

**Georgina Boamah<sup>1</sup>, Millicent Opoku<sup>1</sup>, Margaret Sena Akpo<sup>1</sup>, Dina Adu-Asamoah<sup>1</sup>, Elizabeth Obeng-Aboagye<sup>1</sup>, Rahmat Bint Yusif<sup>1</sup>, Kofi Bonney<sup>2</sup>, Augustina Sylverken<sup>3</sup>, Michael D. Wilson<sup>1</sup>, Jinzhao Song<sup>4</sup> and Jewelna Akorli<sup>1</sup>**

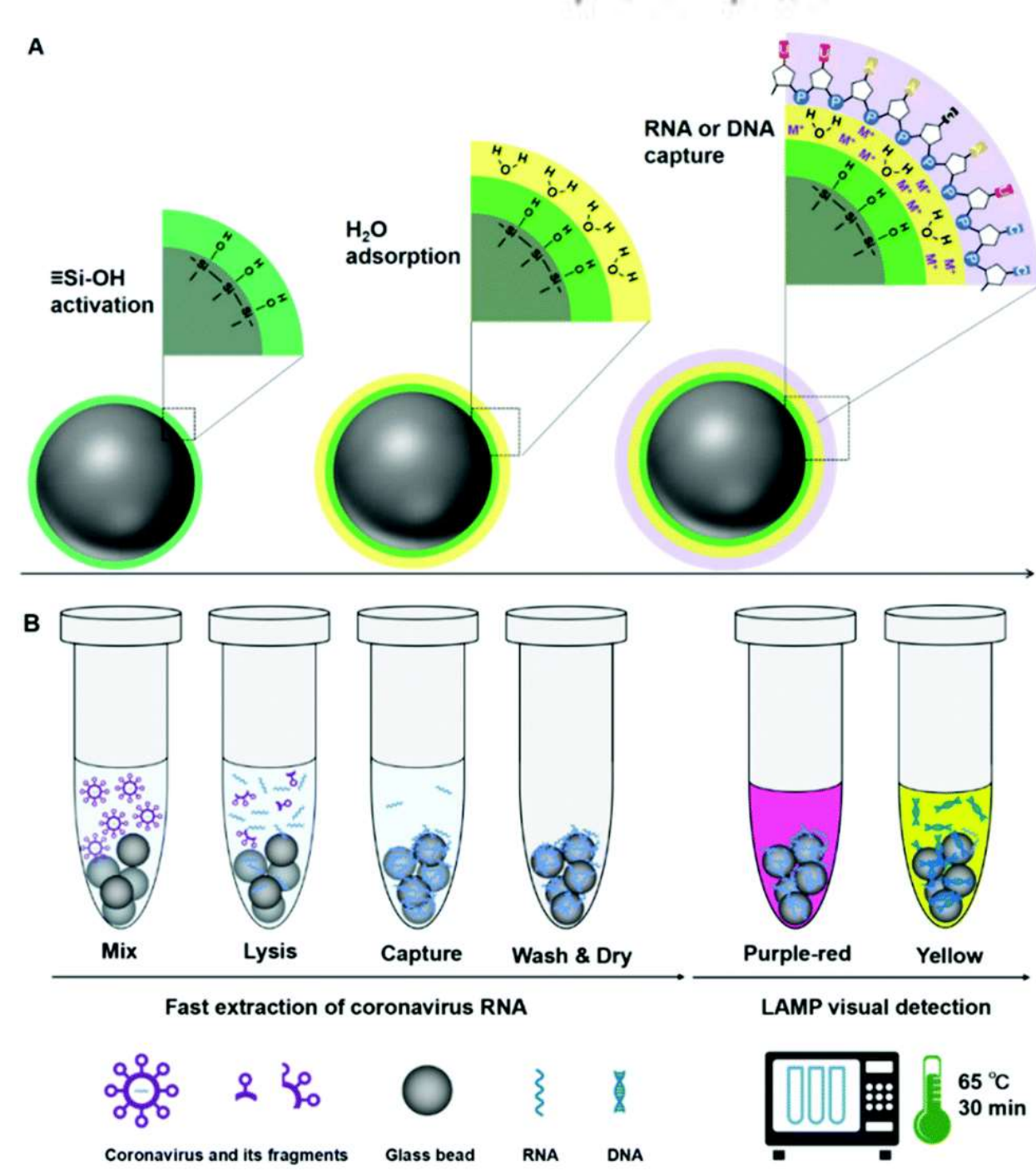
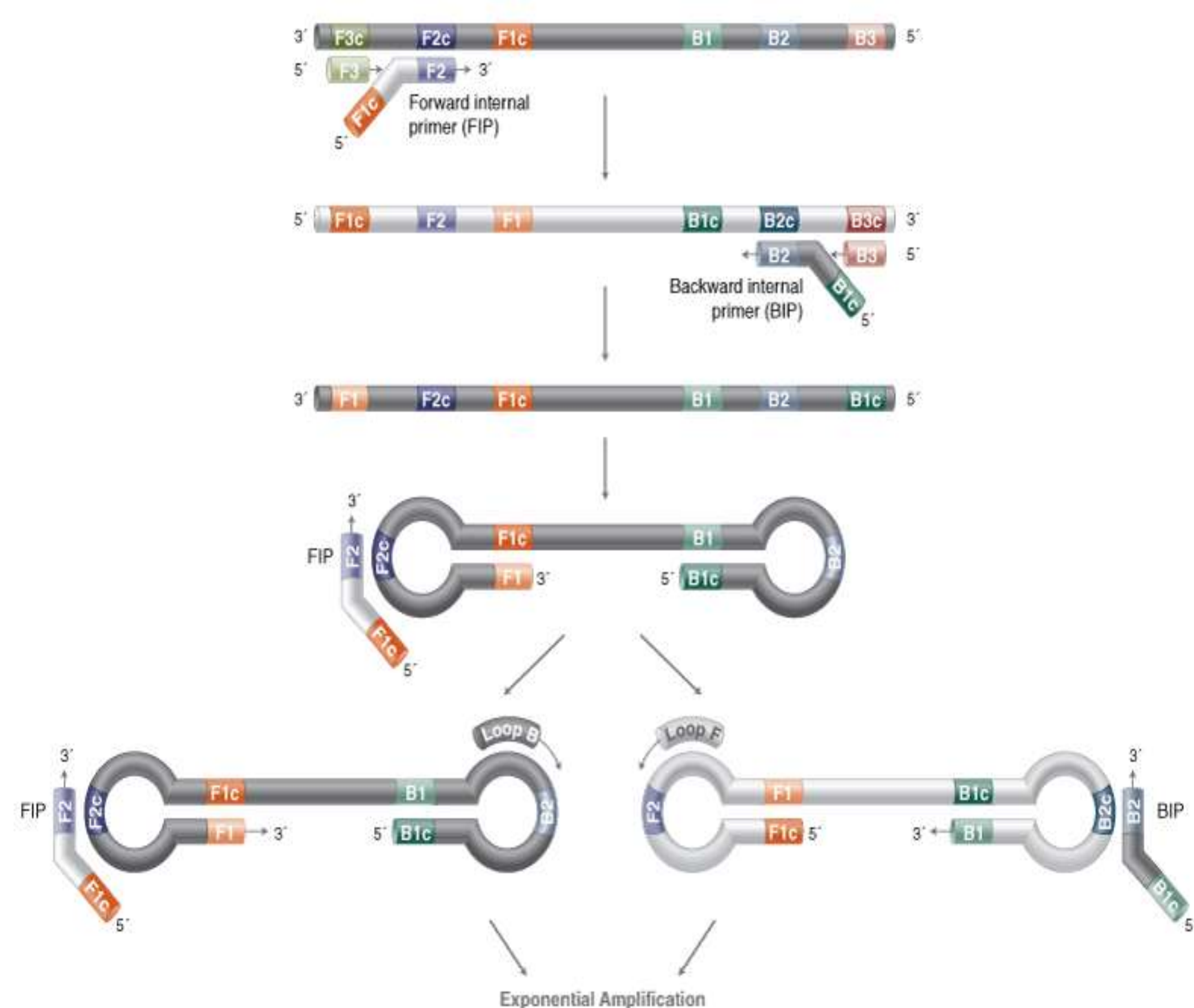
1. Department of Parasitology, Noguchi Memorial Institute for Medical Research, University of Ghana. 2. Department of Virology, Noguchi Memorial Institute for Medical Research, University of Ghana. 3. Kumasi Centre for Collaborative Research, Ghana. 4. Department of Mechanical Engineering and Applied Mechanics, University of Pennsylvania, USA.

## INTRODUCTION

1. The gold-standard RT-qPCR based diagnostics, although sensitive, is costly and unavailable to many under-resourced healthcare facilities
2. Sample processing for large numbers of samples requires expensive mini kits
3. This results in the inability of such populations to diagnose and manage the disease.

