

[1]Instituto de Investigaciones en Materiales IIM, UNAM, Ciudad Universitaria, 04510 México,Cd.Mx, betyann775@comunidad.unam.mx.

Using the molecular dynamics methodology, we study the desorption of contaminants on a dolomite plate, using surfactants. In this work two surfactants were used to compare their capacity to desorb hydrocarbons deposited on the solid surface, a synthetic surfactant, the sodium dodecyl sulfate (SDS) and the biosurfactant called surfactin. Additionally, a mixture of both surfactants was prepared at different proportions, to find an optimal concentration. The results show that the mixture presents the better desorption of the contaminants from the dolomite surface. Finally, we study the behavior of the systems in the presence of an electric field to see if it improves desorption.