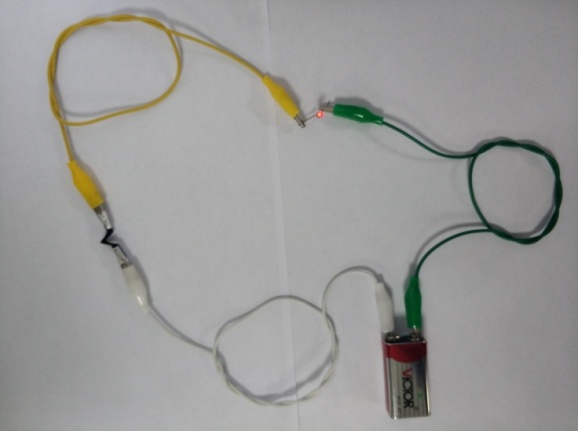
**Green synthesis of free standing cellulose/graphene oxide/polyaniline aerogel electrode for high performance flexible all-solid-state supercapacitors**

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**Fig. S1.** The cellulose/GO3.5/PANI film was folded and used as a wire to light up a red LED.





**Fig. S2.** (a) CV curves of the cellulose/GO1.0/PANI, cellulose/GO2.0/PANI, cellulose/GO3.5/PANI and cellulose/GO5.0/PANI samples at 10 mV/s. (b) CV curves of cellulose/PANI sample. (c) GCD curves of cellulose/PANI sample. (d) Nyquist plot of the cellulose/PANI and cellulose/GO/PANI with an equivalent circuit in the inset.



**Fig. S3.** (a) CV curves of the cellulose/GO3.5/PANI0.5M, cellulose/GO3.5/PANI0.75M, cellulose/GO3.5/PANI1.0M (namely cellulose/GO3.5/PANI sample in the manuscript) and cellulose/GO3.5/PANI1.25M samples at 10 mV/s. (d) GCD curves of the cellulose/GO3.5/PANI0.5M, cellulose/GO3.5/PANI0.75M, cellulose/GO3.5/ PANI1.0M and cellulose/GO3.5/PANI1.25M samples.

**Table S1** Comparison of electrochemical performance of various electrodes based on conducting fillers/cellulose composites.

|  |  |  |  |
| --- | --- | --- | --- |
| Materials | Maximum CS (mF/cm2) | Cyclic stability | Reference |
| Graphene/cellulose paper | 81 (1 mV/s) | 99.1 % (5000) | [[1](#_ENREF_1)] |
| SWCNT/PANI/cellulose | 330 (0.2 mA/cm2) | 79 % (1000) | [[2](#_ENREF_2)] |
| Graphite /PANI/paper | 355.6 (0.5 mA/cm2) | - | [[3](#_ENREF_3)] |
| GO/PPy | 387.6 (0.2 mA/cm2) | 84.8 % (5000) | [[4](#_ENREF_4)] |
| CNT/PANI hydrogel | 680 (1 mA/cm2) |  | [[5](#_ENREF_5)] |
| PANI/Graphite paper | 176 (0.2 mA/cm2) | - | [[6](#_ENREF_6)] |
| PANI/RGO film | 718 (0.45 A/g) | 74 % (500) | [[7](#_ENREF_7)] |
| Graphene/PANI/Graphene | 190.6 (0.5 mA/cm2) | 96 % (1000) | [[8](#_ENREF_8)] |
| RGO/PPy CCFs paper | 363 (0.5 mA/cm2) | - | [[9](#_ENREF_9)] |
| Carbon cloth-PANI-rGO | 471 (0.5 mA/cm2) | 75.5 % (10000) | [[10](#_ENREF_10)] |
| PANI/CNT/Graphene | 465 (1 mA/cm2) | 84 % (1000) | [[11](#_ENREF_11)] |
| PANI/GO/CNT | 510.5 (1 A/g) | - | [[12](#_ENREF_12)] |
| CNFs-RGO/PPy | 334  (0.1 mA/cm2) | 100% (2000) | [[13](#_ENREF_13)] |
| Cellulose/GO3.5/PANI | 1218 (1.0 mA/cm2) | 83.5 % (1000) | This work |

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