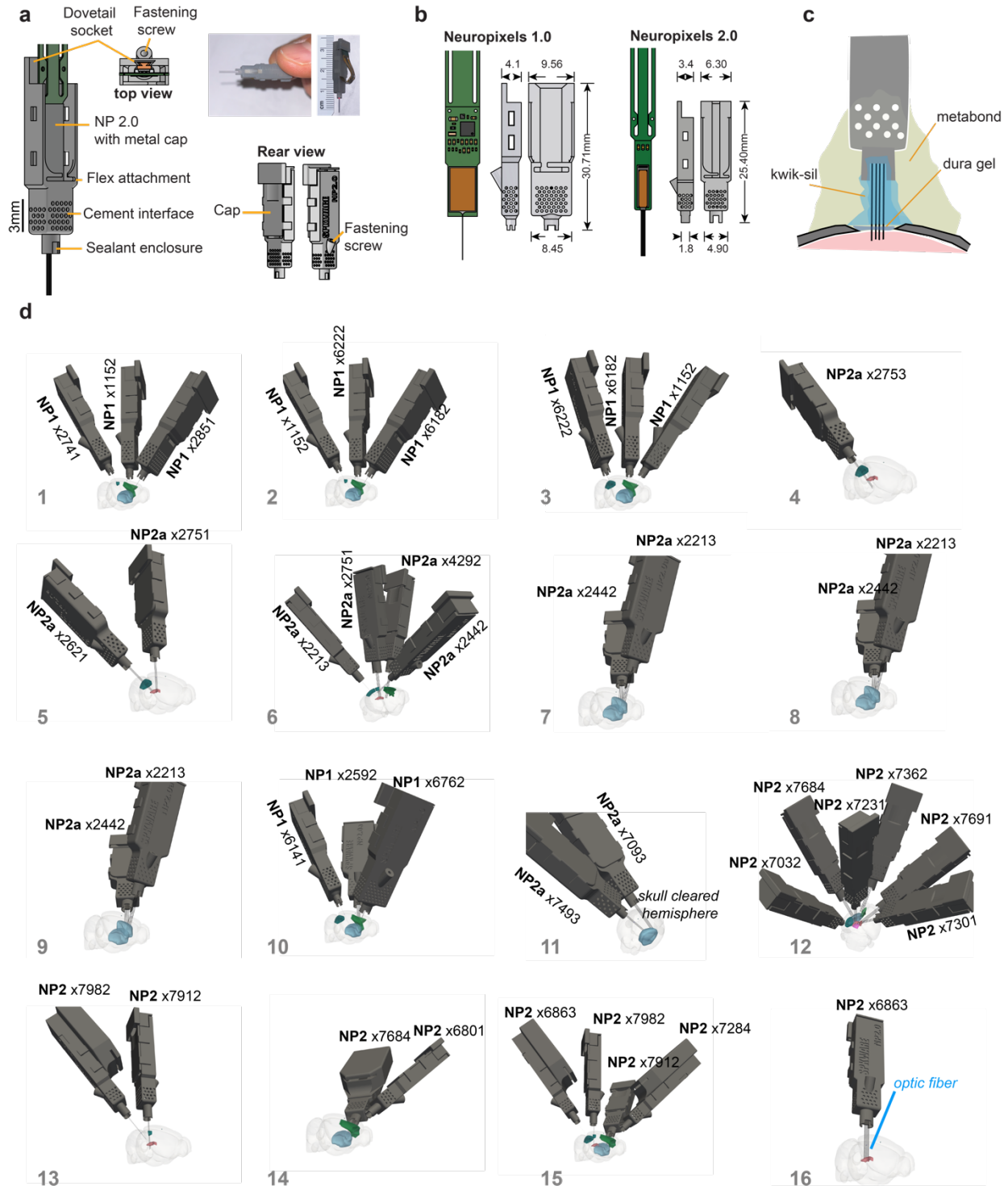


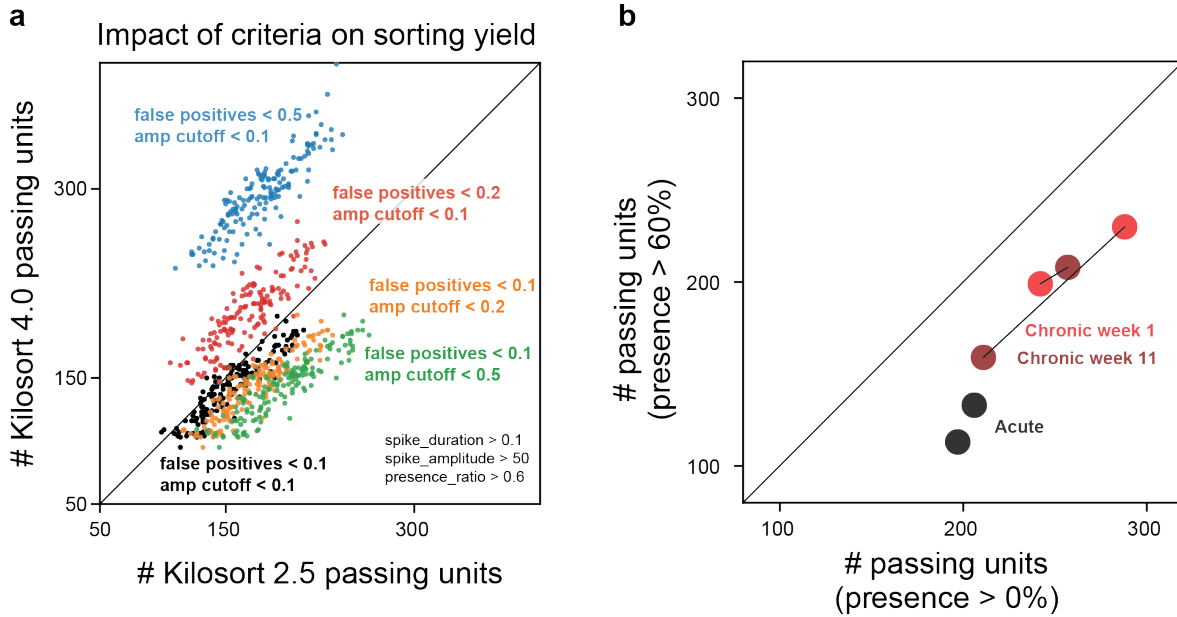
718 **Supplementary Figures**



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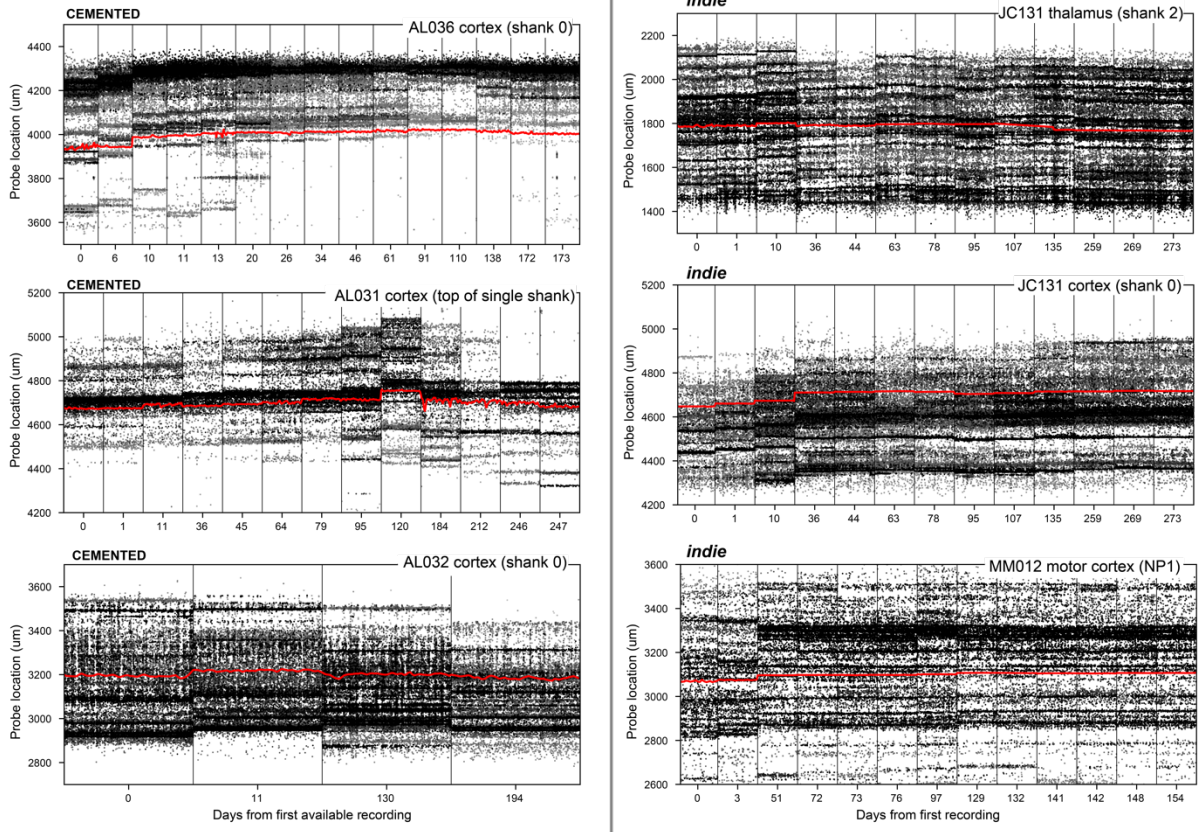
720 **Supplementary Figure 1. Schematics, surgery strategy and implants for all mice.** a) Drawing of the probe fixture
 721 and assembly. b) Neuropixels 1.0 and 2.0 designs with dimensions. c) Surgical procedure schematic. d) Recording
 722 configurations for each mouse included in this study. The regions targeted for each experiment are also shown.

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725 **Supplementary Figure 2. Impact of single unit criteria on sorting output depends on the kilosort version.** To
726 choose which kilosort version to use and single unit criteria to adopt, we plotted the number of passing units for
727 kilosort 2.5 and kilosort 4.0.4. for all sessions in Figure 1d. Each color is the number of passing units with different
728 criteria. We use only black (false positives < 0.1; amplitude cutoff < 0.1; spike duration > 0.1ms; spike amplitude >
729 50 μ V and presence ratio > 60%). Kilosort 4 output is insensitive to increases in amplitude cut off as reflected in the
730 lateral shift from black, to orange, to green. This suggests that Kilosort 4 assigns more spikes to each unit.
731 Interestingly, when we relax the criteria for false positives the number of Kilosort 2.5 units barely changes whereas
732 the number of passing Kilosort 4 units increases, as seen in the upwards shift from black, to red, to blue. In this
733 manuscript we used the most stringent criteria with Kilosort 4 output since it misses fewer spikes from each unit but
734 these criteria capture slightly fewer units as Kilosort 2.5. b) IBL acute sessions have more units dropped than chronic
735 sessions. This could be due to instability or relaxation of brain tissue around the shank during the recording session.



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Supplementary Figure 3. Motion of the brain in relation to the shanks is comparable to that of cemented probes. Red traces are quantified motion of the brain in relation to the shank over sessions. Left: recordings from cemented probes (Steinmetz et al 2021). Right: recordings with our fixture. We sampled our recordings to match the days for which there were data for AL031 as possible.