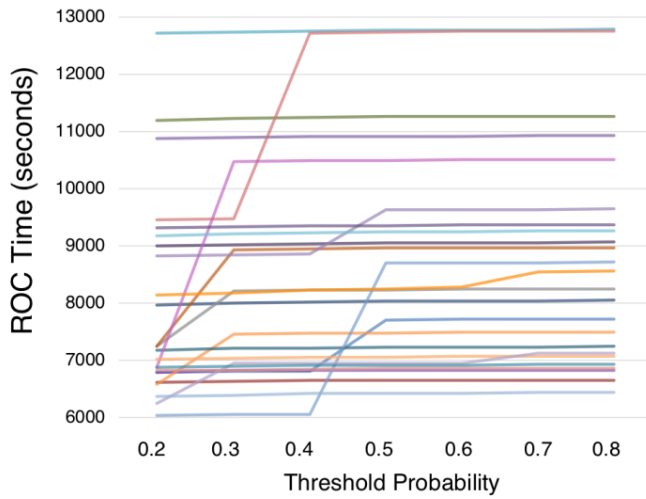
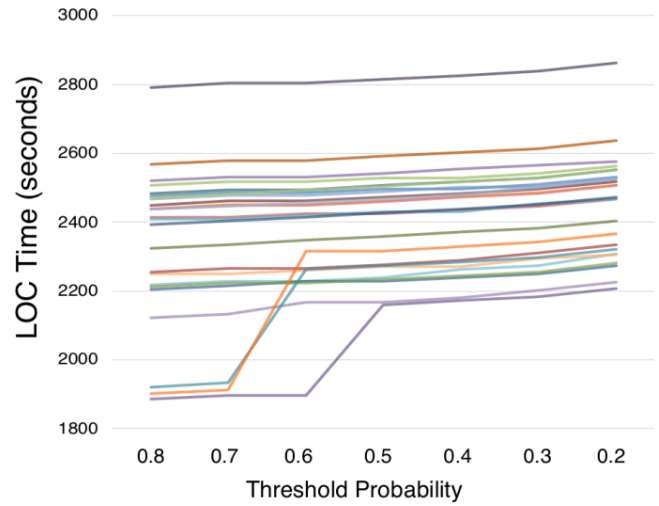
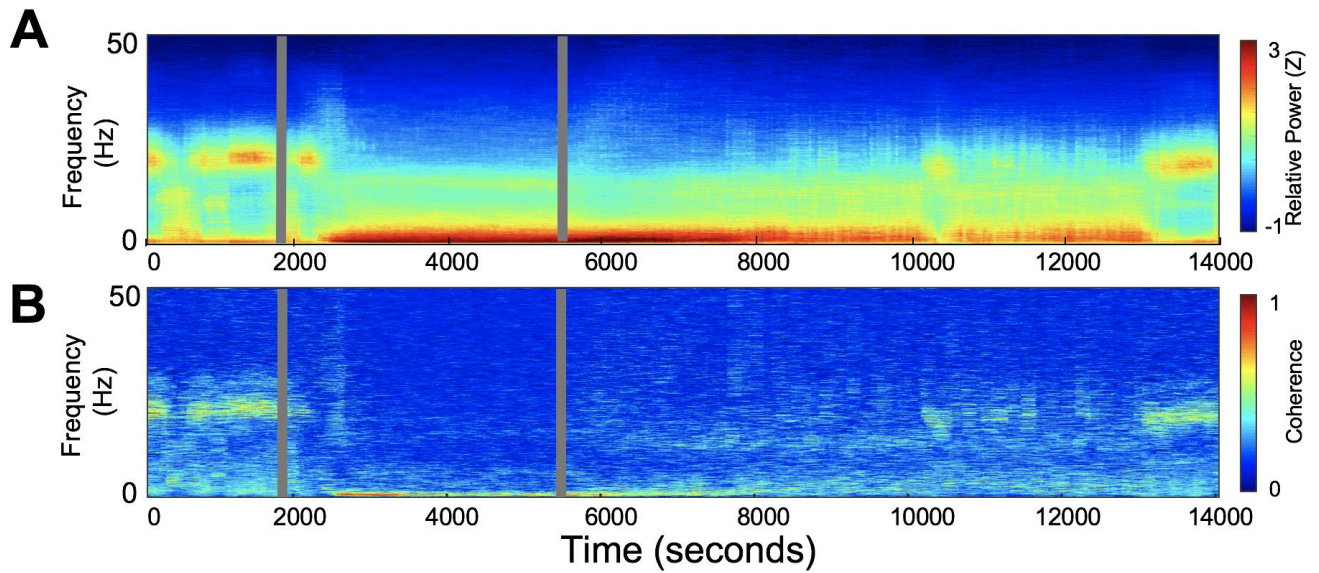


