**Supplemental Figures 1-8**

A picture containing colorfulness, screenshot, rectangle, majorelle blue

Description automatically generated

**Figure S1. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S1A.** Impedance for S1A was measured before the intraoperative recording in saline.

A picture containing colorfulness, screenshot, majorelle blue, electric blue

Description automatically generated

**Figure S2. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S1B.** Impedance for S1B was measured before the intraoperative recording in saline.

A picture containing majorelle blue, colorfulness, screenshot, electric blue

Description automatically generated

**Figure S3. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S2.** Impedance for S2 was measured before the intraoperative recording in saline.

A picture containing colorfulness, majorelle blue, art, child art

Description automatically generated

**Figure S4. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S3.** Impedance for S3 was measured during the intraoperative recording while placed on the cortex.

A picture containing screenshot, majorelle blue, colorfulness, rectangle

Description automatically generated

**Figure S5. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S4.** Impedance for S4 was measured during the intraoperative recording while placed on the cortex.

A picture containing colorfulness, screenshot, majorelle blue, rectangle

Description automatically generated

**Figure S6. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S5.** Impedance for S5 was measured during the intraoperative recording while placed on the cortex.

A picture containing colorfulness, screenshot, majorelle blue, purple

Description automatically generated

**Figure S7. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S6.** Impedance for S6 was measured during the intraoperative recording while placed on the cortex.

A picture containing map, screenshot, majorelle blue, colorfulness

Description automatically generated

**Figure S8. Maps of electrode impedance and ripple and fast ripple HFO activity across the µECoG array for S7.** Impedance for S7 was measured during the intraoperative recording while placed on the cortex.