Supporting Information

Bioinspired Metal-intermetallic Laminated Composites for the Fabrication of Superhydrophobic Surfaces with Responsive Wettability

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Table S1. The current intensity of anodic oxidation in a 1 mol/L NaOH solution.

Time (s)	60			
Current intensity (A/cm^2)	3.08	3.33	3.54	3.85

Table S2. The time of anodic oxidation in a 1 mol/L NaOH solution.

Current intensity (A/cm^2)	3.54				
Time (s)	20	30	40	60	90

Table S3. The current intensity of anodic oxidation in a 1 mol/L $(NH_4)_2SO_4$+0.5wt% NH_4F mixed solution

Time (s)	30			
Current intensity (A/cm^2)	9	12	15	18

Table S4. The time of anodic oxidation in a 1 mol/L $(NH_4)_2SO_4$+0.5wt% NH_4F mixed solution

Current intensity (A/cm^2)	15			
Time (s)	10	20	30	40

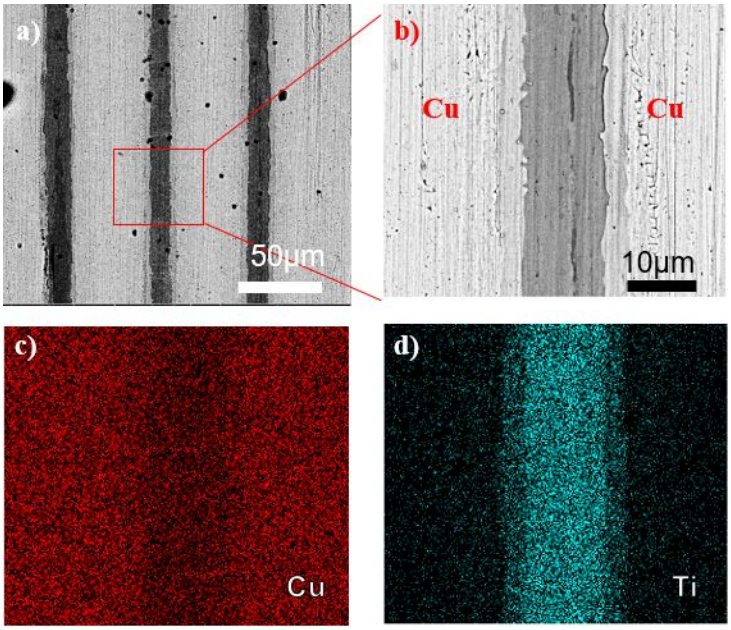

Figure S1. (a) SEM image of the bonding interface. (b) Magnified image of (a). (c) (d) EDS spectra elements mapping of Cu, Ti.

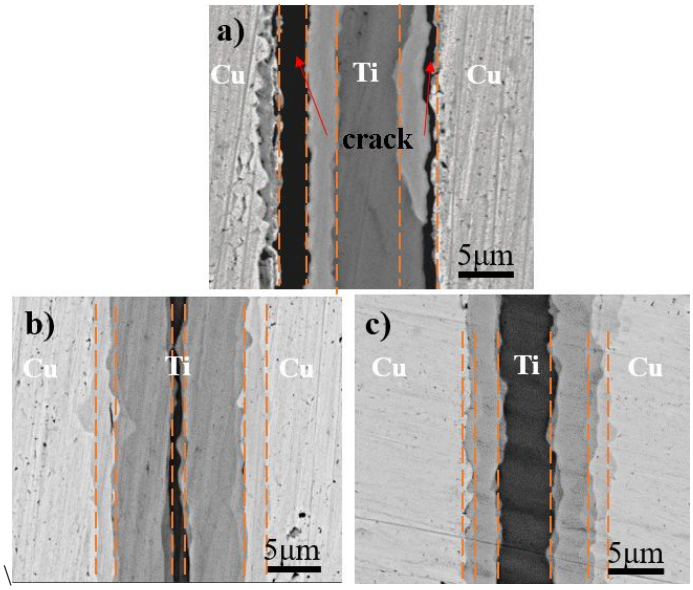

Figure S2. The influence of bonding temperature (a) 750℃/5min. (b) 800℃/5min. (c) 850℃/5min.

