

Supporting Information

Green surface-engineered bio-acrylate architectures for high-efficiency triboelectric energy harvesting

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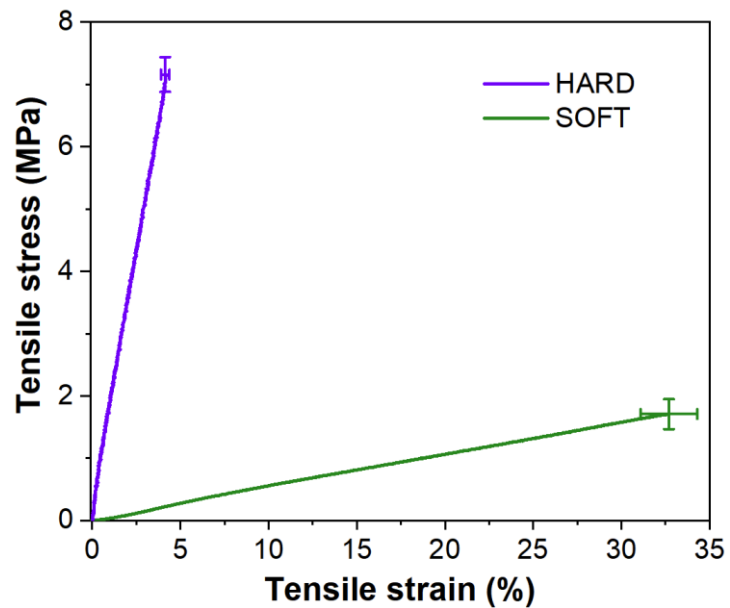


