Protocols Overview

P1 – Shopping and Machining list

This document lists each essential component with the supplier, the product name, the model (or item reference) and its approximate price in Euro. 2D Drawings and 3D models of most components are available on Github (https://github.com/kavli-ntnu/MINI2P_toolbox/tree/main/Hardware).

P2 – System building protocol

This protocol includes all steps to assemble a MINI2P system. Each Protocol starts with a short-list of main reagents and tools needed, followed by an overview schematic of the module, and a table with the main products.

HC-920 assembly and laser coupling video tutorial can be found on the link: https://www.youtube.com/watch?v=vo_EgYPYI24&list=PLonWNO9SywvJXpIgQEp6jQMSh_jrn_jPU&index=3&t=4s.

P3 – Miniscope assembly protocol

How to assemble a MINI2P microscope is described in this protocol. Assembly tutorial video can be found on the link: https://www.youtube.com/playlist?list=PLonWNO9SywvJXpIgQEp6jQMSh_jrn_jPU.

GFB assembly protocol

This protocol describes the steps to assemble the GRIN-end fiber bundle (GFB), which replaces the tapered fiber bundle (TFB) as the main fiber collecting and relaying the emission signal to the detection module.

MEMS wires and mirror protocol

This protocol includes the main steps for MEMS wires assembly and soldering of the MEMS mirror flex cable. Soldering MEMS flexcable can be found on the link: https://www.youtube.com/watch?v=ghV1DY1aKAA&list=PLonWNO9SywvJXpIgQEp6jQMSh_jrn_jPU&index=1

The **MINI2P video tutorial package** can be found on the link: https://www.youtube.com/playlist?list=PLonWNO9SywvJXpIgQEp6jQMSh_jrn_jPU

Besides the video-tutorials above, it also includes:

- ScanImage tutorial: https://www.youtube.com/watch?v=uUZ1o5XFiwU&list=PLonWNO9SywvJXpIgQEp6jQMSh_jrn_jPU&index=2&t=714s

- SI device for distortion, detection, and correction: https://www.youtube.com/watch?v=4hNTMCyMdrM&list=PLonWNO9SywvJXpIgQEp6jQMSh_jrn_jPU&index=5&t=59s