## Design of Injectable Bioartificial Hydrogels by Green Chemistry for Mini-Invasive Applications in the Biomedical or Aesthetic Medicine Fields

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**Figure S1.** (a) Ellman's colorimetric assay performed on HA (left) and HA-SH\_pH5 (right): the strong yellowish color of HA-SH\_pH5 compared to HA (control) proves the successful exposure of free sulfhydryl groups along Cys-functionalized HA; (b) Number of exposed –SH groups along HA-SH\_pHX samples as quantified through the Ellman's colorimetric assay. Results for HA-SH\_pH4, HA-SH\_pH5 and HA-SH\_pH7 are reported in light blue, blue and dark blue, respectively.



**Figure S2.** SEM images of samples based on virgin polymers (i.e., S-DHP407 and HA) and on their 50/50 w/w blend. Scale bar: 100  $\mu$ m.



**Figure S3.** Representative photo of the Luer-lock double syringe system used for bioartificial hydrogel preparation. To ensure complete mixing, polymeric formulations were pipetted up and down 5 times.