



Supplementary Materials

Strongly ROS-Correlated, Time-Dependent and Selective Anti-proliferative Effects of Synthesized Nano Vesicles on BRAF Mutant Melanoma Cells and Their Hyaluronic Acid-Based Hydrogel Formulation

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Section S1. Biological results.

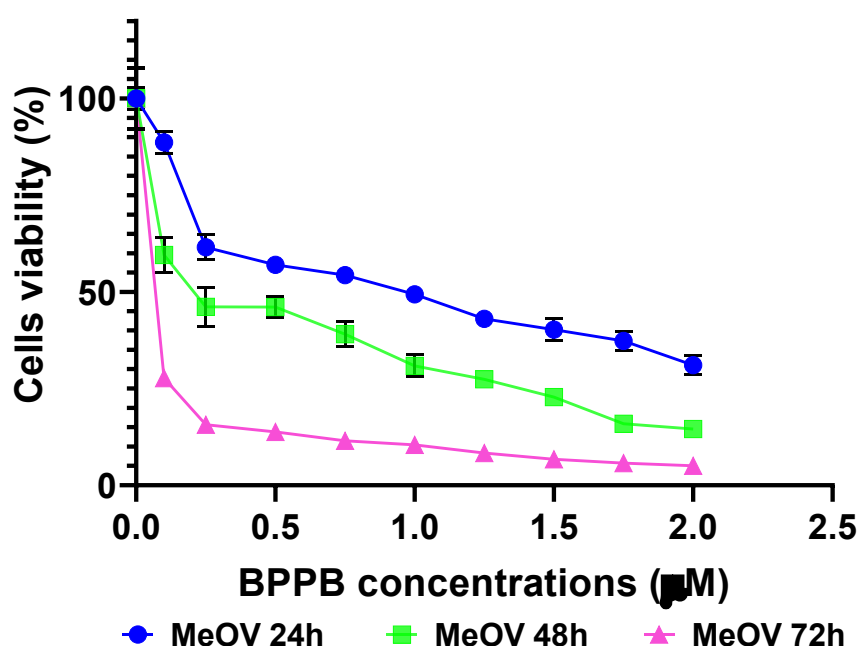


Figure S1. Cell viability (%) of MeOV vs increasing BPPB concentrations (0.1-2.0 μ M) after 24 hours (blue line), 48 hours (green line) and 72 hours (pink line) of exposure. Concentration = 0.0 μ M corresponded to the control.

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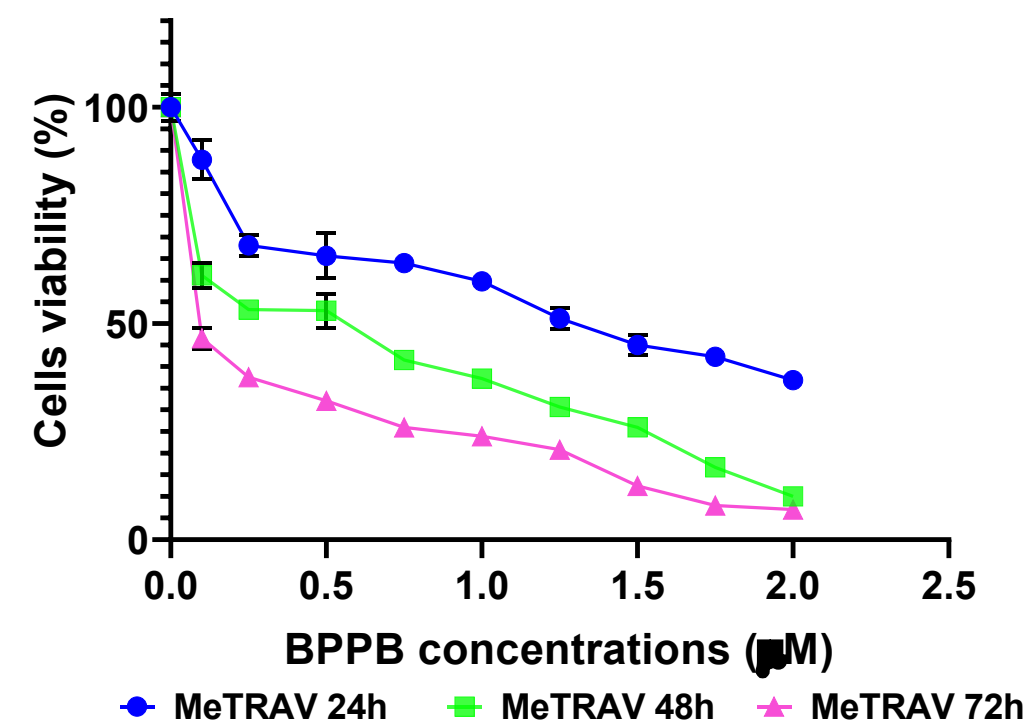


