Supporting Information

A High-Output Triboelectric Nanogenerator Base on Nickel-Copper Bimetallic Hydroxide Nanowrinkles for Self-Powered Wearable Electronics

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Section 1. The touch sensor and and human motion posture sensor

Besides, owing to the flexibility of the carbon cloth substrate, the NC-TENG (size: 5 cm × 5 cm) can be full-packed and serve as a touch sensor, as shown in Fig. S1(a). Fig. S1(b) illustrates the internal structure of NC-TENG. When touching the sensor by hand, the touch sensor based on the NC-TENG can produce the voltage signal. And the photograph of NC-TENG is shown in Fig. S1(c). From Fig. S1(d), when the number of fingers of the pressing device increases, the output voltage produced by the touch sensor increases, which can be attributed to the increase in the effective contact area. To show the wearability of NC-TENG, we put the NC-TENG device on the elbow. When the arm swings in different postures shown in Fig. S2(a), the NC-TENG can covert the human motion mechanical into electrical energy, and in the meantime, the electrical output signal of NC-TENG can also reflect the swing arm amplitude to monitor posture changes, as illustrated in Fig. S2(b-d). The detailed information is shown in Section 1 of the Supporting Information.

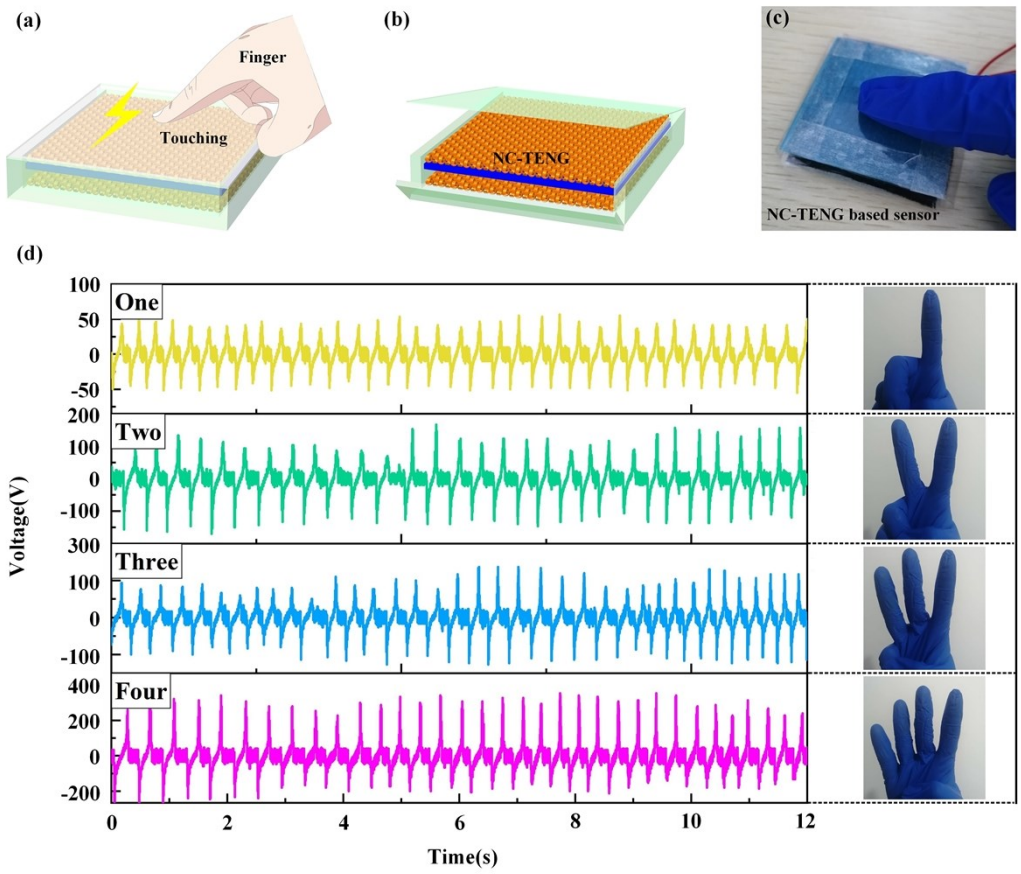

Fig. S1 (a) The schematic illustration of the touch sensor based on full-package NC-TENG. (b) The internal structure diagram of touch sensor based on full-package NC-TENG. (c) The photograph of the touch sensor based on full-package NC-TENG. (d) The output voltage of touch sensor by different number of fingers pressing.

