

Supplementary material

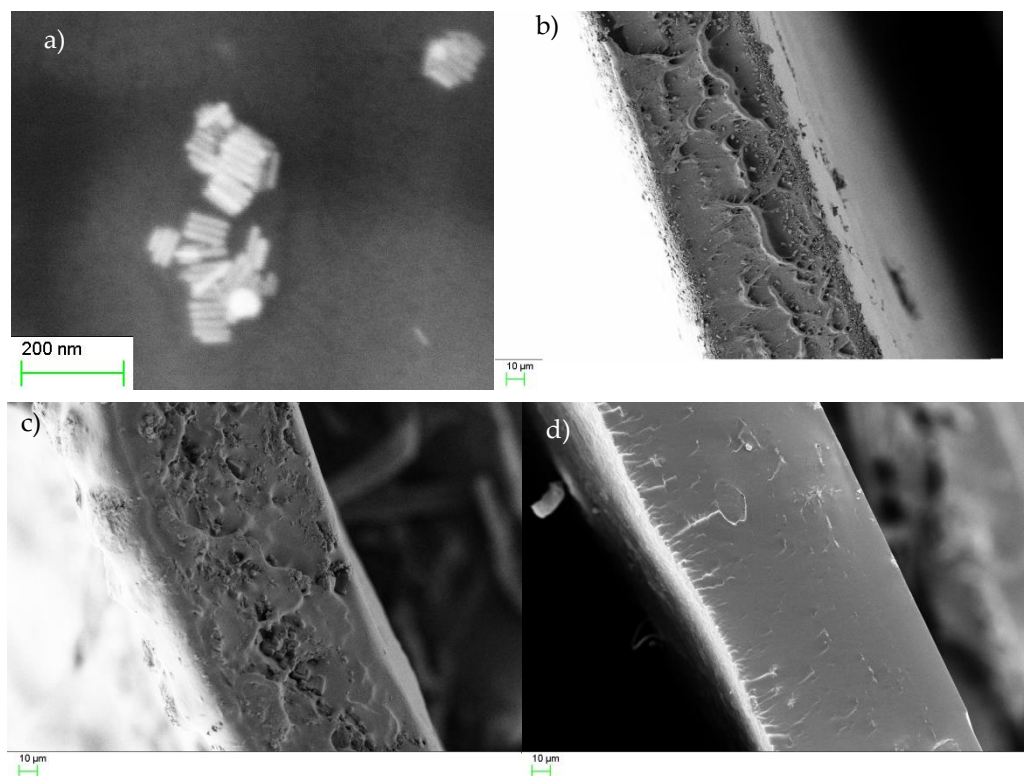
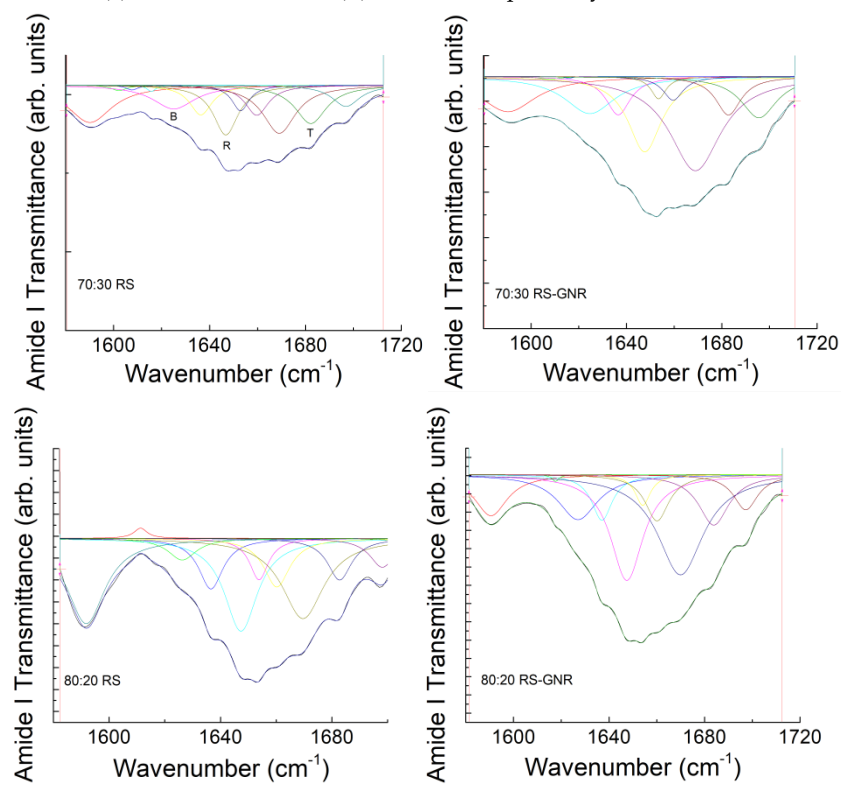


