

The definition of s/PLLA

The sample is made in the laboratory. The process of its preparation is as follows:

Firstly, we prepared the stereocomplex sc-PLA. Dried PLLA and PDLA were dissolved in dichloromethane at a mass ratio of 1:1. The mixture was stirred with a magnetic stirrer for 6 hours. The obtained sample was then rotary evaporated to remove the solvent and vacuum dried at 25°C for 48 hours to obtain the sc-PLA. The PLLA and PDLA used in the experiment were from Zhejiang Haizheng Biomaterials Co., Ltd.

Next, the self-made nucleating agent sc-PLA was added into PLLA matrix at a weight fraction of 1%, and the mixture was melt blended and extruded using a twin-screw extruder to obtain s/PLLA.

Then, TPP (2 wt.%), PSQ (2 wt.%), and PPSQ (2 wt.%) were melt blended into s/PLLA matrix respectively to prepare s/PLLA/TPP, s/PLLA/PSQ, and s/PLLA/PSTQ composite materials. Then, TPP (2 wt.%), PSQ (2 wt.%), and PPSQ (2 wt.%) were melt blended to s/PLLA respectively to prepare s/PLLA/TPP, s/PLLA/PSQ, and s/PLLA/PSTQ composite materials as description in manuscript.

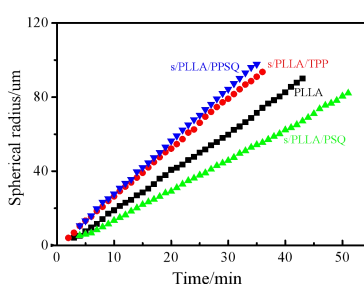


Fig. 1 Spherulite growth rates from POM images of PLLA and composite materials during isothermal crystallization at 145 °C.

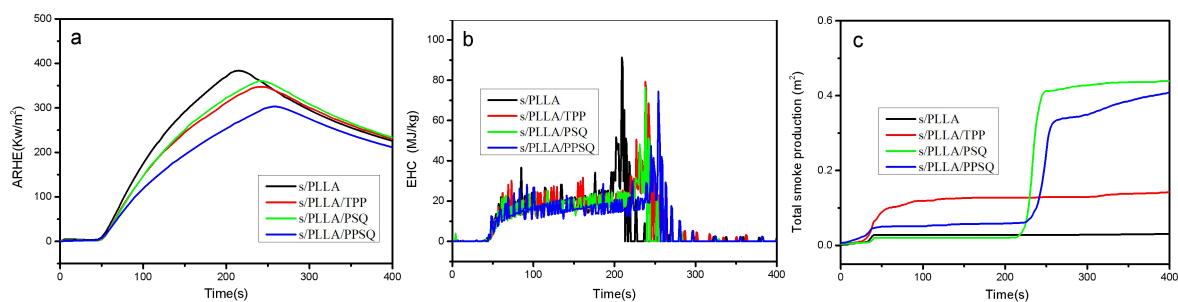


Fig. 2 Curves of ARHE (a), EHC (b) and TSP (c) of s/PLLA and composite materials.

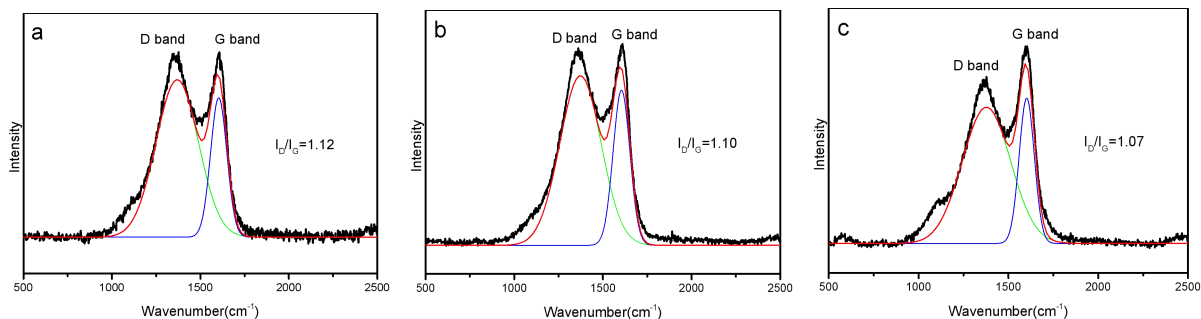


Fig. 3 LRS curves of PLLA and composite materials. s/PLLA/TPP (a), s/PLLA/PSQ (b), s/PLLA/PPSQ (c)

