Electronic Supplementary Material (ESI) for Analyst.


# DNA Compaction Enhances Sensitivity of Fluorescence-Based Nucleic Acid Assays: Game changer in Point of Care Sensors?

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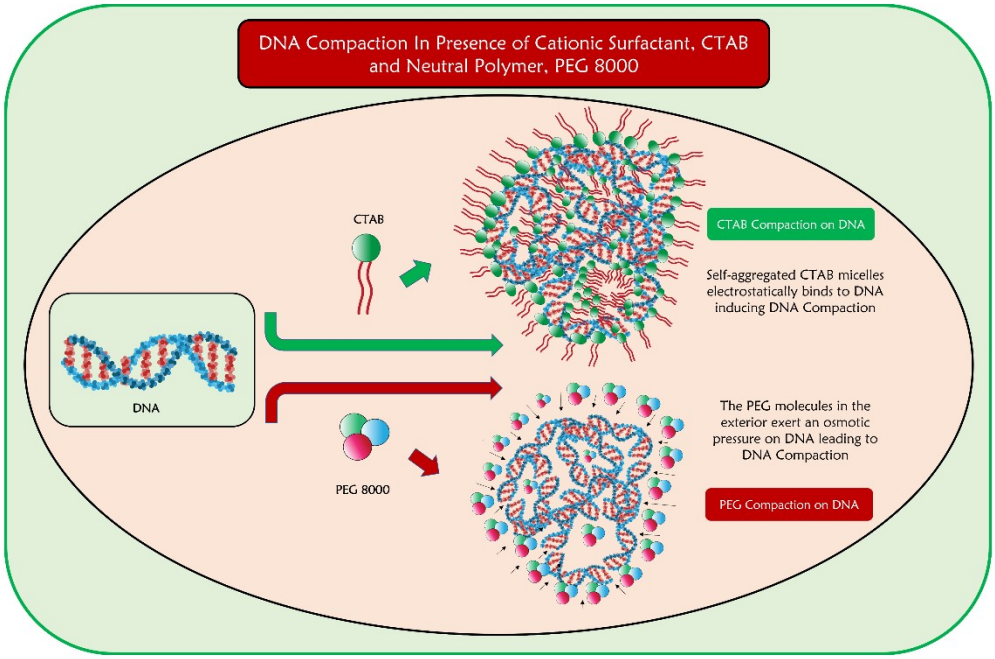
## Supplementary Material




**Supplementary figure 1:** Schematic illustration showing the mechanism of compaction by the cationic surfactant, CTAB and neutral polymer, PEG 8000.

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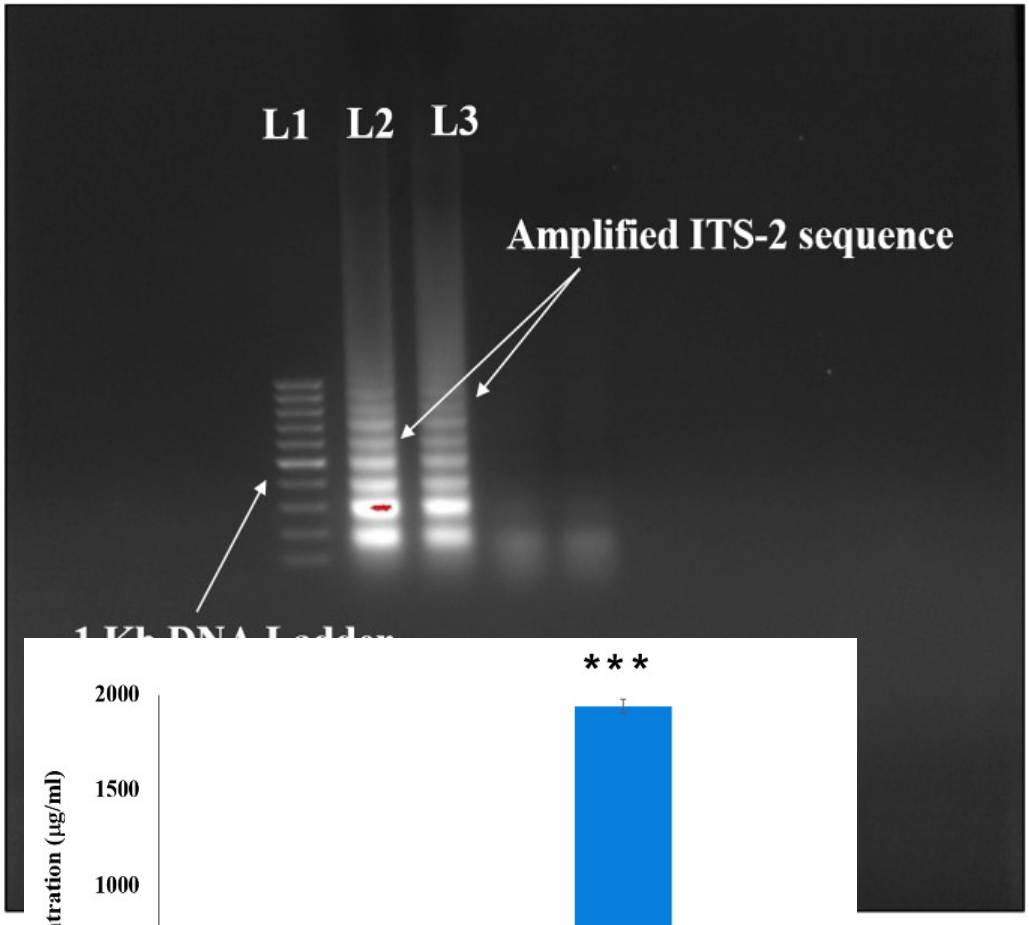
**Supplementary figure 2:** Fluorescence intensity of CTAB (200 µM), CTAB (200 µM) +SYTO ıe amplicc



