Novel pH-responsive polymeric micelles: Paclitaxel release behaviors

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Among various carrier systems, polymeric micelles composed of pH-responsive block copolymers can strengthen the anti-tumor efficiency of a drug by storing in the target area. Site-targeted drug delivery system also can be used to achieve enhanced therapeutic effect and minimize the harmful side effect of the drug. Poly(β-amino esters) including ionizable groups is ionized below pK_b and deionized above pK_b. We synthesized methoxy poly(ethylene glycol)-poly(β-amino esters) block copolymers with different molar ratios and various bisacrylate ester by Michael type step polymerization. We used Paclitaxel (PTX) as hydrophobic drugs so that we observed characterizations of drug carrier behaviors.