Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information for

Towards the development of eco-friendly disposable polymers: ZnO-initiated thermal and hydrolytic degradation in Poly (L-lactide)/ZnO nanocomposites

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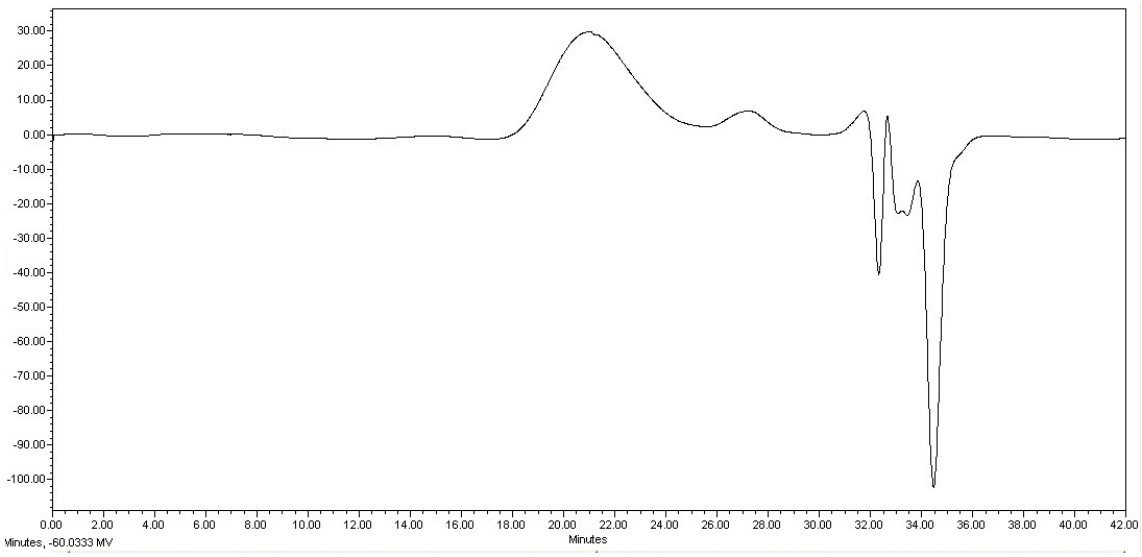

Fig. S1. GPC plot of utilized PLLA.

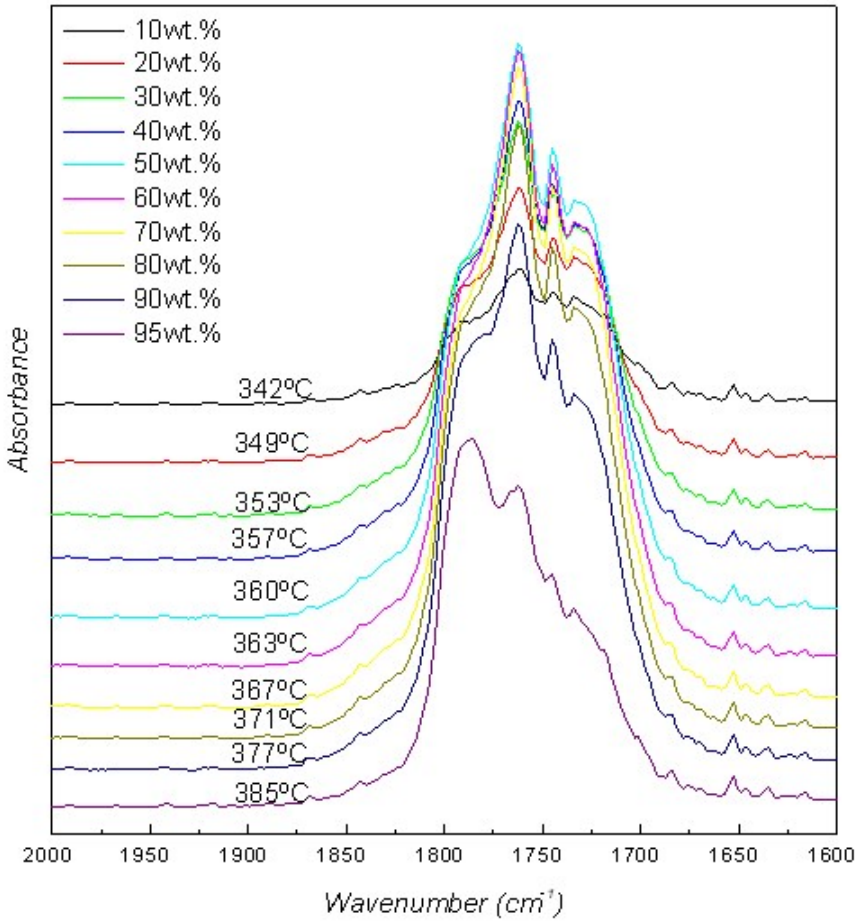

Fig. S2. FTIR spectra in the 1600-2000cm^{-1} region of thermodegradation products obtained at different temperatures for neat PLLA.

