Supplementary Material

Exposure of smaller and oxidized graphene on polyurethane surface improves its antimicrobial performance

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Figure S1. Images of the PU and PU/GNP composites produced by melt-blending after injection molding.

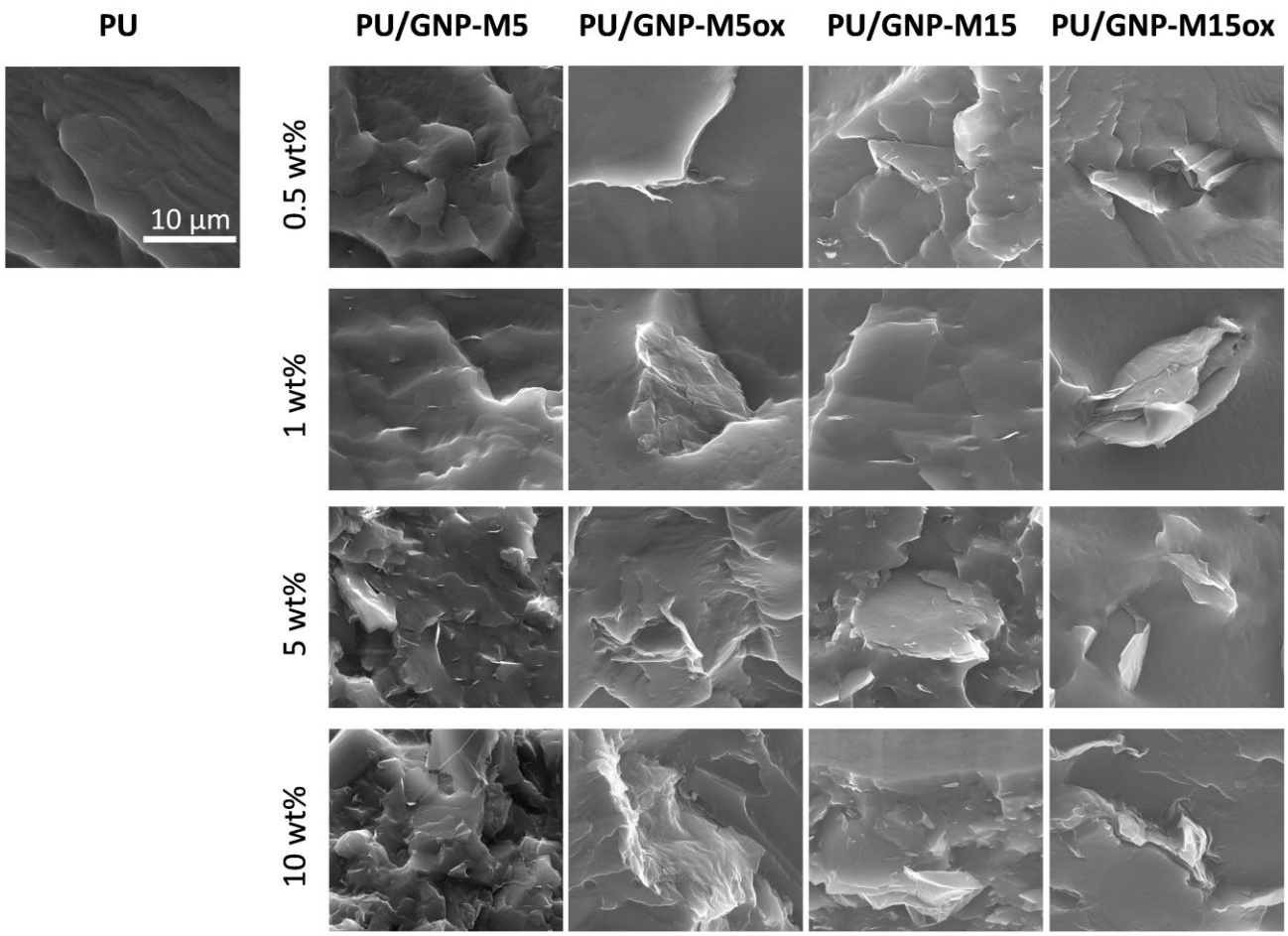

Figure S2. SEM images of PU and PU/GNP composites with different GNP content. Images were taken to the transversal fracture to analyse the composite matrix (scale bar = 10 µm and valid for all images).

