

# Supplementary Materials

## High-Performance, Degradable, Self-Healing Bio-Based Nanocomposite Coatings with Antibacterial and Antioxidant Properties

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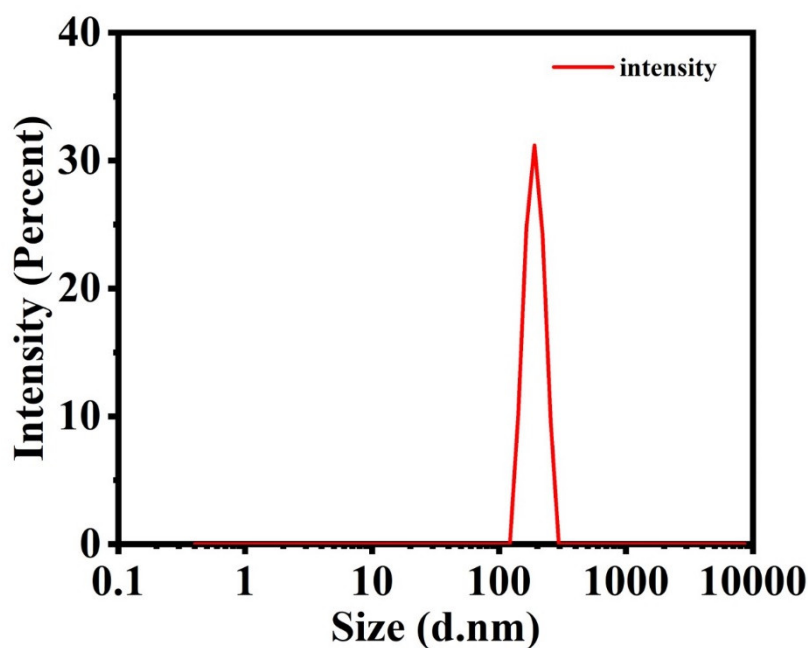
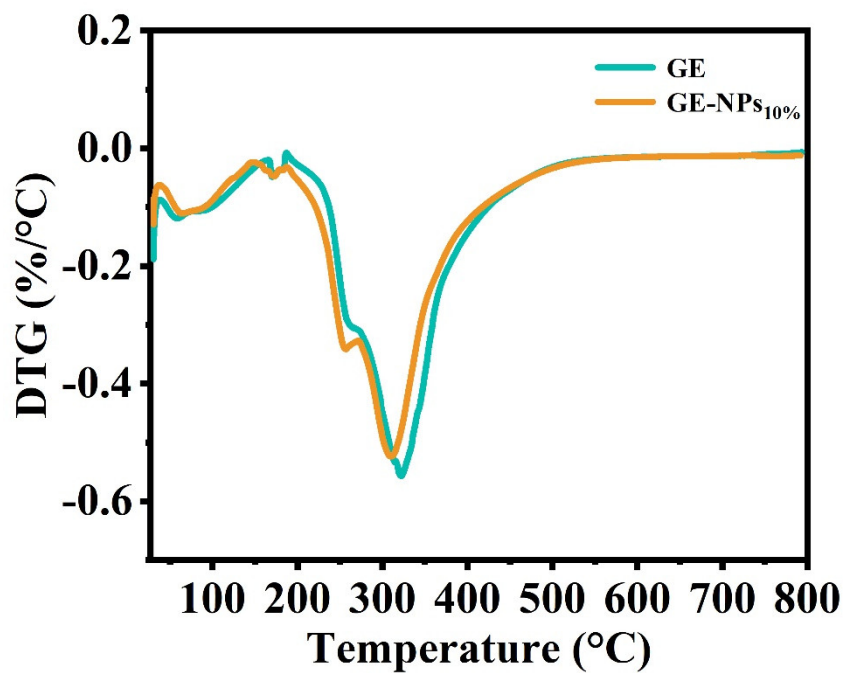


Figure S1. Particle size distribution of chitosan nanoparticles loaded with GA



**Figure S2.** DTG spectrum of GE coating and GE-NPs10% coating

**Table S1.** Thermal degradation temperatures ( $T_{peak}$ , °C) and weight loss ( $\Delta W$ , %) of GE coating and GE-NPs10% coating

Sample	$\Delta 1$		$\Delta 2$		$\Delta 3$		Residue (%)
	$T_{peak}$	$\Delta W1$	$T_{peak}$	$\Delta W2$	$T_{peak}$	$\Delta W3$	
GE	55	13.5	262	12.2	322	51.3	18.8
GE-NPs10%	60	10.6	256	18.9	307	45	20.9

$\Delta 1$ ,  $\Delta 2$  and  $\Delta 3$  denote the first, second and third stage weight loss, respectively, of coating during heating scan.