

Fig. S1 Time course of the flash luminance emitted from the photonic stimulator (SLS-3100, Nihon Kohden) set to 20 J at 30 cm distance.

Time-integrated luminance	3.74 cd·s/cm ²
Peak luminance	29.5 cd/cm ²
Half-value width with respect to the peak luminance	75 ms

(a) The place of Pt ball electrodes in Pt ball-tip screw electrode.

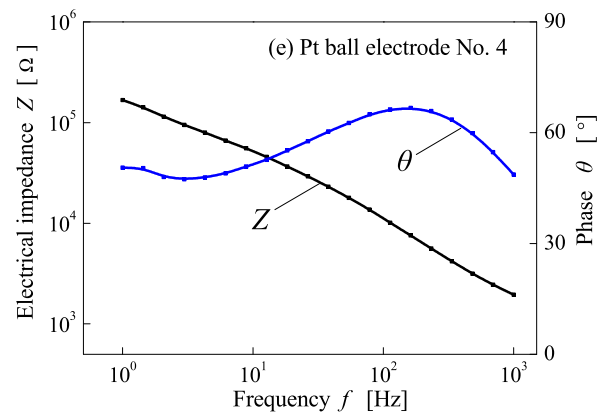
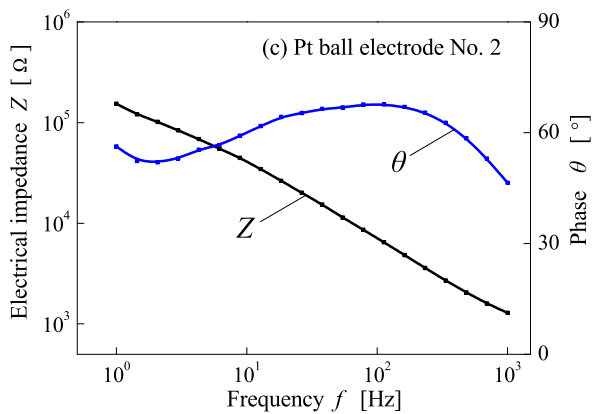
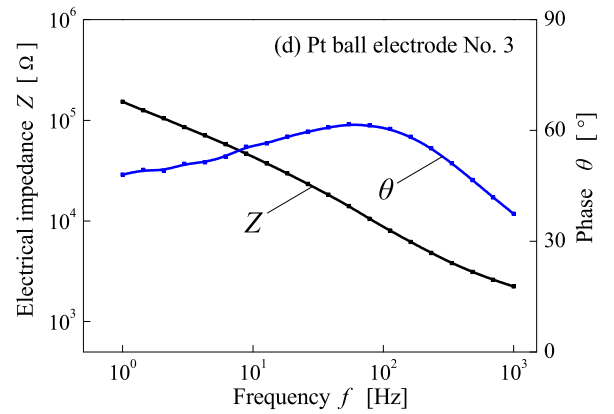
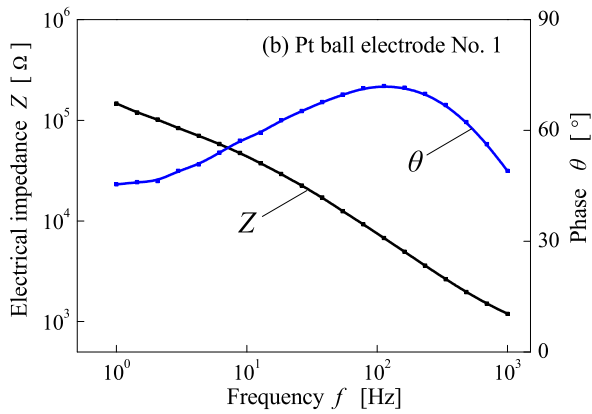
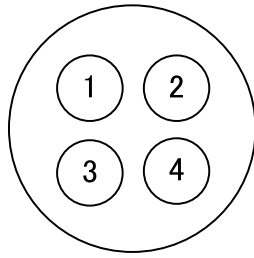


Fig. S2 Bode plots of electrochemical impedance using the platinum (Pt) ball-tip screw electrode after 3 weeks' implantation. (a) The locations of the Pt ball electrodes in the Pt ball-tip screw electrode. This figure diagrams the view from the electrode's side. (b) Pt ball electrode No. 1. (c) Pt ball electrode No. 2. (d) Pt ball electrode No. 3. (e) Pt ball electrode No. 4. Similar electrochemical impedance results were observed in the four Pt ball electrodes.

(a) The place of Pt/Ir ball electrodes in Pt/Ir ball-tip planar MEA.