Fig. S1. Stress-Strain curves of UV-cured films samples

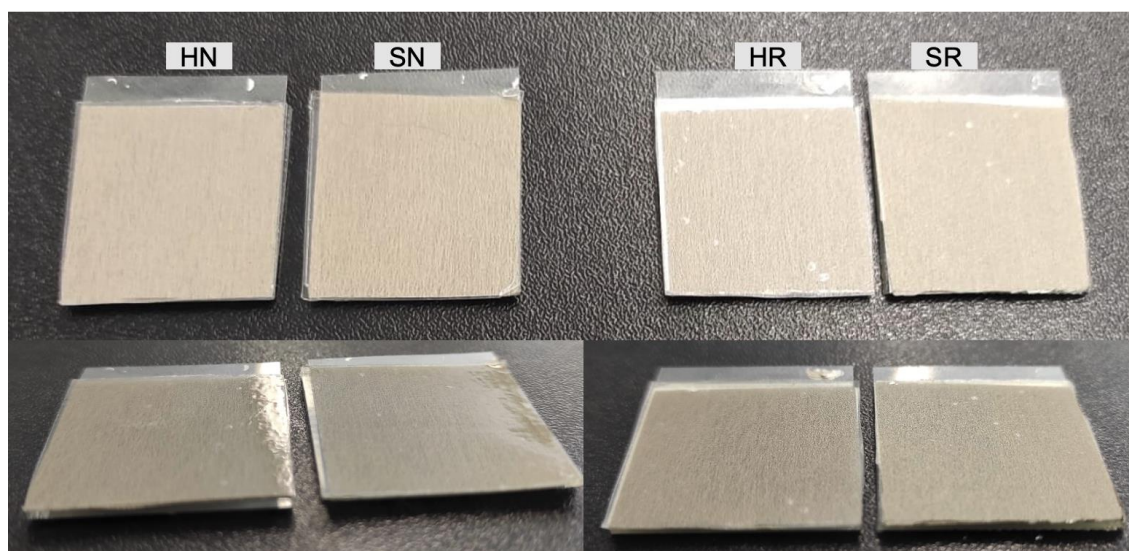


Fig. S2. Photos of the prepared samples at different angles

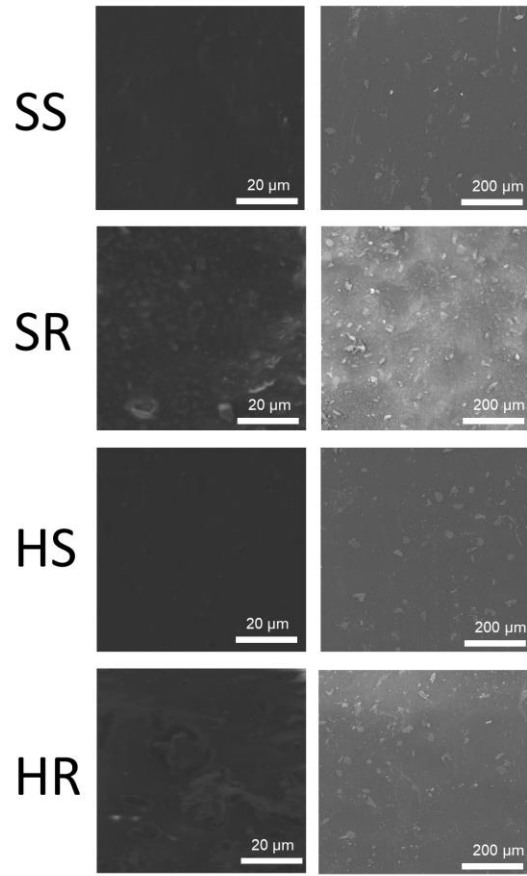


Fig. S3. SEM images of the samples surfaces

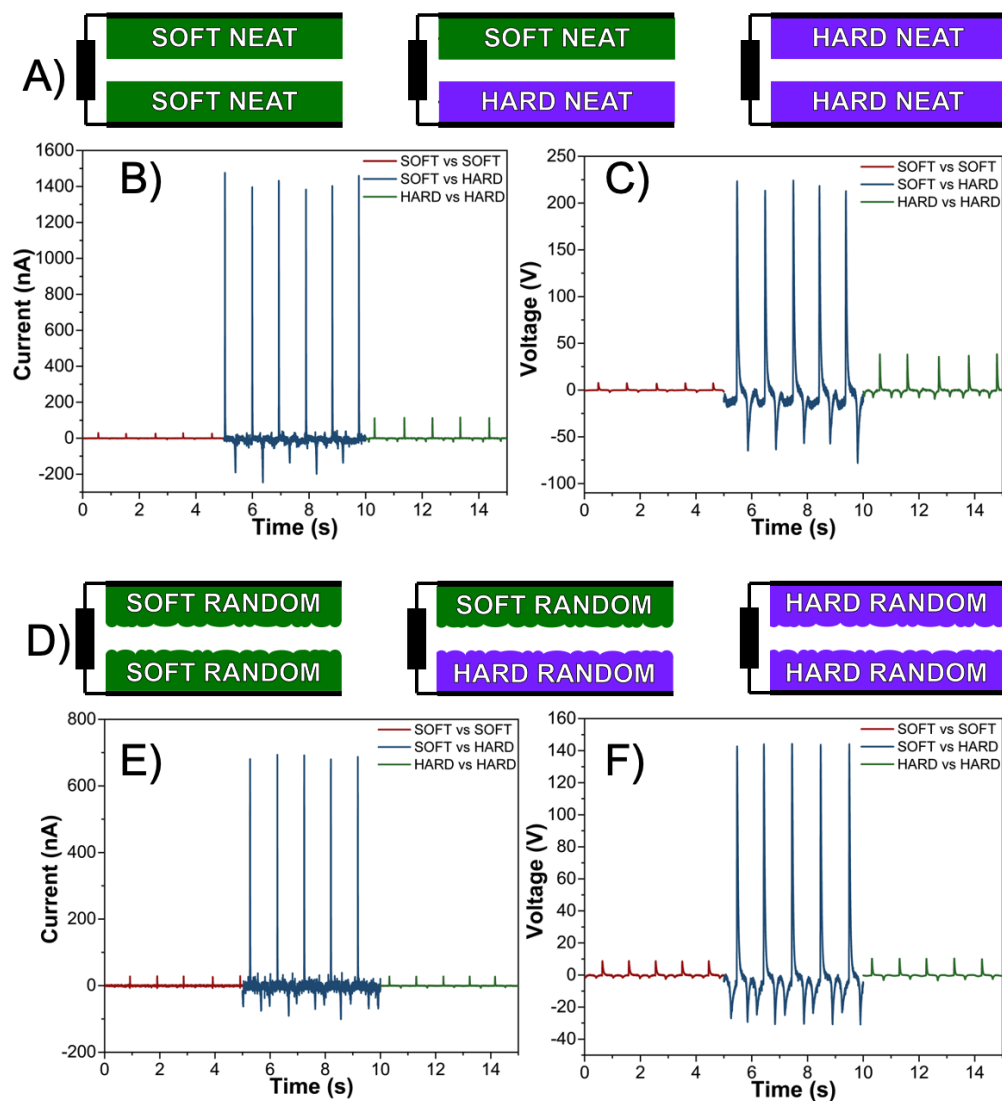


Fig. S4. (A) Schematics of tested contact pairs for films with neat surface pattern with the corresponding (B) short-circuit current, (C) open-circuit voltage (D) Followed by schematics of tested contact pairs for films