

## Supplementary Materials

### An antibiotic composite electrode for improving the sensitivity of electrochemically active biofilm biosensor

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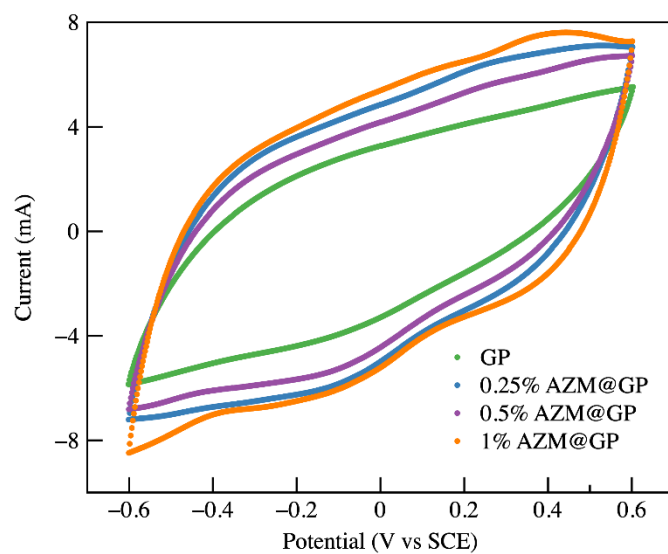
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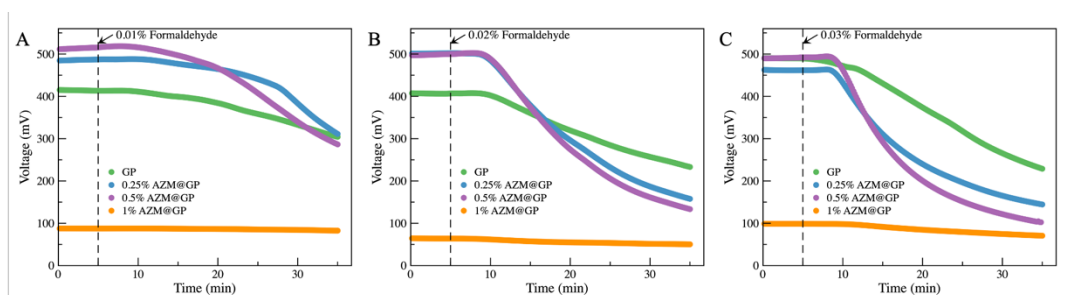
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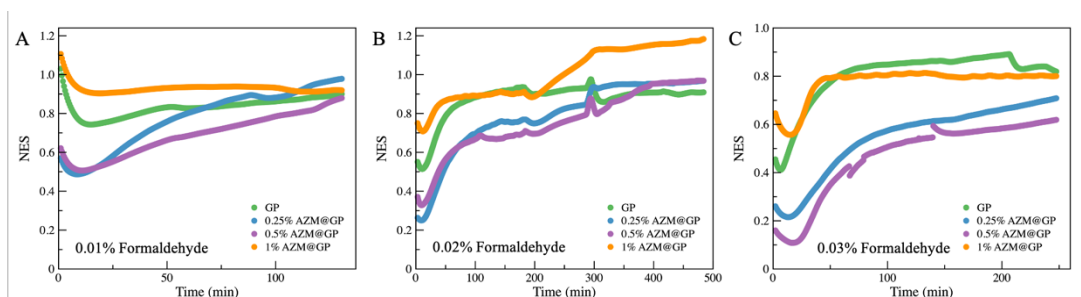
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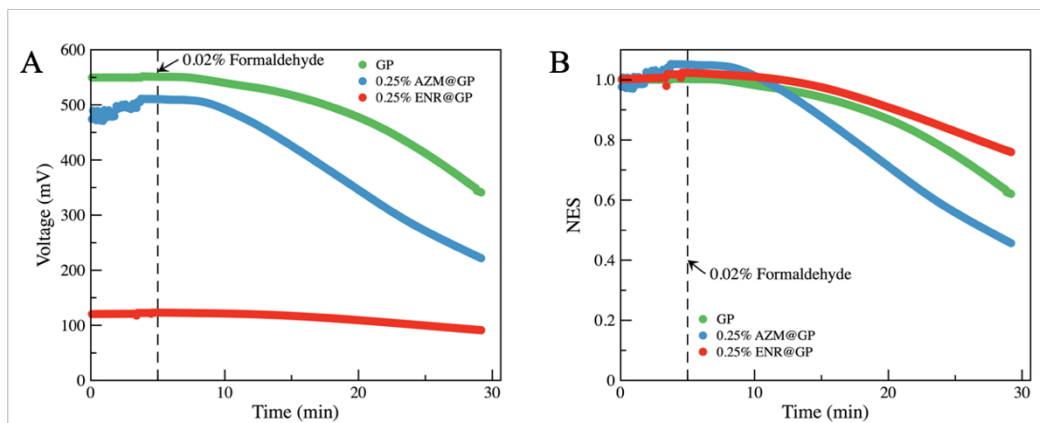
**Figure S1.** CV curves of GP and AZM@GP composite electrode after inoculation



**Figure S2.** Voltage changes under toxicity tests of formaldehyde with different concentrations.

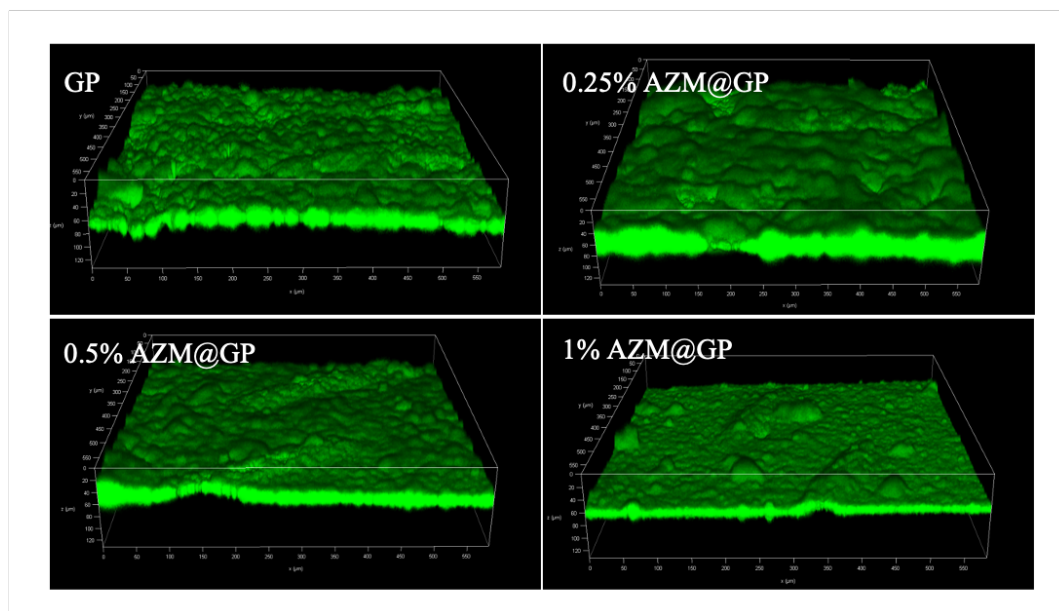


**Figure S3.** Voltage recovery of GP and AZM@GP composite electrode after formaldehyde toxicity tests



**Figure S4.** Voltage output and NES of GP, 0.25% AZM@GP and 0.25% ENR@GP under 0.02% formaldehyde

toxicity test



**Figure S5.** 3D structure of EABs under CLSM