### LAMP

- Constant Temperature
- Exponential Amplification
- Enzyme with high displacement activity



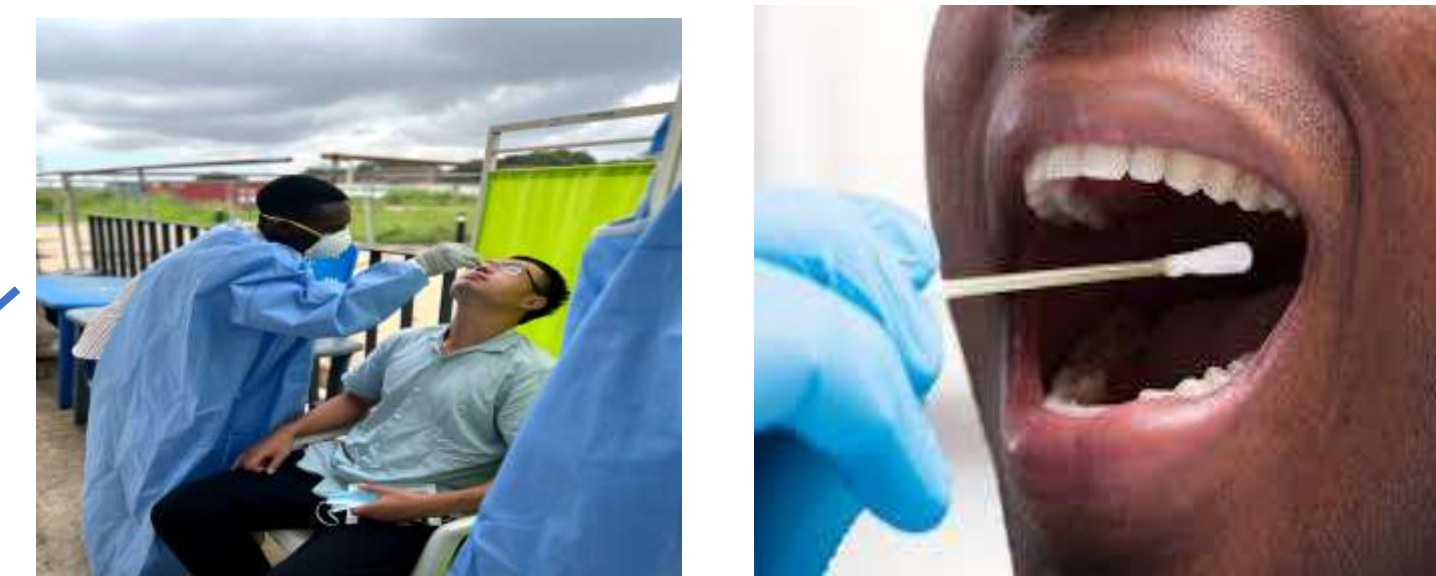
Principle of operation of LAMP bead reaction for SARS CoV 2 detection

## AIM

Evaluate and validate cheap sample processing methods and Lamp Assays for diagnosis of Covid -19