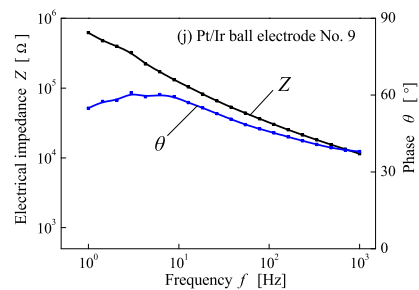
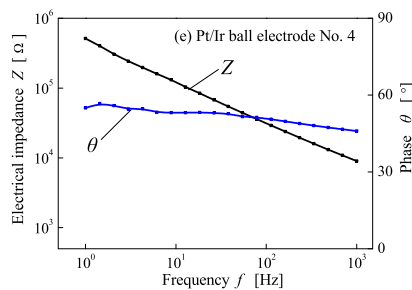
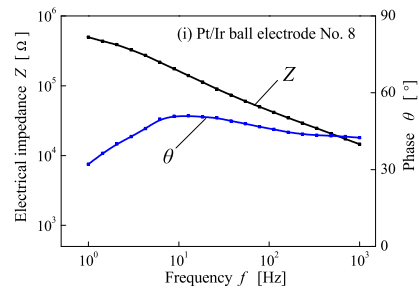
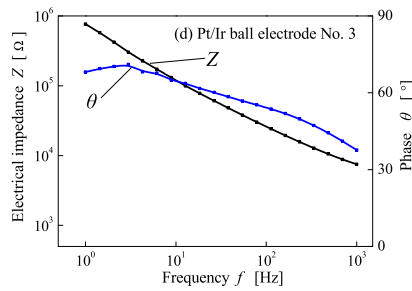
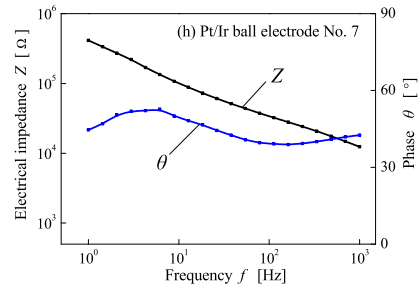
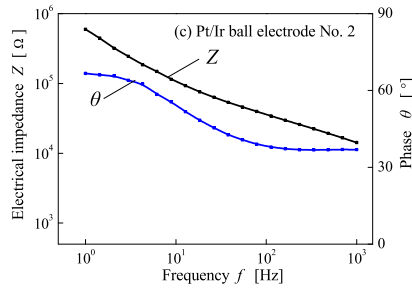
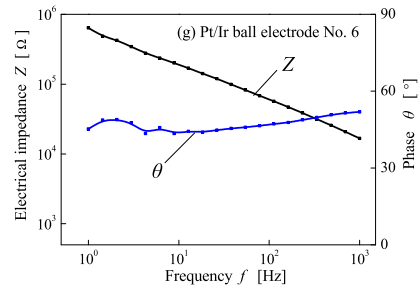
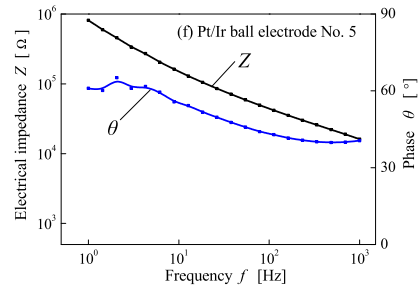
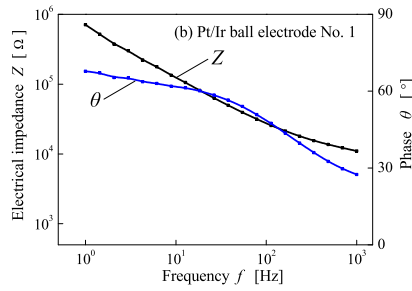
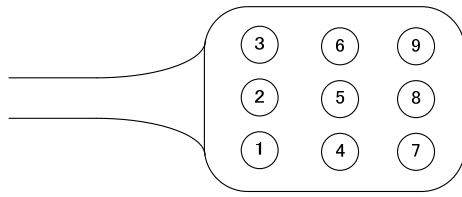


Fig. S3 Bode plots of electrochemical impedance using the platinum/iridium (Pt/Ir) ball-tip planar multi-electrode array (MEA) after 3 weeks' implantation. (a) The locations of the Pt/Ir ball electrodes in the Pt/Ir ball-tip planar MEA as seen from the electrode's side. (b) Pt/Ir ball electrode No. 1. (c) Pt/Ir ball electrode No. 2. (d) Pt/Ir ball electrode No. 3. (e) Pt/Ir ball electrode No. 4. (f) Pt/Ir ball electrode No. 5. (g) Pt/Ir ball electrode No. 6. (h) Pt/Ir ball electrode No. 7. (i) Pt/Ir ball electrode No. 8. (j) Pt/Ir ball electrode No. 9. Similar electrochemical impedance results were observed in the nine Pt/Ir ball electrodes.