



Supplementary Fig. 1. A-D: The brain oscillation in the case 1. A: Tinnitus M/54 (case 1). No sound condition on the working day. B: At the end of the EEG test on the working day. C: The beginning of the EEG recording of 2 weeks later on the day off. D: The end of the EEG recording on the day off. Filled arrow: Showing abnormal high frequency (gamma) oscillation (spiky, mono-, bi-, poly-phasic shape of wave). Empty arrow: No abnormal oscillation observed. E-J: The brain oscillations in case 2. E: At the beginning of the EEG. F: The subject's condition after a few minutes in a noise shielding booth. G: The noise-induced condition on the resting state EEG. a: The condition before speech sound exposure. b-1: The time of the speech stimulation. b-2: Ending point of the speech sound. c: No sound exposed condition. H: The NI STHS after few seconds of noise exposure. I: The subject's condition after one minute of speech sound stimulation. J: The condition after one and half minute of speech sound stimulation. EEG: electroencephalography, NI: noise-induced, STHS: severe temporal hyper-activated state.