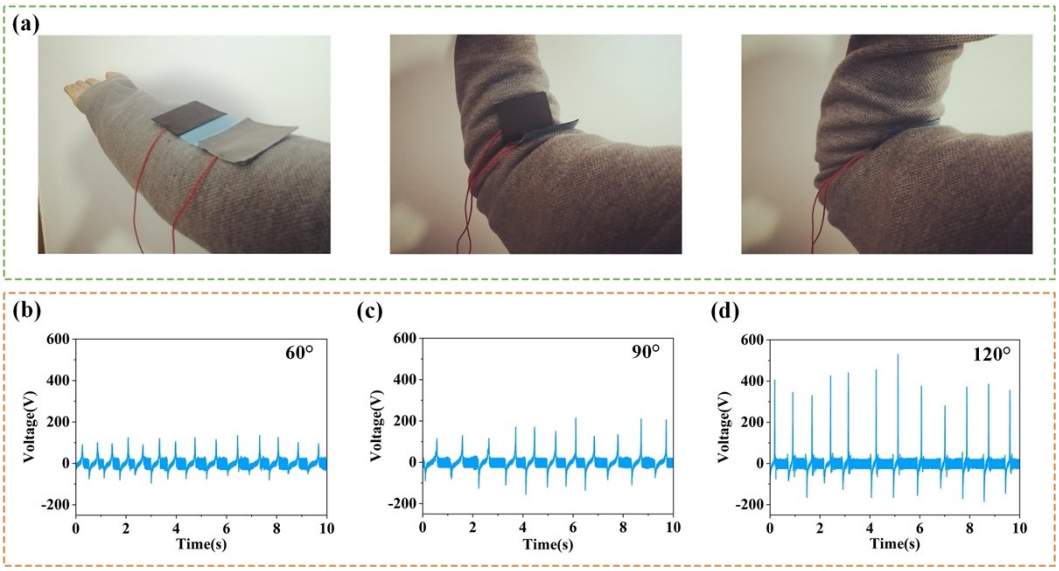

Fig. S2 (a) The photograph of the NC-TENG impact with the arms. (b-d) The output voltage under different swing arm amplitude.

Section 2. The XRD spectra of carbon cloth and nickel-copper bimetallic hydroxide

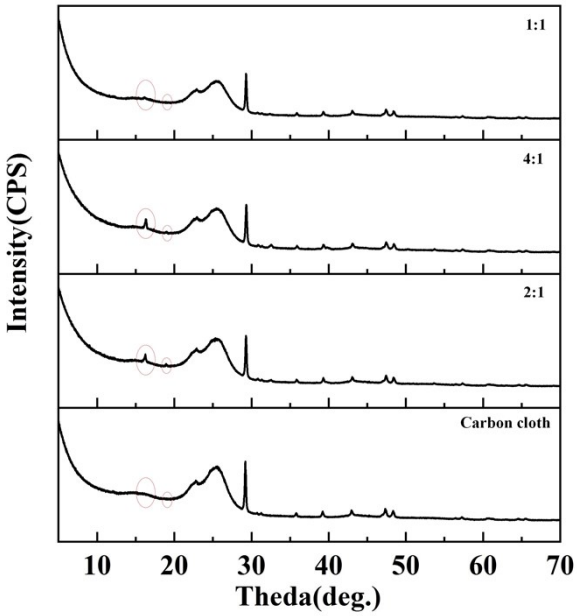

Fig. S3 The XRD spectra of carbon cloth and nickel-copper bimetal layer with different morphology.