

Supplementary data

Switchable Electrorheological Activity of Polyacrylonitrile Microspheres by Thermal Treatment: From Negative to Positive

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SUPPORTING INFORMATION

Fig. S1-S5

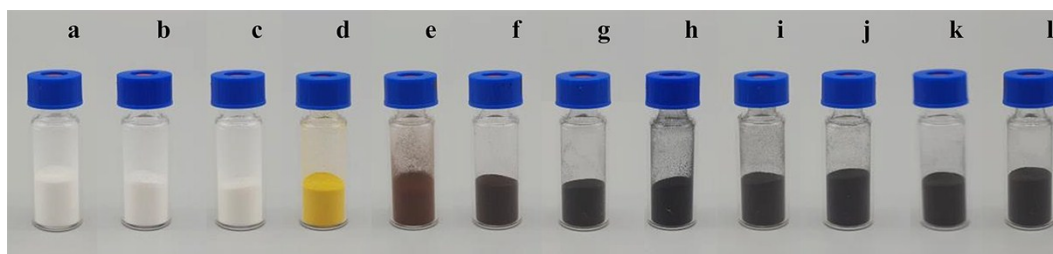


Fig. S1 Digital photograph of (a) raw PAN, (b) PAN-100, (c) PAN-150, (d) PAN-200, (e) PAN-250, (f) PAN-300, (g) PAN- 350, (h) PAN-400, (i) PAN-450, (j) PAN-500, (k) PAN-600, and (l) PAN-700 particles in 2ml vials.

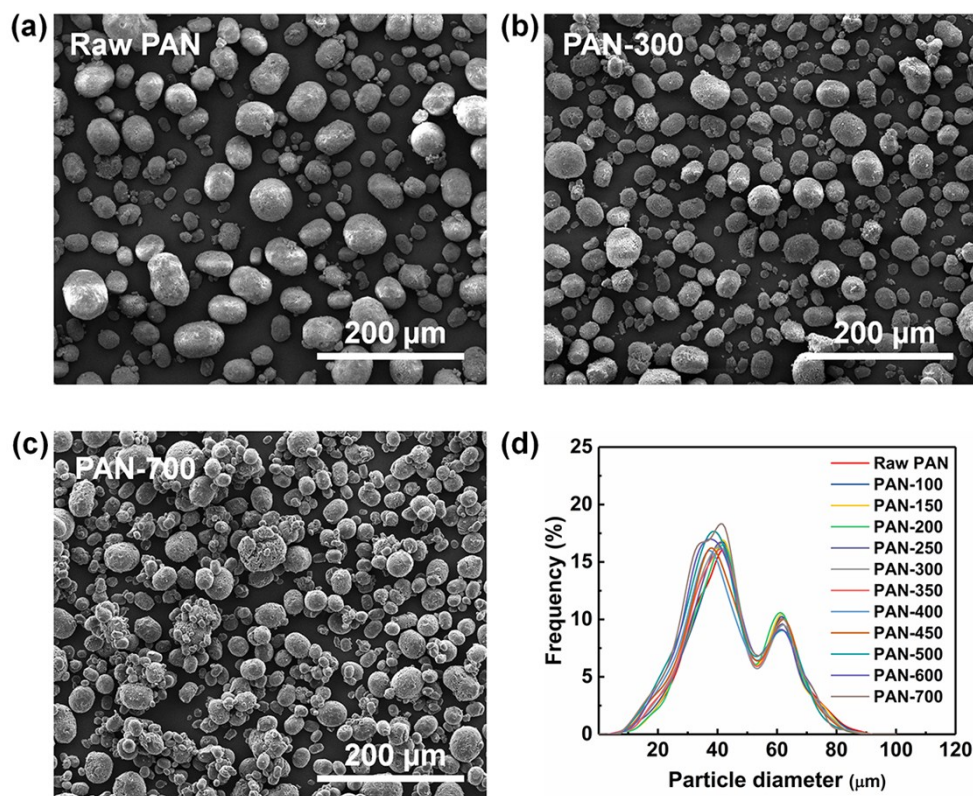


Fig. S2 FEG-SEM images of (a) raw PAN, (b) PAN-300, (c) PAN-700 particles, and (d) diameter distribution for raw PAN and heat-treated PAN particles

