

Supplementary Information

Bionic anti-adhesive electrode coupled with maize leaf microstructures and TiO₂ coating

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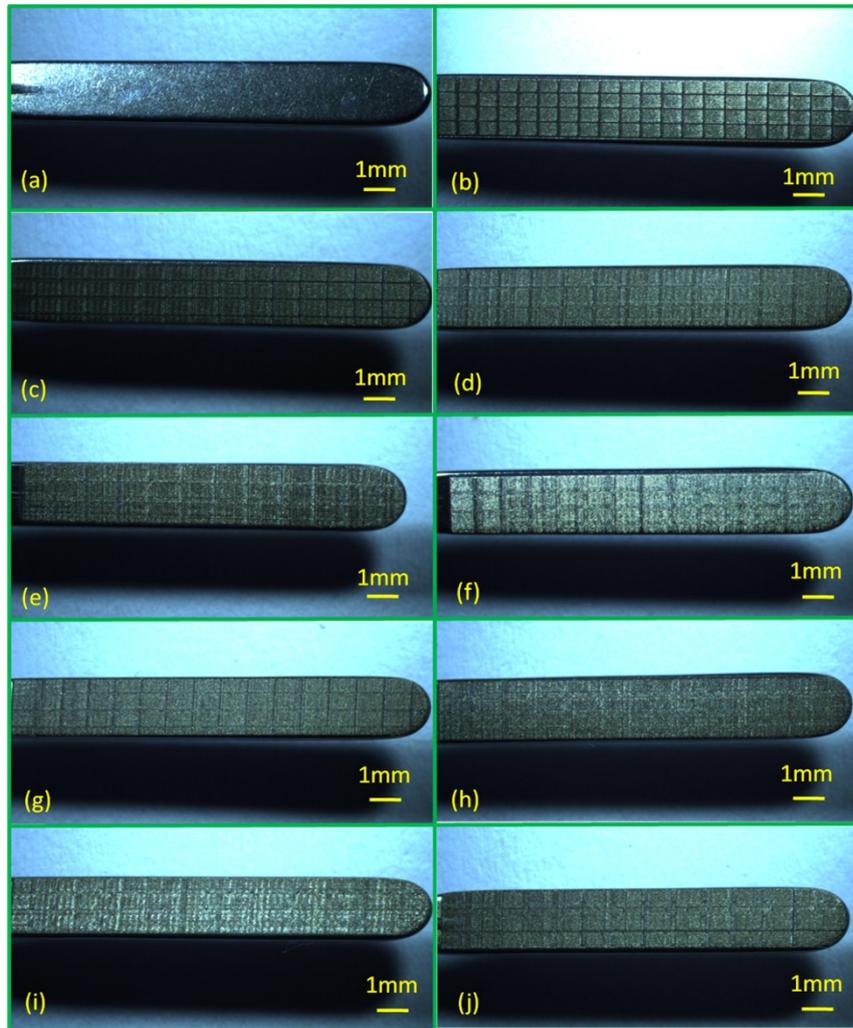


Fig. S1. The stereomicroscope images of electrode substrate and 9 samples of bionic electrode. (a) Electrode substrate. (b) Sample 1. (c) Sample 2. (d) Sample 3. (e) Sample 4. (f) Sample 5. (g) Sample 6. (h) Sample 7. (i) Sample 8. (j) Sample 9.