with random surface pattern with the corresponding (E) short-circuit current, (F) open-circuit voltage.

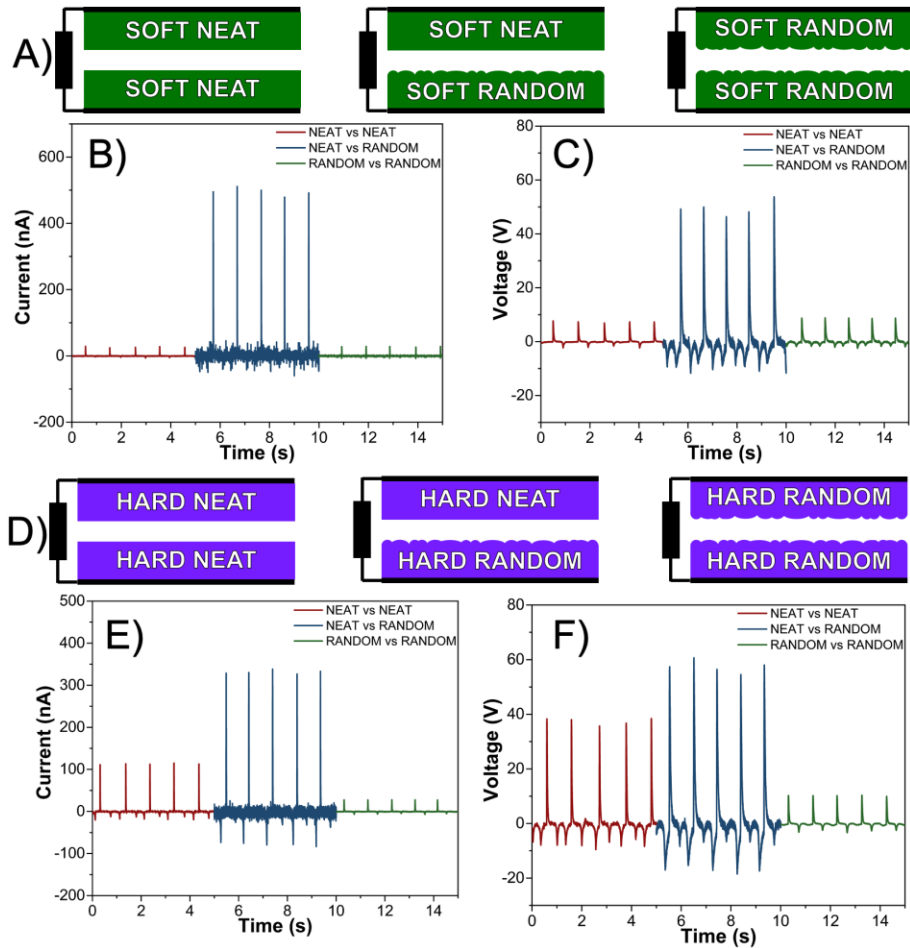


Fig. S5. (A) Schematics of tested contact pairs for films with various surface patterns using the soft polymer with (B) the corresponding short-circuit current, (C) open-circuit voltage. (E) Schematics of tested contact pairs for films with various surface patterns using the hard polymer with (F) the corresponding short-circuit current, (G) open-circuit voltage.