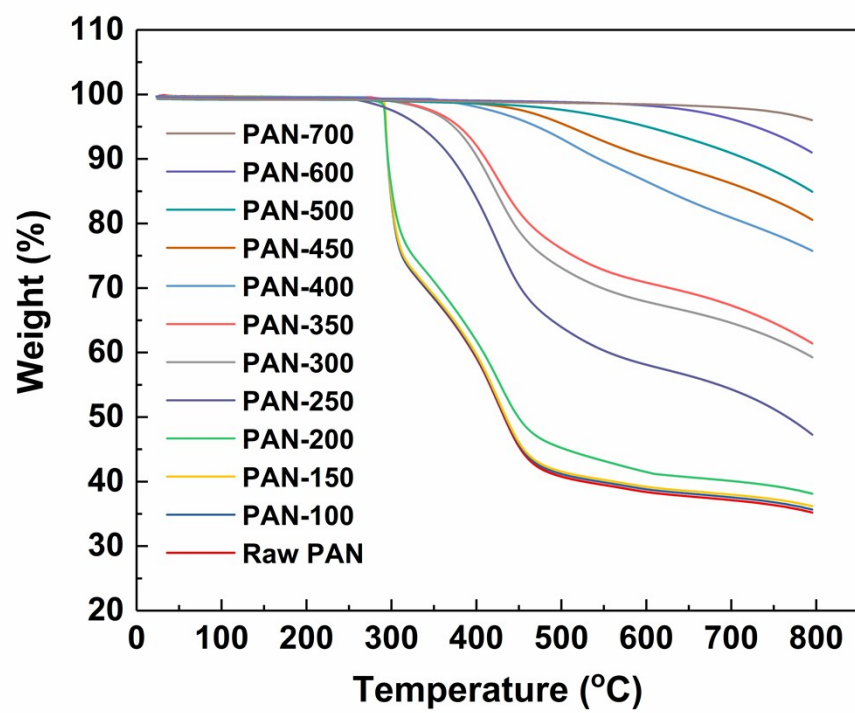


Fig. S3 TGA curves of raw PAN and heat-treated PAN particles.