Figure S1. FESEM analysis showing the surface morphology of (a) GNR and cross-sections images of (b) 80:20 RS, (c) 80:20 RS-GNR and (d) 90:10 RS, respectively.



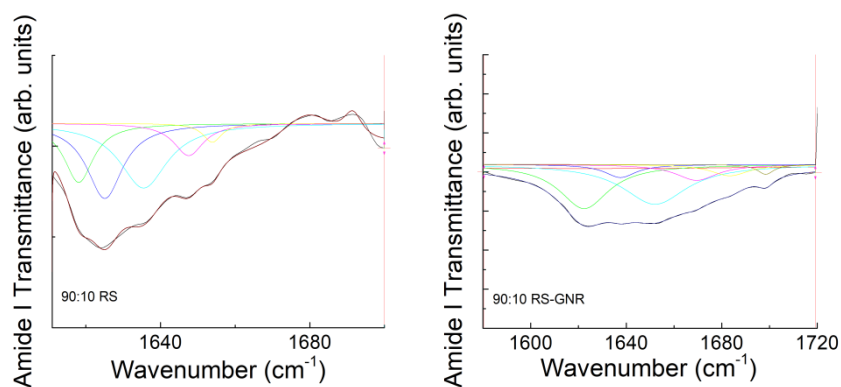


Figure S2. FTIR spectra of regenerated silk and RS/yeast films, respectively. The colored lines represent the components of the amide I band and are indicated as β -sheets (B), random coils (R), and turns (T).