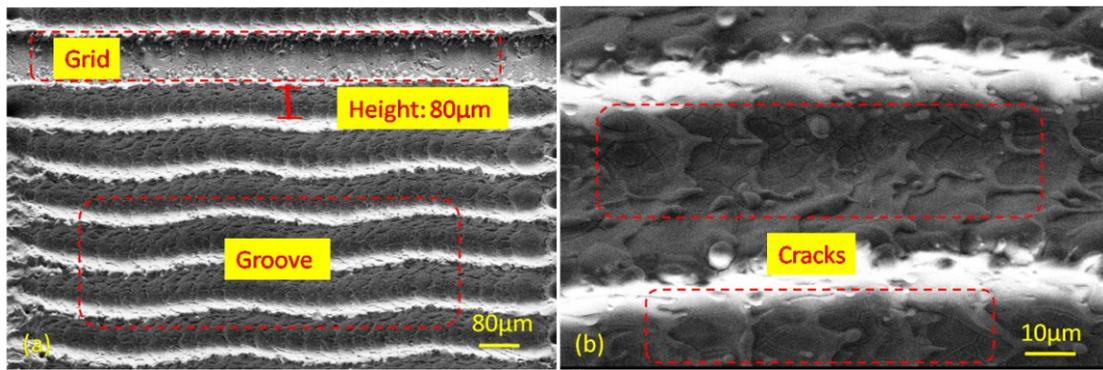


Fig. S2. The SEM images of bionic electrode and coupled bionic electrode at different magnification. (a) The height of ridge (depth of laser marking) of bionic electrode is about 80 μm . (b) There are a lot of subtle irregular nanoscale cracks on the surface of the coupled bionic electrode.

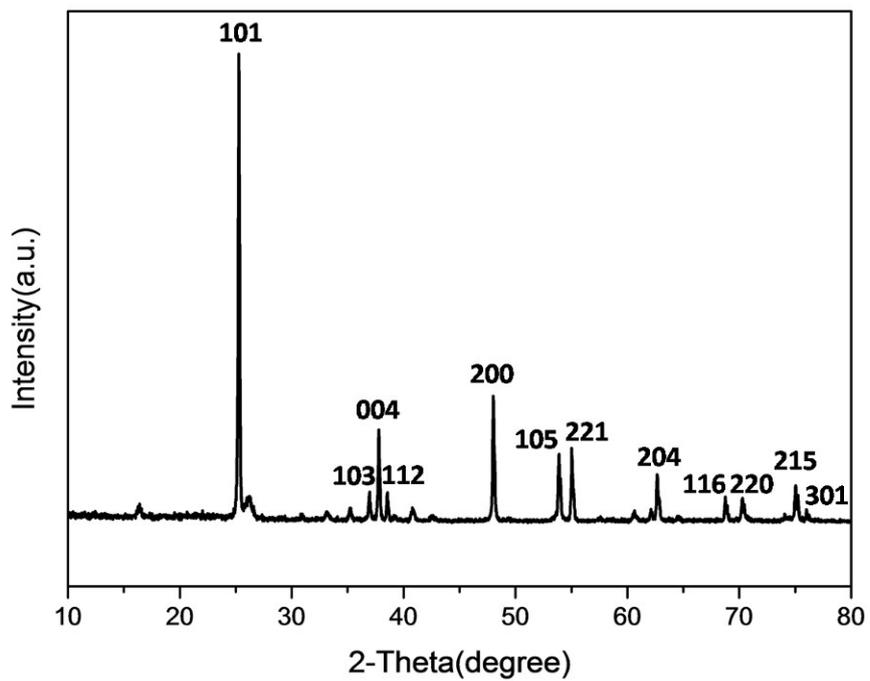


Fig. S3. The X-ray diffraction pattern of TiO_2 coating on the surface of coupled bionic electrode shows that the formation of the phase of typical anatase.