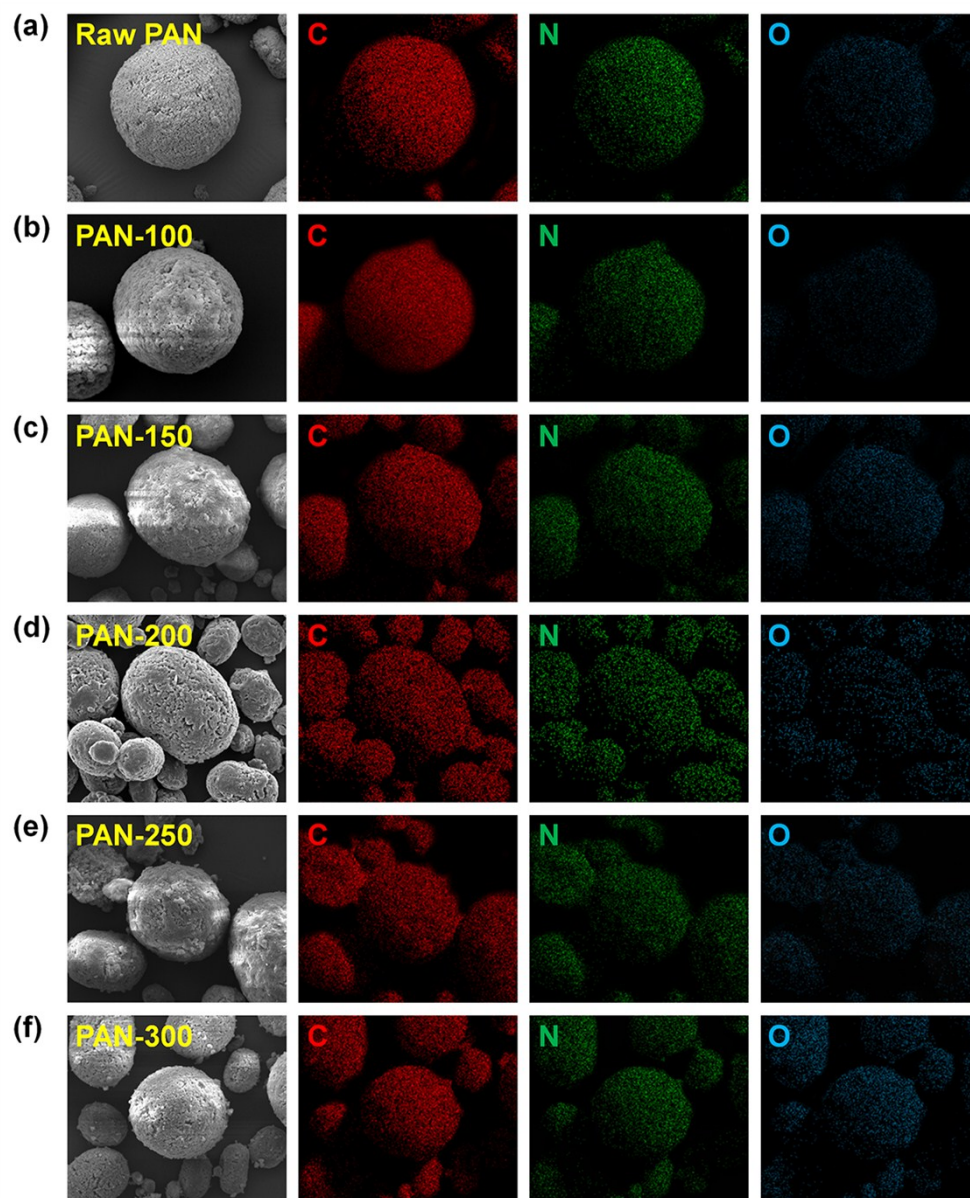


Fig. S4 FEG-SEM images and elemental mapping of (a) raw PAN, (b) PAN-100, (c) PAN-150, (d) PAN-200, (e) PAN-250, and (f) PAN-300 particles.