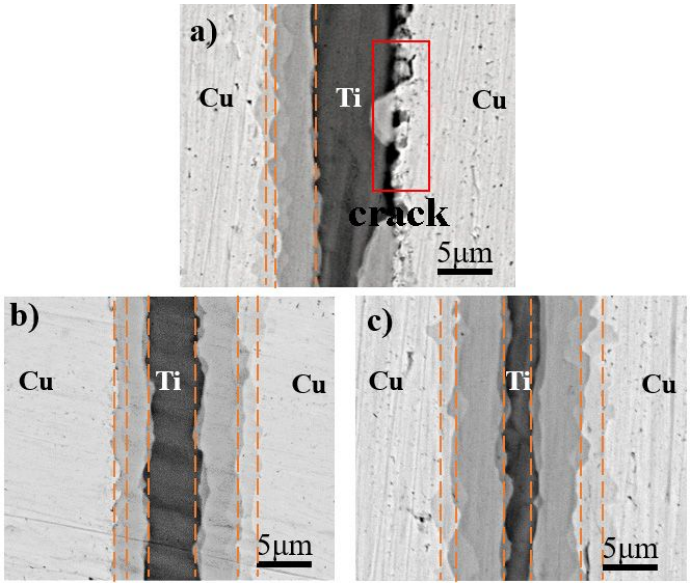

Figure S3. The influence of bonding time (a) 800℃/2min. (b) 800℃/5min. (c) 800℃/8min.

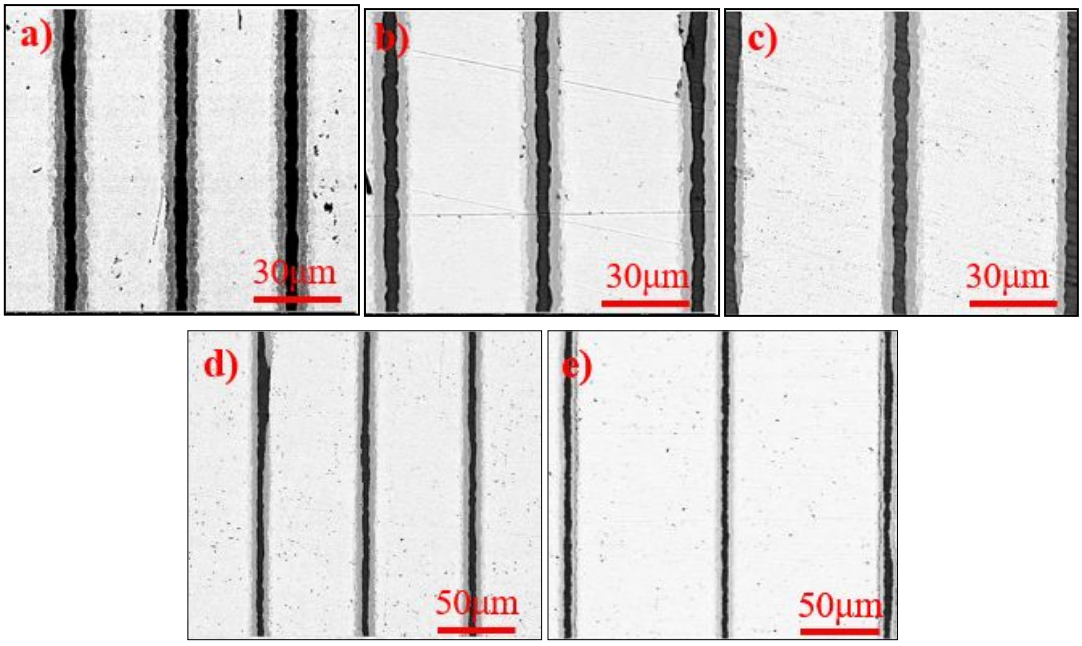

Figure S4. Different thickness of Cu foils (a) 30μm. (b) 40μm. (c) 50μm. (d) 60μm. (e) 80μm.