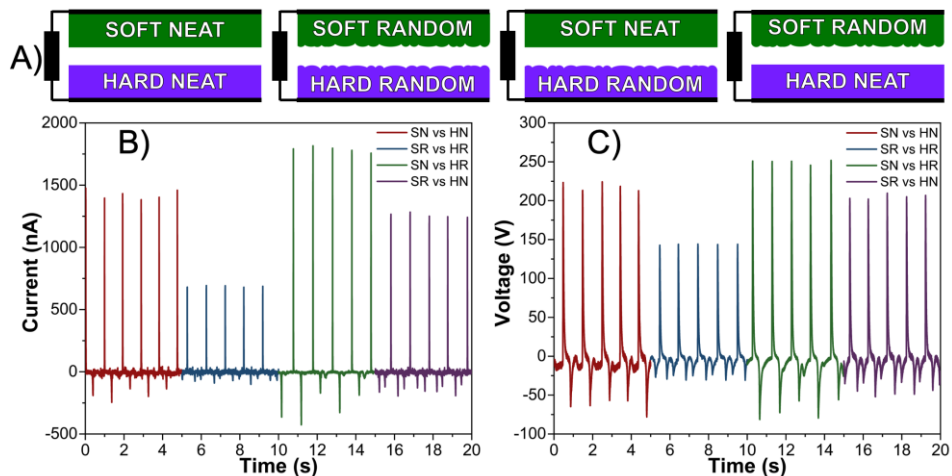


Fig. S6. (A) Schematics of tested contact pairs for films with various surface patterns from both soft and hard polymers with (B) the corresponding short-circuit current, (C) open-circuit voltage.

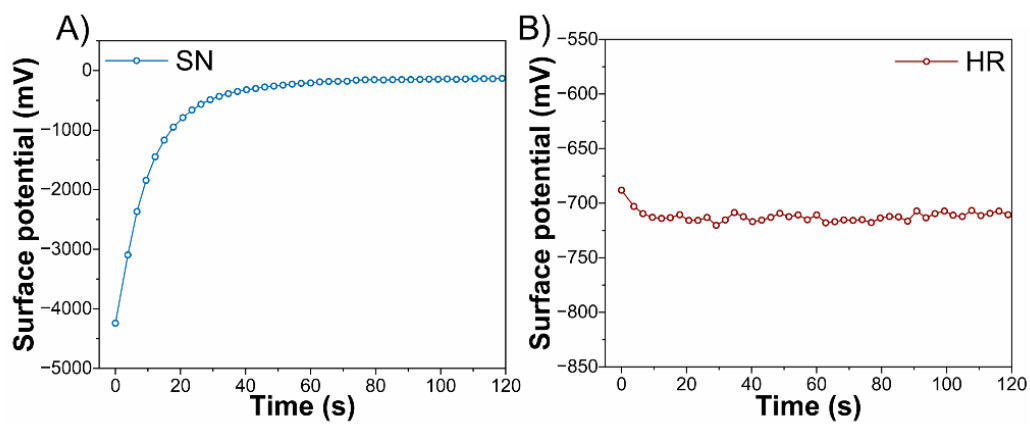


Fig. S7. Surface potential as a function of time for A) SN and B) HR after mutual contact-separation.