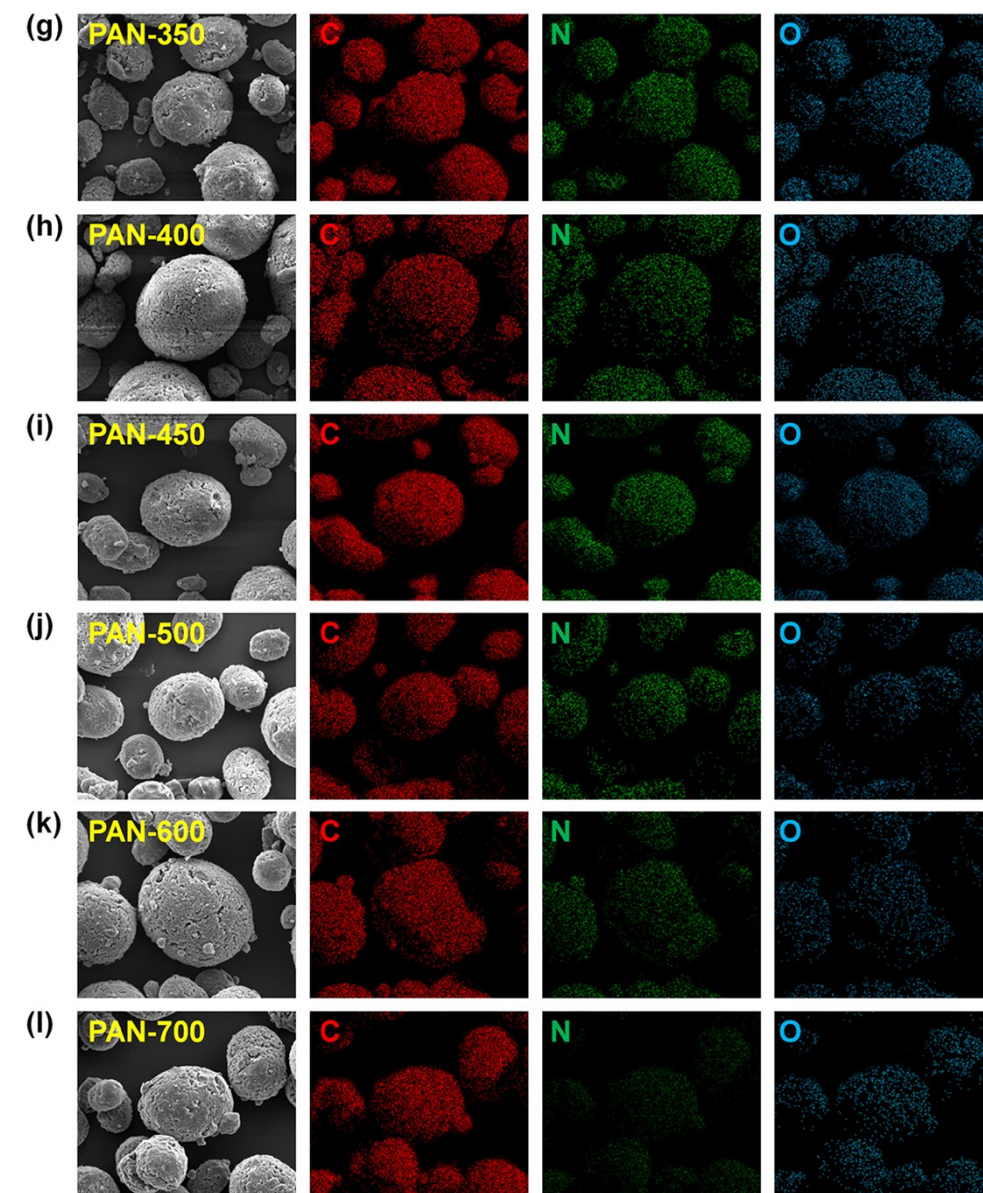


Fig. S4 (continued): (g) PAN-350, (h) PAN-400, (i) PAN-450, (j) PAN-500, (k) PAN-600, (l) PAN-700 particles.

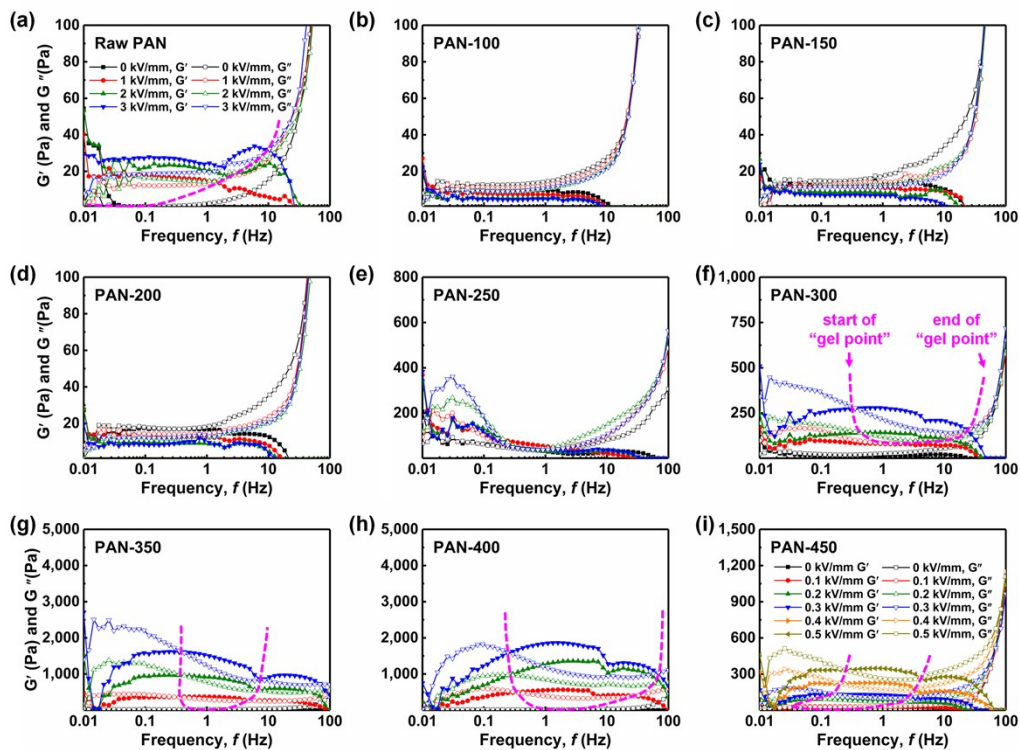


Fig. S5 The storage modulus (G') and loss modulus (G'') at various frequency regions for (a) raw PAN, (b) PAN-100, (c) PAN-150, (d) PAN-200, (e) PAN-250, (f) PAN-300, (g) PAN-350, (h) PAN-400, and (i) PAN-450 particles-dispersed suspensions at 25 °C. The particle concentration of each ER suspension is 30 vol%.