

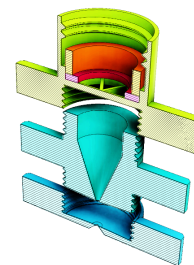
Sep 12, 2020

Version 4

covid 19 indirect detection thru rise of 100nm filter fluid resistance V.4

DOI

<https://dx.doi.org/10.17504/protocols.io.bmazk2f6>



Ladislav Nevery

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Ladislav Nevery

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Protocol status: In development

We are still developing and optimizing this protocol

Created: September 12, 2020

Last Modified: September 12, 2020

Protocol Integer ID: 42041

Keywords: slower than clean filter, clogged filter, passing saliva sample, sized covid 19 virus particle, saliva of infected person, saliva sample, clean filter, high virus density, filter air, virus particle, fluid resistance, raising filter air, saliva, particles larger than avg, infected person, resulting fluid, virus

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Abstract

By passing saliva sample thru 150nm filter to remove particles larger than avg 125nm sized covid 19 virus particles and concentrating resulting fluid to very small 1 mm² area of 110nm filter. Pores in this small area should be clogged up fast raising filter air/fluid resistance. Due to high virus density 5.2 log₁₀ ml saliva of infected person should clog filter much faster than healthy person. Test is setup in such way that we let gravity pass 2l of fluid thru clogged filter and record rate of drops from its bottom as audio on mobile phone placed bellow glass cup. rate of drops thru clogged filter should be measurably slower than clean filter.

Attachments



DropRateV2.zip

4.4MB

Materials

MATERIALS

 pragopor 9

 pragopor 10

 120nm nanoparticles

 25mm x2 rubber gasket

STEP MATERIALS

 3d print filament 8m

 pragopor 10 **pragochema**

 2l soda bottle

 glass cup

 mobile phone

 120nm nanoparticles

 pragopor 9

 25mm x2 rubber gasket

Protocol materials

 pragopor 9

 pragopor 10 **pragochema**

 glass cup

 mobile phone

 120nm nanoparticles

 pragopor 9

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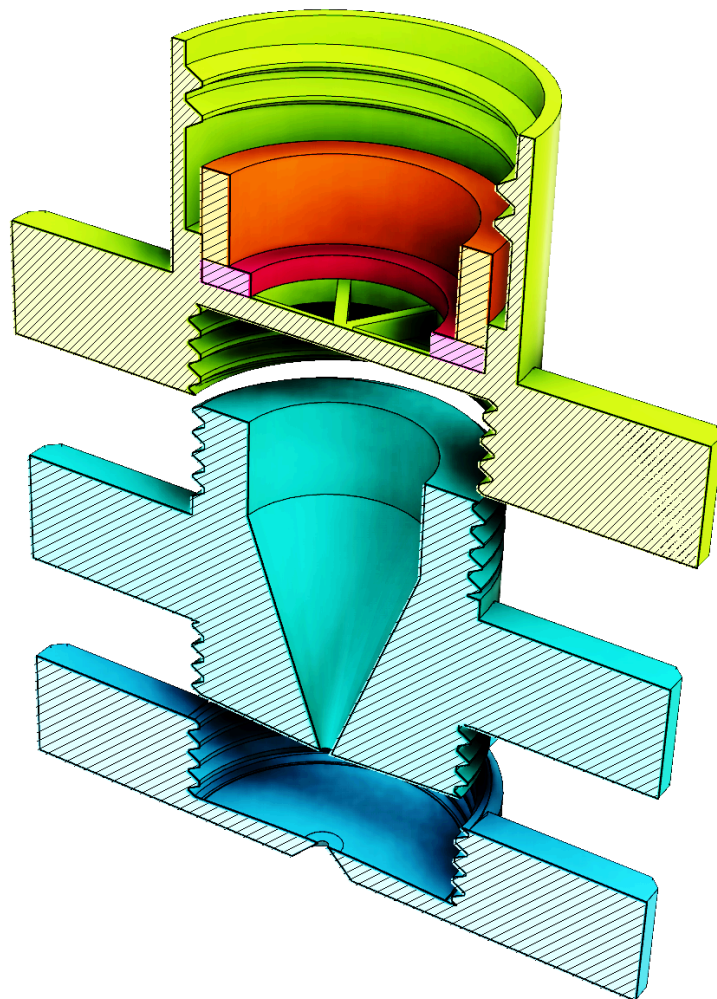
 25mm x2 rubber gasket

 3d print filament 8m

 2l soda bottle

 120nm nanoparticles

1 3d print all required parts



3d print filament 8m

2 place 25mm ideally 110nm pc or nylon membrane filter between blue parts. I used what I had

pragopor 10 pragochema

0.24eur piece



- 3 place 25mm ideally 150nm membrane filter in green saliva holder bellow red rubber gasket. I used what I had
 -  pragopor 9
 -  25mm x2 rubber gasket
 -  0.24eur piece
- 4 .attach empty 2L soda bottle and squeeze until all saliva passes thru both filters
 -  2l soda bottle
- 5 remove green part remove red parts and filter. clean green part
- 6 fill and reinstall bottle with 2l of clean fluid
- 7 place whole assembly with bottle on top over any glass cup capable of holding blue part
 -  glass cup. place mobile phone bellow glass cup and start audio recording to count and record sounds of drops.
 -  mobile phone
- 8 stop audio recording. fill sample holder in step 4 with
 -  120nm nanoparticlesfluid containin 120nm test nanoparticles in concentration resembling covid19 as 5.2log10ml and repeat whole process once more with new filters and clean parts
 -  go to step #2
- 9 compare distance between drop sounds in all recordings.

Expected result

drop frequency with 120nm nanoparticle clogged filter should be measurably different