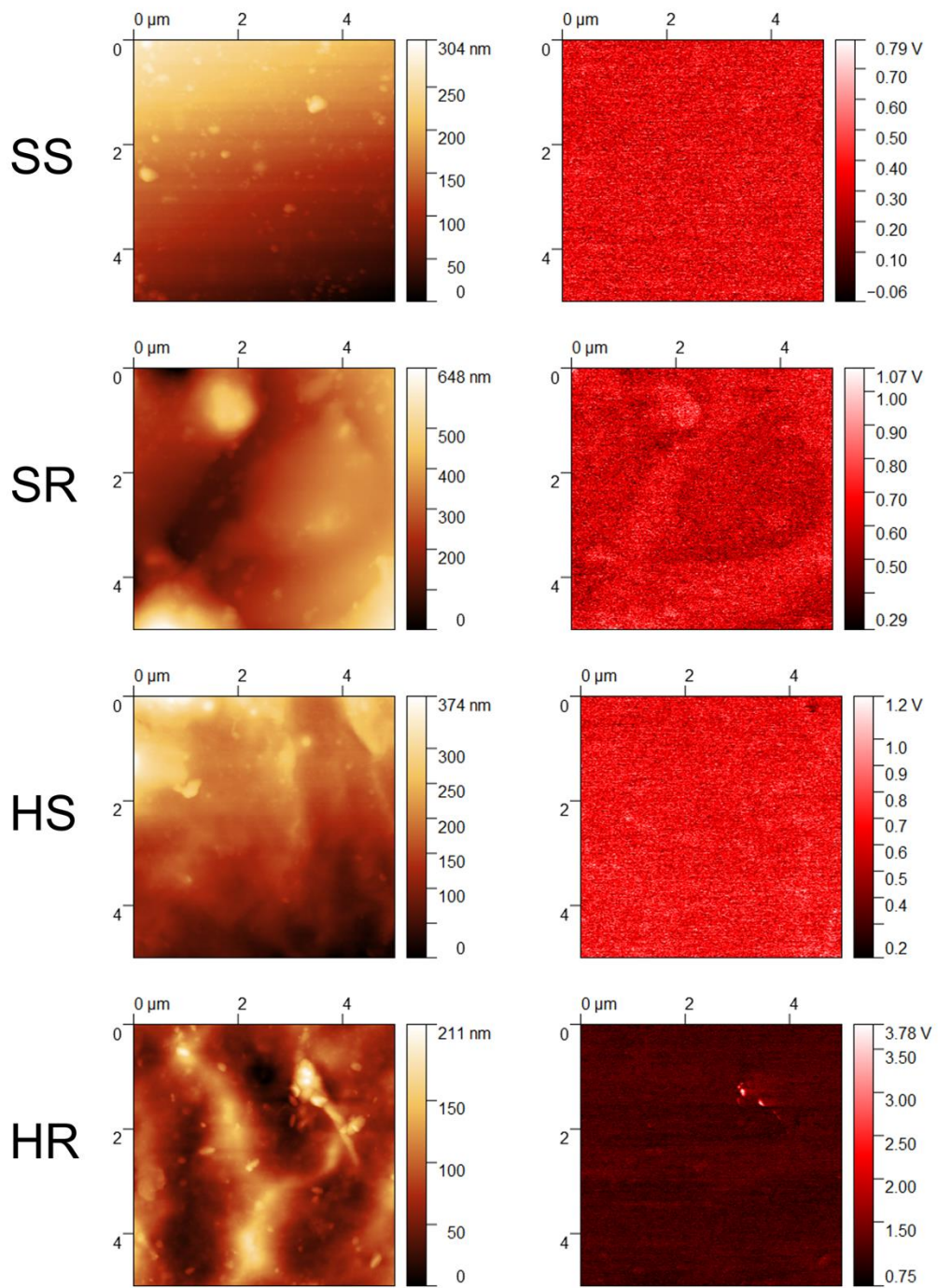


Fig. S8. KPFM scan images of all prepared films

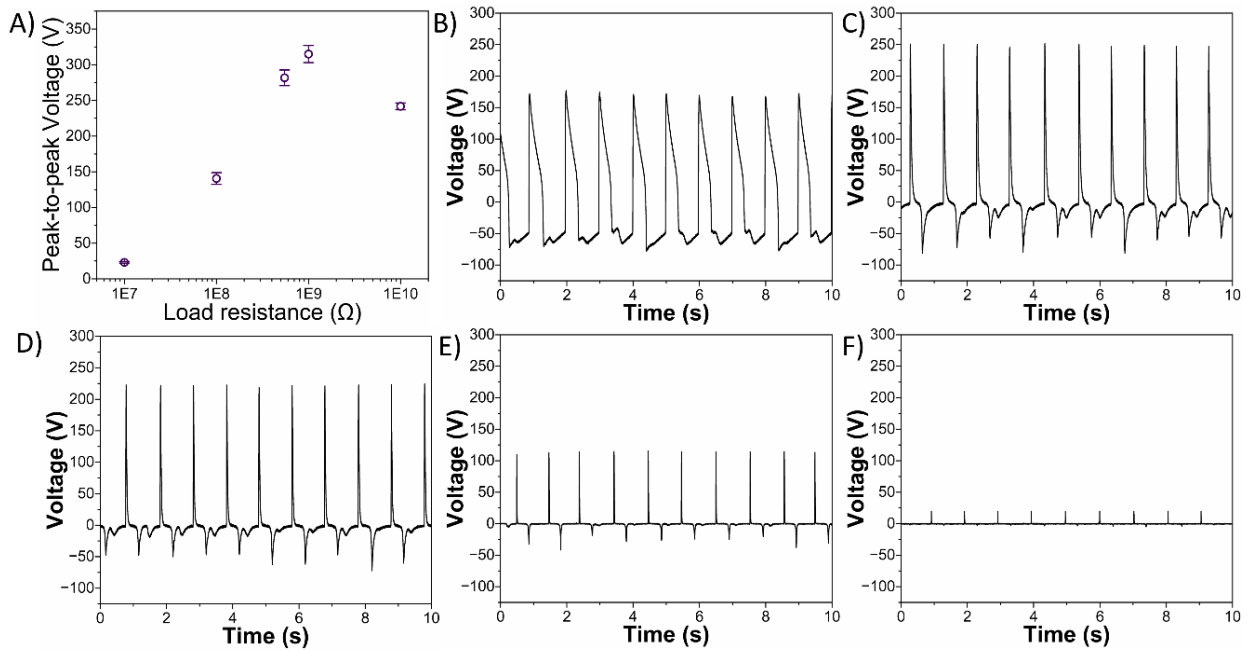


Fig. S9. Voltage as function of load resistance (from top left to bottom right - 10 GΩ, 