Figure S2. Cell viability (%) of MeTRAV vs increasing BPPB concentrations (0.1-2.0 μ M) after 24 hours (blue line), 48 hours (greenline) and 72 hours (pink line) of exposure. Concentration = 0.0 μ M corresponded to the control.

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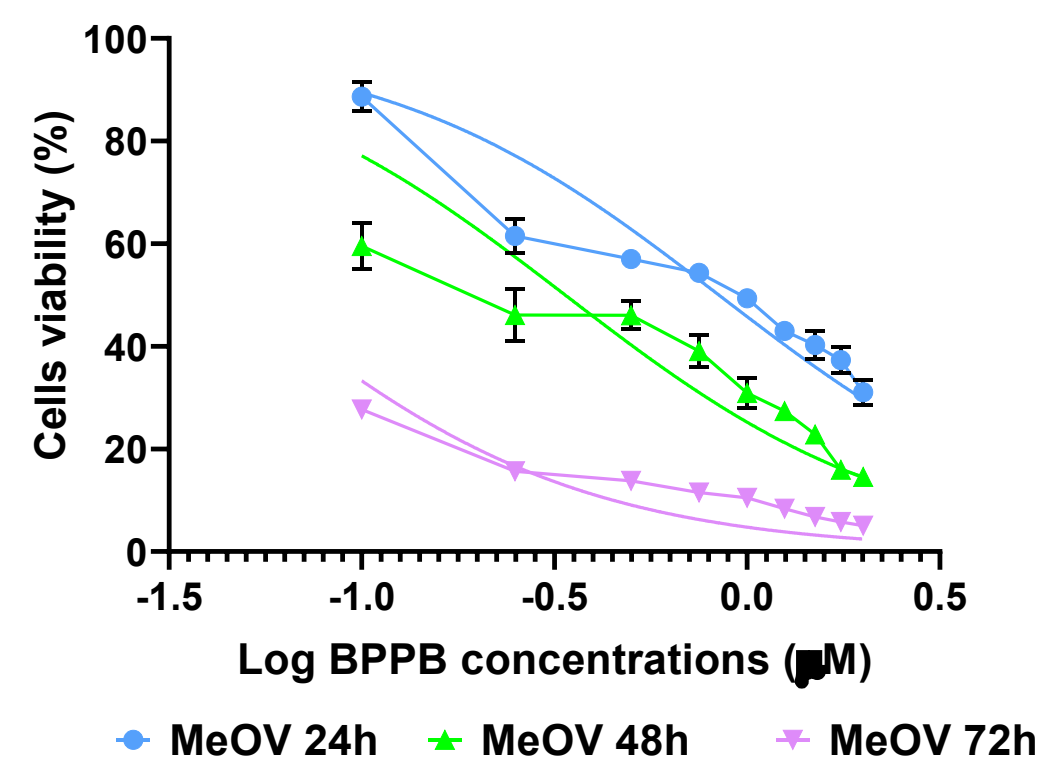


Figure S3. Plot of Log concentration of BPPB vs. cell viability (%) of MeOV after 24, 48, and 72 hours of exposure (blue, green and light purple traces with indicators and error bars) and plot of nonlinear fit of Log concentrations of BPPB vs. normalized response after 24, 48, and 72 hours of exposure (blue, green and light purple traces without indicators).