Table S5. EDS chemical analysis (at %) of different spots in Figure 1b.

Point	Cu	Ti	Possible phase
A	86.58	13.42	Cu(s,s)
B	78.13	21.87	$TiCu_4$
C	57.61	42.39	Ti_3Cu_4
D	51.17	48.82	TiCu

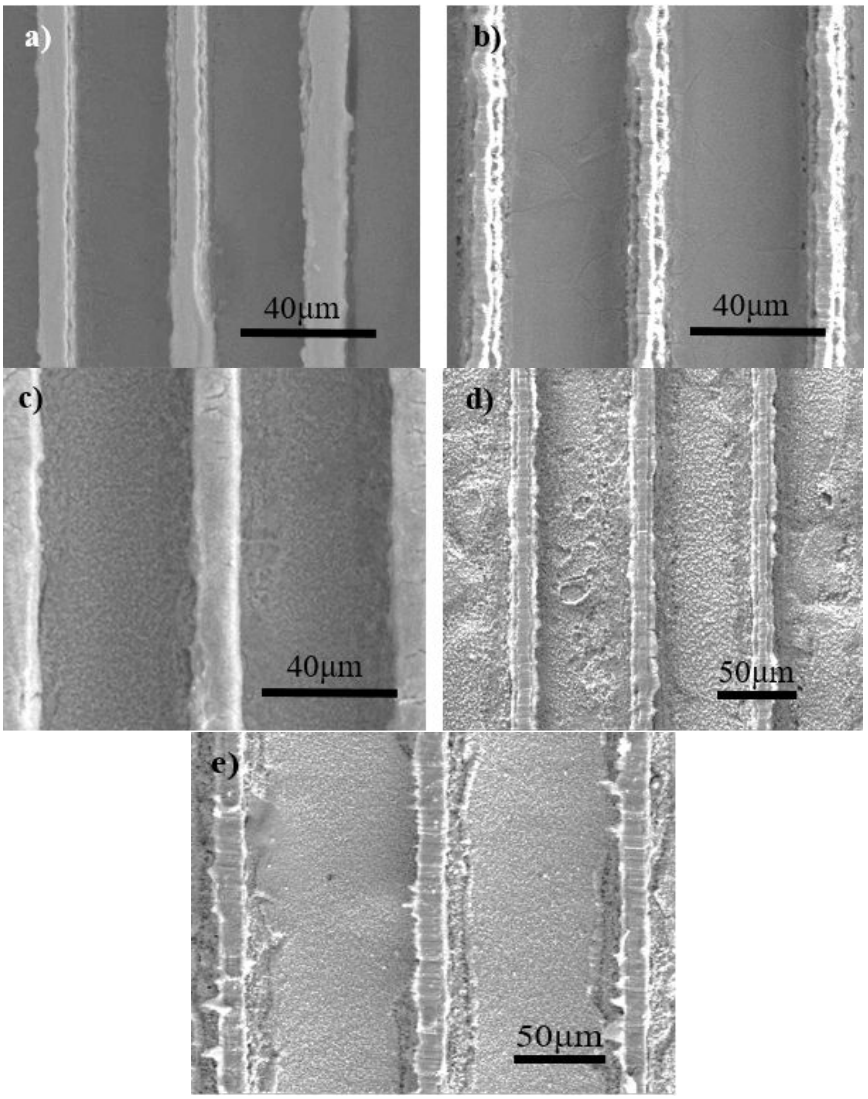

Figure S5. Surfaces with different groove widths.
(a) 30μm. (b) 40μm. (c) 50μm. (d) 60μm. (e) 80μm.

