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Fabrication of (PPC/NCC)/PVA Composites with Inner-outer Double Constrained Structure and Improved Glass Transition Temperature

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Highlights:

- (PPC/NCC)PVA composite with inner-outer double constrained structure was prepared.
- This special structure was revealed by SEM.
- PVA and NCC showed synergy effect on the constraint of PPC molecular chains.
- T_g and mechanical properties were greatly increased.

Abstract: Improving glass transition temperature (T_g) and mechanical property of the environment-friendly poly(propylene carbonate) via intermacromolecular complexation through hydrogen bonding is attractive and of great importance. A novel and effective strategy to prepare (polypropylene carbonate/nanocrystalline

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