

# **Pro-myogenic environment promoted by the synergistic effect of conductive polymer nanocomposites combined with extracellular zinc ions**

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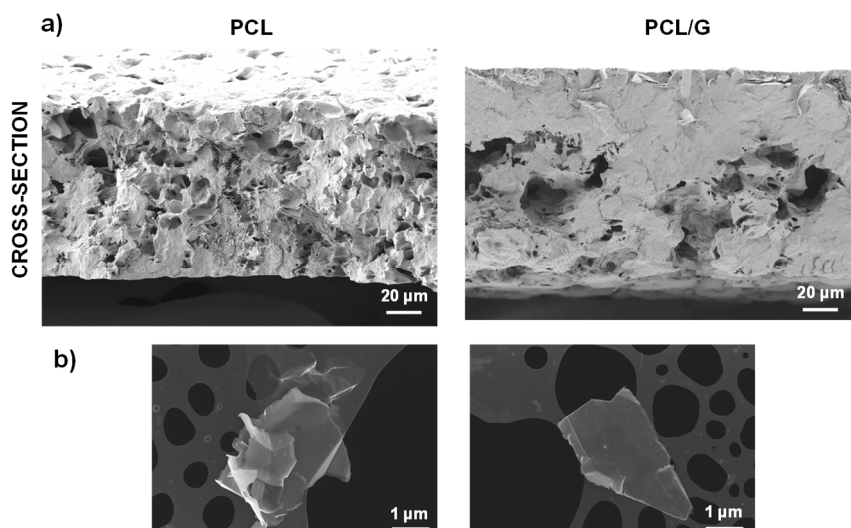
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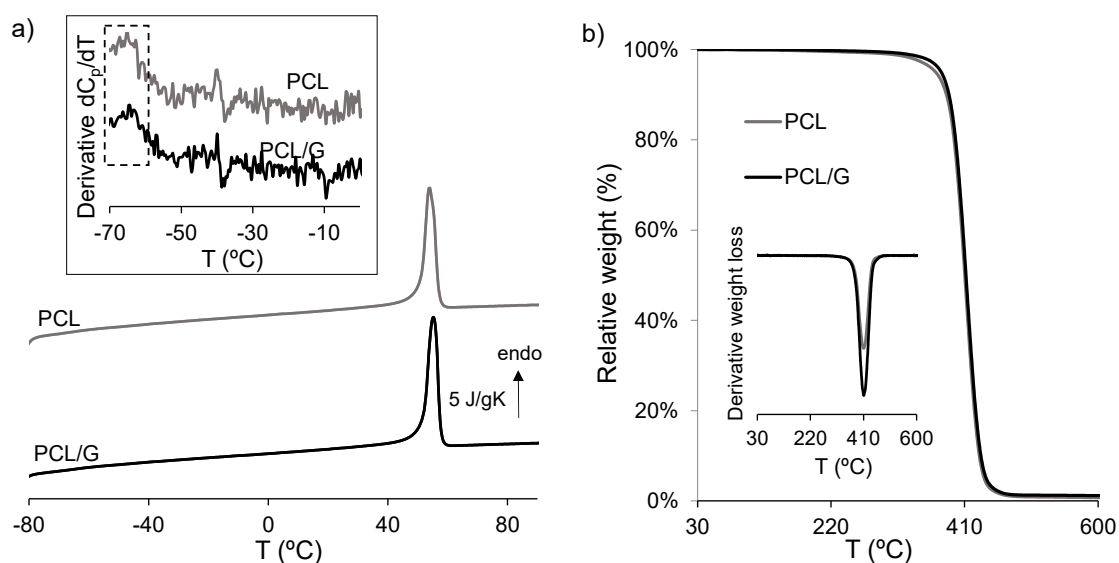
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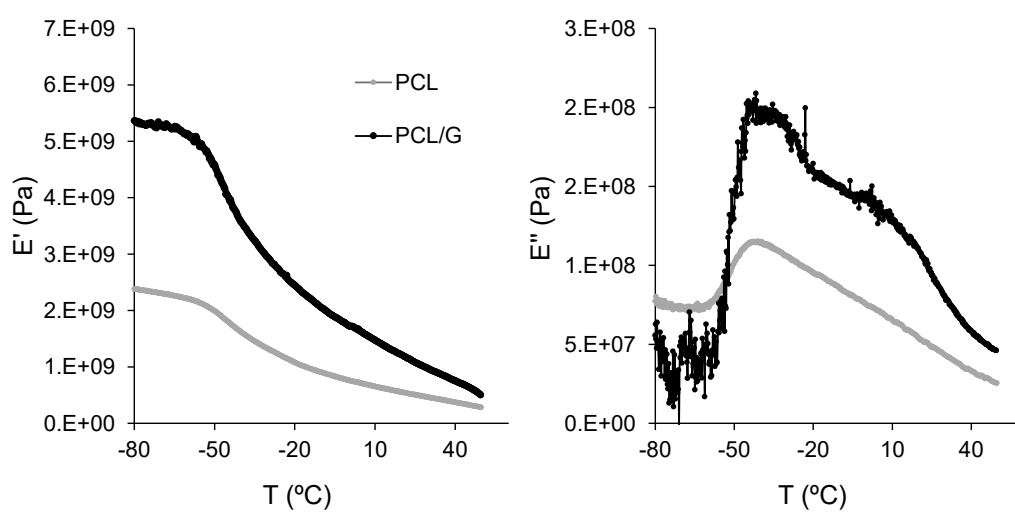
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**Figure S1.** (a) Cross-section of neat PCL and nanocomposites with 0.7 wt% of G nanosheets (PCL/G). (b) HRFSEM representative images of pristine graphene nanosheets (aggregated and single form) previously dispersed in THF.



**Figure S2.** (a) Differential scanning calorimetry (DSC) thermograms of neat PCL and PCL/G nanocomposites. Normalized heat flow ( $C_p$ ) (2<sup>nd</sup> scan, heating). Inset: temperature derivative of the heat capacity ( $dC_p/dT$ ) from -70 to 0 °C; the dotted lines indicate the glass transition process. (b) Thermogravimetry results (TGA). Relative weight loss of PCL and PCL/G nanocomposites. Inset: derivative of weight loss.



**Figure S3.** Dynamic mechanical thermal analysis (DMTA traction assay).  $E'$  and  $E''$  vs. temperature at 1 Hz.