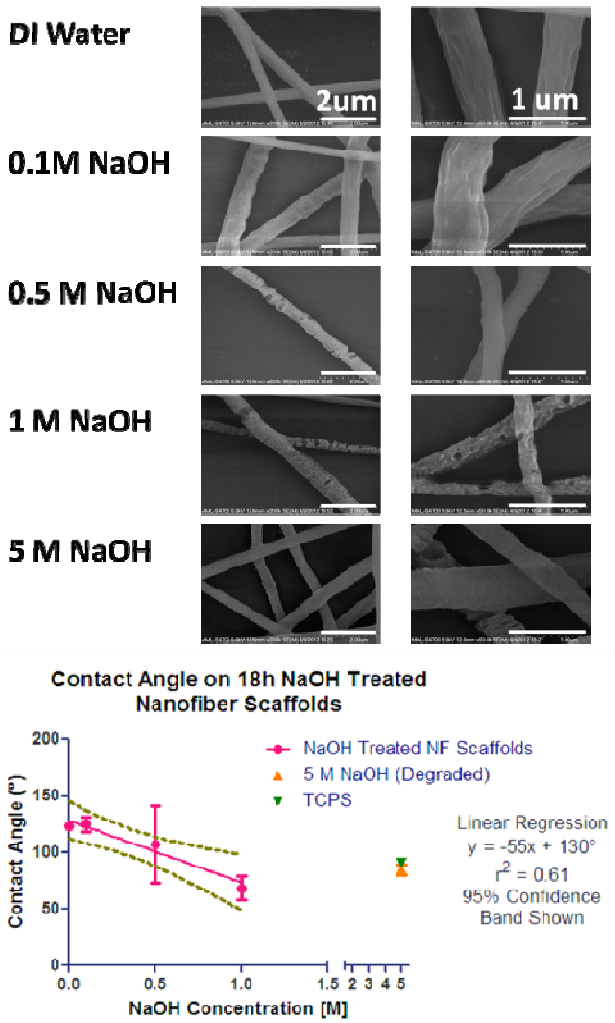

Figure S1: Possible degradation effects of hydrolysis on NF scaffolds after 18 h of treatment in alkaline solutions of varying NaOH concentration. Although NaOH hydrolysis can result in significant drops in scaffold water contact angle, with extensive hydrolysis, pitting and breakage and dissolution of PCL NFs can be seen.

