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Article

Supporting Information

Impact of pH on Regulating Ions Encapsulation of Graphene Oxide Nanoscroll for Pressure Sensing

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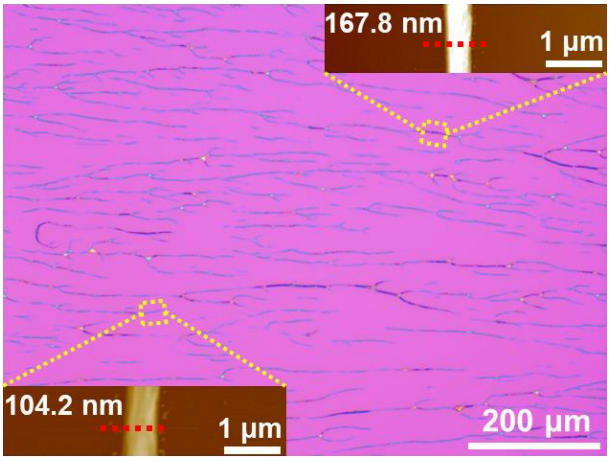

Figure S1. Optical image of $(GONS)_{0.5}$ lines with black and light blue color. Top inset: AFM image of $(GONS)_{0.5}$ line with black color. Bottom inset: AFM image of $(GONS)_{0.5}$ line with light blue color.

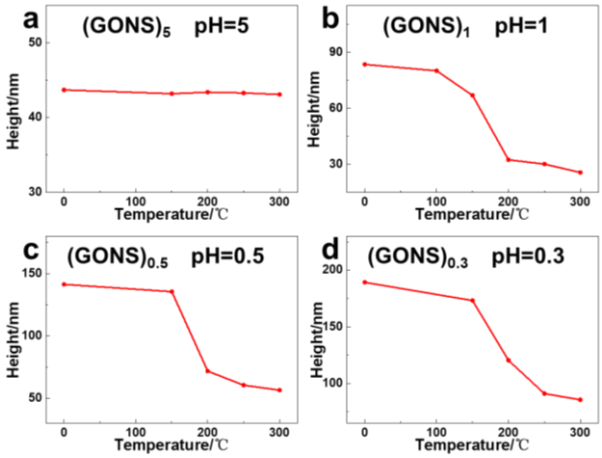

Figure S2. Plots of heights of (a) $(GONS)_5$, (b) $(GONS)_1$, (c) $(GONS)_{0.5}$ and (d) $(GONS)_{0.3}$ as a function of 30 min annealing at temperature of 100 ℃, 150 ℃, 200 ℃, 250 ℃ and 300 ℃, respectively.

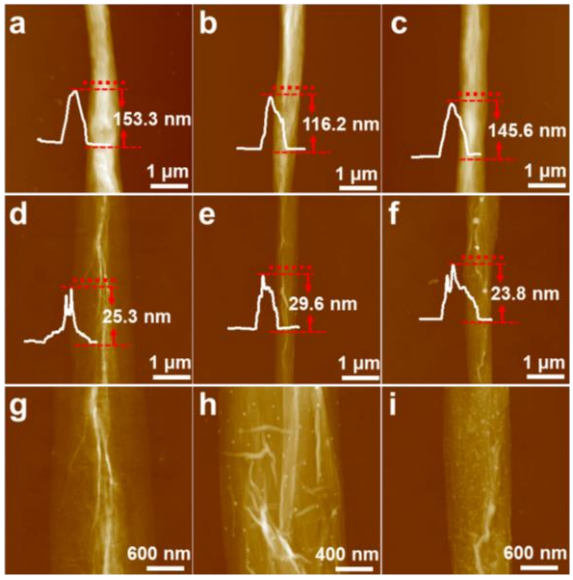

Figure S3. AFM height images of GONSs containing (a) Fe^{3+}, (b) Au^{3+} and (c) Zn^{2+} before annealing, respectively. AFM height images of rGONSs containing (d) FexOy NPs, (e) Au NPs and (f) ZnO NPs after annealing at 480 ℃ for 30 min, respectively. (g-i) Magnified AFM images of (d-f), respectively.

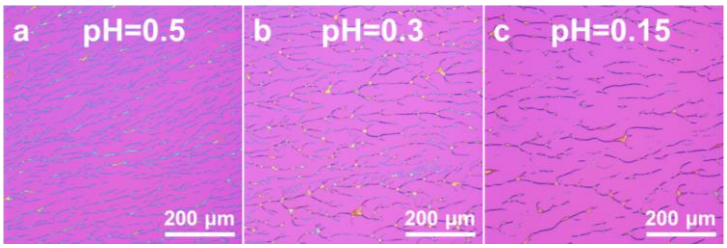

Figure S4. Optical images of (a) $(rGONS)_{0.5}$, (b) $(rGONS)_{0.3}$ and (c) $(rGONS)_{0.15}$, respectively.

