Electronic Supplementary Material (ESI) for Nanoscale.

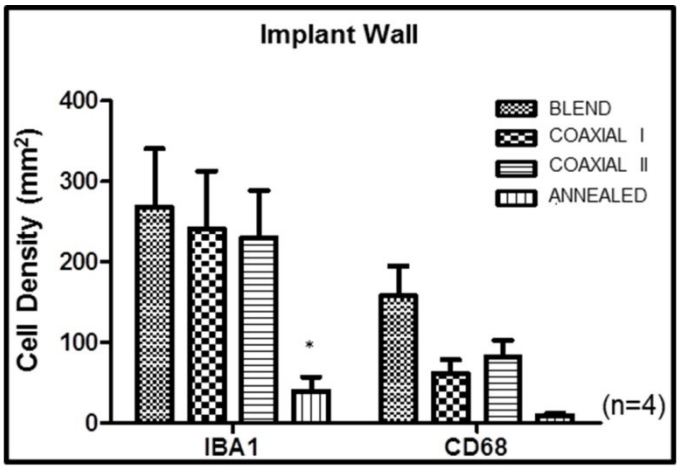


Fig S-1 *In vivo* assays to evaluate tissue reaction in Sham-operated animals and those receiving Blend, Coaxial I, Coaxial II and Annealed scaffolds. Immunofluorescence staining for IBA1 and CD68 markers (see Fig. 3). IBA1+ (red) and CD68+ (green) cells were counted and the graph shows the density of infiltrating cells in the implant walls. IBA1 results show significant difference between Annealed and other scaffolds (* $p < 0.05$); while, for CD68, no significant difference was found.

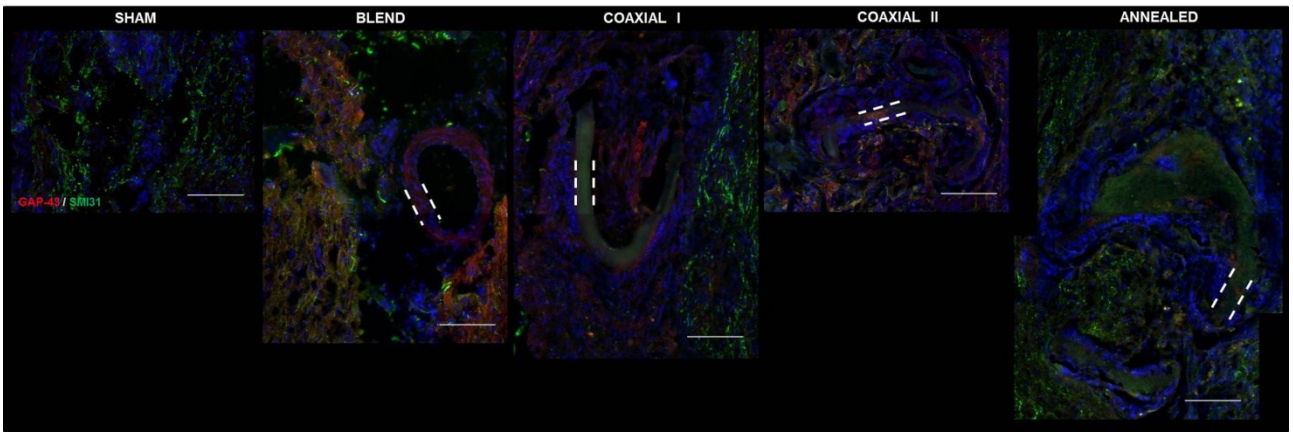


Fig S-2 *In vivo* assays to evaluate axonal regeneration in Sham-operated animals and those receiving Blend, Coaxial I, Coaxial II and Annealed scaffolds. Immunofluorescence staining to analyze GAP-43+ (red) and SMI31+ (green) cells. Cell nuclei are visualized with DAPI (Blue). Scale bar = 100 μm. Dashed lines outline scaffold walls.