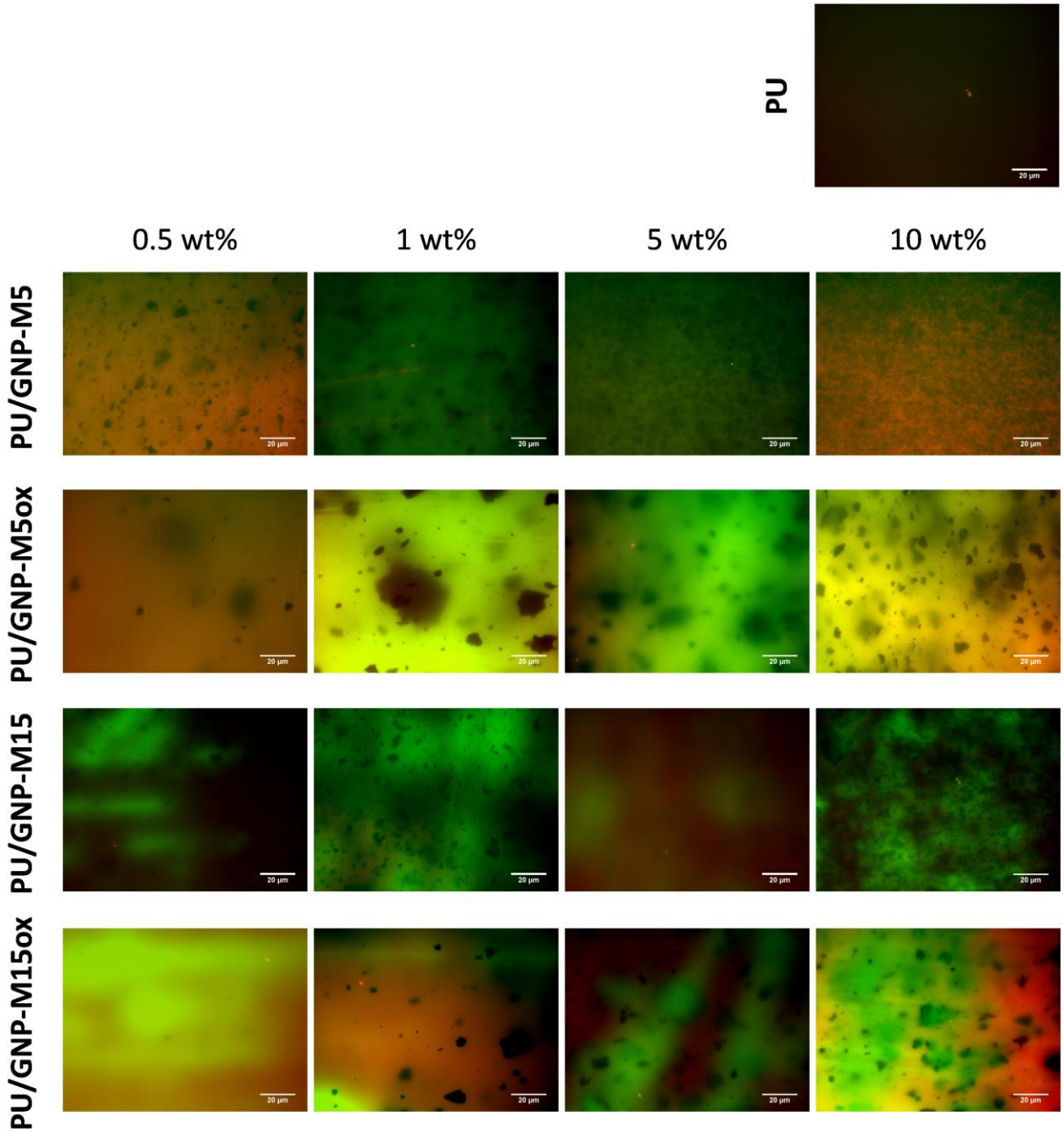

Figure S3. Representative images of the total/dead bacteria staining (Hoechst/PI) of adherent *S. epidermidis* after 24 h incubation on PU/GNP composites (scale bar = 20 μm). Due to the lower number of bacteria per mm^2 found at the surfaces and the small area of each field, no or very few bacteria are found in the fields, being these images representative of the total number of bacteria presented in Figure 4A.

