Supporting Information For

Paper-based transparent flexible thin film supercapacitors

Preparation of CNFs/[RGO]n hybrid paper

The CNFs paper can be prepared by the static evaporation of the water in the PTFE (polytetrafluoroethylene) petri dishes at 60 ^{0}C for 4 h and then at room temperature for desired time. The CNFs paper was first dipped into the Cu^{2+} solution (1 mg/ml, pH 4.5) for 1 min, rinsed by the DI water, and then dried with hot air (about 65 ^{o}C). Subsequently, the paper was dipped into the GO suspension (1 mg/ml, pH 4.5) for 1 min, followed by similar rinsing and drying. The above cycle can be repeated until obtain desired number of times, n. CNFs/$[Cu^{2+}/GO]_n$ hybrid paper was reduced by HI acid at 80 ^{0}C for 10 seconds and called CNFs/$[RGO]_n$ hybrid paper where n is the number of cycles.

Preparation of the transparent flexible thin film supercapacitors

6 g of H_2SO_4 was added into 60 ml of deionized water, and then 6 g of PVA was added with continuous stirring at 80 ^{0}C until the solution became clear. Two pieces of CNFs/$[RGO]_n$ hybrid paper (the edge of one side glued to the aluminum foil with silver paste) were soaked in the H_2SO_4-polyvinyl (PVA) gel electrolyte for 15 min and picked out. after that, two electrode paper were left in the fume hood at room temperature for about 4 h to vaporize the excess water, then the two electrode paper were assembled into all-solid-state flexible supercapacitors under a pressure of 0.2 MPa.