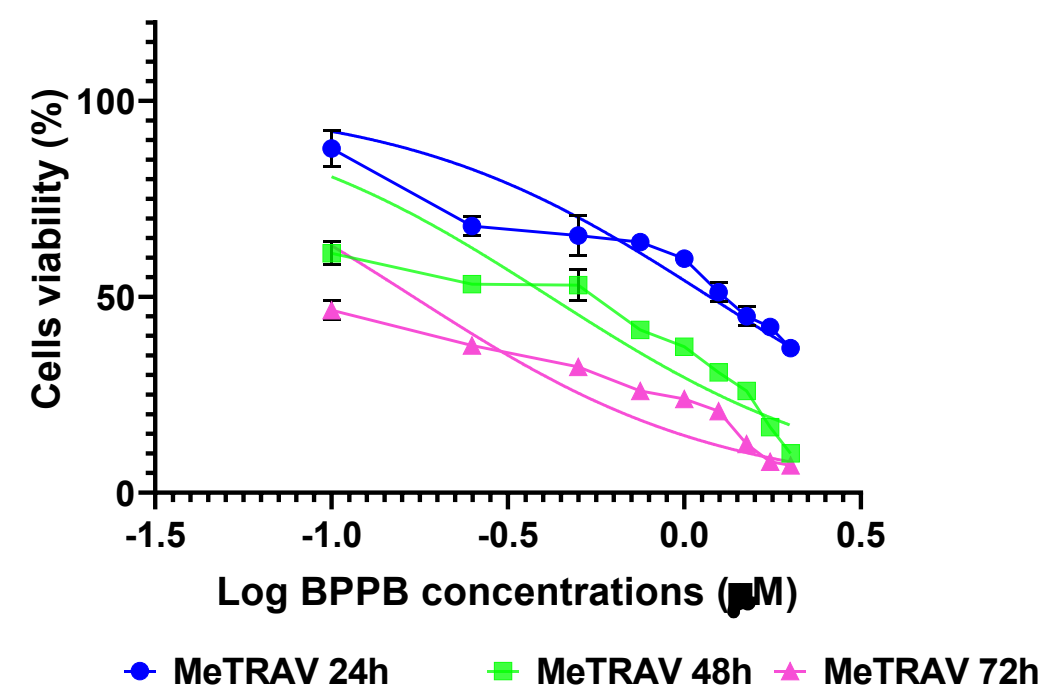


Figure S4. Plot of Log concentration of BPPB vs. cell viability (%) of MeTRAV after 24, 48, and 72 hours of exposure (blue, green and pink traces with indicators and error bars) and plot of nonlinear fit of Log concentrations of BPPB vs. normalized response after 24, 48, and 72 hours of exposure (blue, green and pink traces without indicators).