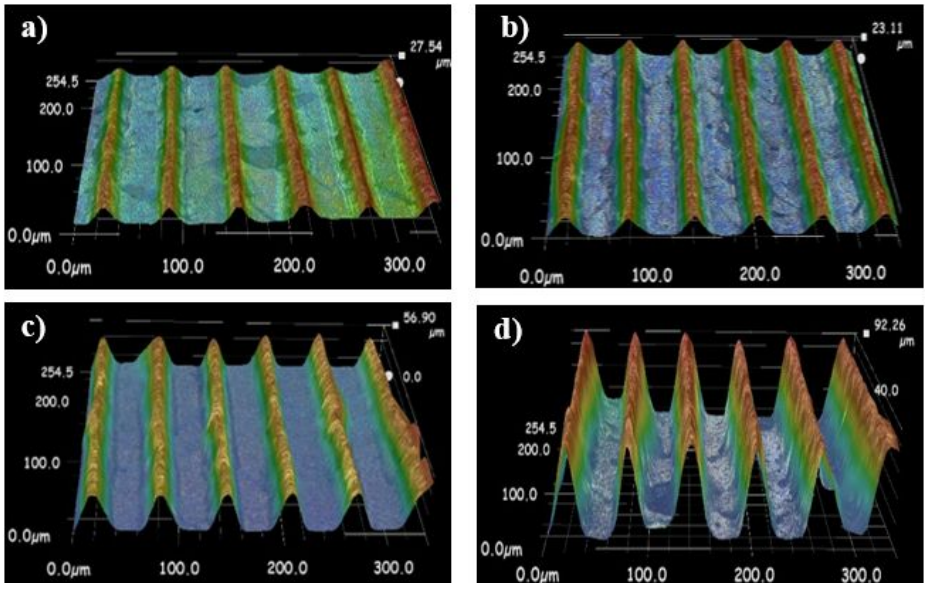

Figure S6. Etch depth varies with etching time. (a) 5min. (b) 10min. (c) 15min. (d) 30min.

Table S6. The EDS results of nano particles (at %).

Element	Cu	Ti	O	Possible Phase
Content	11.25	24.19	64.57	$CuO+TiO_2$

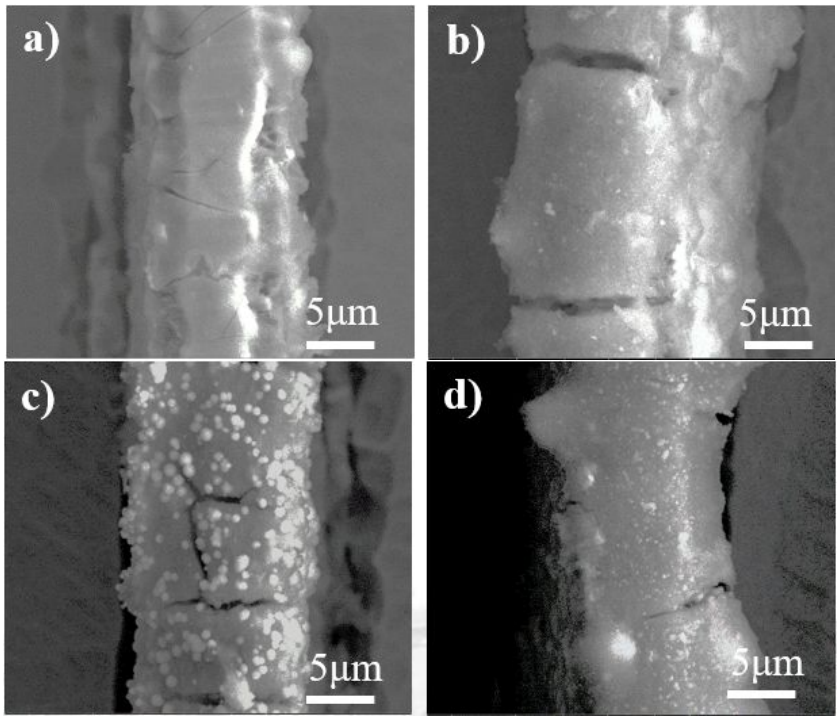

Figure S7. SEM images of anodized surfaces with different current intensity.
(a) 3.08A/cm2 (b) 3.33 A/cm2 (c) 3.54 A/cm2 (d) 3.85 A/cm2

