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## LessTests

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### XPRIZE Rapid Covid Testing

 doreen

#### ABSTRACT

LessTests SARS-CoV2 general diagnosis protocol, using LessTests software solution. The LessTests method is agnostic to the labware, and has already been demonstrated as successful using multiple device and kit combinations.

#### DOI

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### 1 Sample collection



Standard sample collection and transport using swabs

## 2 Limit of detection



Determine maximal number of samples-per-pool. The results apply to the specific diagnostic setup tested, so needs to be done with the same equipment and kits used for later stages.

2.1 Serial dilutions of samples with known Ct values.

2.2 Nucleotide extraction

2.3 rRT-qPCR

## 3 LessTests Encoder



Determines which samples are mixed into each pool.

Optimizes pool number and other parameters to achieve best efficiency improvement.

## 4 Pooling using LessTests Method



Automated liquid handling workbench

Pooling script provided by LessTests

## 5 Nucleotide extraction



RNA extraction kit

Nucleotide extraction system

## 6 Pool rRT-qPCR



rRT-PCR master mix

qPCR reaction plates

SARS-CoV2 E, N, RdRP primers

SARS-CoV2 E, N, RdRP probes

Real time PCR system with software

## 7 LessTests decoder



Deciphers which sample are positive based on which pools were positive.

## 8 Inconclusive sample rRT-qPCR



When multiple samples can account for a positive results, they are flagged for an additional separate rRT-qPCR