

## Preperation of Biodegradable Polyaspartamide Derivatives Grafted with PLA/MPEG/Imidazole

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In this study, new pH-sensitive and biodegradable graft copolymers were synthesized by grafting PLA-HMDs, O-(2-aminoethyl)-O'-methylpolyethylene glycol (MPEG), and 1-(3-aminopropyl)imidazole (API) on poly(succinimide). After tosylating PLA with p-toluenesulfonylchloride (TsCl), tosylated poly(lactide) (PLA-OTs) was reacted with hexamethylenediamine (HMD). The reaction of the amine terminated PLA, MPEG and API with poly(succinimide) (PSI) resulted in PLA/MPEG/API grafted polyaspartamide derivatives. The DS of PLA, MPEG and API was adjusted by the feed molar ratio, and the structure of the prepared polymer was confirmed using FT-IR and <sup>1</sup>H NMR spectroscopy. Their pH-sensitive properties were characterized by light transmittance measurements, and the effect of the degree of substitution (DS) of PLA/MPEG/API on the selfassociation properties of PLA/MPEG/API grafted polyaspartamide derivatives in aqueous solution were investigated by dynamic light scattering measurements(DLS) and transmission electron microscope (TEM).