Electrochemical and Optical Multi-detection of Escherichia coli through Magneto-optic Nanoparticles: A Pencil-on-paper Biosensor

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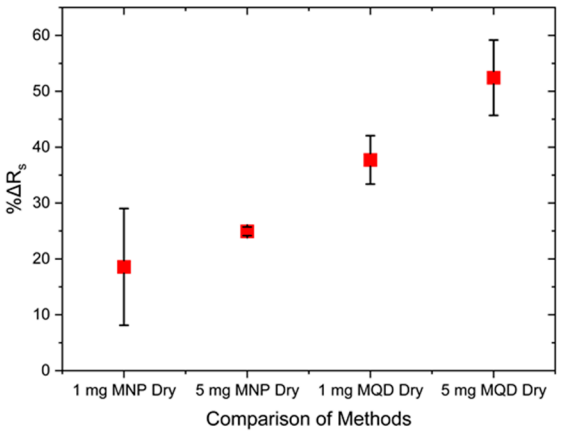


Figure S1. Comparison of the methods of detecting 10^7 CFU/mL *E.coli* bacteria with different amounts of MNP and MQD.

Experiments were started using 1 mg MNP in order to detect 10^7 CFU/mL *E. coli* bacteria, as seen in Figure S1. 18.57026 (±10.4499) $\%\Delta R_s$ change was obtained. In the later part of the experiment, 5 mg MNP was tested and 24.94076 (±0.76582) $\%\Delta R_s$ results were obtained. At this point, approximately 40% more change was achieved. Afterwards, 1 mg MQD was used. The change 37.72521 (±4.3315) $\%\Delta R_s$ was obtained. 1 mg MQD produced approximately 50% more change than 5 mg MNP. Afterwards, 5 mg MQD was used and the change 52.434 (±6.7400) $\%\Delta R_s$ was obtained. In this case, similar to the literature review, approximately 40% more change was obtained compared to 1 mg MQD and approximately 110% more change than 5 mg MNP [1,2]. With this method comparison, it was decided to use 5 mg MQD in the experiments.

REFERENCES

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