1 GΩ, 550 MΩ, 100 MΩ and 10 MΩ) of the prepared bio-based TENG pair SN vs HR.

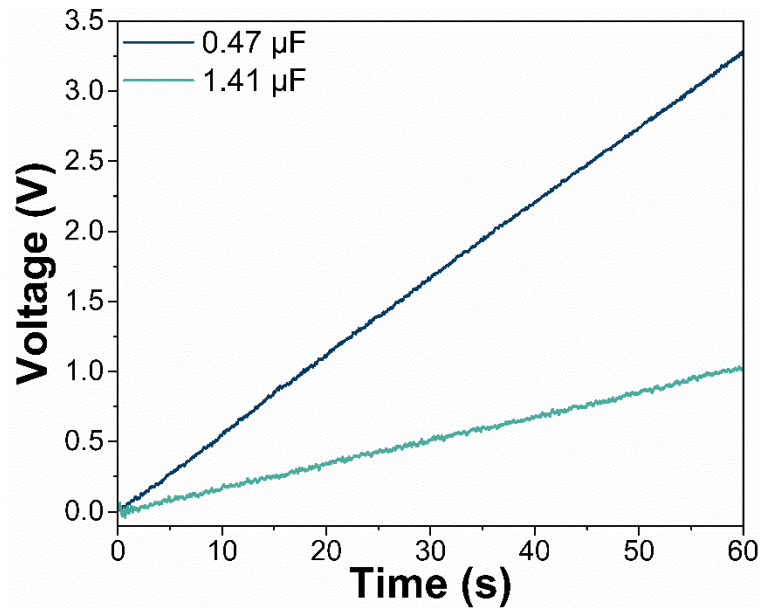


Fig. S10. Voltage across capacitors during 1 min of charging by pneumatic contact-separation device.