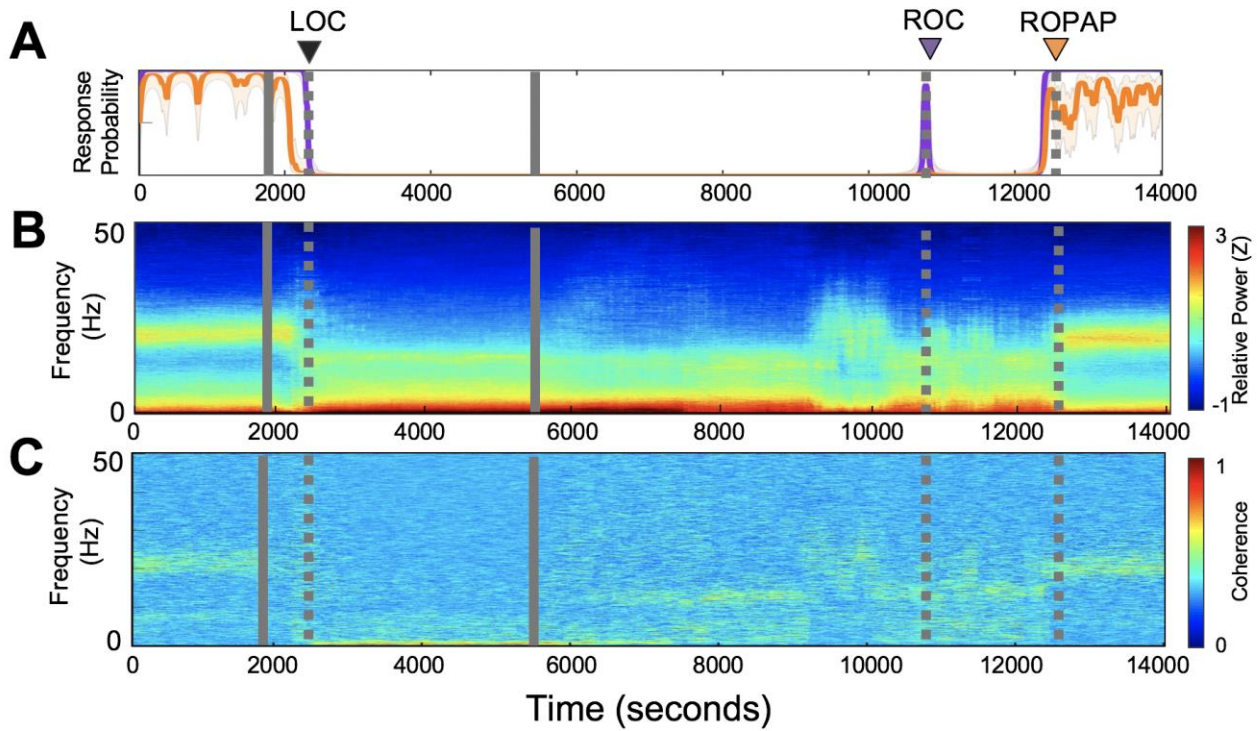
A**B**

Supplementary Figure 1. Return of consciousness and loss of consciousness times by varying probability threshold.

(A) Return of consciousness (ROC) times by varying probability threshold from 0.2 to 0.8. Each line indicates one recording sessions. **(B)** Loss of consciousness (LOC) times by varying probability threshold from 0.8 to 0.2. Each line represents one experimental session. Data are shown from two animals.

