Supporting Information

Simultaneously realizing superior energy storage properties and outstanding charge-discharge performances in tungsten bronze-based ceramic for capacitor applications

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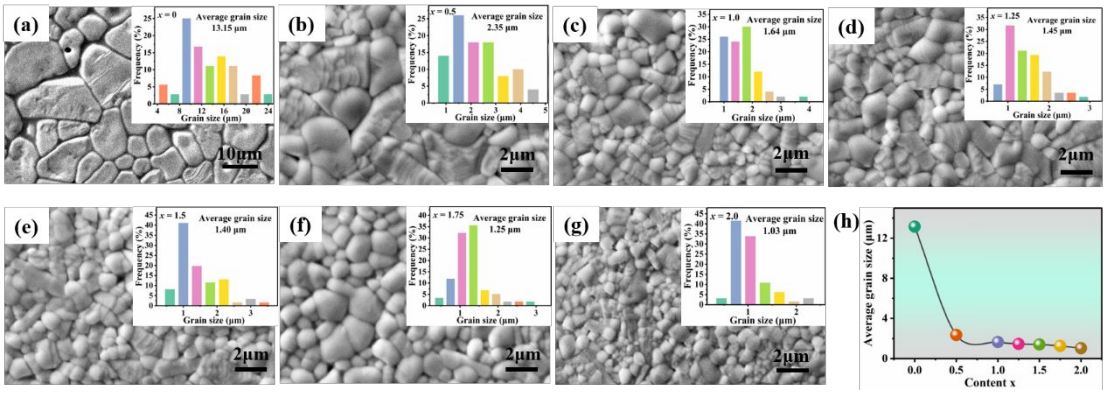

Figure S1 SEM images and grain size distributions on polished and thermally etched surfaces of (a) $x = 0$, (b) $x = 0.5$, (c) $x = 1.0$, (d) $x = 1.25$, (e) $x = 1.5$, (f) $x = 1.75$, (g) $x = 2.0$ ceramics. (h) The average grain size of SNNT ceramics varies with the content of Ta.

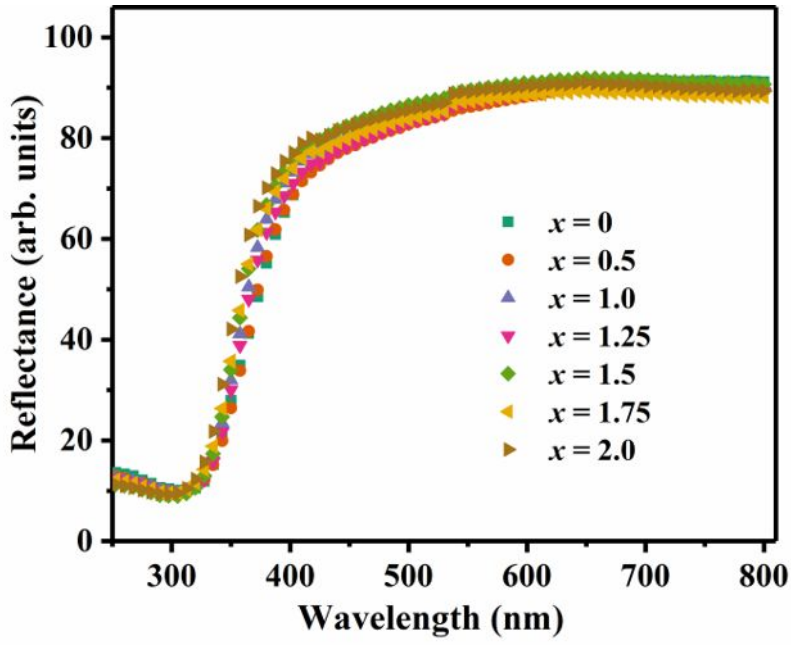

Figure S2 The light-absorption spectra of SNNT ceramics.

