

Supporting information to
**Non-invasive monitoring of the osteogenic
differentiation of human mesenchymal stem cells on
the polycaprolactone scaffold using Raman imaging**

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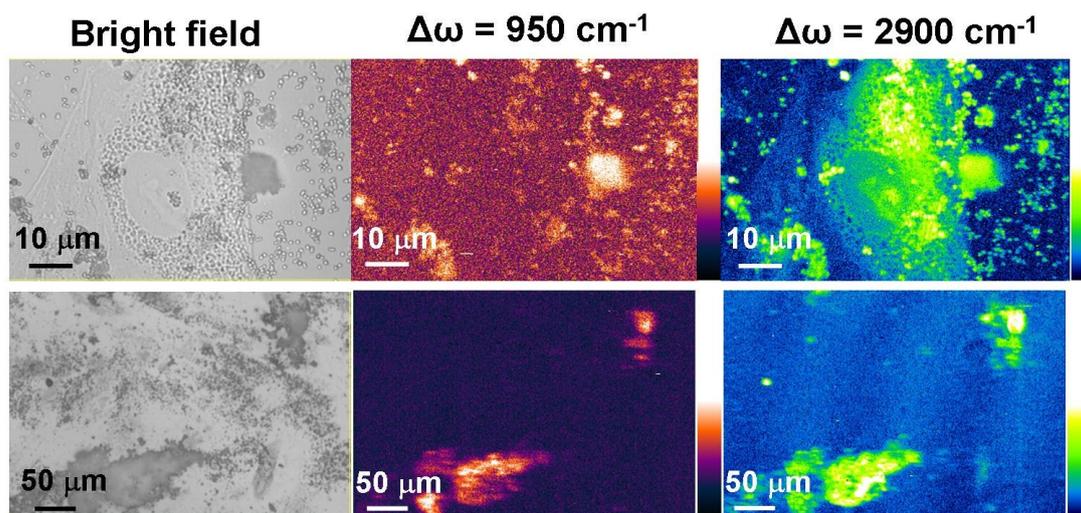


Figure S1. Bright field and Raman images (at 950 cm^{-1} and 2900 cm^{-1}) of osteogenic induced hMSCs on culture plate for 21 days.

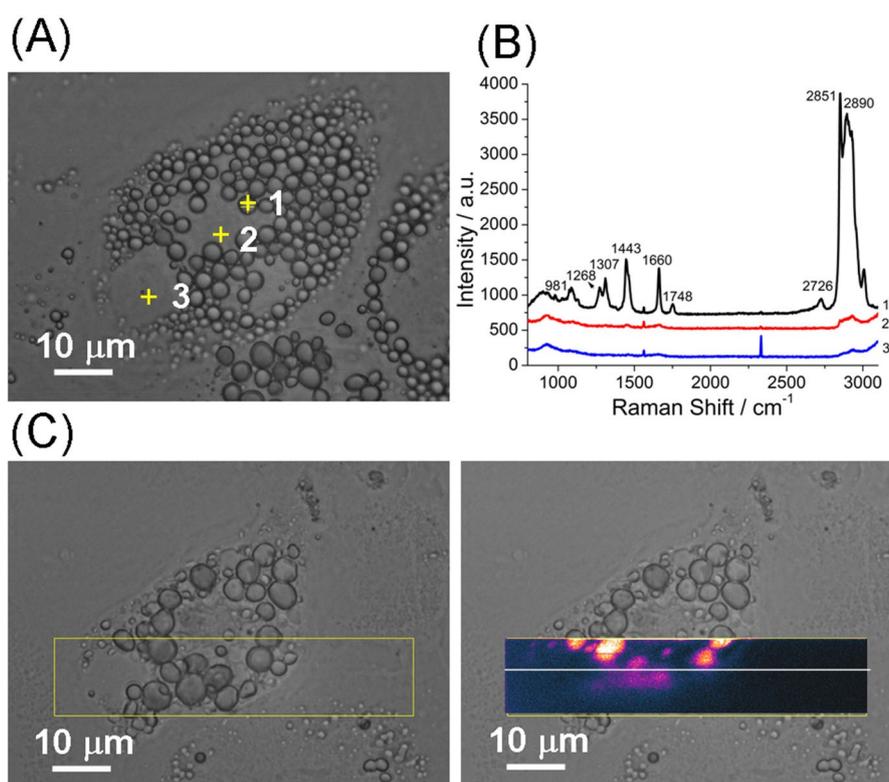


Figure S2. (A) Representative bright field image of adipocytes differentiated from hMSCs after adipogenic induction for 21 days. (B) The Raman spectrum of the regions indicated by yellow cross in the bright field image. (C) Bright field and Raman mapping by integration of the intensities at 2900 cm^{-1} .