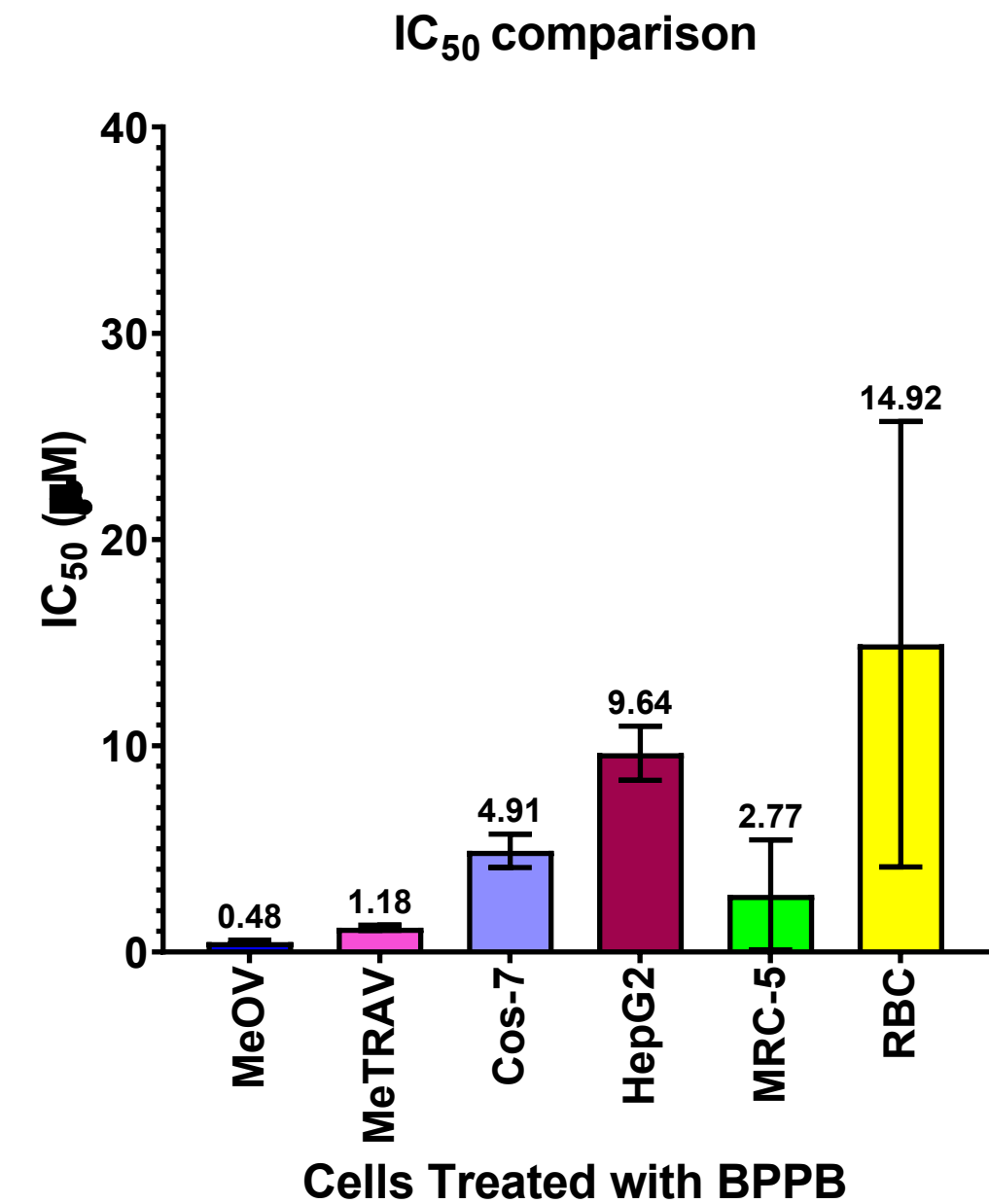


Figure S5. Comparison between the IC₅₀ values determined on MM cells and those determined on three mammalian cell lines and RBCs after 24-huors treatment.

Section S2. Hydrogel Characterization.