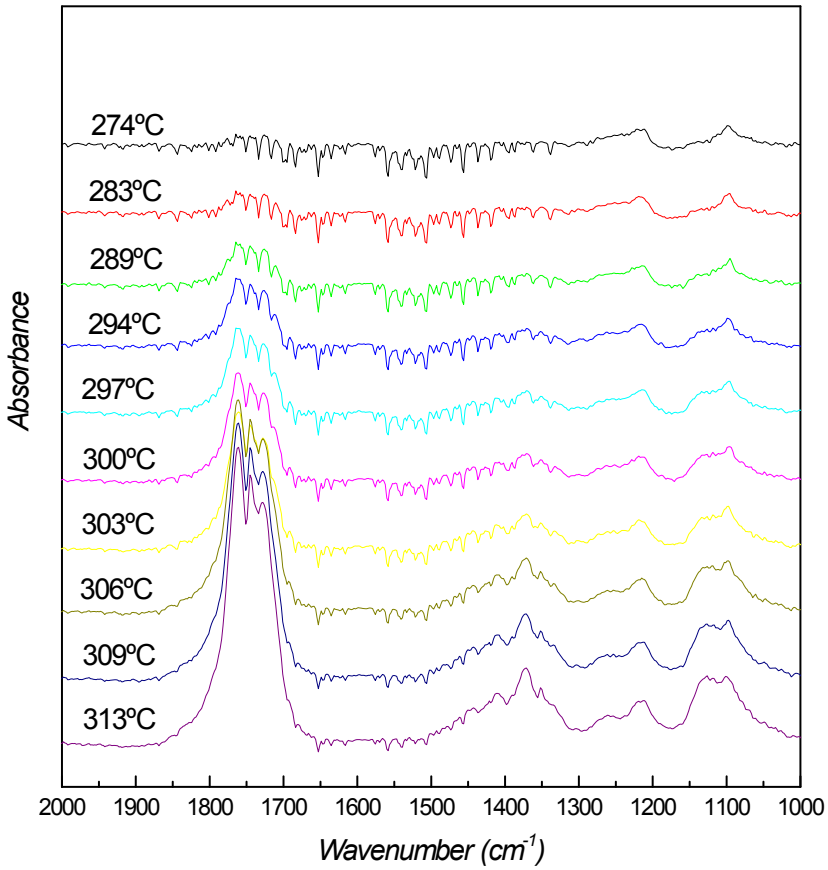

Fig. S3. Enlarged FTIR spectra in the 1000-2000cm^{-1} region of thermodegradation products obtained at different temperatures for PLLA/ZnO 1wt.% nanocomposite.

