

# Accepted Manuscript

Precisely controlled two-step synthesis of cellulose-*graft*-poly(L-lactide) copolymers: Effects of graft chain length on thermal behavior

Mi Hee Ryu, Jeyoung Park, Dongyeop X. Oh, Sung Yeon Hwang, Hyeonyeol Jeon, Seung Soon Im, Jonggeon Jegal



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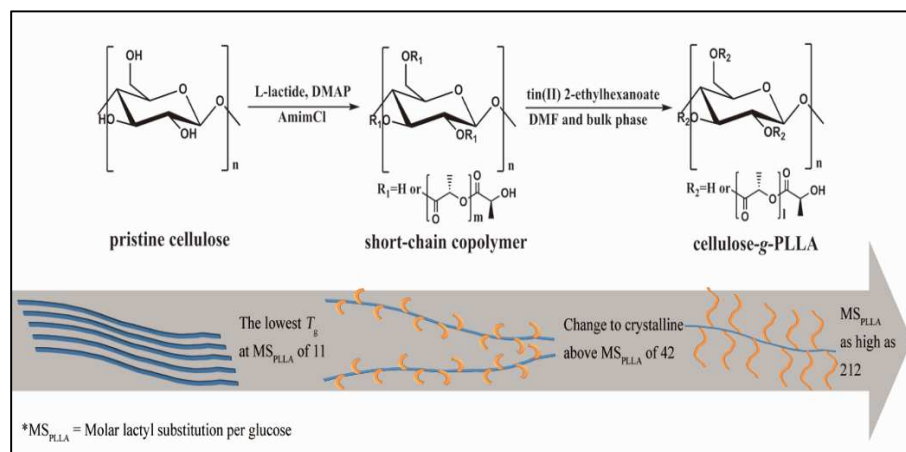
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# TOC



## Highlights

- Precisely controlled polymerization of pristine cellulose to cellulose-*graft*-poly(L-lactide).
- Degree of lactyl polymerization of cellulose-g-PLLA as high as 212.
- Transformation from amorphous to crystalline above 95.0% of the critical PLLA content.
- High crystallization rate above 99.0% of the critical PLLA content.
- Thermal stability of cellulose backbone decreased as degree of lactyl substitution increased.

## Keywords

Cellulose modification; cellulose-*graft*-poly(L-lactide); graft polymerization.

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