SUPPLEMENTARY INFORMATION

Fibrous scaffolds Via Emulsion Electrospinning: from hosting capacity to in vivo biocompatibility

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Weight ratios of the blend:	PPC	PEO	SERICIN	% ETHYL ACETATE	% WATER
r1	50	25	25	50	50
r2	20	20	60	20	80
r3	20	40	40	20	80
r4	20	60	20	20	80
r5	80	10	10	80	20

Table 1: Composition of the blend: weight ratios of the three molecules used for the preparation of nanofibers, PPC, PEO, and SER, and solvents percentage.

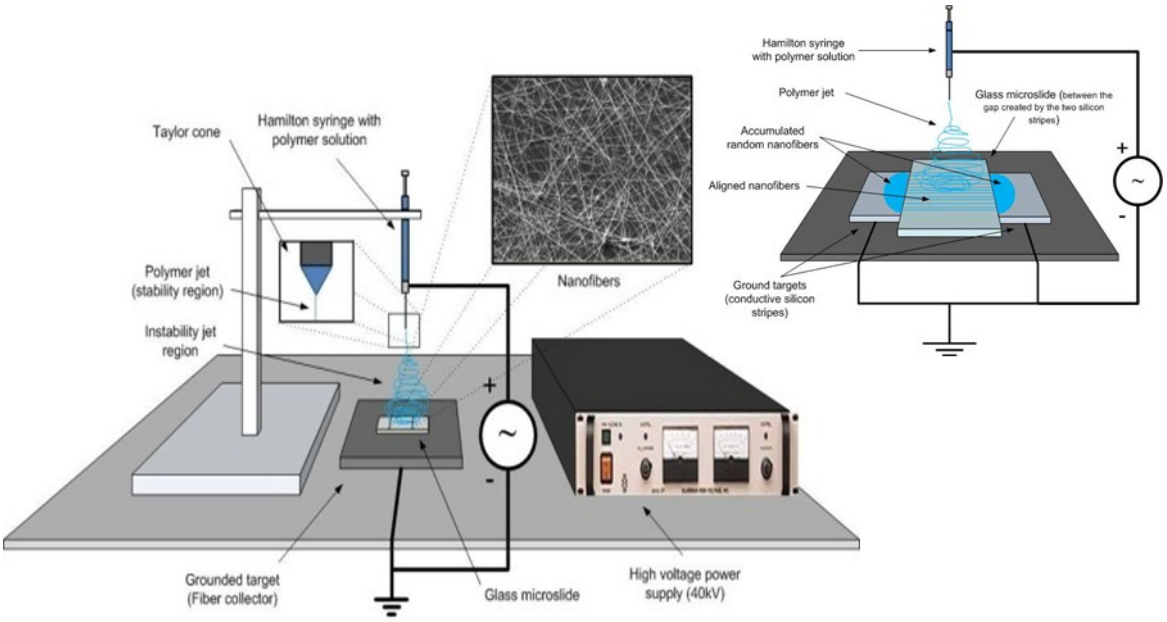

Figure 1SI: Illustration of the electrospinning setup in basic configuration. Inset: Illustration of the electrospinning setup used for the nanofiber alignment process.

