## Supporting Information

## Mimicking natural electrical environment with cellulose acetate scaffolds enhances collagen formation of osteoblasts

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**Figure S1.** Exemplary contact angle  $(\Theta)$  measurements of a) CA fibers and b) glass control.



Figure S2. XPS spectra from measurements at 45° for CA electrospun fibers.



**Figure S3.** Measurement of piezoresponse in d33 direction on CA fiber showing no piezoelectric response. (Scale used is the same as for  $d_{31}$  measurement)



**Figure S4.** Confocal microscopy images of cells used for adhesion test for 1, 2 and 4 h on CA electrospun fibers and control surface – glass.



**Figure S5**. Confocal images from replication tests after 3 and 7 days of incubation. Replicating cells (green) were stained with Click-iT<sup>TM</sup> EdU AF488 imaging kit and the nuclei were counterstained with DAPI (blue).



**Figure S6.** Actin fibers imaging from confocal microscopy with corresponding SEM images of cells growing on glass at a-c) day 3 and d-f) day 7 of cell culture. The nuclei were stained with DAPI (blue) and the actin filaments with Alexa Fluor<sup>™</sup> 488 Phalloidin (green).