Electrodeposition of a magnetic and redox-active chitosan film for capturing and sensing metabolic active bacteria.

Rapid and portable detection of viable pathogen is highly desired to minimize the risk of foodborne pathogen outbreaks. In this study, we demonstrate electrodeposition of a magnetic and redox-active chitosan film for capturing and sensing metabolic active bacteria. The functionalized film was synthesized through electrodeposition, followed by coating with the redox capacitor. Importantly, the fabrication demonstrated here is simple, controllable, and reagentless.