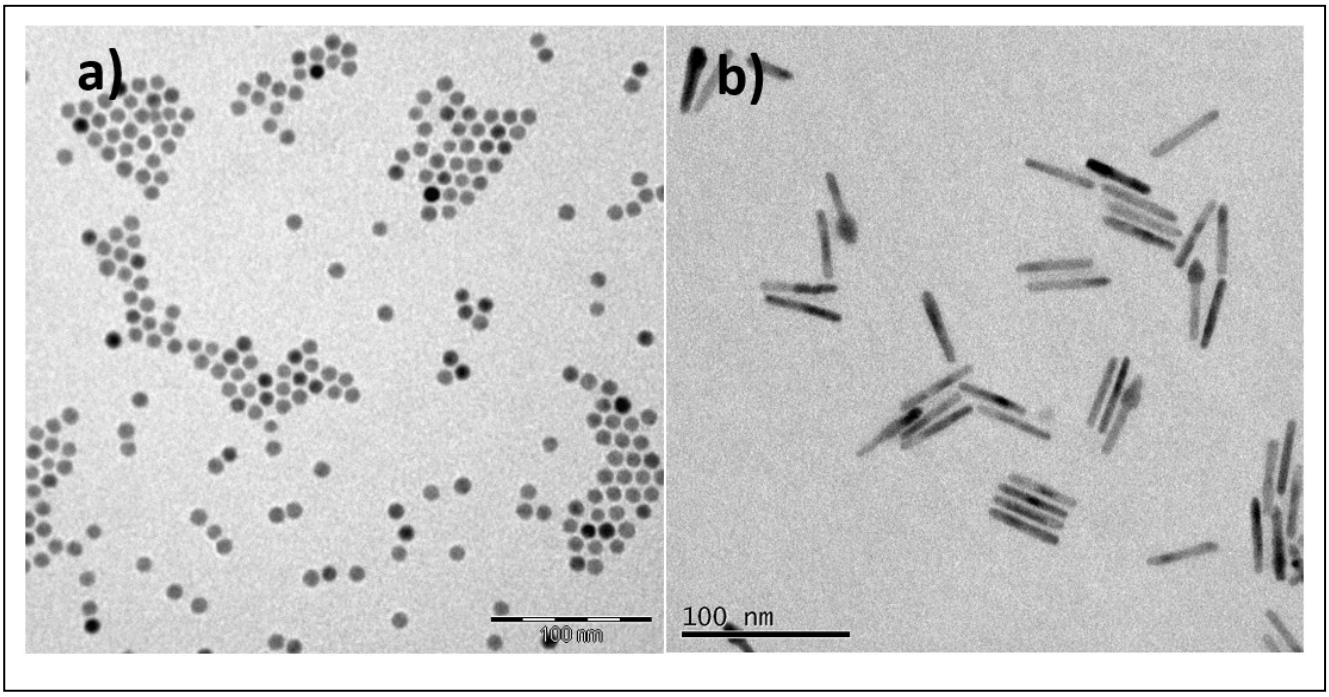

Figure 2SI: TEM images of the nanoparticles used for nanofibers loading. a) Spherical iron oxide nanoparticles; b) CdSe/CdS QR having length of around 35. Both types of nanocrystals are soluble in water and coated by amino-bearing PEG molecules.