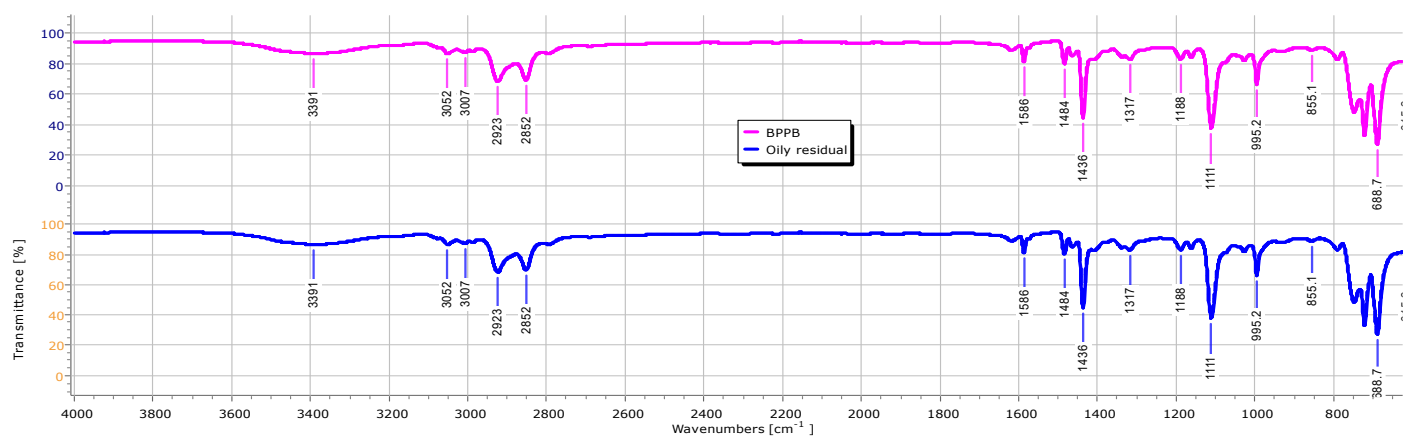


Figure S6. Comparison between the ATR-FTIR spectrum of pure BPPB and that of the oily residual recovered by the not absorbed water afforded during the preparation of HA-BPPB-HG.



Figure S7. Appearance of the lyophilized HA-BPBB-HG (glassy state).

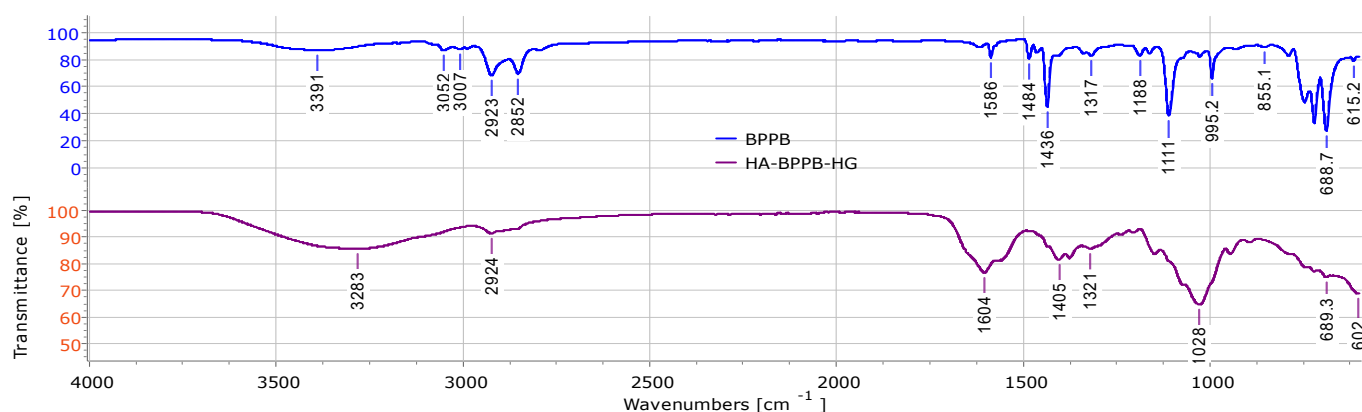


Figure S8. ATR-FTIR spectra of BPPB (blue line), HA and HA-BPPB-HG (dark purple line).