## METHODS

Naso/oropharyngeal swab collection



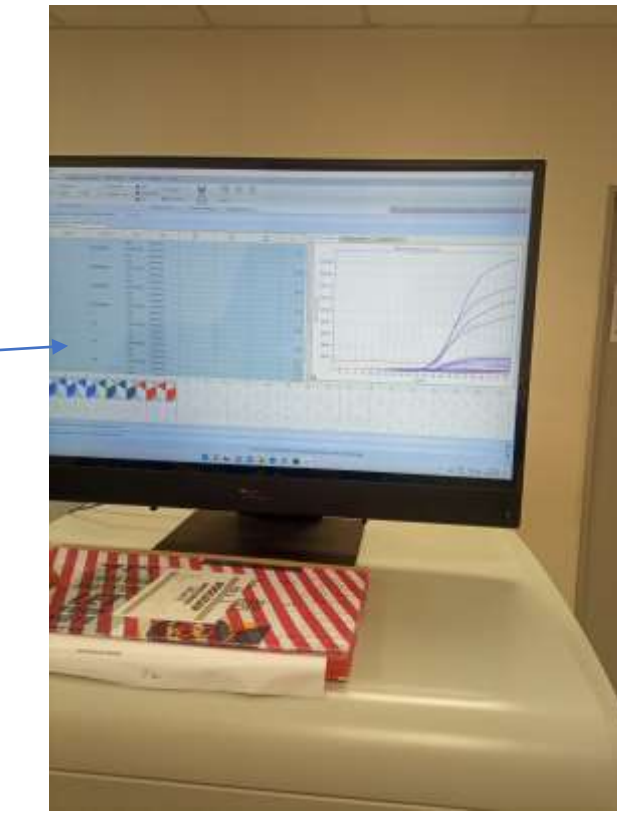
0.9% Saline



Nuclease free water

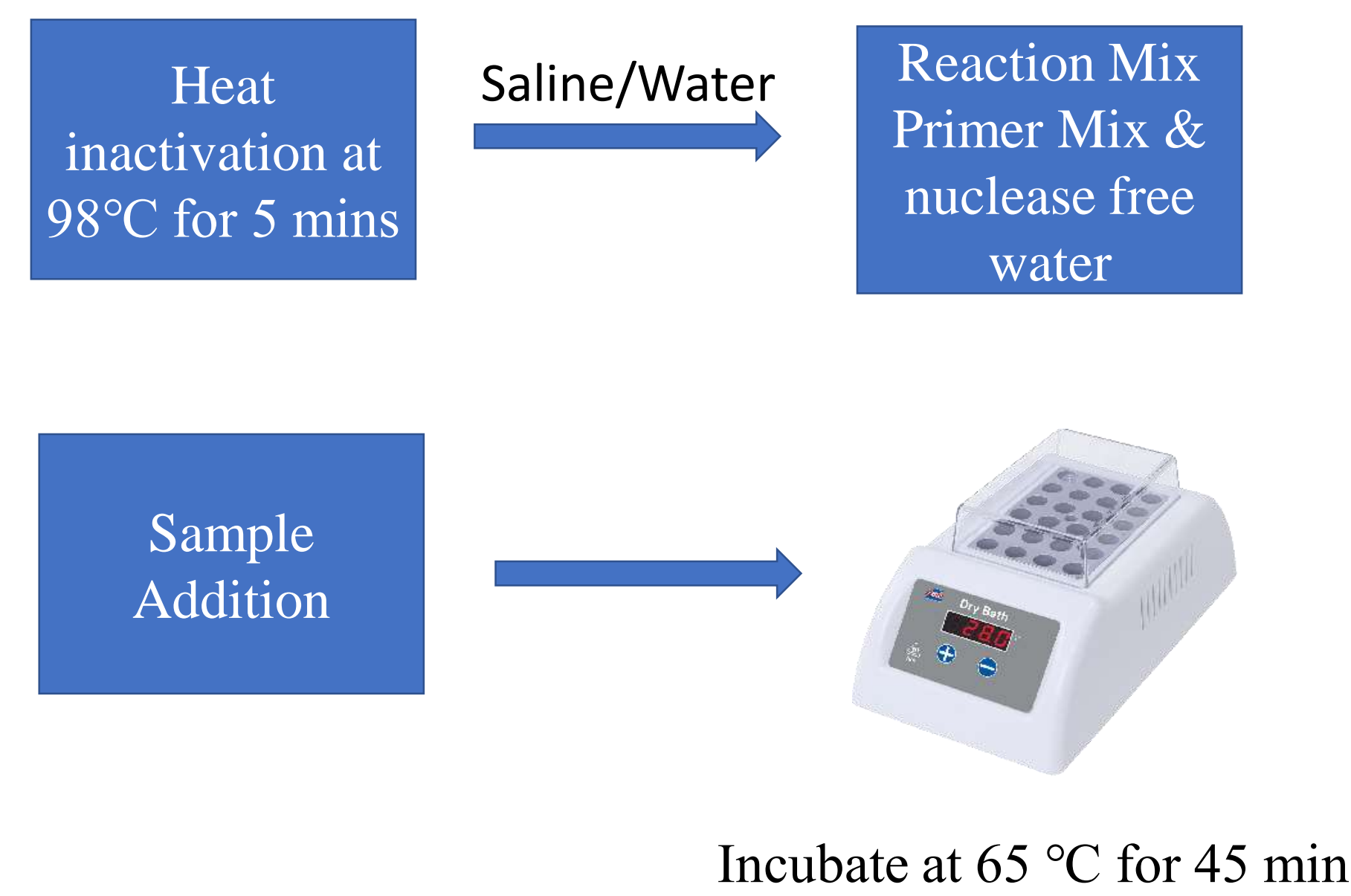


Viral RNA Isolation



RtPCR

2.. LAMP detection of SARS-CoV 2



## CAPACITY BUILDING



Participants of the Annual Third Country JICA Training Course from 10 African countries were trained on the detection of SARS-CoV-2 using LAMP assay