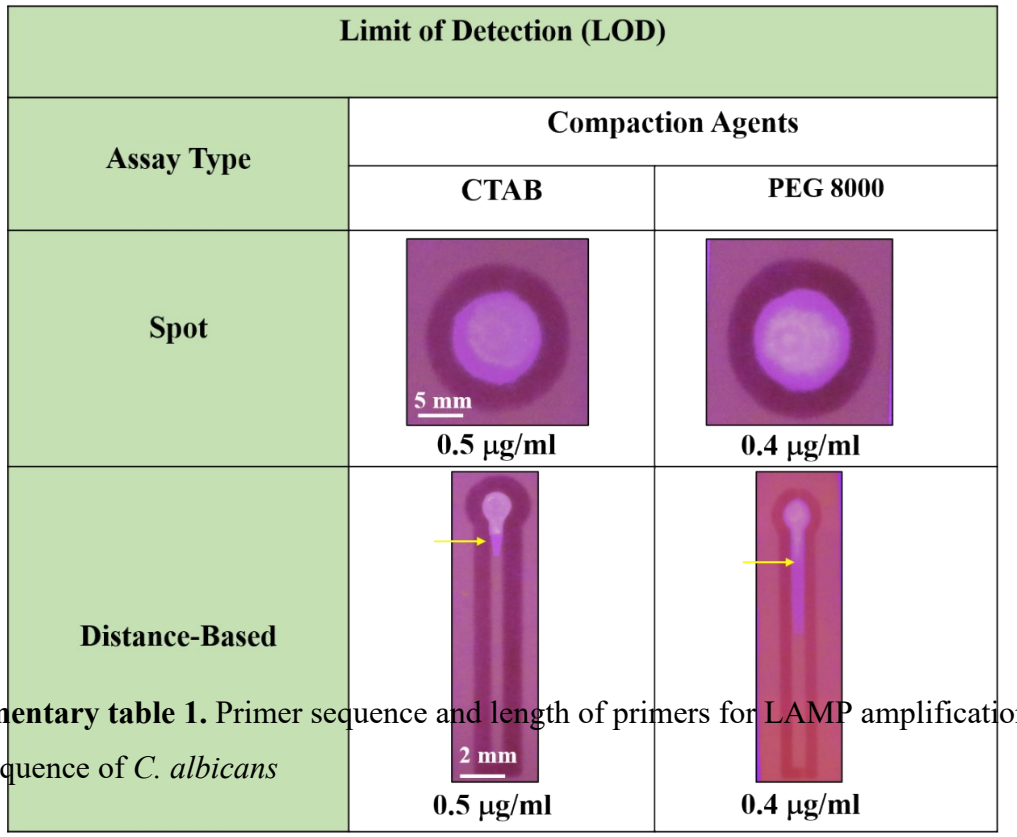

**Supp** f ITS-2 seque




**Supplen** l transcribed spacer-2 (ITS-2 resent the amplified ITS-2 se adder).

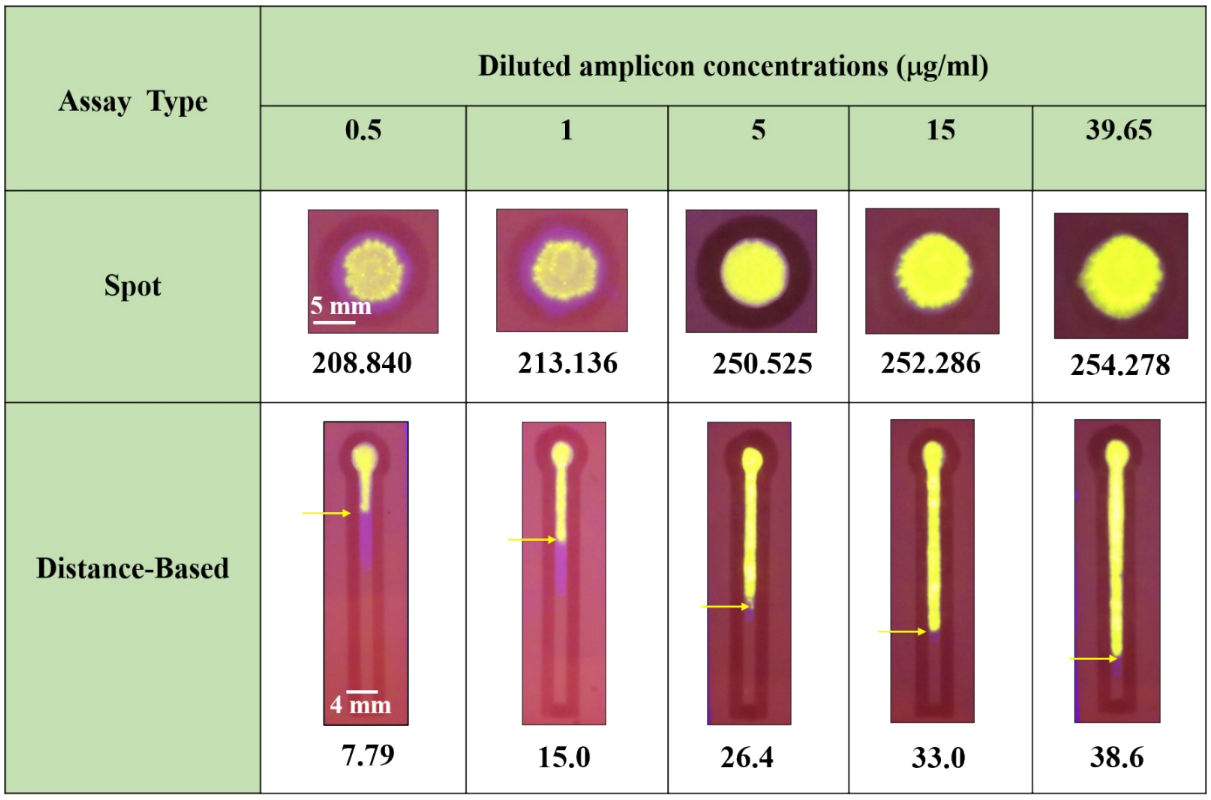
*** denotes p< 0.001 for comparison between Extracted and Amplified

**Supplementary figure 4:** Concentration of extracted DNA and amplified ITS-2 sequence of *Candida albicans*.




**Supplementary table 1.** Primer sequence and length of primers for LAMP amplification of ITS-2 sequence of *C. albicans*

**Supplementary figure 5:** The Limit of Detection (LOD) of paper-based spot and distance-based assays.




**Supplementary figure 6:** The combinatorial effect of CTAB and PEG 8000 on fluorescence sensitivity and migration distance [(values in the spot assay correspond to the G Channel intensity and values in the distance-based assay represent the sample migration distance (mm)

| Primers | Sequence | Length (bp) |
|---|---|---|
| FIP | CTACCGTCTTTCAAGCAAACCCATGAGCGTCGTTTCTCCCT | 41 |
| BIP | TTGACAATGGCTTAGGTCTAACCAAAAGATATACGTGGTGGACGTTAC | 48 |
| LB | CTCAACACCAAACCCAGCGG | 20 |
| F3 | TCTGGTATTCCGGAGGGC | 18 |
| B3 | AGTCCTACCTGATTTGAGGT | 20 |

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