

Supplementary Material

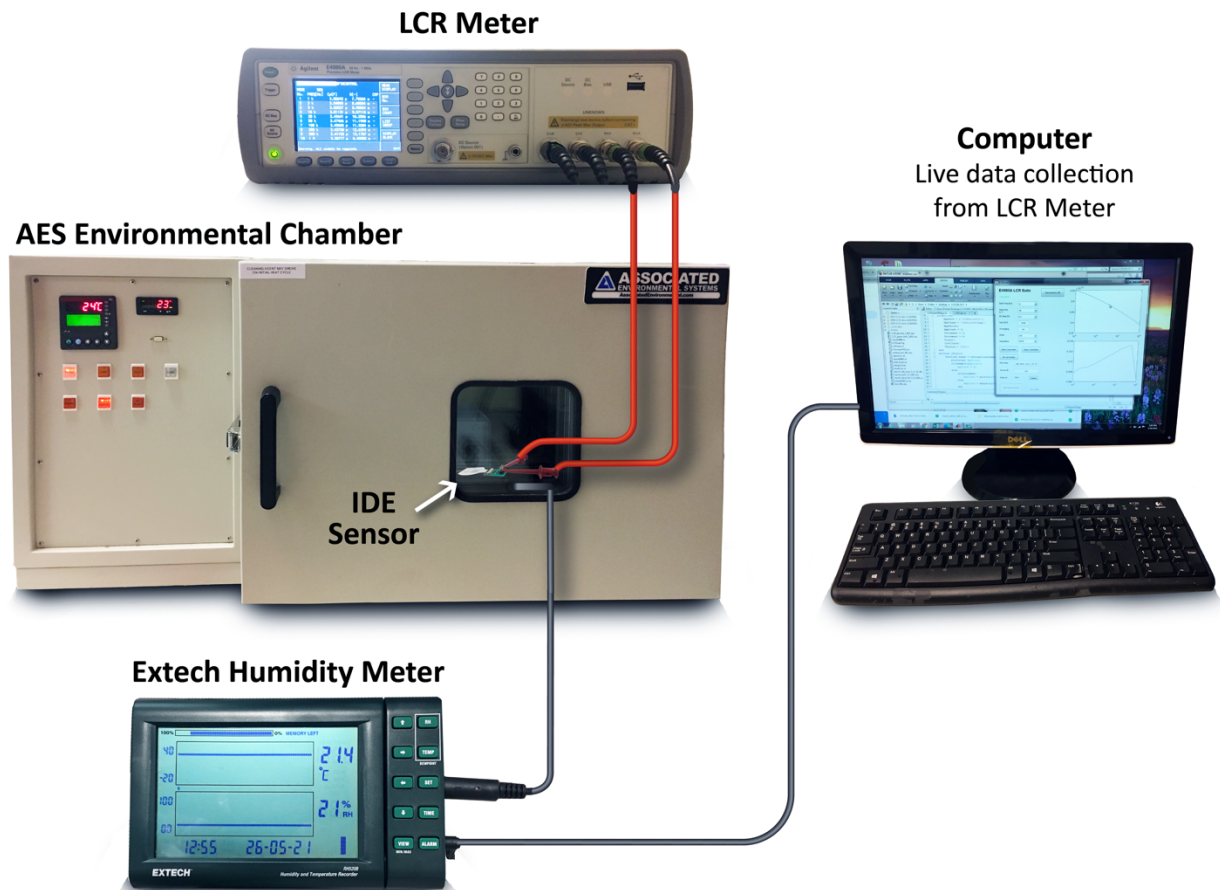


Figure S1. Experimental setup. AES Environmental Chamber is used to control relative humidity and temperature conditions. Reference data is collected via the commercially available Extech Humidity Meter. IDE capacitance of the fabricated sensor is measured using an LCR Meter. Finally, humidity, temperature, and capacitance data is sent to a computer for analysis.

Table S1. Comparison of thermal drift for each sensor at three different relative humidity values. Calculated from models.

