

## Amino Acid Based Biodegradable Amphiphilic Polymers and Micelles as Drug Delivery Systems: Synthesis and Study

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**Abstract :** Nanotherapy is an actual newest mode of treatment numerous diseases using nanoparticles (NPs) loading with different pharmaceuticals. NPs of biodegradable polymeric micelles (PMs) are gaining increased attention for their numerous and attractive abilities to be used in a variety of applications in the various fields of medicine. The present paper deals with the synthesis of a class of biodegradable micelle-forming polymers, namely ABA triblock-copolymer in which A-blocks represent amino-poly(ethylene glycol) ( $H_{2N}$ -PEG) and B-block is biodegradable amino acid-based poly(ester amide) constituted of  $\alpha$ -amino acid – L-phenylalanine. The obtained copolymer formed micelles of 70 $\pm$ 4 nm size at 10 mg/mL concentration.

**Keywords :** amino acids, biodegradable poly (ester amide), amphiphilic triblock-copolymer, micelles

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