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过程与工艺

Micellization, Interaction and Microenvironment in the Mixed Solution of Pluronics and Surfynol 104 with Nuclear Magnetic Resonance

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摘要 The micellization, intermolecular interaction and microenvironment of molecular segments in the mixed aqueous solution of PEO-PPO-PEO triblock copolymer (Pluronic? F88, P84 and P123) and Surfynol? 104 (S104) were studied by nuclear magnetic resonance method. The results showed that the addition of S104 decreased the critical micellization temperature of copolymer. When its concentration was 0.5 g/L, the most reduction was up to more than 10℃ for F88, which was most hydrophilic in the selected copolymers. This reduction was caused by the hydrophobic interaction between S104 molecules and PPO segments. The addition of S104 enhanced the hydration of PEO segments most obviously for P123. And S104 slightly increased the hydration of PPO segments before the micellization, but obviously decreased their hydration after micellization, which was attributed to the hydrophobic interaction mentioned above and temperature rising. This effect was most observable for F88.

关键词 pluronic triblock copolymer surfynol 104? micellization microenvironment nuclear magnetic resonance

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