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Duplex recombinase polymerase amplification assays incorporating competitive internal controls for bacterial meningitis detection

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ACCEPTED MANUSCRIPT

- 1 Duplex recombinase polymerase amplification assays incorporating competitive internal
- 2 controls for bacterial meningitis detection.
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- 4 Nicola O'Sullivan^d, Claire McGuinness^d, Deirdre Cafferty^d, Robert Cunney^d and Terry J. Smith^a
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 Engineering Science, National University of Ireland, Galway, University Road, Galway, Ireland; Tel: +353 91
- 13 493131; E-mail: owen.higgins@nuigalway.ie.
- 14 **Running Title:** Duplex RPA bacterial meningitis pathogen detection.
- **Subject Category:** Enzymatic assays and analysis
- Nonstandard abbreviations: CSF, cerebrospinal fluid; PCR, polymerase chain reaction; POC, point-of-care;
 LAMP, loop-mediated isothermal amplification; HDA, helicase dependant amplification; RPA, recombinase
 polymerase amplification; DNA, deoxyribonucleic acid; THF, tetrahydrofuran; IAC, internal amplification
 control; BHI, brain heart infusion; BR/HS, broad range/high sensitivity; HPLC, high performance liquid
 chromatography; PFRB, primer-free resuspension buffer; LOD, limit of detection; NTC, no template control;
 PIRB, primer-in resuspension buffer; RFU, relative fluorescence units.
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