

Content

Figure S1 The true stress-strain curves and monotonic strain sensing behaviors of CNT/SR and CB/SR composites.

Figure S2 The effect of stretch speed on (a) true stress-strain behavior and (b) resistance response.

The true stress-strain curves and relative resistance-strain curves for the CPCs were summarized in Figure S1. The nominal strain is calculated as [25]:

$$\varepsilon_{nom} = \Delta L / L_0, \quad (S1)$$

where L_0 is the gauge length, ΔL is the crosshead displacement corresponding to the undeformed state. The true strain λ is calculated as:

$$\lambda = \ln \left(1 + \frac{\Delta L}{L_0} \right), \quad (S2)$$

The nominal stress, σ_{nom} is defined as:

$$\sigma_{nom} = F / S_0 \quad (S3)$$

where F is the measured force and S_0 is the initial cross-sectional area of the specimen. Considering iso-volume deformation conditions, the true stress σ_t can be expressed as:

$$\sigma_t = \sigma_{nom} (1 + \varepsilon_{nom}) \quad (S4)$$

As shown in Figure S2, we compared the influence of stretch speed on the mechanical and resistive response of CPCs.

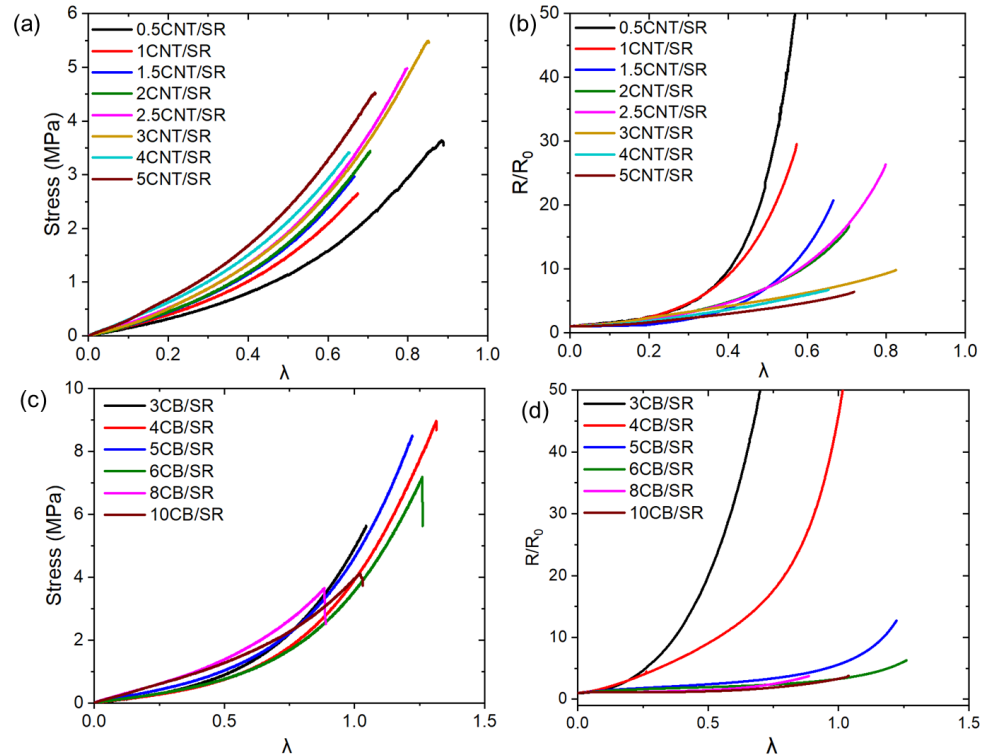


Figure S1. (a) The true stress-strain curves of CNT/SR; (b) Monotonic strain sensing behaviors of CNT/SR; (c) The true stress-strain curves of CB/SR; (d) Monotonic strain sensing behaviors of CB/SR.

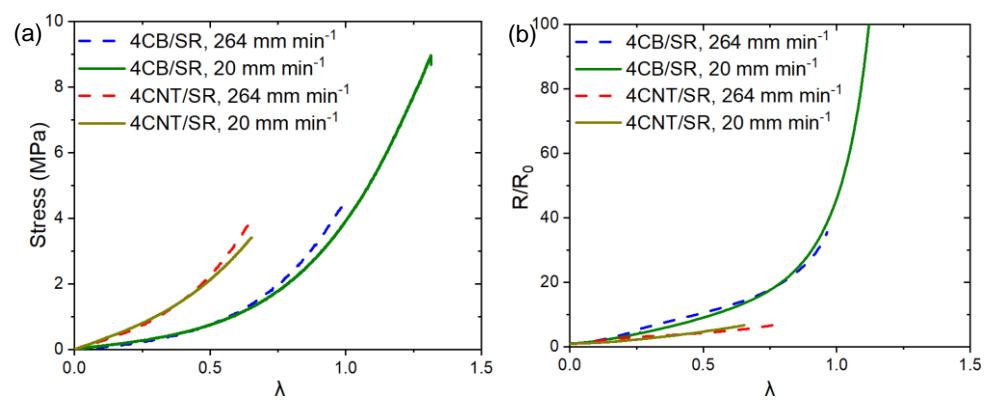


Figure S2. The effect of stretch speed on (a) true stress-strain behavior and (b) resistance response.