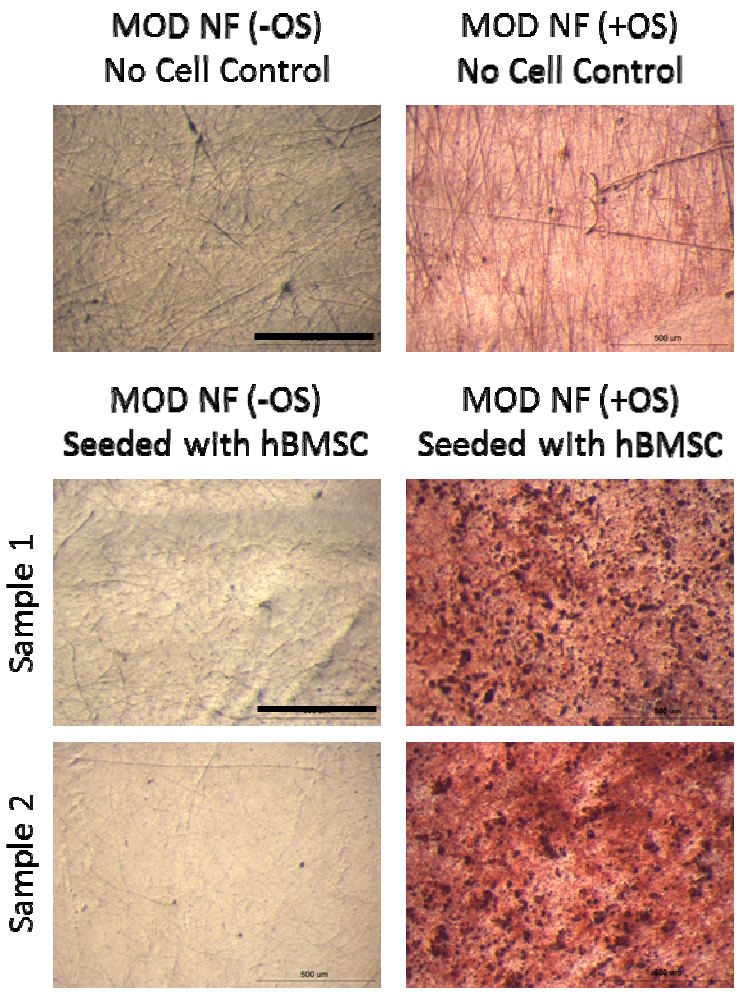

Figure S2: Mineralization on chemically modified PCL nanofiber scaffolds (MOD NF) with and without osteogenic supplements (OS). Cells were seeded at a concentration of 10, 000 cells/cm^2 and cultured for 50 d, then fixed in 37 g/L formaldehyde in phosphate buffered saline and stained for mineralization with alizarin red stain (mineral deposits stained red, scale bar represents 500 μm). MOD NF samples without OS do not show signs of mineralization while MOD NF samples cultured with OS show clear mineralization patterns in comparison to no cell controls (no cell controls with OS show slight background staining from alizarin red but there is not distinct staining pattern). This study demonstrates that NaOH modified PCL nanofiber scaffolds are capable of supporting mineralization and that the surface modification does not interfere with mineralization in the presence of osteogenic stimulus.

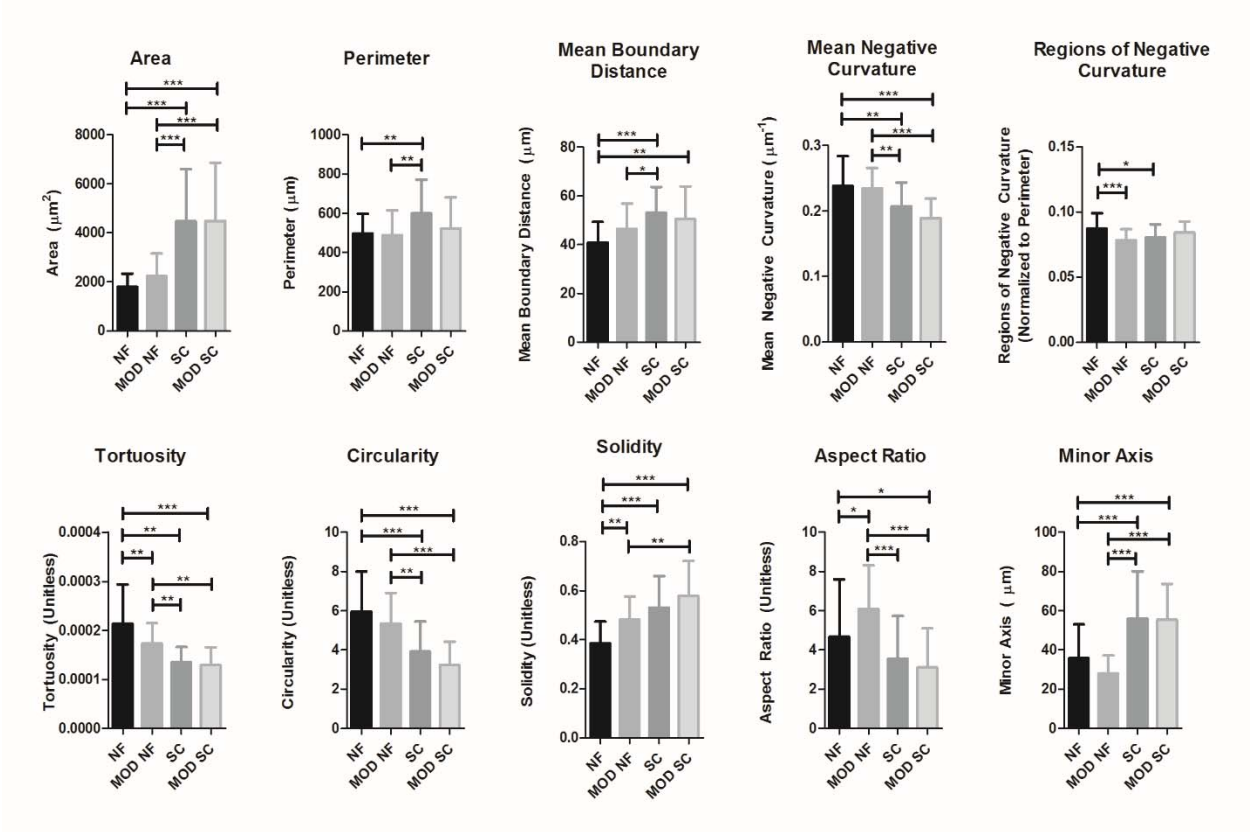

Figure S3: Cell shape metrics for hBMSCs cultured on NF, SC, MOD NF, and MOD SC scaffolds. Cell shape metrics determined by analyzing snake outlines of maximum x-projections of confocal Z-stack images. Statistical differences analyzed using 1-way ANOVA with Tukey's multiple comparisons post test. (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$) ($n > 35$).