Materials	ΔTemperature	30%RH Thermal Drift (fF/°C)	60%RH Thermal Drift (fF/°C)	90%RH Thermal Drift (fF/°C)
PET	25°C - 15°C	1.46	1.42	16.3
	40°C - 25°C	1.10	1.19	-5.49
	40°C - 15°C	2.57	2.56	10.8
PLA	25°C - 15°C	6.41	6.84	23.7
	40°C - 25°C	9.86	8.46	27.3
	40°C - 15°C	16.3	15.3	51.1
Paper	25°C - 15°C	-19.0	165	388
	40°C - 25°C	94.8	446	487
	40°C - 15°C	75.8	611	875
Starch	25°C - 15°C	2.89	-4.92	-9.21
	40°C - 25°C	2.84	-0.876	46.0
	40°C - 15°C	5.73	-5.801	36.8

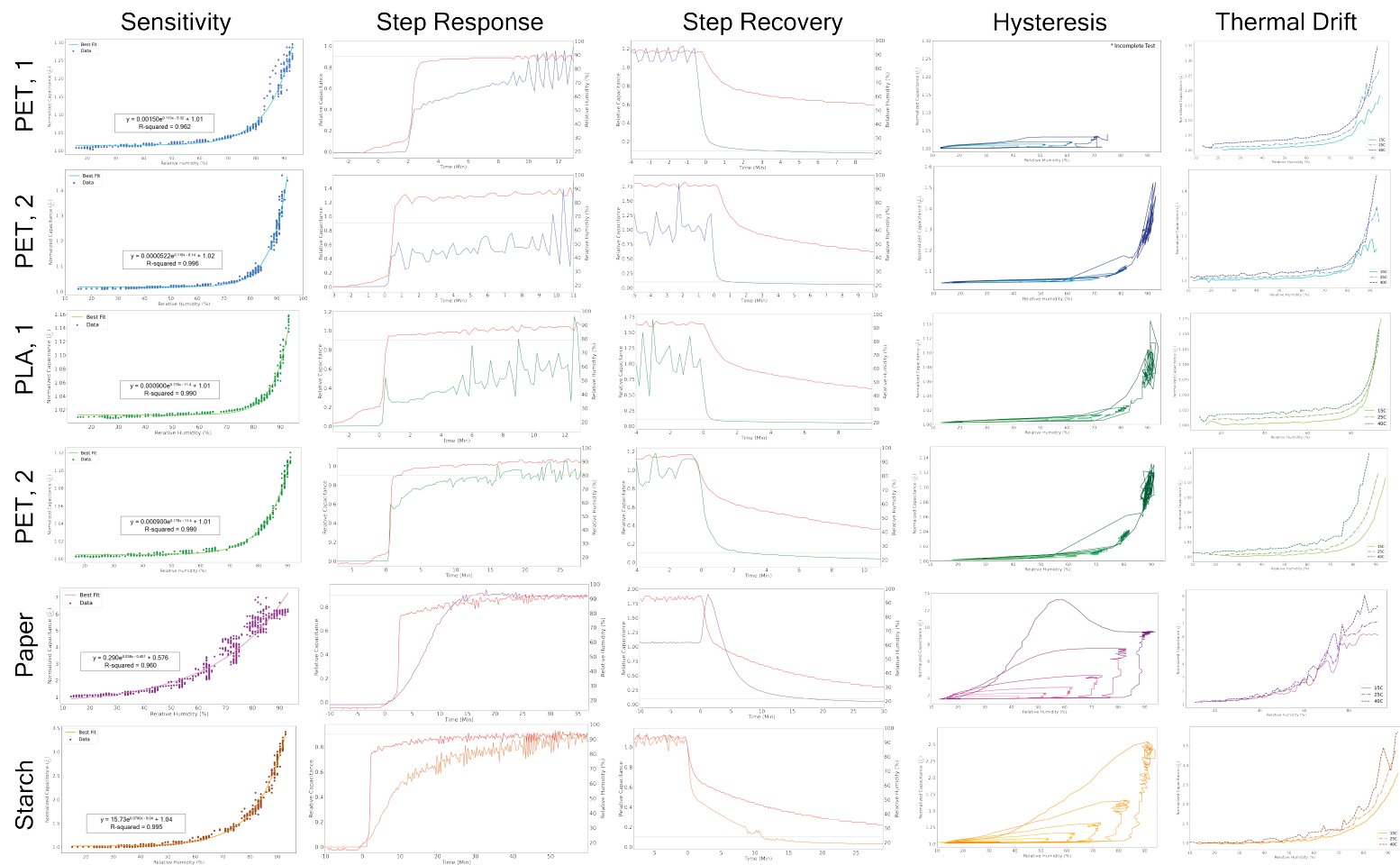


Figure S2. Additional device data. Each row shows data from a different device, and each column highlights a specific characteristic.