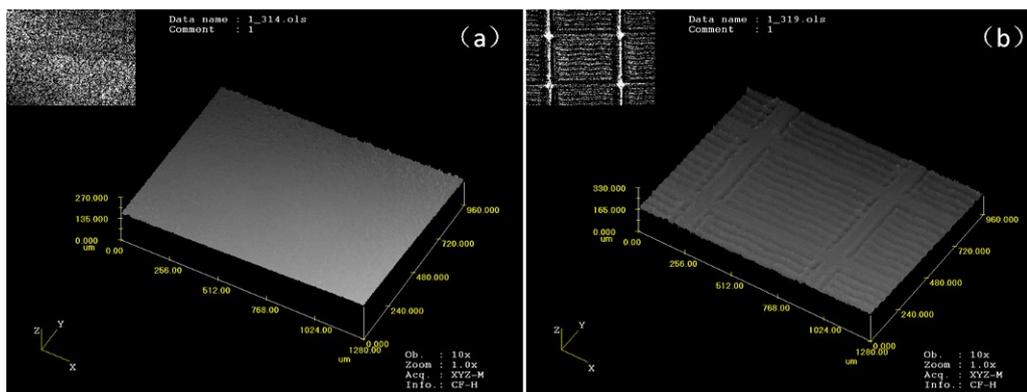


Fig. S4. CLSM 3D images of surface roughness. (a) The 3D images of electrode substrate shows that the SRa is 1.344. (b) The 3D images of coupled bionic electrode shows that the SRa is 3.610.

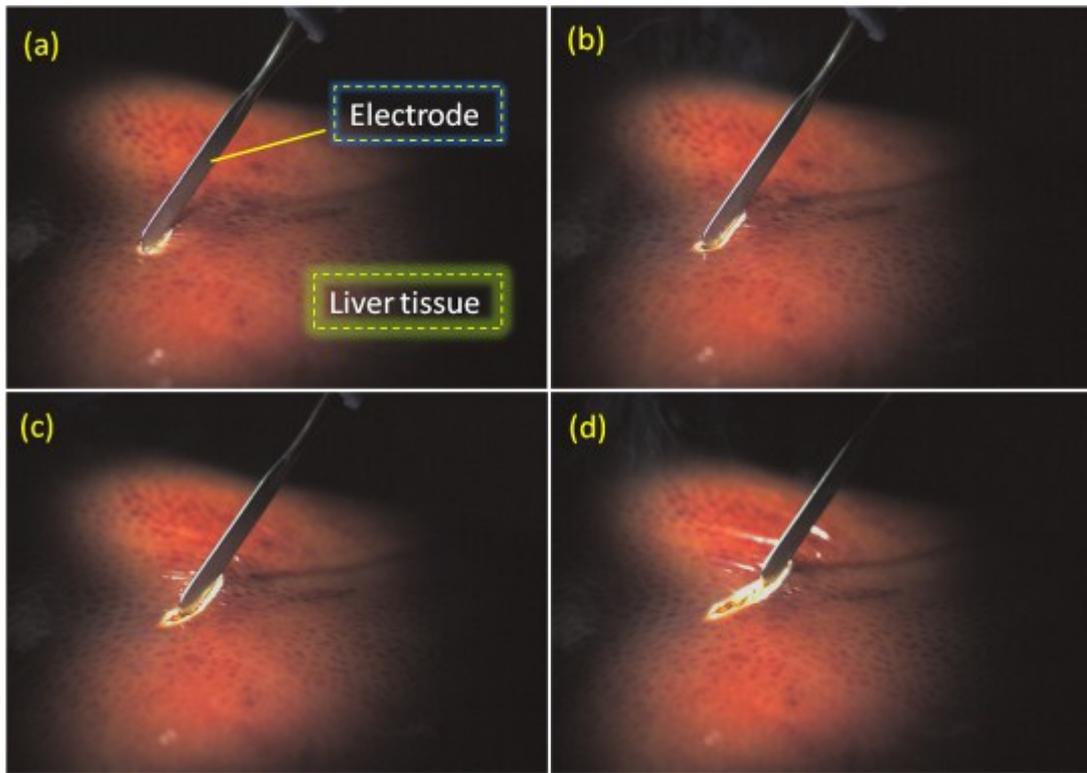


Fig. S5. The process of electric cutting experiment with a electrode. (a) Start of electric cutting. (b) The incision begins to appear. (c) The incision is further enlarged. (d) The electric cutting experiment is over.