

Synthesis of modified poly(ethylene glycol)s as drug carriers

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Abstract:

The thesis is concerned with the preparation of modified poly(ethylene glycol)s as drug carriers. First, methoxypoly(ethylene glycol) of a molecular weight of 5,000 with a terminal carboxyl, amino and aldehydic group was prepared. On the basis of this experience, a methodology was elaborated for the preparation of analogues of molecular weight of 10,000 and 20,000. The substances will be employed for the production of carriers for the polyene antibiotic amphotericin B. The block tri-copolymer of poly(L- α -lysine)-*b*-poly(ethylene glycol)-*b*-poly(L- α -lysine) was also synthesized with the use of poly(ethylene glycol) of a molecular weight of 10,000. This substance will be also used to produce a carrier with amphotericin B. All substances were characterized with the use of IR and NMR spectroscopy, except for the copolymer whose degree of polydispersity was determined using GPC chromatography.