

SUPPLEMENTARY INFORMATION FOR

# Low Hysteresis and Fatigue-Resistant Polyvinyl Alcohol/Activated Charcoal Hydrogel Strain Sensor for Long-Term Stable Plant Growth Monitoring

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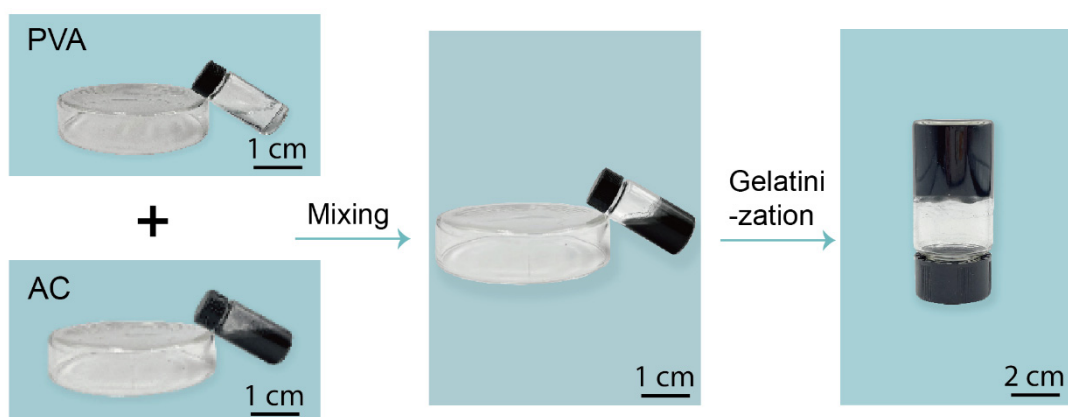
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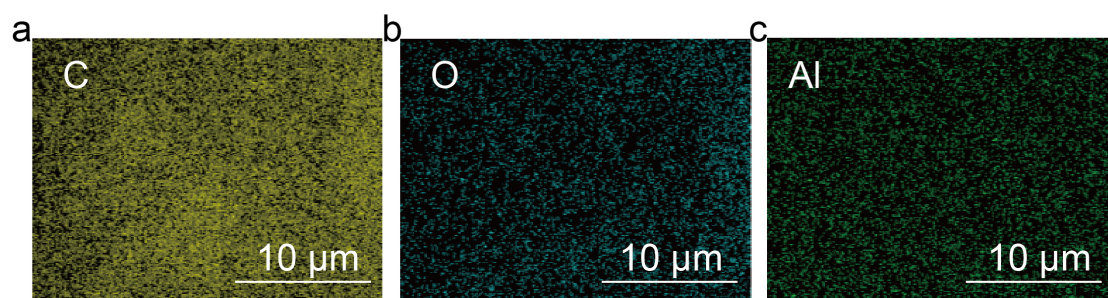
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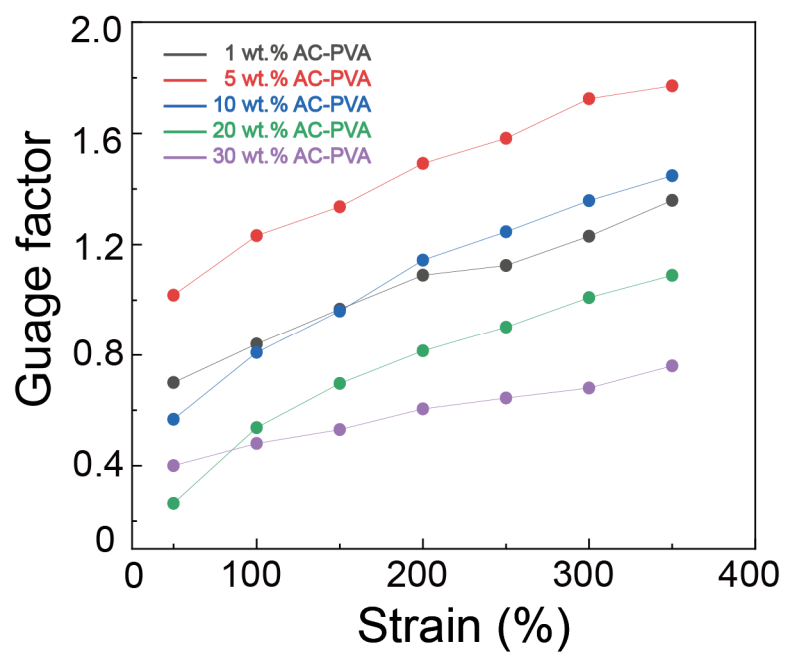
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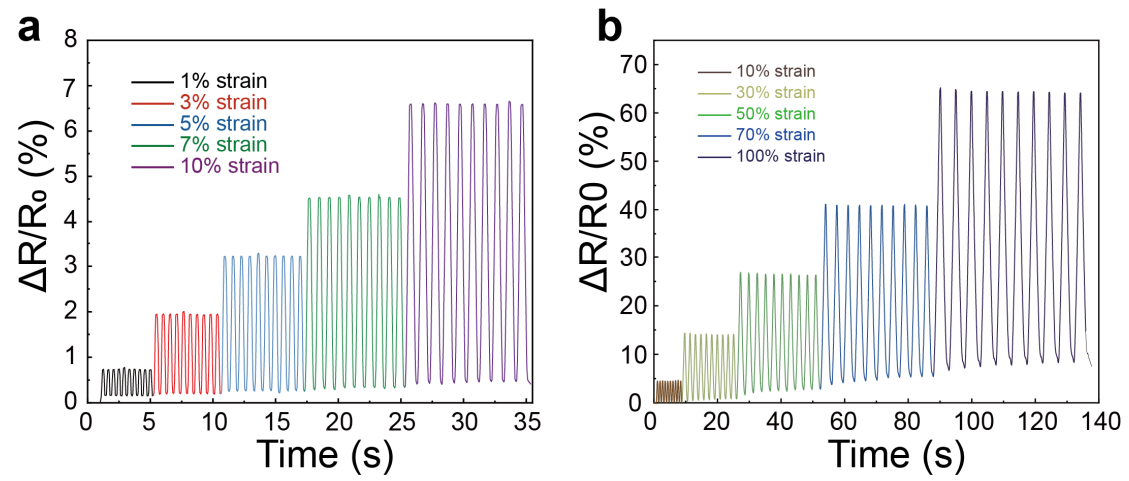
**Figure S1:** Photograph of the PVA-AC hydrogel preparation process.



**Figure S2:** Elemental mapping analysis of PVA-AC from cross-sectional morphologies of Scanning Electron Microscope.



**Figure S3:** Gauge factor (GF) of PVA-AC hydrogel strain sensors with different AC concentrations.



**Figure S4.** The relative resistant change of the PVA-AC conducting hydrogel strain sensor at the strain of 1%-10% and 10%-100%.