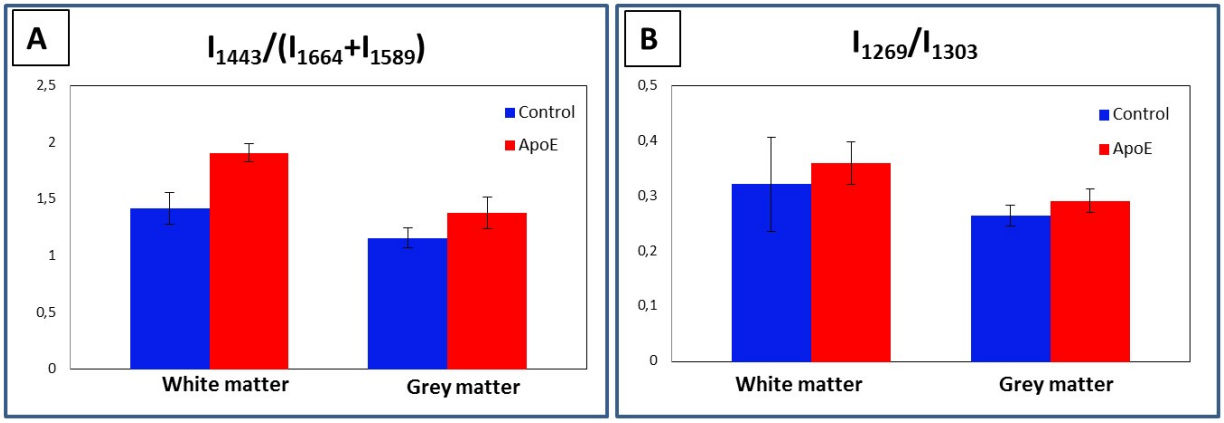

Figure S1. Visualization of the trend of: A) modified lipid/protein ratio changes as explained in the manuscript and B) unsaturation changes for the white (WM) and grey matter (GM) of the brains of ApoE/LDLR$^{-/-}$ (N=3) and control (C57BL/6J, N=3) mice. The band at 1443 cm^{-1} is attributed to the stretching vibration of the CH_2 group and banding mode of the CH_3 group characteristic of lipids and proteins. The band at 1664 cm^{-1} corresponds to the amide I mode (C=O) and stretching vibration of the C=C bond in lipids. Band at 1589 cm^{-1} is originated from Resonance Raman effect of haem. Bands at 1269 cm^{-1} and 1303 cm^{-1} correspond to the deformation of =CH and twisting of the CH_2 groups in lipids, respectively. Errors bars correspond to standard deviations (SD). Presented values correspond to the average peak area ratios calculated from the Raman spectra extracted from proper areas of measured brain tissue (2 cross-sections per each brain).