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Synthesis of amphiphilic polymers, *N*-vinylpyrrolidone with aldehyde groups

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Abstract

In current paper, the radical copolymerization of *N*-vinylpyrrolidone and *n*-allyloxybenzaldehyde was investigated in the presence of azobisisobutyronitrile and the functional chain transmitter – mercaptoacetic acid. As a result, semitelechelic copolymers containing one terminal -S-CH₂-COOH group and different amounts of side aldehyde groups were synthesized. Amphiphilic derivatives of *N*-vinylpyrrolidone and *n*-allyloxybenzaldehyde copolymers were prepared using coupling reaction with stearylamine in the presence of and *N,N'*-dicyclohexylcarbodiimide. It was shown that by changing composition of copolymers and their amphiphilic derivatives and conditions of their synthesis, the physic-chemical properties and solubility in aqueous solutions at different temperatures for obtained products can be controlled.