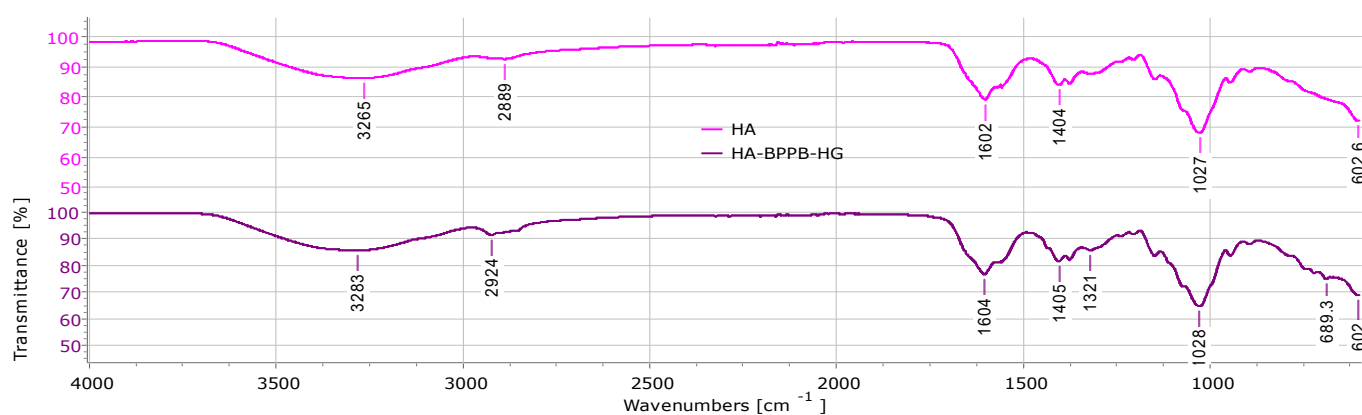


Figure S9. ATR-FTIR spectra of HA (fuchsia line) and HA-BPPB-HG (dark purple line).

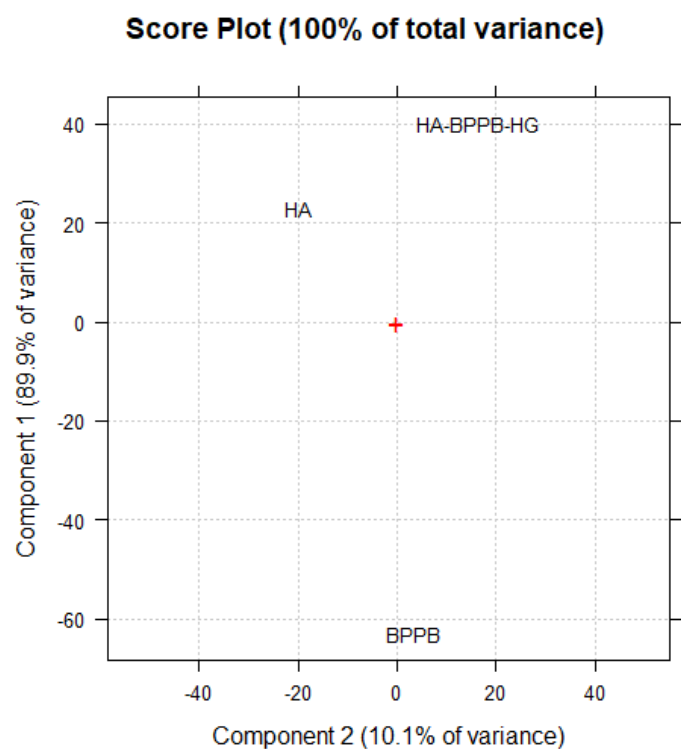


Figure S10. PCA results reported as PC2 vs PC1.