Characterization of cellulose nanofiers

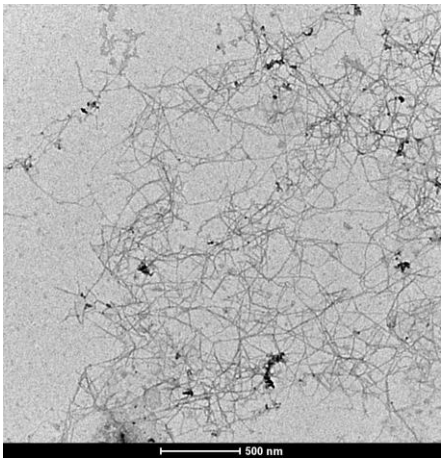

Fig.S1 TEM image of cellulose nanofiber samples

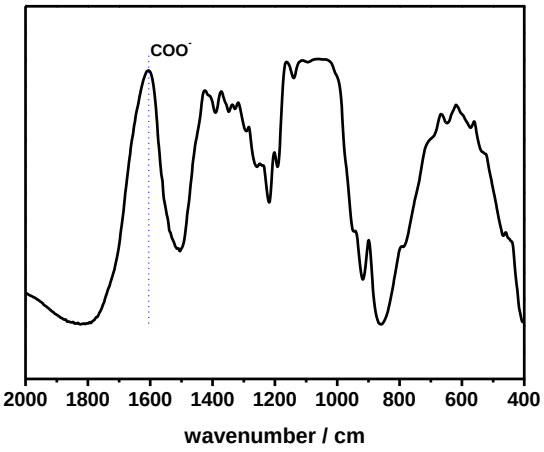

Fig.S2 FT-IR spectra of cellulose nanofiber samples

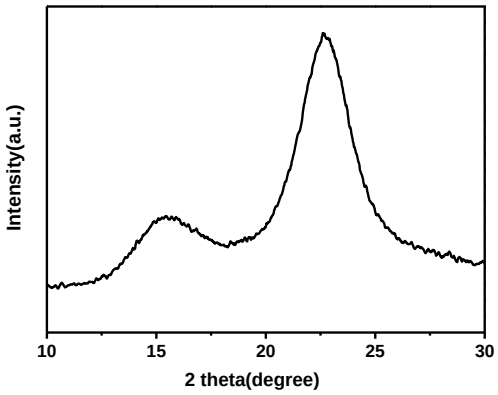

Fig.S3 XRD spectra of cellulose nanofiber samples

Characterization of GO

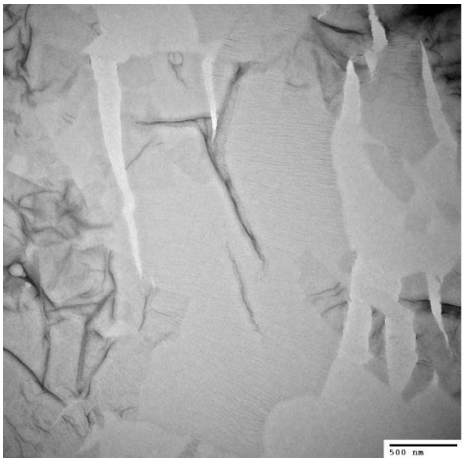

Fig.S4 TEM image of GO nanosheets

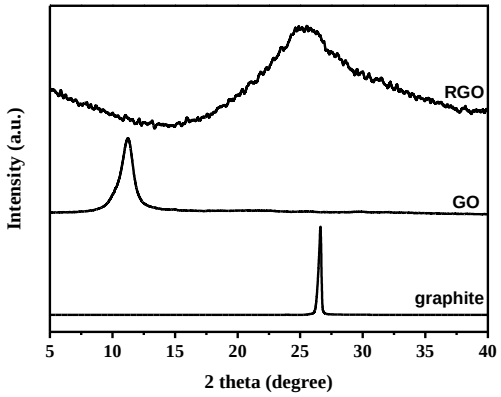

Fig.S5 XRD spectras of GO, RGO, and graphite

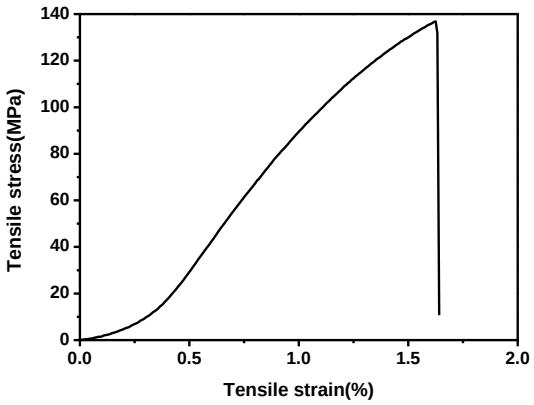

Fig.S6 Stress-strain curve of CNFs/$[RGO]_{20}$ hybrid paper

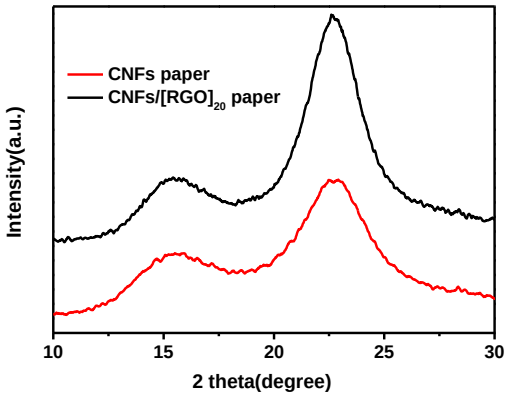

Fig.S7 XRD spectras of CNFs paper and CNFs/$[RGO]_{20}$ hybrid paper

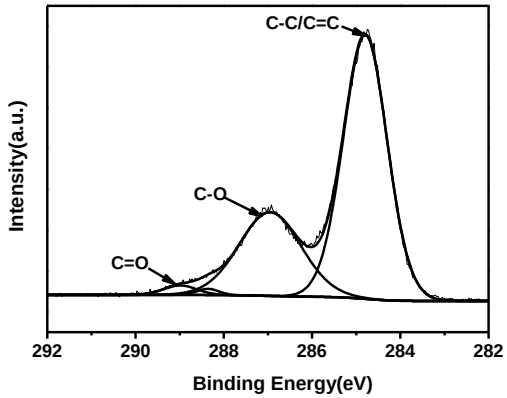

Fig.S8 High-resolution C1s spectra of GO nanosheets

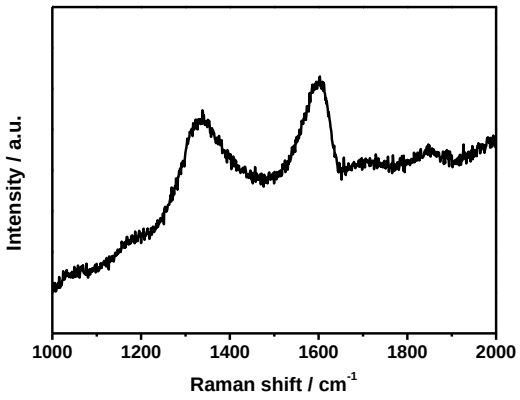

Fig.S9 Raman spectra of GO nanosheets

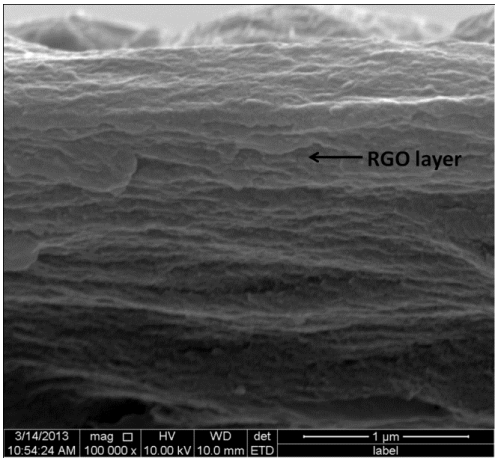

Fig.S10 Cross-sectional FESEM image of CNFs/$[RGO]_{20}$ hybrid paper

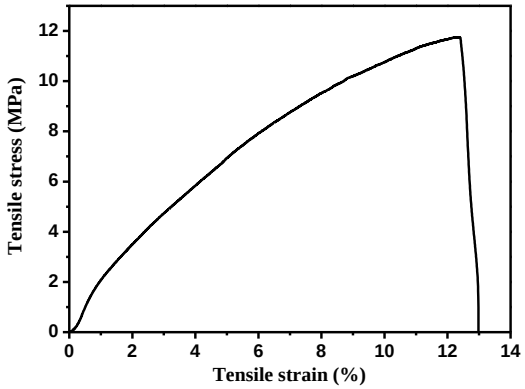

Fig.S11 Stress-strain curve of T-SC-20