Bromination of regenerated chitin with N-bromosuccinimide and triphenylphosphine under homogeneous conditions in lithium bromide-N,N-dimethylacetamide

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摘要.

Abstract

Chitin regenerated from LiCl-N,N-dimethylacetamide (DMA) was found to dissolve in 10 g/dL LiBr-DMA. The bromination of the regenerated chitin proceeded to a large extent (DS by bromine up to 0.94) with equimolar amounts of N-bromosuccinimide and triphenylphosphine under homogeneous conditions in LiBr-DMA at 50 – 90°C. 13C NMR spectroscopy of brominated products and GLC-MS analysis of their hydrolyzates showed that the bromine substitution took place regioselectively at C-6 of the chitin repeating units. Polymer chain scission occurred to some extent during the bromination, more extensively at higher temperatures with higher concentrations of reagents.