- High acceptability among trainees
- Application in other infectious diseases

## RESULTS

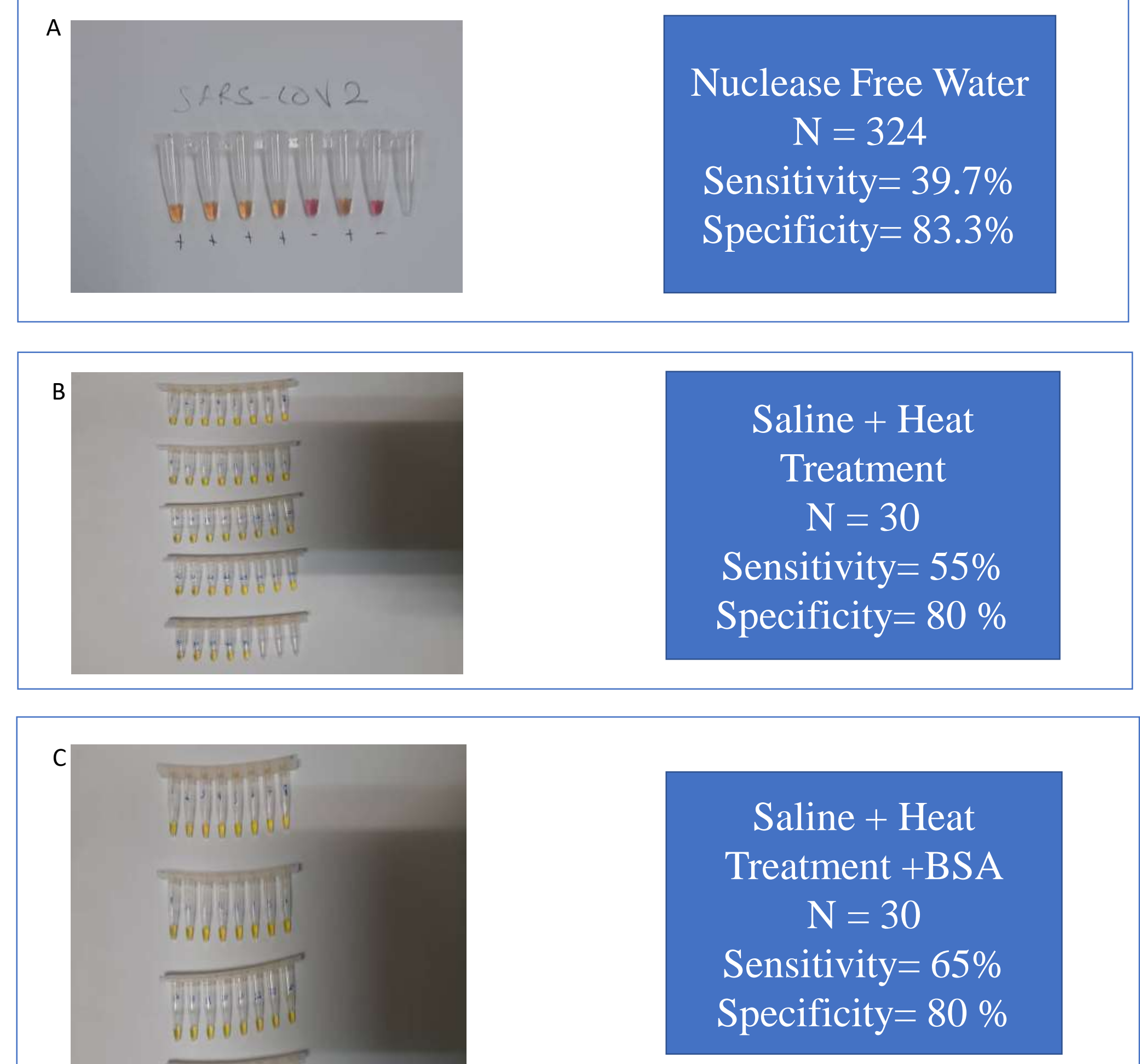


Figure 1: Showing the results of the different sample collection solvents and treatments (A) Samples for collected in nuclease free water (B) Swab in saline-heat treated (C) Swab in saline-heat treated with BSA addition.

## CONCLUSION

1. Water did not affect the reagents as the desired color changes were seen in the controls
2. Saline as a collection media may be impacting the colors as seen after incubation

## RECOMMENDATION

Improvements to this assay will explore other cheap viral isolation techniques, quantification of color intensity and generation of color chart for standardization.

## REFERENCES

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- Thompson, D. et al. (2020). Mini review: Recent progress in RT-LAMP enabled COVID-19 detection. Sensors and Actuators Reports, 2(1), 100017
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