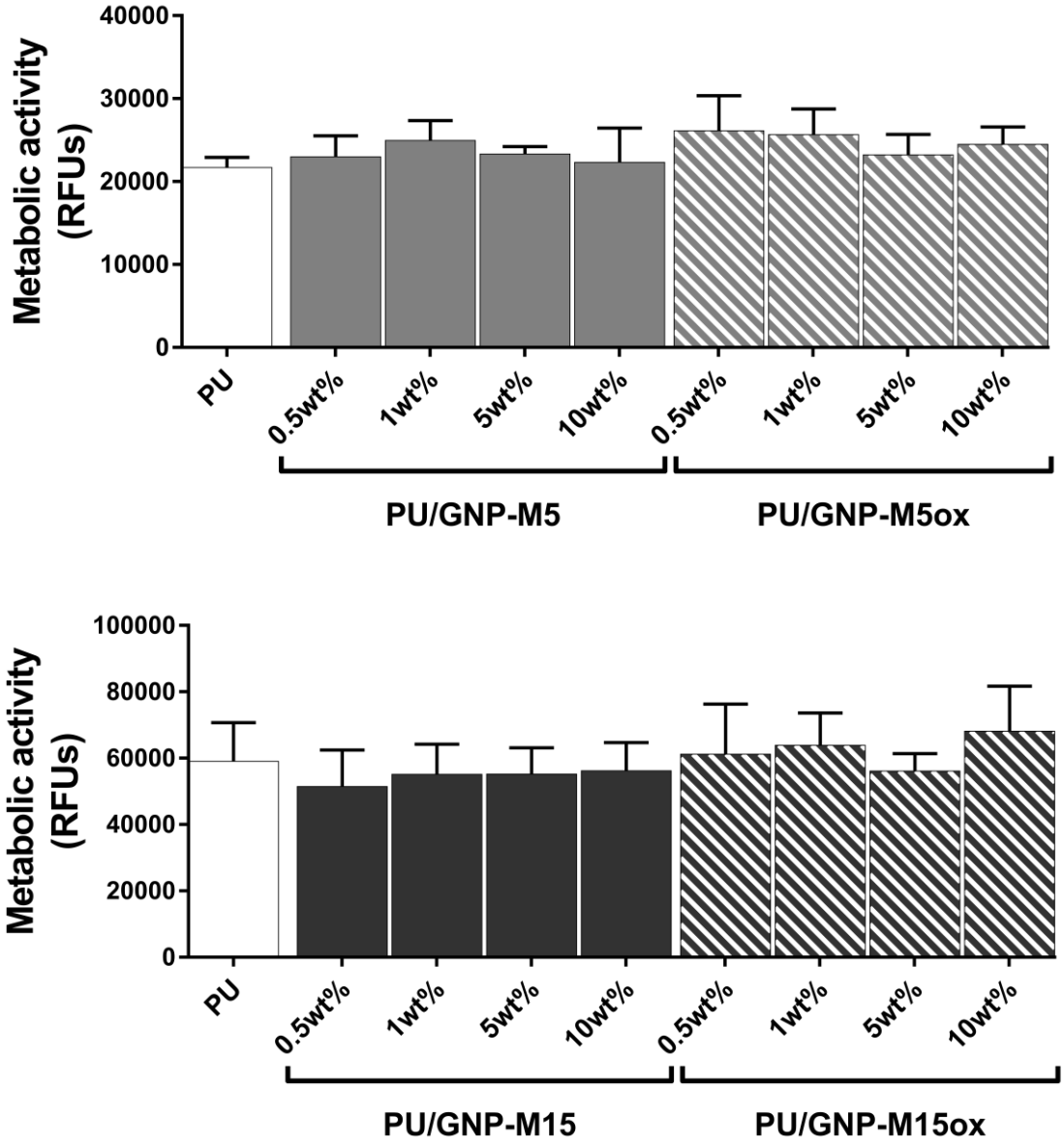

Figure S4. Metabolic activity of *S. epidermidis* planktonic bacteria after 24 h incubation on PU/GNP composites.