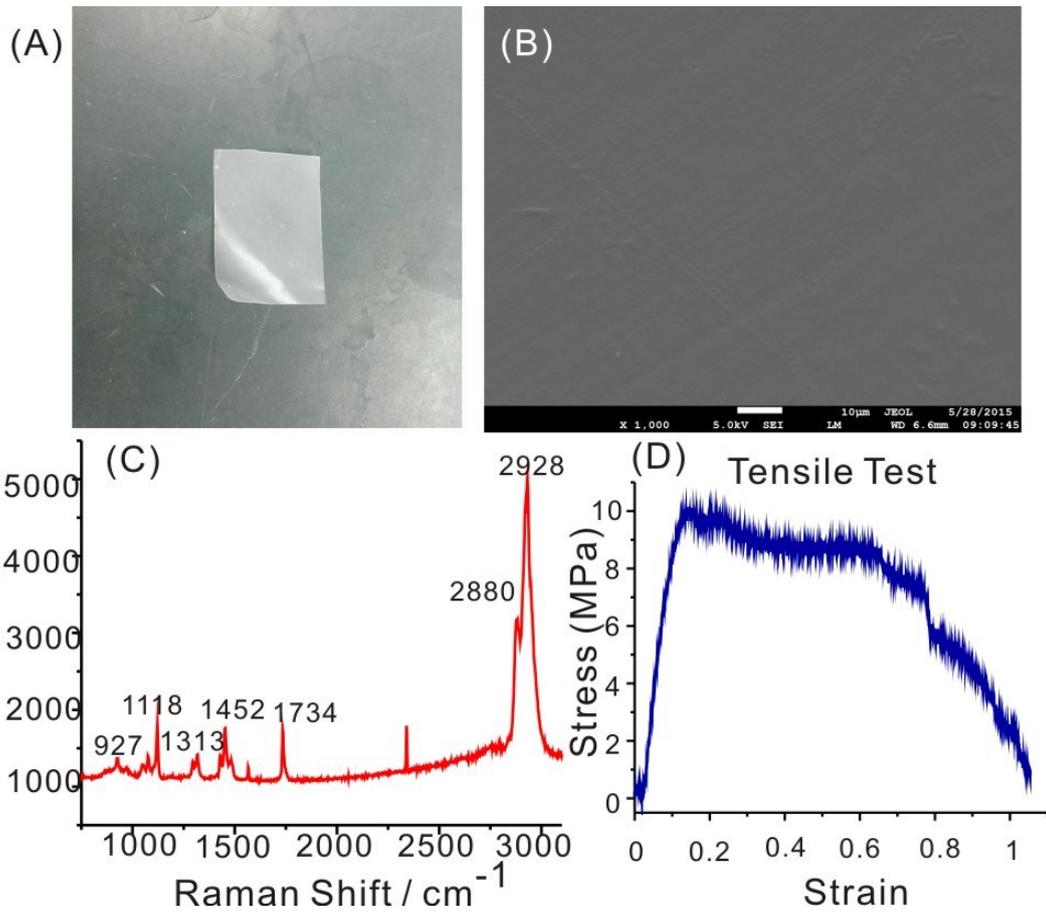


Figure S3. (A) Representative bright field image of PCL film, (B) SEM image of PCL film, (C) Raman spectra of PCL film, and (D) the stress-strain curve of a PCL film obtained by tensile test.

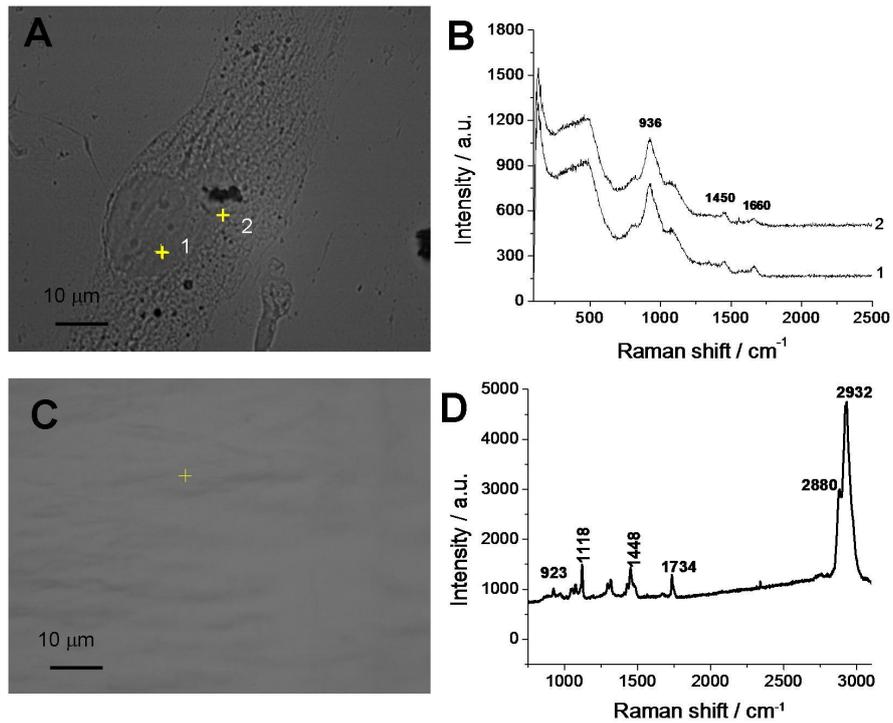


Figure S4. Raman spectrum of hMSCs on culture plates or PCL scaffolds in non-differentiation inducing medium (i.e. growth medium) for 28 days. (A) Bright field image and (B) the Raman spectrum of hMSCs on culture plates. (C) Bright field image and (D) the Raman spectrum of hMSCs on PCL scaffolds. The numbered spectrum were acquired from the areas indicated by yellow cross in respective bright field images.