

## SUPPORTING INFORMATION

### Nano-engineered eggshell-silver tailored co-polyester polymer blend film with antimicrobial properties

Boniface J. Tiimob,<sup>†</sup> Gregory Mwinyelle,<sup>\*</sup> Woubit Abdela,<sup>\*</sup> Temesgen Samuel,<sup>\*</sup> Shaik Jeelani,<sup>†</sup> Vijaya K. Rangari.<sup>†\*</sup>

<sup>†</sup>Department of Materials Science and Engineering, College of engineering, Tuskegee University, Tuskegee, AL 36088, United States

<sup>\*</sup>Department of Pathobiology, College of Veterinary Medicine, Tuskegee University, Tuskegee, AL 36088, United States

### Corresponding Author

\*(V.K.R) E-mail:rangariv@mytu.tuskegee.edu.

**Figure S1.** X-ray diffraction patterns: (a) PBAT/PLA 70/30 (b) PBAT/PLA/eggshell-silver blend composite 70/30/0.5 (c) PBAT/PLA/ eggshell-silver blend composite 70/30/1 (d) PBAT/PLA/ eggshell-silver blend composite 70/30/1.5 (e) PBAT/PLA/ eggshell-silver blend composite 70/30/2 (f) eggshell-silver nanoparticles

**Figure S2.** Differential scanning calorimetry curves for pristine and PBAT/PLA/eggshell-silver blend composites

**Figure S3.** Thermal degradation of pristine and PBAT/PLA/ES-Ag blend composites

**Figure S4.** Scanning electron microscopy analysis of morphology and fractured surfaces: (a) PBAT (b) PLA (c) PBAT/PLA 70/30 blend (morphology) (d) PBAT/PLA 70/30 blend (d) PBAT/PLA/ eggshell-silver blend composite 70/30/1

**Figure S5.** Calibration curve of silver standard solutions from atomic absorption spectroscopy

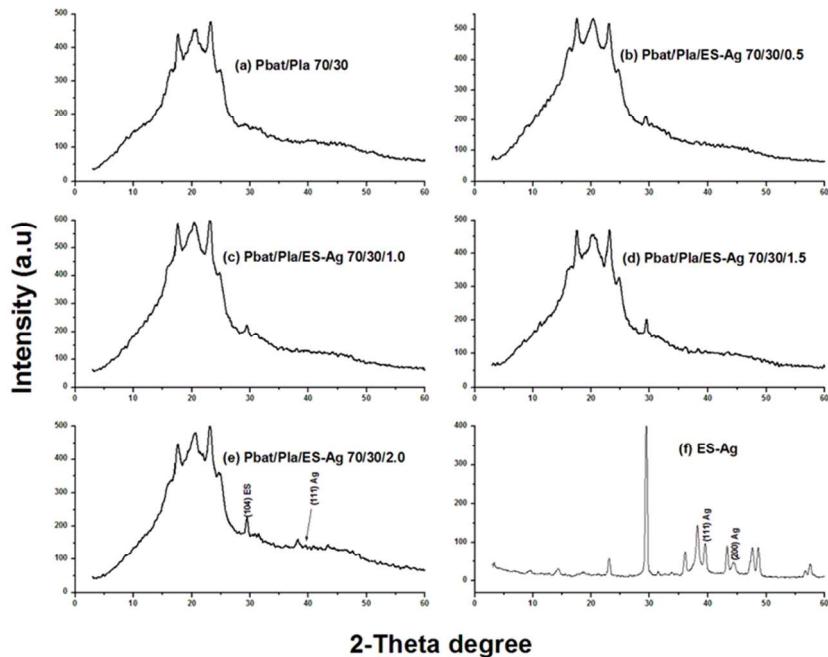


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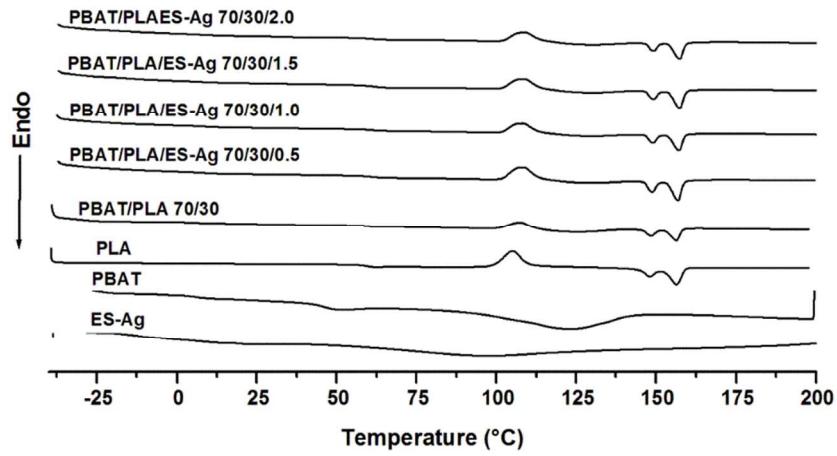