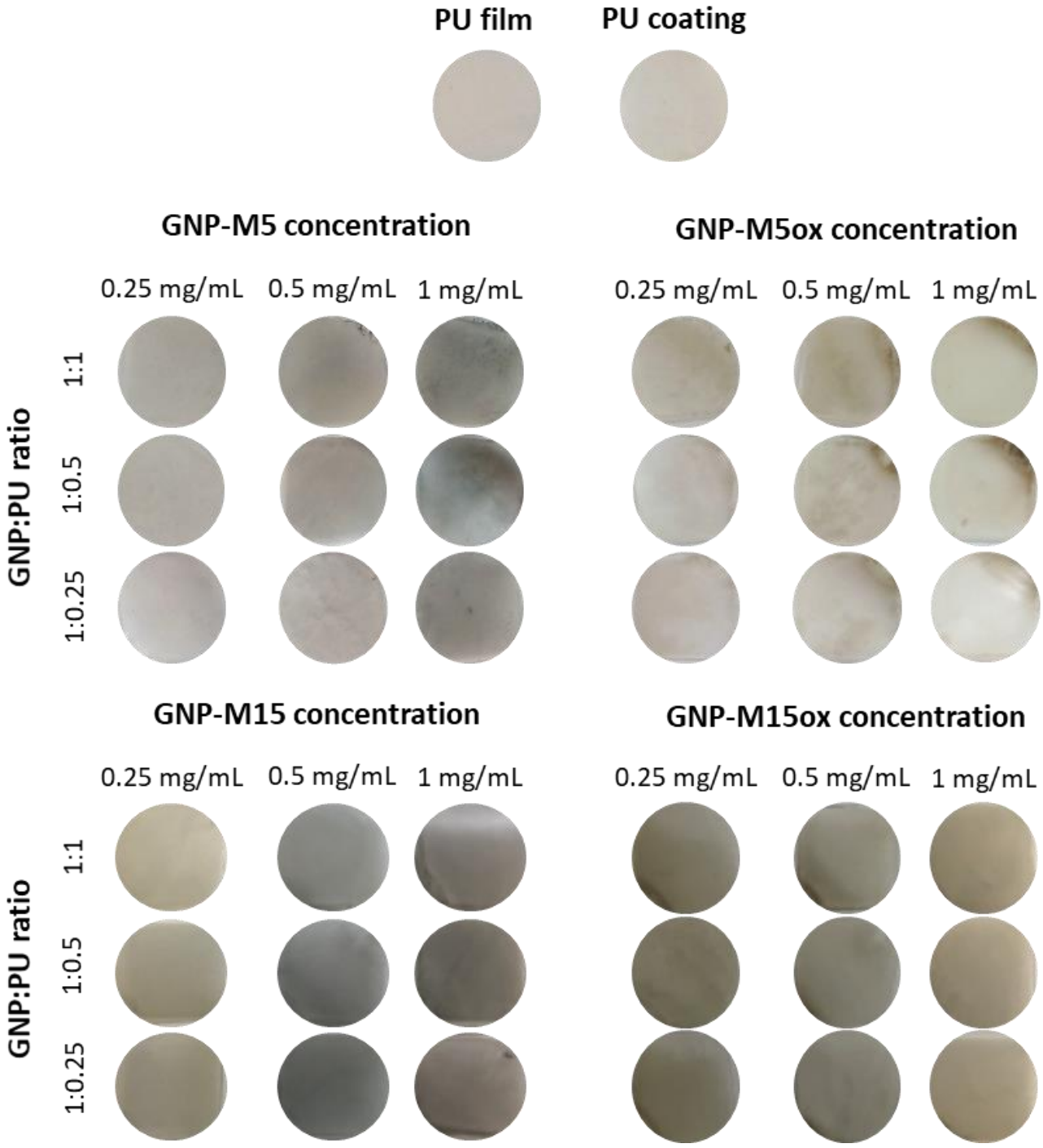

Figure S5. Images of the PU film produced by casting, PU coating on PU film and PU/GNP coatings on PU film.