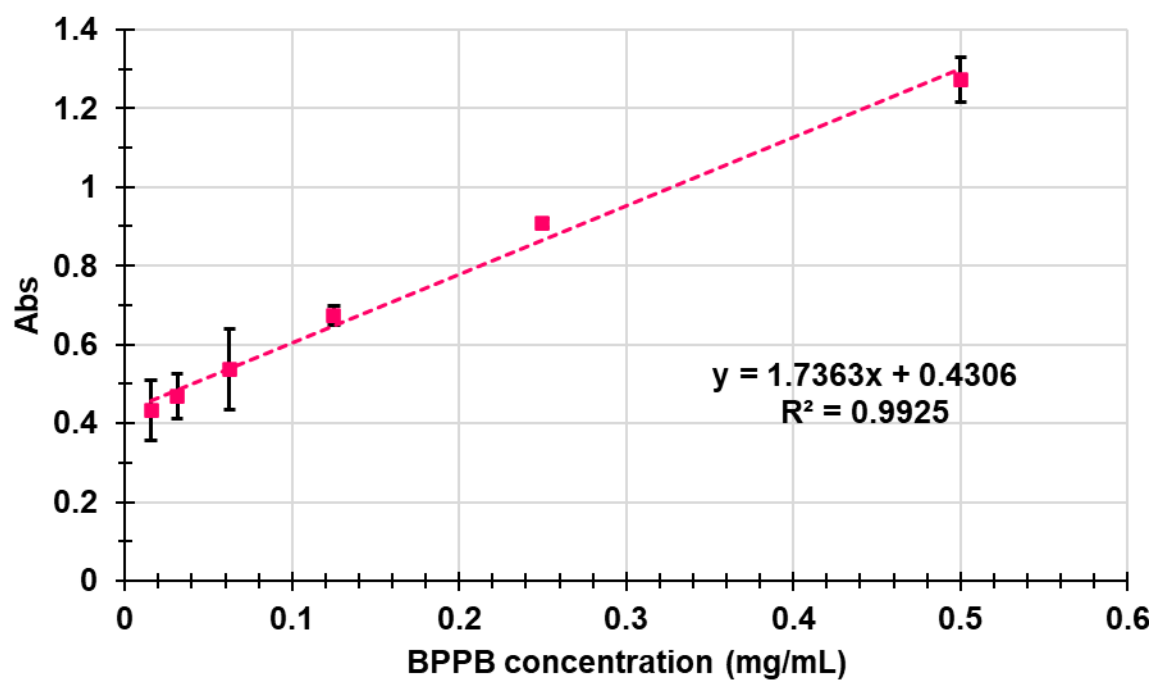


Figure S11. BPPB calibration curve.

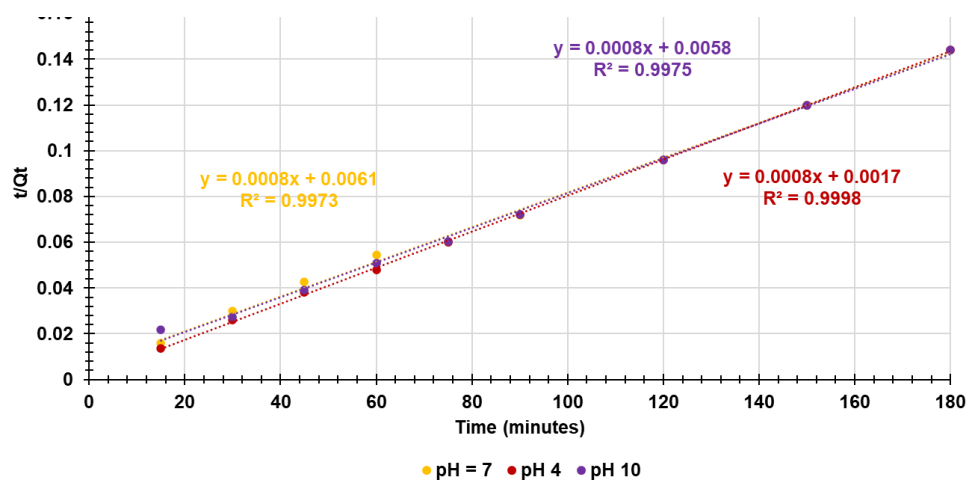


Figure S12. PSO kinetic model on swelling experiments.