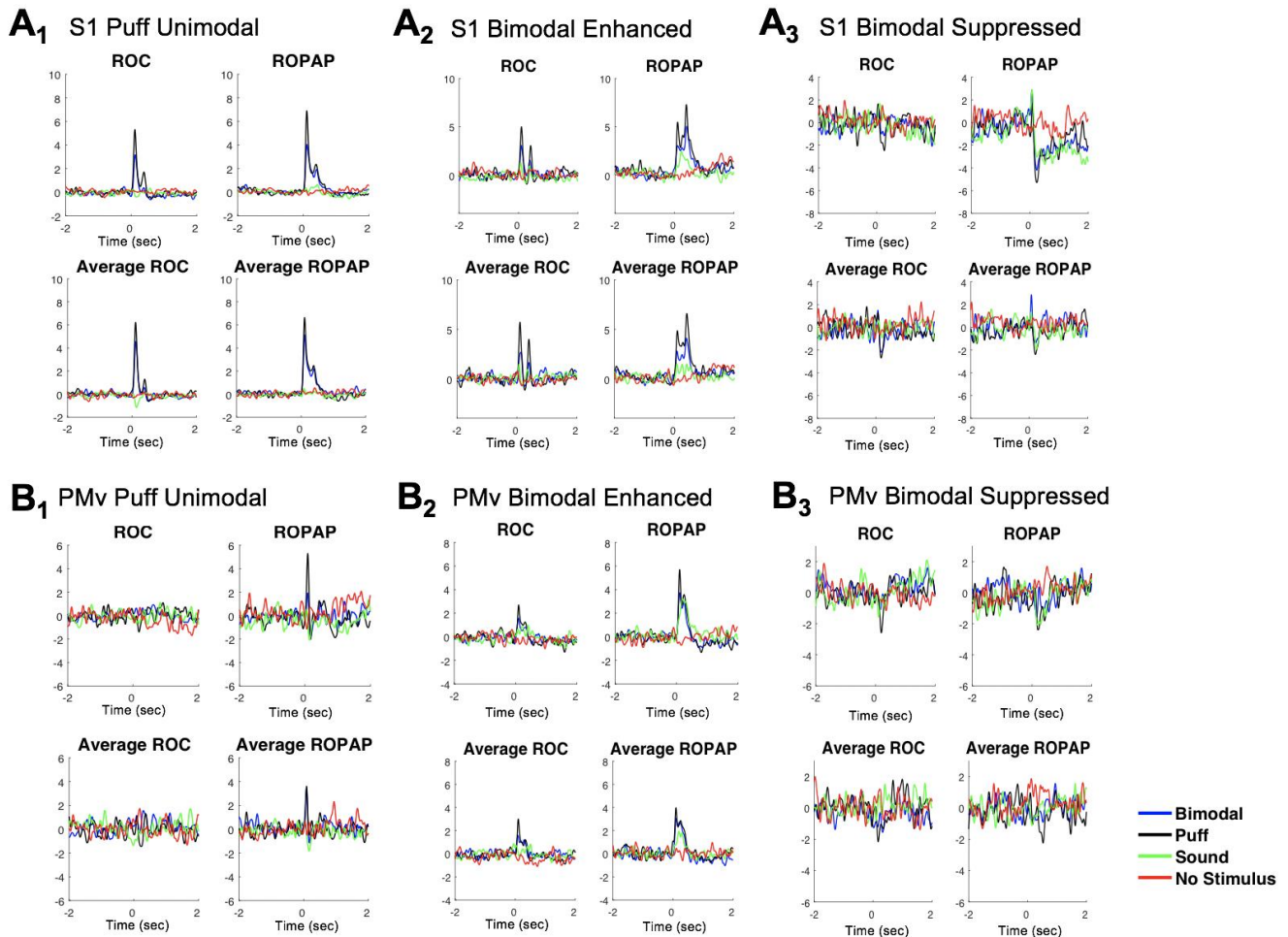


Supplementary Figure 2. Neural dynamics change during recovery in a non-task performing animal. (A) LFP spectrogram in S1. (B) LFP coherence between S1 and PMv. Propofol was infused for 60 minutes (gray lines) in A and B. The animal was not required to perform the task.



Supplementary Figure 3. Neural dynamics change during recovery in a blind-folded animal.

(A) Behavioral response. (B) LFP spectrogram in S1. (C) LFP coherence between S1 and PMv. Propofol was infused for 60 minutes (gray lines) in A, B, and C. LOC is shown with a black arrow and dotted lines, ROC with a purple arrow and dotted lines, and ROPAP with an orange arrow and dotted lines in A, B and C. There is a period of spectrographic and coherence change without a corresponding behavioral response prior to ROC (9200-10200 seconds). This could indicate a delay in the task response return in a blind-folded condition.



Supplementary Figure 4. Multisensory responses in S1 and PMv at recovery endpoints versus recovery time.

(A) Peri-stimulus time histograms (PSTHs) for S1 unimodal tactile-responsive neurons (A₁), bimodal tactile and auditory responsive neurons (A₂), bimodal neurons with suppressed firing rate response (A₃) at ROC and ROPAP vs. average ROC time (36 ± 7 min after the end of propofol infusion, mean \pm SE) and average ROPAP time (109 ± 8 min after the end of propofol infusion, mean \pm SE). (B) PSTHs for PMv unimodal tactile-responsive neurons (B₁), bimodal tactile and auditory responsive neurons (B₂), bimodal neurons with suppressed firing rate response (B₃) at ROC and ROPAP vs. average ROC time (36 ± 7 min after the end of propofol infusion, mean \pm SE) and average ROPAP time (109 ± 8 min after the end of propofol infusion, mean \pm SE). Average times were calculated using the sessions that were included for the PSTHs analyses. The sessions in which ROC and ROPAP were detected within 100 trials were excluded.