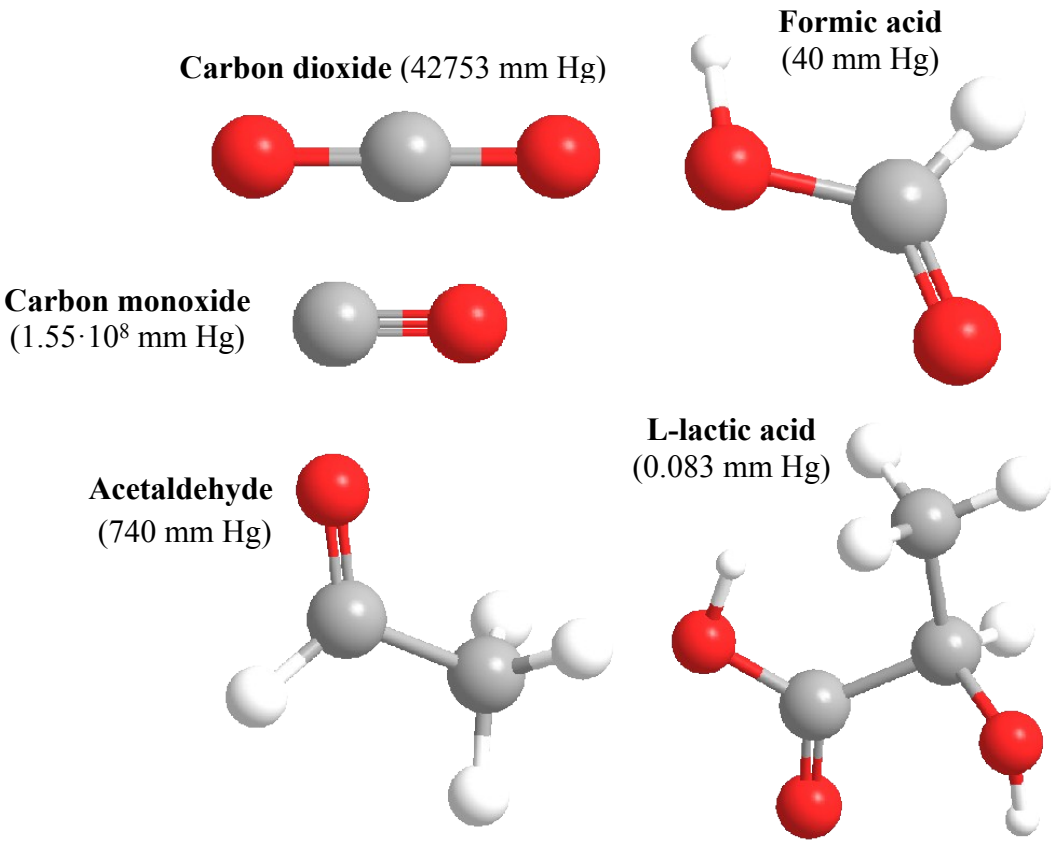

Fig. S4. Chemical structures of the main degradation products obtained during the thermal degradation of neat PLLA and its 1wt.% nanocomposite. Vapor pressure values at room temperature of compounds are shown.

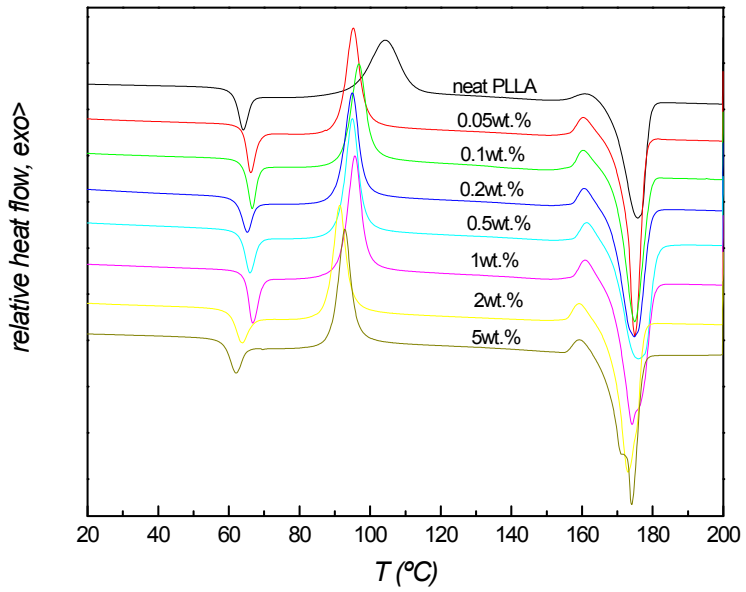

Fig. S5. DSC traces of PLLA/ZnO nanocomposites.