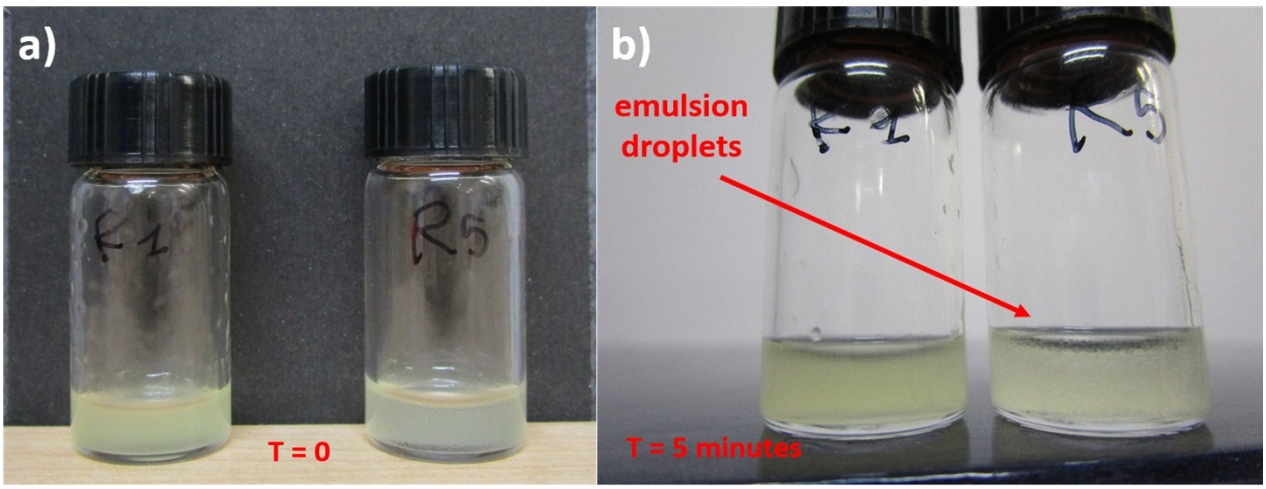

Figure 3SI: Vials containing the blend solution r1 (the left bottle) and r5 (the right bottle) a) at T=0 and b) after 5 minutes. See Table 1 for blend details.

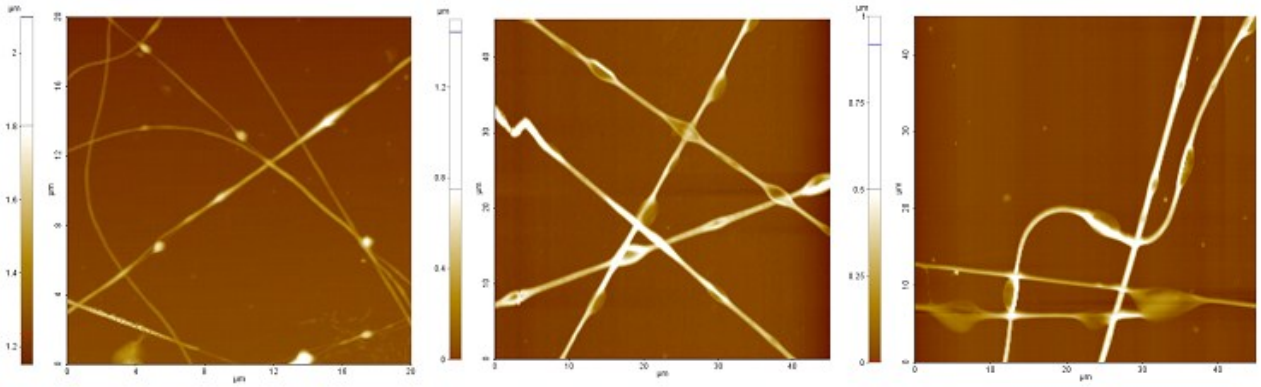

Figure 4SI: AFM images of r1 fibers: the image shows the presence of several beads, due to defects during the ES process of the fibers**.**

