



Inert atmosphere microscope slide and cover slide irradiation chambers



bart

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Summary

These two things are optical irradiation chambers which can be kept under nitrogen/argon atmosphere. The sample...

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[irradiationchamber](#) [nitrogen](#) [optical](#) [optics](#) [photochemistry](#)
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This was migrated from my Thingiverse profile and is from 2015.

These two things are optical irradiation chambers which can be kept under nitrogen/argon atmosphere. The sample droplet goes onto a standard-size microscope slide (76x26 mm, the large thing) or a cover slide (22x26 mm, the smaller thing) which is placed into the bottom frame. The top is placed over this and fixed in place with elastic band. The top is closed off with the appropriate Suba-seal and inert gas can be fed in via needle. The bottom is not gas-tight: this allows gas to seep out along the edges and therefore

keep the inside of the chamber under a slow flow of inert gas. The sample is irradiated from below.

This was used extensively for infrared photopolymerisation research work (although the action-photo with the intense green light is obviously not using an infrared source: green looks much more impressive).

I have no photo of the large chamber (for microscope slides) but it works the same.

The large chamber needs to be printed with support.

Print Settings

Printer Brand:

RepRap

Printer:

Ormerod 2

Rafts:

No

Supports:

Yes

Notes:

Large chamber needs to be printed with support. The small one comes out well enough without.

How I Designed This

Designed in OpenSCAD, sliced with Slic3r.

Model files



cover_slide_holder_v2.scad



large_slide_holder.stl



cover_slide_holder_v2.stl



large_slide_holder.scad

[Find source .stl files on Thingiverse.com](#)

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