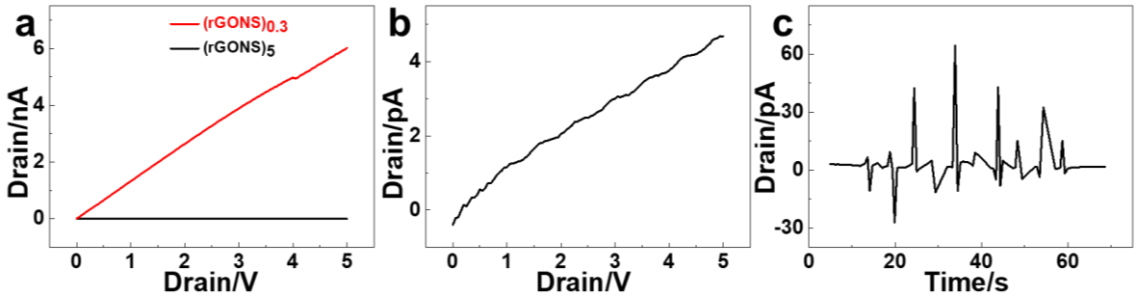

Figure S5. (a) The I-V plots of $(rGONS)_5$ and $(rGONS)_{0.3}$ mesh devices at drain voltage of 0-5 V. (b) Magnified plot of the black curve shown in (a). (c) Pressure response of $(rGONS)_5$ mesh device at a pressure of 2400 Pa.

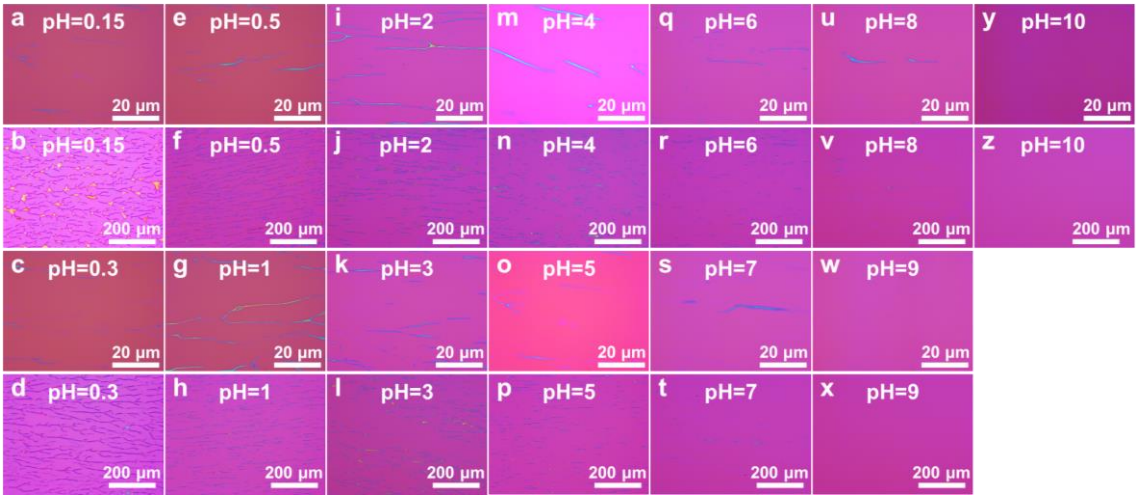

Figure S6. Optical images of GONSs prepared at pH of 0.15 (a-b), 0.3 (c-d), 0.5 (e-f), 1 (g-h), 2 (i-j), 3 (k-l), 4 (m-n), 5 (o-p), 6 (q-r), 7 (s-t), 8 (u-v), 9 (w-x) and 10 (y-z), respectively.

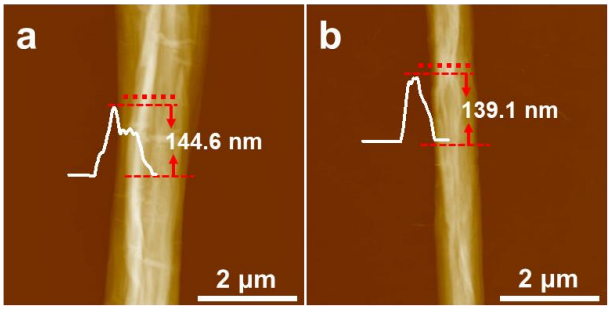

Figure S7. AFM height images of (a) $(GONS)_{0.3}$ and (b) $(rGONS)_{0.3}$, respectively.