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TRANSPORT PHENOMENA & FLUID MECHANICS

扩展球形溶液表面上decanoyl-N-methylglucamine的吸附动力学

刘俊吉[a]，张瑜[a]，李国昶[b]
[a] School of Science, Tianjin University, Tianjin 300072, China
[b] School of Chemical & Pharmaceutical Engineering, Hebei University of Science and Technology, Shijiazhuang 050018, China
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摘要 A general expression of the dynamic surface adsorption [Γ（t）] on the expanding spherical surface was derived by solving the corresponding diffusion equation under different initial and boundary conditions. Different from the result of the still spherical surface, two factors （smaller than 1） appe eared in the equation for the short time adsorption. Using the derived results, the adsorption kinetics of aqueous decanoyl-N-methylglucamine （Mega-10） solution was studied. In the short time region （t→0）, a good agreement of experimental results with the theory was reached and the adsorption was controlled by diffusion.

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Adsorption Kinetics of Decanoyl-N-methylglucamine at the Expanding Spherical Surface

LIU Junji[a], ZHANG Yu[a], LI Guoting[b]
[a] School of Science, Tianjin University, Tianjin 300072, China
[b] School of Chemical & Pharmaceutical Engineering, Hebei University of Science and Technology, Shijiazhuang 050018, China
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Abstract A general expression of the dynamic surface adsorption [Γ（t）] on the expanding spherical surface was derived by solving the corresponding diffusion equation under different initial and boundary conditions. Different from the result of the still spherical surface, two factors （smaller than 1） appe eared in the equation for the short time adsorption. Using the derived results, the adsorption kinetics of aqueous decanoyl-N-methylglucamine （Mega-10） solution was studied. In the short time region （t→0）, a good agreement of experimental results with the theory was reached and the adsorption was controlled by diffusion.

Key words

通讯作者：
刘俊吉 liujunji@eyou.com
作者个人主页：刘俊吉[a]；张瑜[a]；李国昶[b]