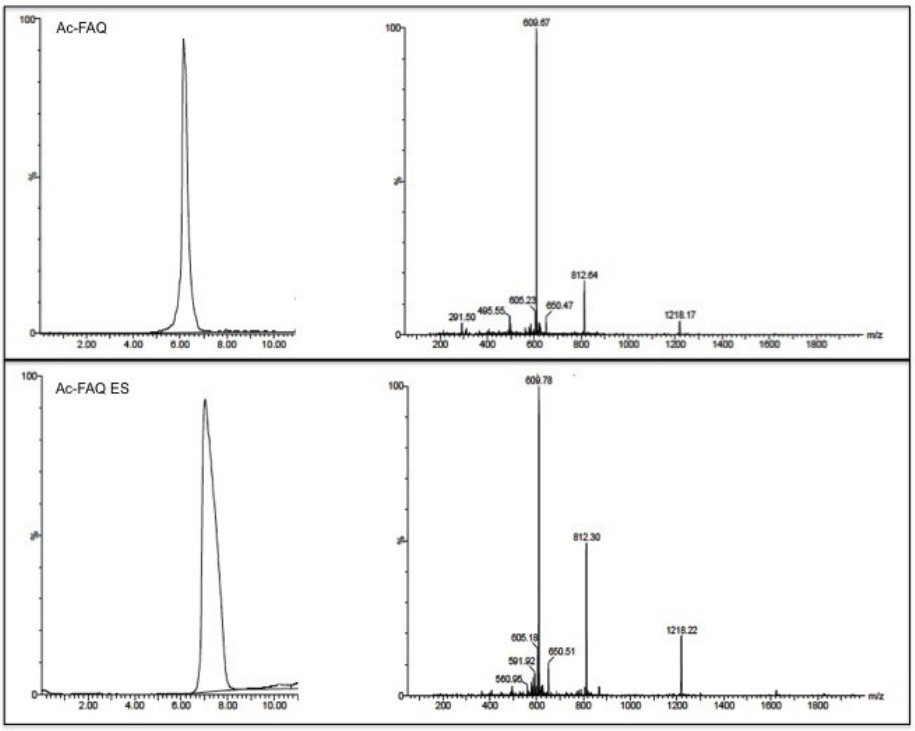


Fig S-3 Waters LC-MS Alliance -3100 analysis of Ac-FAQ and Ac-FAQ ES to confirm the molecular weight and the integrity of peptide following the electrospray process.

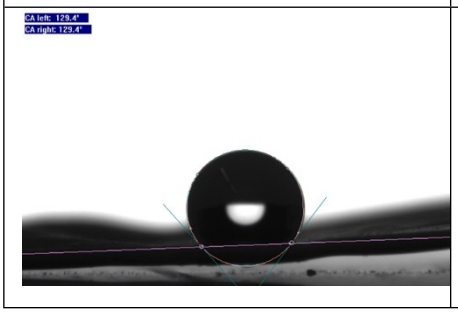
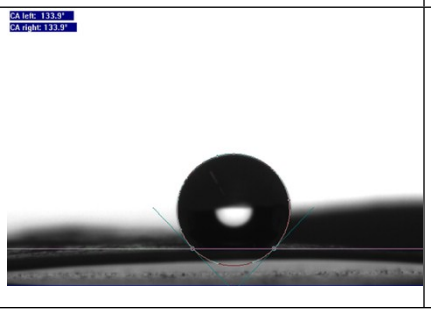
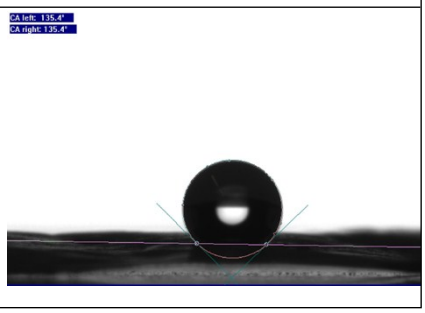
BLEND	COAXIAL I	COAXIAL II
		

Fig S-4 Representative images of the water droplets on the electrospun nanofibrous mats.