

Figure 51 SEM images of nano-porous Pt-coated MEs recording-sites. (a) An entire 40 × 80 μm ECM-NEs recording site; (b) An enlarged view of the ECM-NEs recording site.

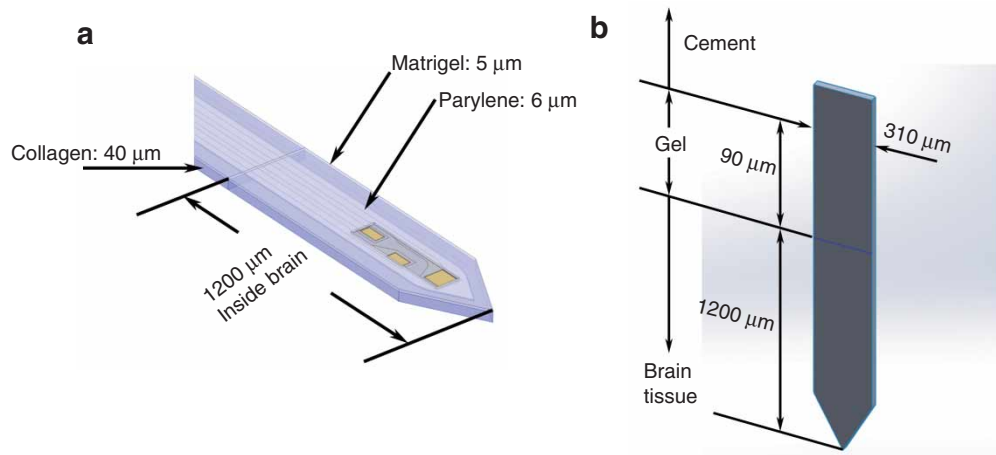


Figure 52 (a) Detailed geometry and dimensions of the composite ECM-NEs; and (b) geometry and dimensions of the ECM-NEs, PDMS-NEs or Si-NEs.

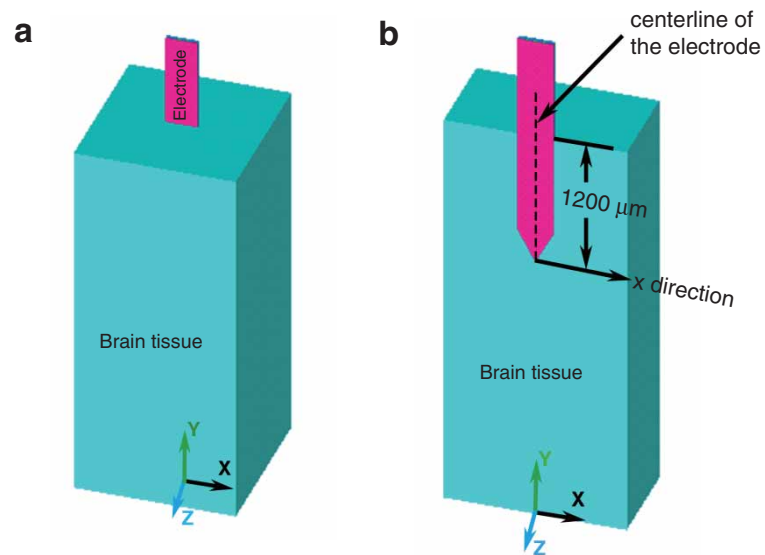


Figure 53 FEM model of the brain tissue-NE.

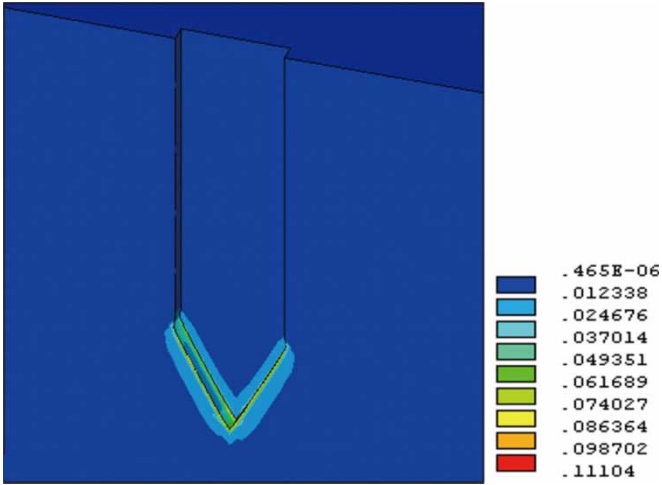


Figure S4 FEM results showing the von Mises strain distribution in the brain resulting from a 6 μm forward displacement of the ECM-NEs in its axial direction with an electrode-brain coupling coefficient of 0.40.

