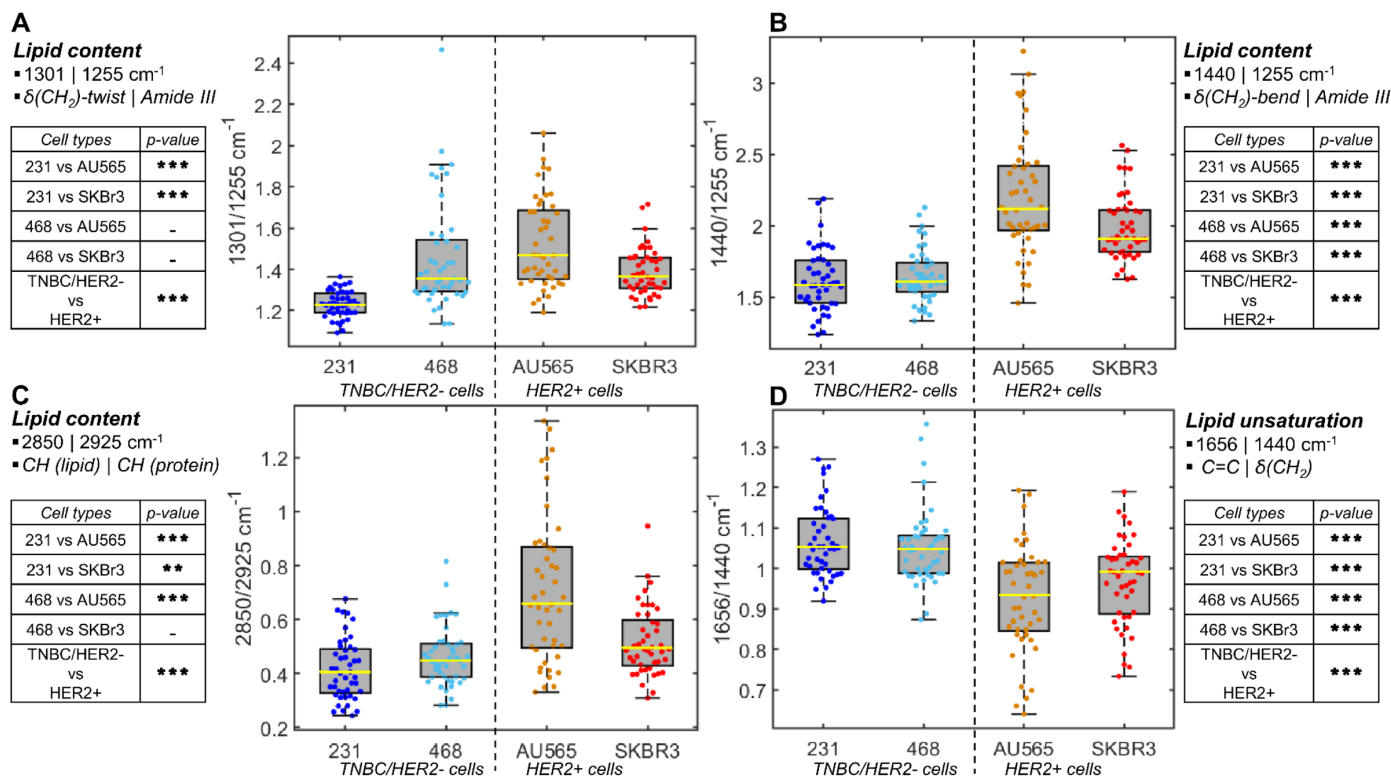




Supplementary Figure 4: Ratio-metric analysis of lipid dominant peaks from Raman spectral data obtained from breast cancer cells grown on CaF_2 slide. (**A, B & C**) HER2+ breast cancer cells yielded significantly higher spectral ratios ($1301/1255 \text{ cm}^{-1}$, $1440/1255 \text{ cm}^{-1}$ and $2850/2925 \text{ cm}^{-1}$) that indicate an increase in lipids relative to proteins, when compared to TNBC/HER2- cells (***, $p < 0.001$). (**D**) TNBC/HER2- cells demonstrated higher values for the $1656/1400 \text{ cm}^{-1}$ ratio than HER2+ cells, suggesting a rise in unsaturated lipids relative to the total amount of lipids within the cancer cells (***, $p < 0.001$). The yellow line in the box plots represents the median value for each group, while the bottom and top edges of the box indicate the 25th and 75th percentiles, respectively. The bars of the box plot extend to the most extreme data points not considered outliers, and the outliers are plotted individually beyond the whisker bars.