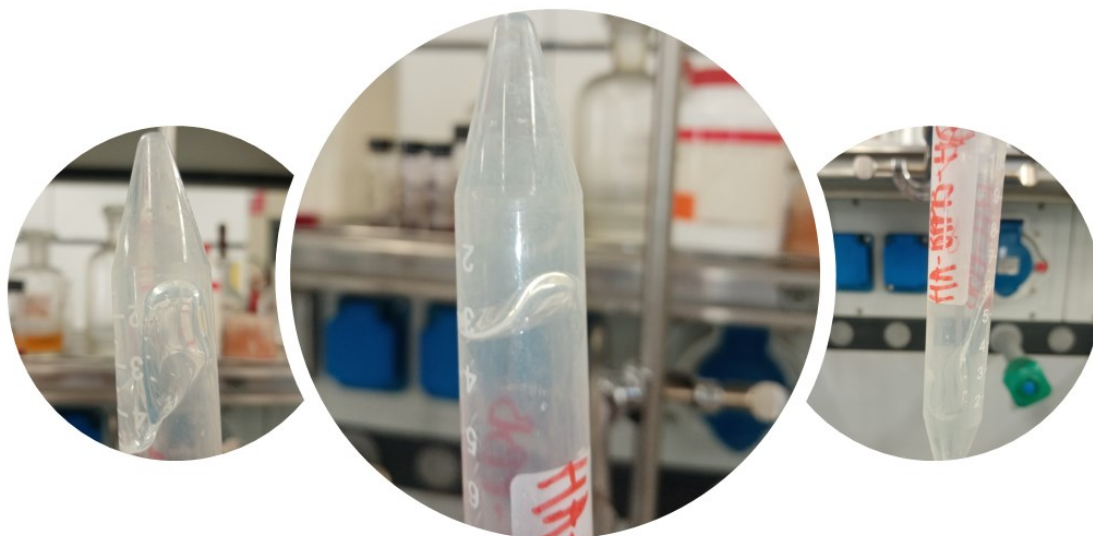


Figure S13. Appearance of the soaked HA-BPBB-HG (gummy state).



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Video S1:



VIDEO-2024-08-29-1
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Video S2:

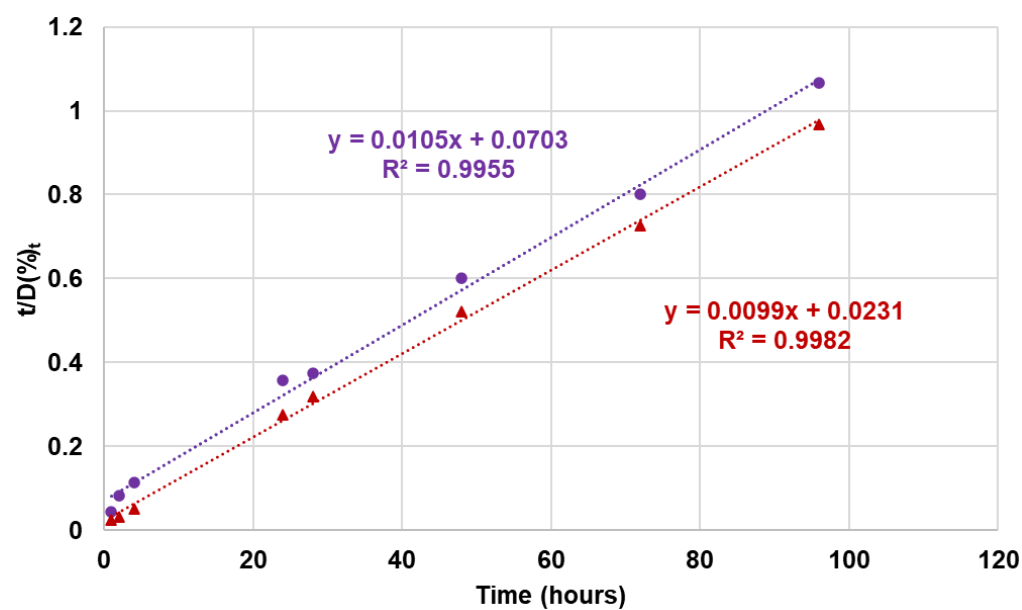


Figure S14. PSO kinetic model on biodegradation experiments.

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