

## Supplementary Information for Publication

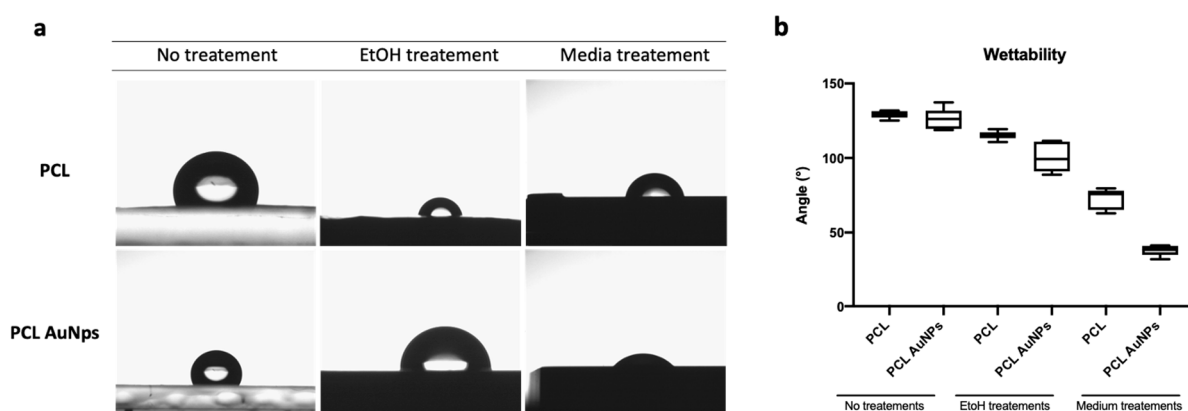
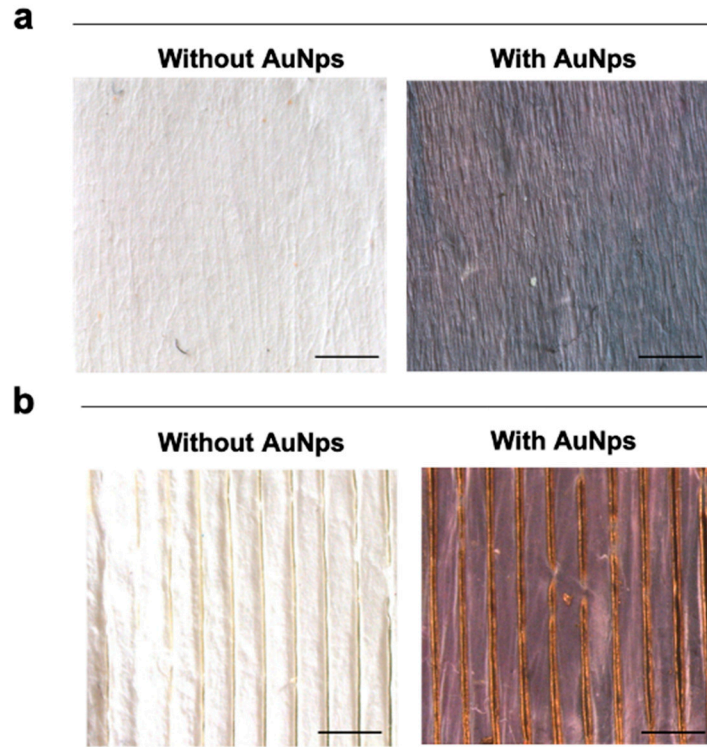


Figure S1. Wettability measurements for PCL and PCL Au NPS untreated/treated with EtOH or media by contact angle. The images (a) show the water attached to the untreated and treated substrates 1 minute after the dropping. Graph (c) gives the contact angles measured for the specimens. Data are displayed as median, quartiles, 5- and 95-percentiles ( $n=6$ ,  $p < 0.01$ ).



**Figure S2.** (a) Picture of electrospun PCL and with gold nanoparticles, (b) with micro patterned lines with a spacing of 500  $\mu\text{m}$ .

Wet Scaffold	Sheet Resistance ( $\text{K}\Omega/\text{cm}$ )	Conductivity ( $\Omega^{-1}/\text{cm}^{-1}$ )
PCL	49,43	2,02E-05
PCL-Au Nps	13,06	7,65E-05
PCL-Au Nps-PEG	19,96	5,00E-05

**Figure S3.** conductivity of the scaffolds coated obtained by using two-point probes methods.

Gene	Reference Number	Sequence (Forward/Reverse)	Product Length (bp)
RP2β (aka polr2b)	NM_153798.2	F: GATCCGTATCAGGTTCATGTCTGTA R: CGGCATTCGCACCAAGGAA	123
Myogenin	NM_031189	F: CAACCCAGGAGATCATTTGCT R: TGACAGACAATCTCAGTTGGG	145
MYOD	NM_010866.2	F: CATTCCAACCCACAGAAC R: GCGGATAGAAGCTCCATA	125
IGF-I	NM_010512	F: CATCGTCTTTAGGAGTGTTTGTTT R: TAGAATGTTATTGATAAAGGACCAAC	98
Desmin	NM_010043.2	F: ATGAGACCATCGCGGCTAAG R: TTGGCTGCCTGAGTCAAGTC	82
MYH3 Emb	NM_001099635.1	F: CTACAACAGATGCGGACGGT R: CAGTGCAGAGACGGTTTGGA	77

**Table S1.** Real-Time qPCR Primer Details.