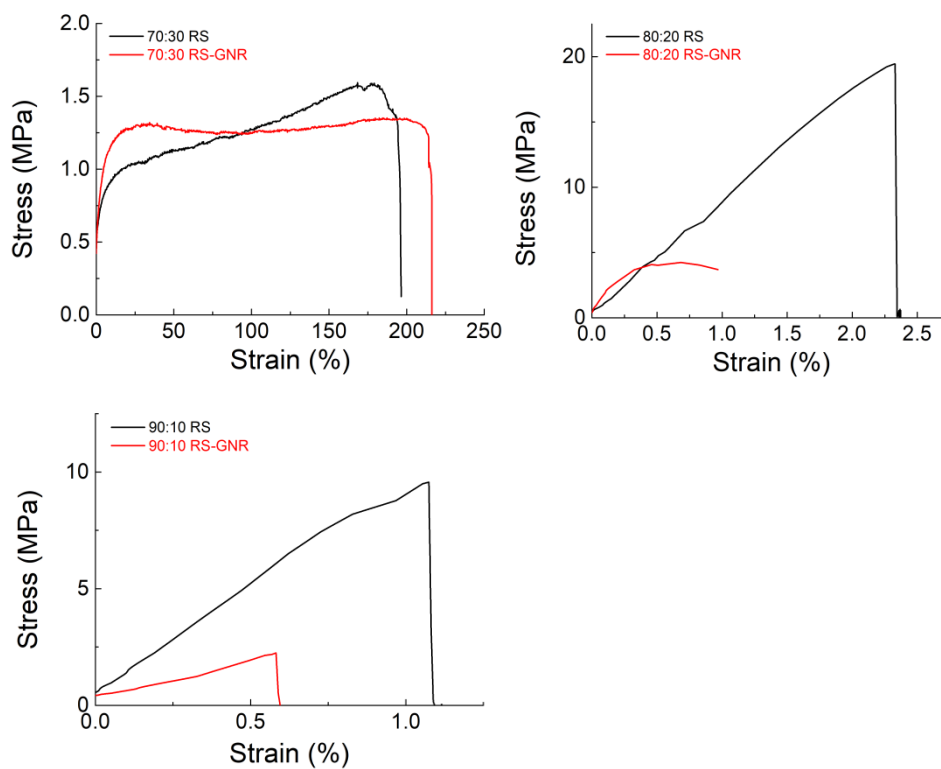


Figure S3. Stress-strain curves of RS and RS-GNR films.

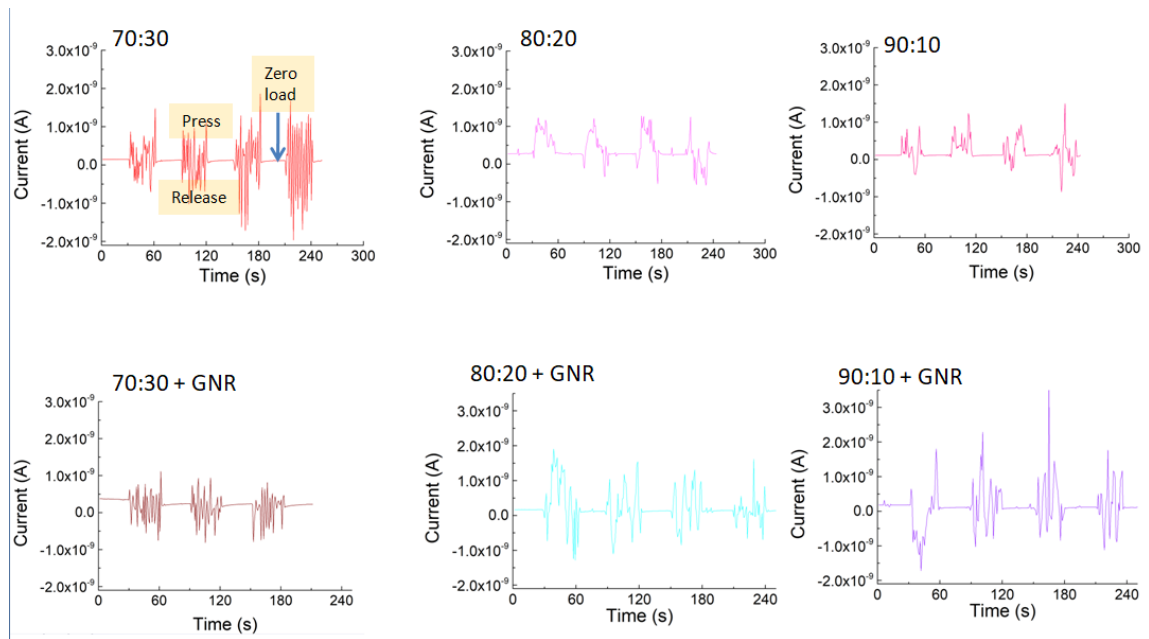


Figure S4. The generated output short circuit current of piezoelectric devices fabricated with different RS and RS-GNR films and subjected to repetitive loading and releasing pressure.

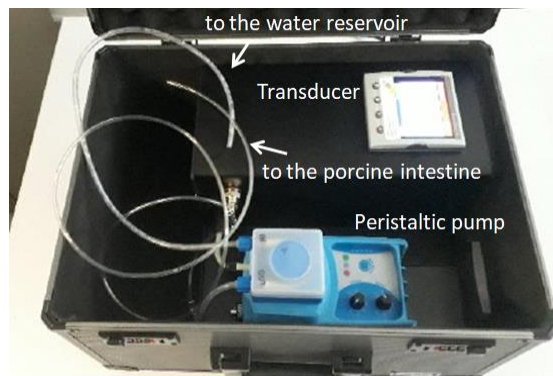


Figure S5. Bursting machine designed for this work.