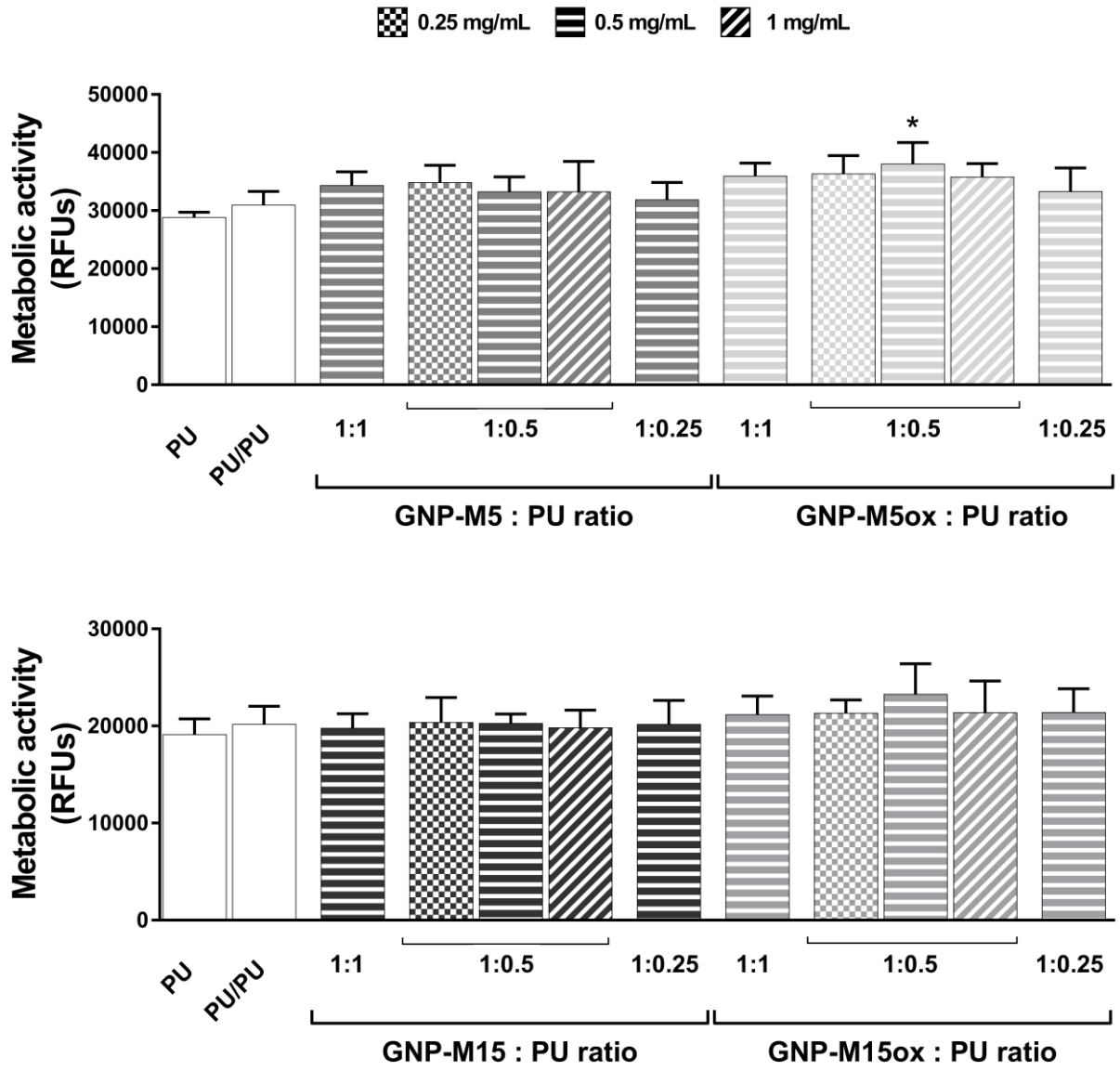

Figure S6. Metabolic activity of *S. epidermidis* planktonic bacteria after 24 h incubation on PU/GNP coatings.