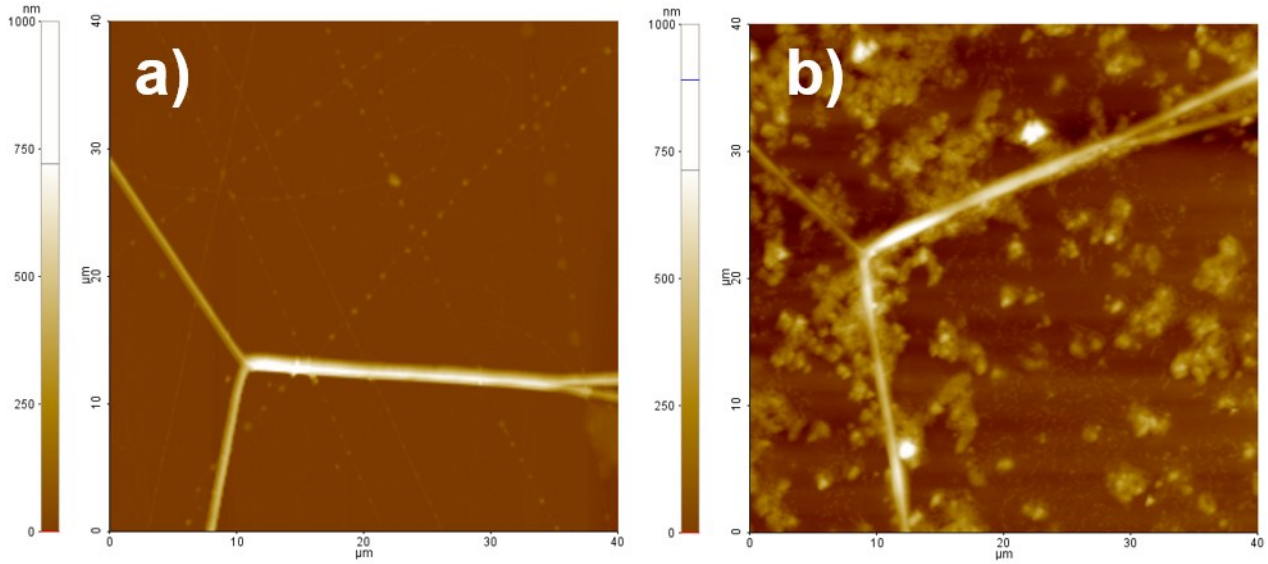

Figure 5SI: AFM images of fibers prepared with r1 blend: a) fibers image after ES deposition; b) the same region of the sample was imaged after 7 days, during which it was kept in bidistilled water.

