

## Spectral Fingerprinting of Cellular Lipid Droplets using Hyperspectral Stimulated Raman Scattering Microscopy and Chemometric Analysis

### Supplementary Information File

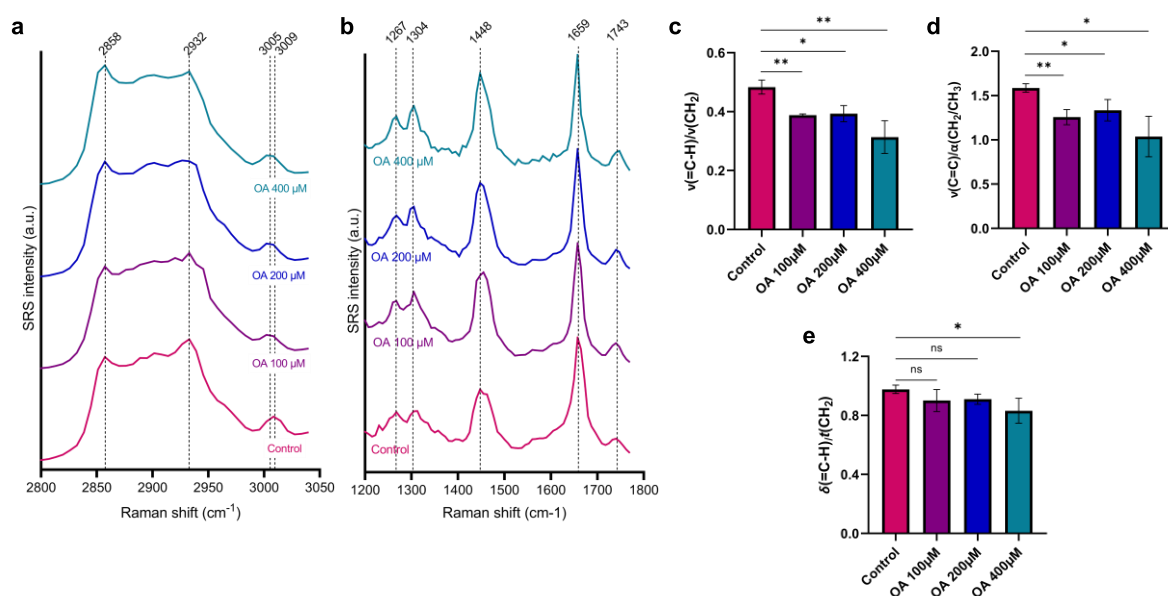
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**Figure S1** Concentration study of oleic acid uptake. HeLa cells were treated with DMSO (control) or oleic acid (100, 200 or 400  $\mu\text{M}$ ) for 24h. SRS spectra were acquired across the range **a** 2800-3050  $\text{cm}^{-1}$  and **b** 1200-1780  $\text{cm}^{-1}$ . Wavenumber assignments are made in  $\text{cm}^{-1}$ . **c** Ratiometric analysis of the Raman bands  $\nu(=C-H)/\nu(\text{CH}_2)$  at  $\sim 3005 \text{ cm}^{-1}/\sim 2851 \text{ cm}^{-1}$ , **d** Ratiometric analysis of the Raman bands  $\nu(\text{C}=\text{C})/\alpha(\text{CH}_2/\text{CH}_3)$  at  $\sim 1660 \text{ cm}^{-1}/\sim 1440 \text{ cm}^{-1}$ , **e** Ratiometric analysis of the Raman bands at  $\delta(=C-H)/\tau(\text{CH}_2)$  at  $\sim 1267 \text{ cm}^{-1}/\sim 1304 \text{ cm}^{-1}$ . Data represent mean ratio with error bars:  $\pm$ S.D. Statistical significance was determined using a student's t-test, with (ns = not significant,  $p > 0.05$ ; \* =  $p \leq 0.05$ ; \*\* =  $p \leq 0.01$ ).