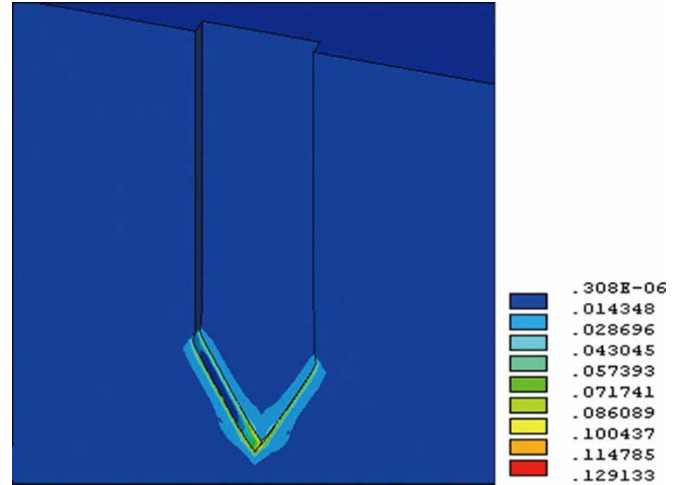


Figure S5 FEM results showing the von Mises strain distribution in the brain resulting from a 6 μm forward displacement of the ultra-soft PDMS-NEs.

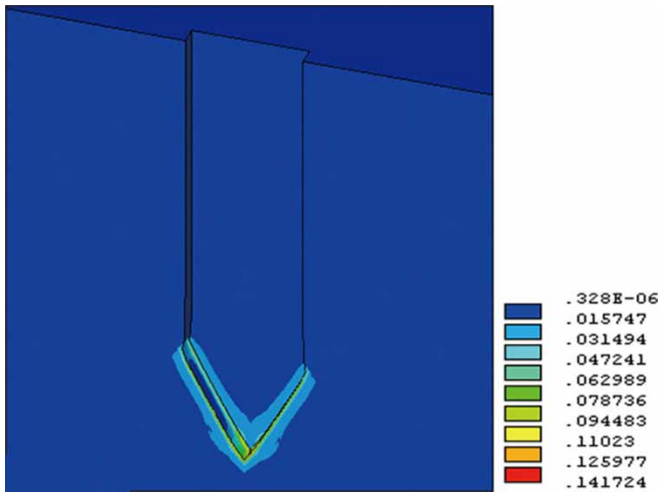


Figure S6 FEM results showing the von Mises strain distribution in the brain resulting from a 6 μm forward displacement of the stiff Si-NEs.

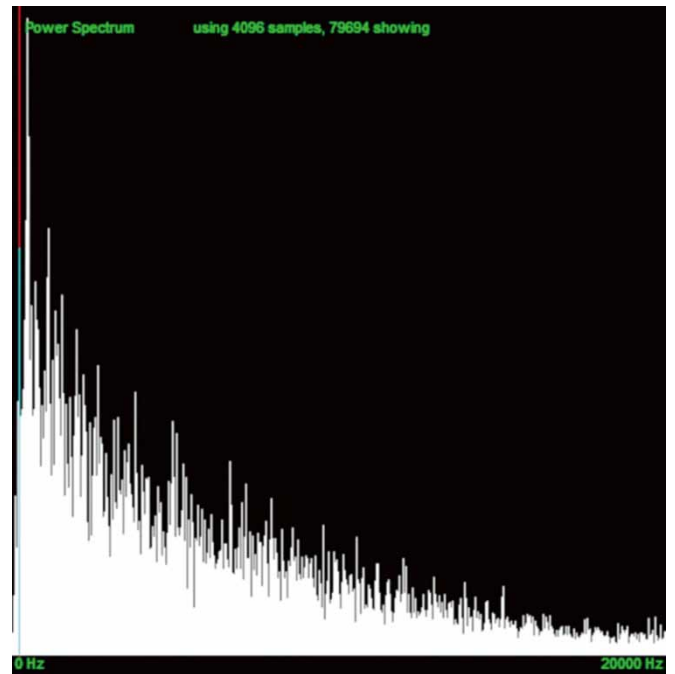


Figure S7 Power spectrum density of the representative Day 0 neural recording shown in Figure 6a-d.