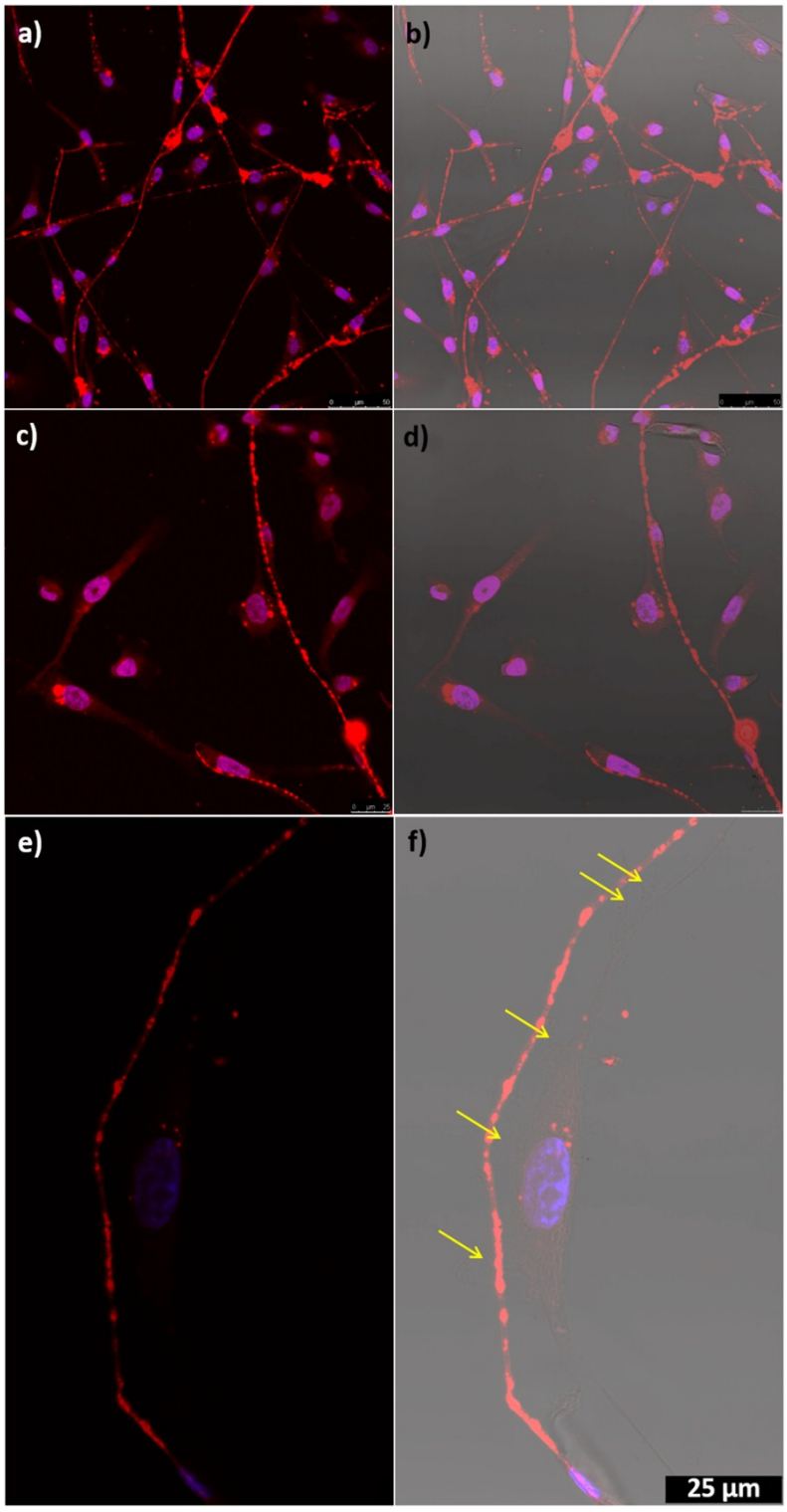

Figure 6SI: Confocal images of MDA cells incubated for 24h with QR-loaded fibers. Images were acquired under 405 and 488 nm lasers excitation, with acquisition windows set at 450±20 nm for DAPI, and 625±15 nm for QR. In b), d) and f) the two fluorescent channels were overlapped to the brightfield image.

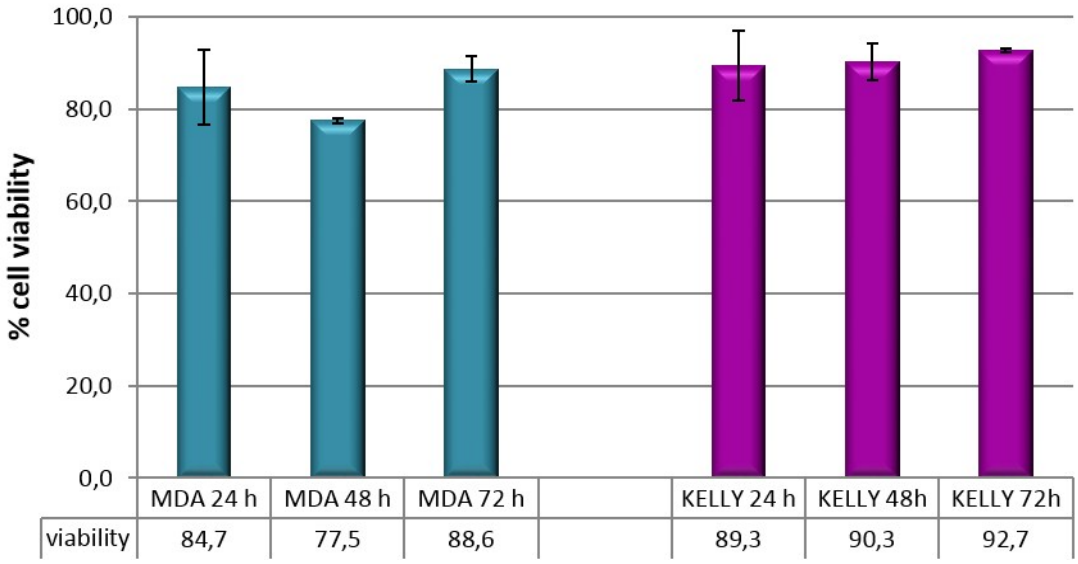

Figure 7SI: Viability assay of two cell lines (MDA and KELLY) let seeding onto the fibers and incubated for 24, 48 and 72h**.**