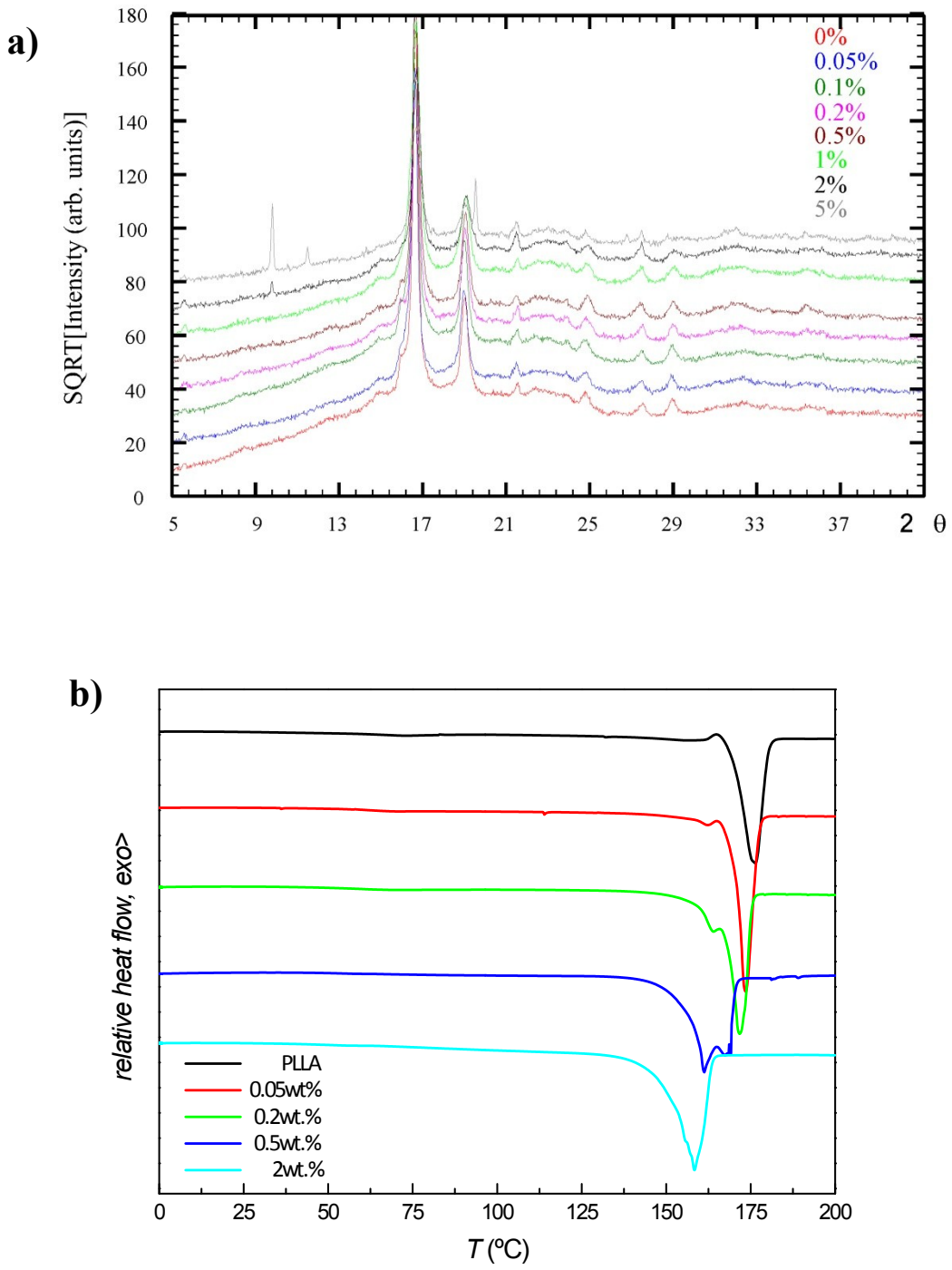

Fig. S6. WAXD (a) and DSC (b) measurements of hydrolytically degraded PLLA/ZnO nanocomposites.

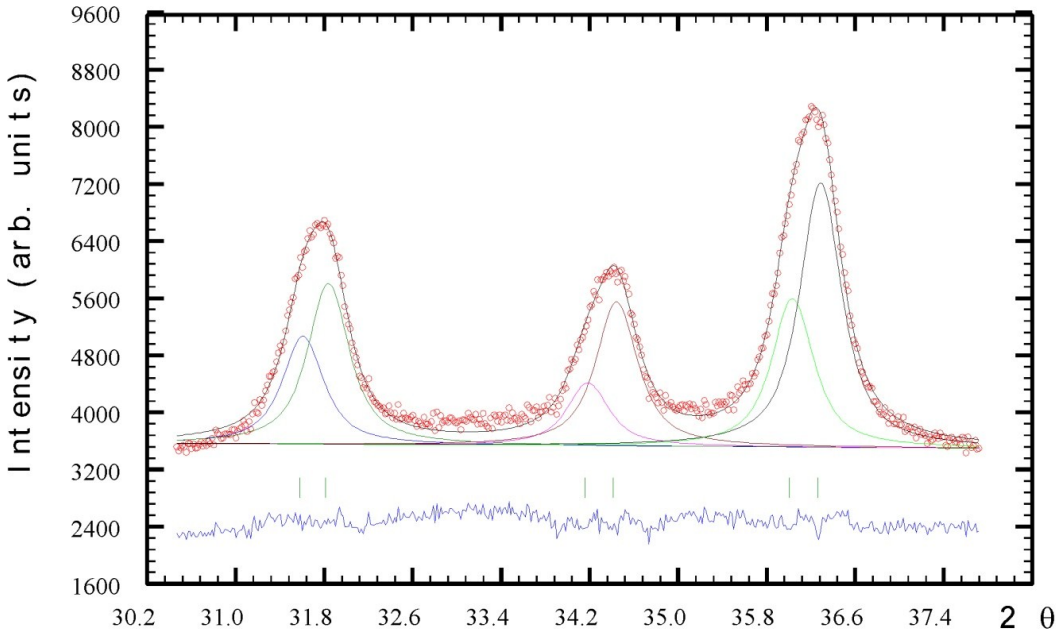

Fig. S7. Wide angle X-ray diffraction pattern of PLLA/ZnO 5wt.% nanocomposite before degradation. (100), (002) and (101) planes present two overlapping peaks as a consequence of oxygen vacancies in the lattice.