

Figure 1 a) The energy dissipation for an ictal network from 10 seconds after perturbation is applied ( $t=10$  sec) until it is completely dissipated ( $t=28$  sec). In this example, channel 16 was perturbed and dissipation time equals 28 sec and dissipation speed is  $1/28=0.0357 \text{ sec}^{-1}$ .

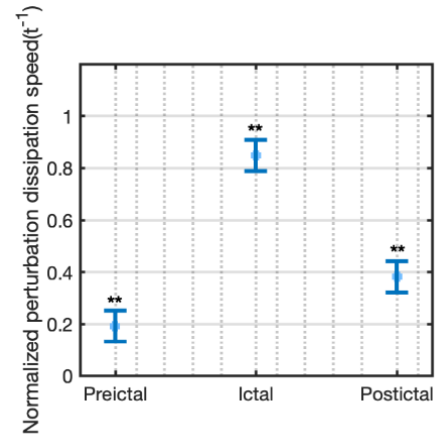


Figure 1 b) The average normalized dissipation speed for ictal, pre- and post-ictal periods. \*\* denotes  $p\text{-value}_{\text{adj}}$  lower than 0.001

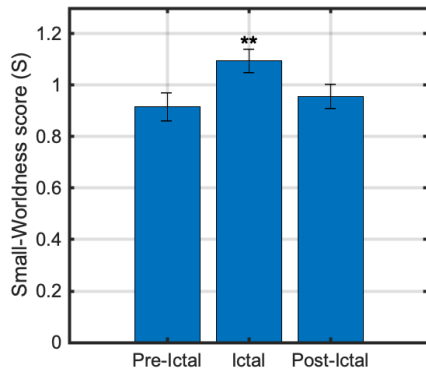


Figure 2 a) The Small-Worldness score ( $S$ ) for ictal, pre- and post-ictal periods. \*\* denotes  $p\text{-value}_{\text{adj}}$  lower than 0.001

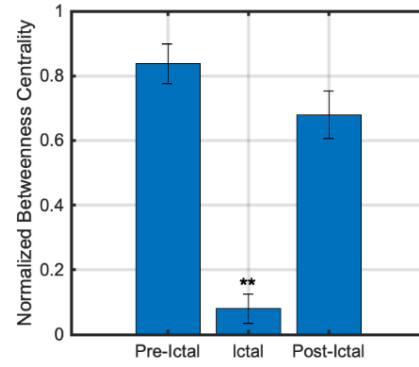


Figure 2 b) The Normalized Betweenness Centrality for ictal, pre- and post-ictal periods. \*\* denotes  $p\text{-value}_{\text{adj}}$  lower than 0.001