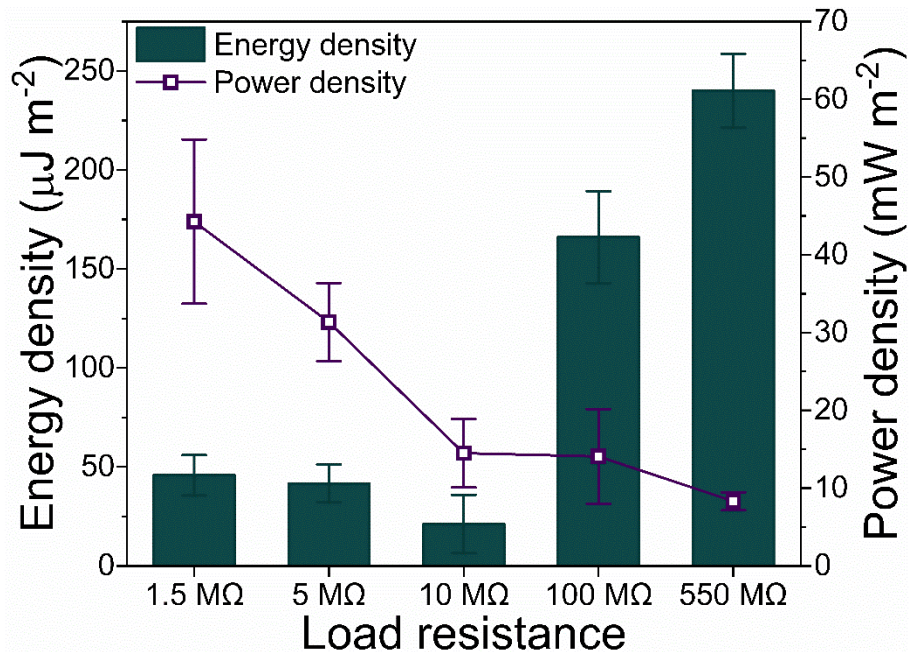


Fig. S11. Energy density and power density at different load resistance values for “SS vs. HR” configuration tested using pneumatic contact-separation device.

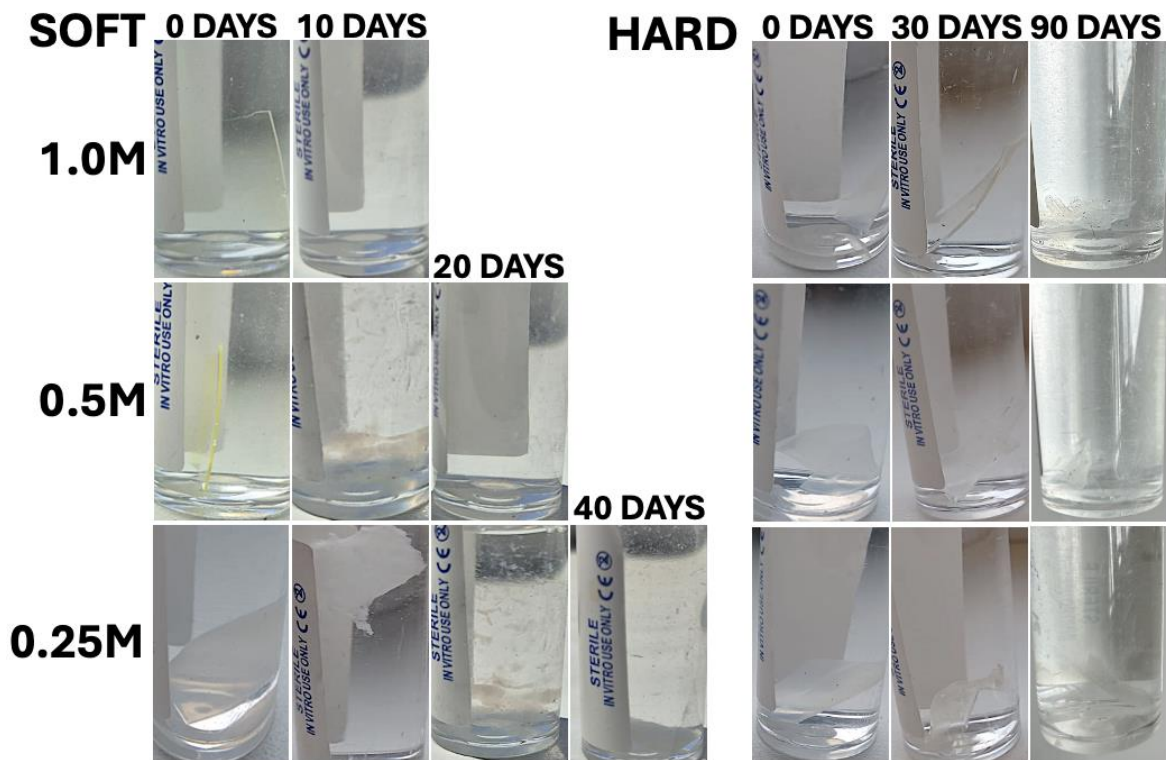


Fig. S12. Accelerated hydrolytic degradation time-line photos of UV-cured film samples until the end of experiment.

Table S1. Kelvin probe surface potential of prepared bio-based films

Sample	Surface potential before contact, mV
HN	-280
HR	-276
SN (3% PETMP)	-324
SR	-85
SN (0% PETMP)	-288
SN (5% PETMP)	-231