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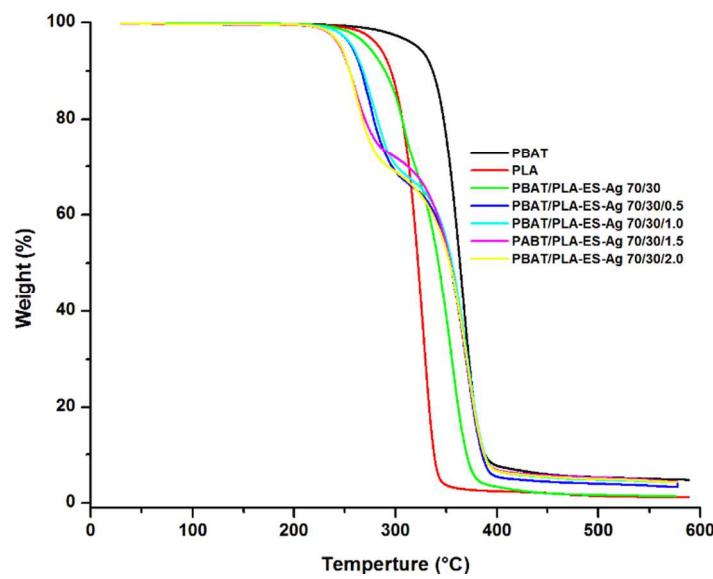


Figure S3.Thermal degradation of pristine and PBAT/PLA/ES-Ag blend composites

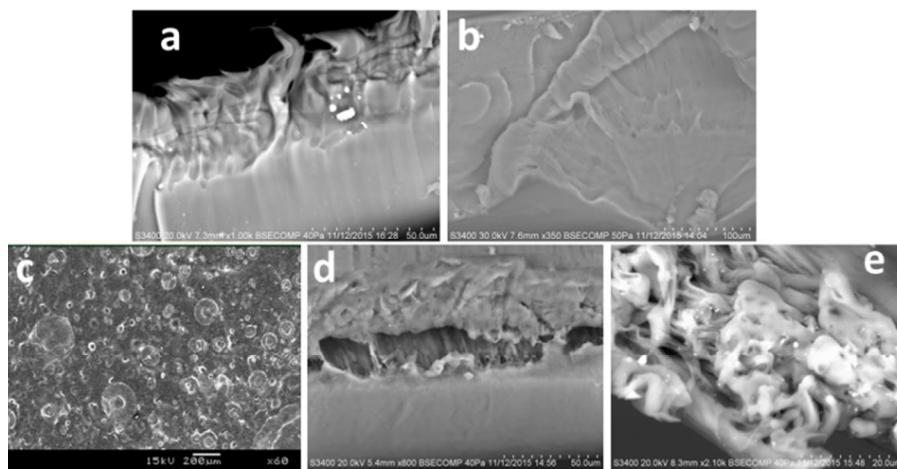


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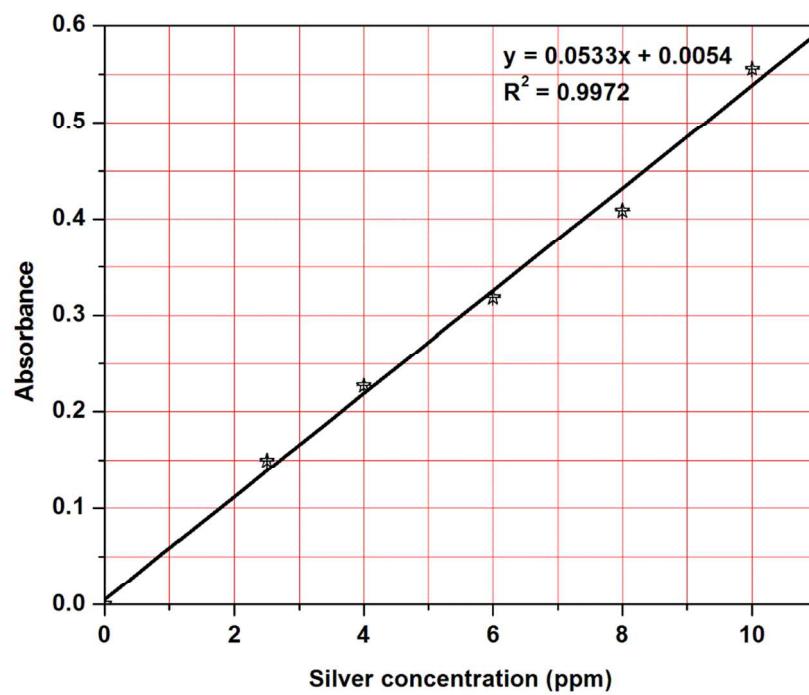


Figure S5. Calibration curve of silver standard solutions from atomic absorption spectroscopy