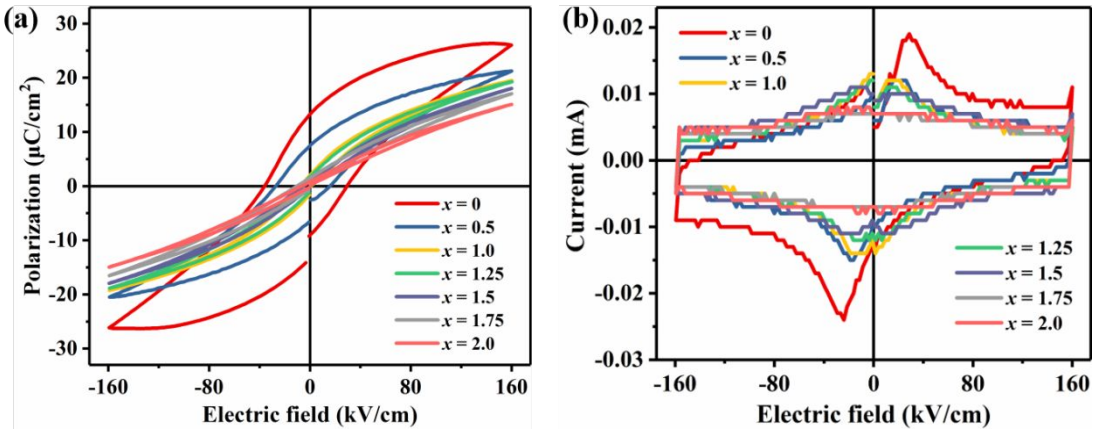

Figure S3 (a) Bipolar *P-E* loops, (b) *I-E* loops of the SNNT ceramics with different Ta content.

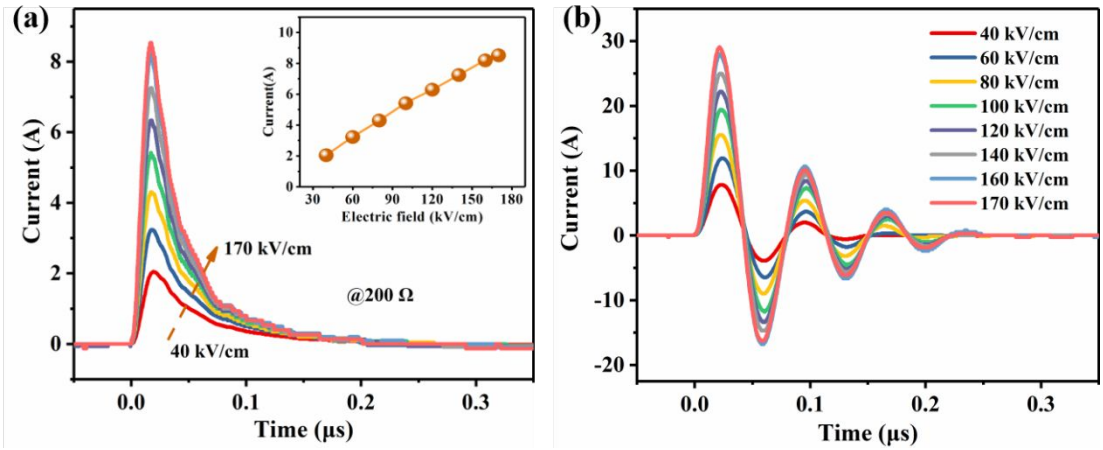

Figure S4 Pulse charge-discharge performance of 1.5SNNT ceramics measured at various electric fields. (a) overdamped discharge current curves, (b) undamped discharge current curves at different electric fields.

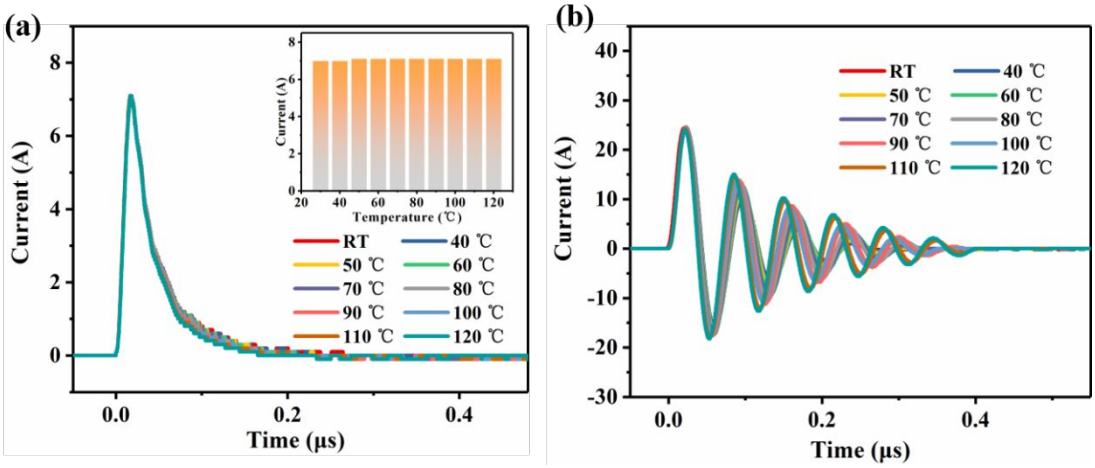

Figure S5 Pulse charge-discharge performance of 1.5SNNT ceramics measured at various temperatures. (a) over-damped discharge current curves, (b) under-damped discharge current curves at different temperatures.