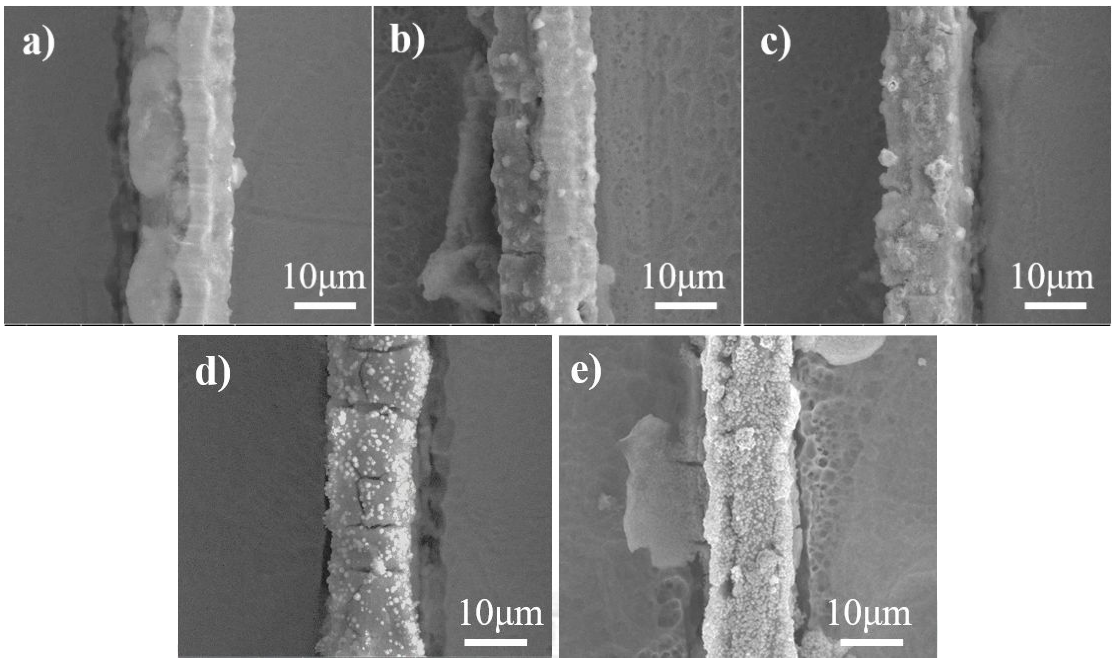

Figure S8. SEM images of anodized surfaces with different time.
(a) 20s (b) 30s (c) 40s (d) 60s (e) 90s

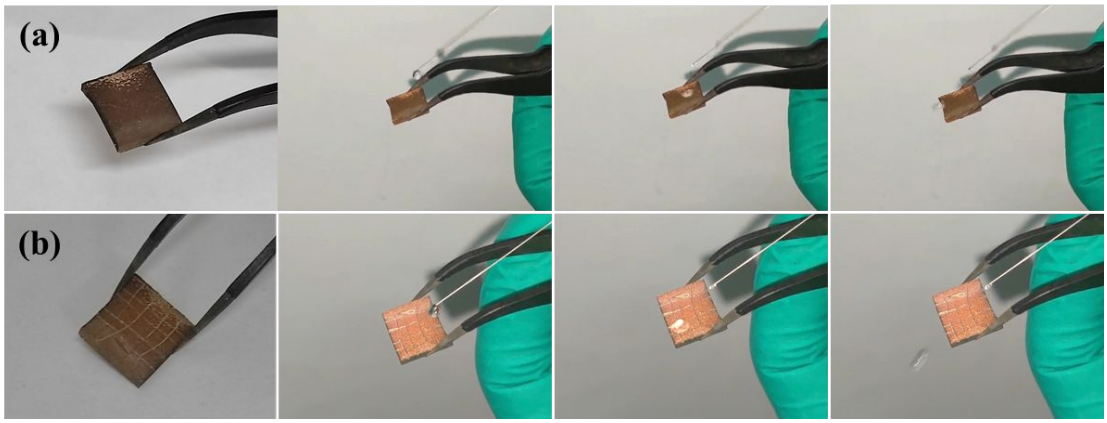

Figure S9. Scratch test