

Peer Review File

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Reviewer Comments

The paper was reviewed and overall the quality is good with the observations made seeming sound. The technique proposed is of interest but the laboratory or clinical usefulness is questionable where, for example, in urine there may be multiple pathogens or human cells also undergoing respiration.

Thank you for this valuable comment. We at this stage focus on the detection of the total amount of the bacteria in fluid (e.g., body fluid, water and others). We will focus on the detection of the specific pathogen at the next phase of this project.

There are additionally some observations made that require additional thought- how useful is it to have a 2log scale observable change in a fluid?

Thank you for this comment although we do not quite understand this comment. We have attempted to have a 2log scale, and the R value was not that good for this case.

Greater fidelity might render this tool more clinically relevant. The authors claim that this technique could be useful for UTI where inexpensive test strips already predominate the market. The test could be of use in BSI except for the human cell component, it is not clear if this has been accounted for.

Thank you for this idea. We are not quite sure that the human cell component would influence the function of our test strip or not. We will take this idea into account at the next phase of this project.

The whole manuscript would benefit from proof-reading by a native English speaker.

Thank you. We have significantly revised our manuscript.

Line 33 - "low grade medical facilities" is not an acceptable term.

Thank you for this comment. We have revised it as highlighted in yellow (Page 1, Line 33).

Line 36 - requires a reference

Thank you for this comment. We have added a reference as highlighted in yellow on Page 1.

Line 40 - "cultivation processes" - do the authors mean bacterial growth conditions?

Thank you for this comment. We have revised it as highlighted in yellow (Page 2, Line 37).

Lines 43 & 44 - "Although these methods have accelerated the time required for detection"; reduced the time required for detection

Thank you for this comment. We have revised it as highlighted in yellow (Page 2, Line 42).

Line 55 - " substance infection" - it is not clear what this means

Thank you for this comment. We have revised it as highlighted in yellow (Page 2, Line 53).

Line 63 - BacteriaL detection

Thank you for this comment. We have revised it as highlighted in yellow (Page 2, Line 62).

Line 78 - E. coli full name in italics

Thank you for this comment. We have revised it as highlighted in yellow (Page 2, Line 78).

Line 94 - the word "cannot" seems out of place

Thank you for this comment. We have revised it on Page 3.

Line 109 - RBP should be RGB

Thank you for this comment. We have revised it as highlighted in yellow (Page 3, Line 109).

Lines 113 - 120 It is not clear to this reviewer how these formulae affect the environmental conditions.

Thank you for this comment. We have revised it as highlighted in yellow (Page 3, Line 114-116).

Line 125 - As above

Thank you for this comment. We have revised it as highlighted in yellow (Page 4, Line 121-123).

Lines 148 - 153- this is future work or conclusions text, not results/data.

Thank you for this comment. We have significantly revised this section of our revised manuscript.