

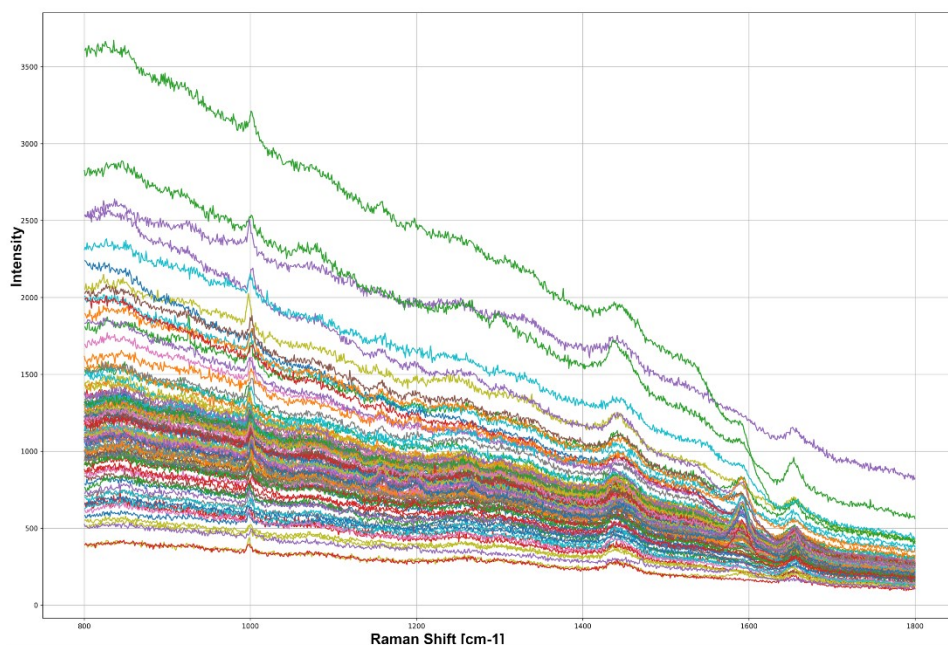
Supplementary figures and tables

Table S1. Vibrational Modes assignment for liver Raman spectra.^{12,26}

Raman band assignment		
Raman shift (cm ⁻¹)	Assignment	Vibrational mode
845	Glucose	C ₆ H ₁₂ O ₆
1001	Phenylalanine	Symmetric ring breathing
1075	Lipids	$\nu(\text{C}-\text{C})$
1130	Heme, Cytochrome	$\nu(\text{C}\alpha-\text{N})$
1155	Carotenoids	$\nu(\text{C}-\text{C})$
1200	Vitamin A	$\nu(\text{C}=\text{C})$
1260	Unsaturated fatty acids, Lipids, and proteins	$\delta(\nu\text{C}-\text{H})/\text{Amide III}$
1305	Saturated fatty acids, Lipids	$\tau(\text{CH}_2)$
1447	Saturated fatty acids, Lipids	$\delta(\text{CH}_2)$
1590	Vitamin A	$\nu(\text{C}=\text{C})$
1655	Unsaturated fatty acids, Lipids, proteins	$\nu(\text{C}=\text{C})/\text{Amide I}$

v: stretching vibrations; d: deformation vibrations; w: oscillating vibrations; t: torsional vibrations

a)



b)

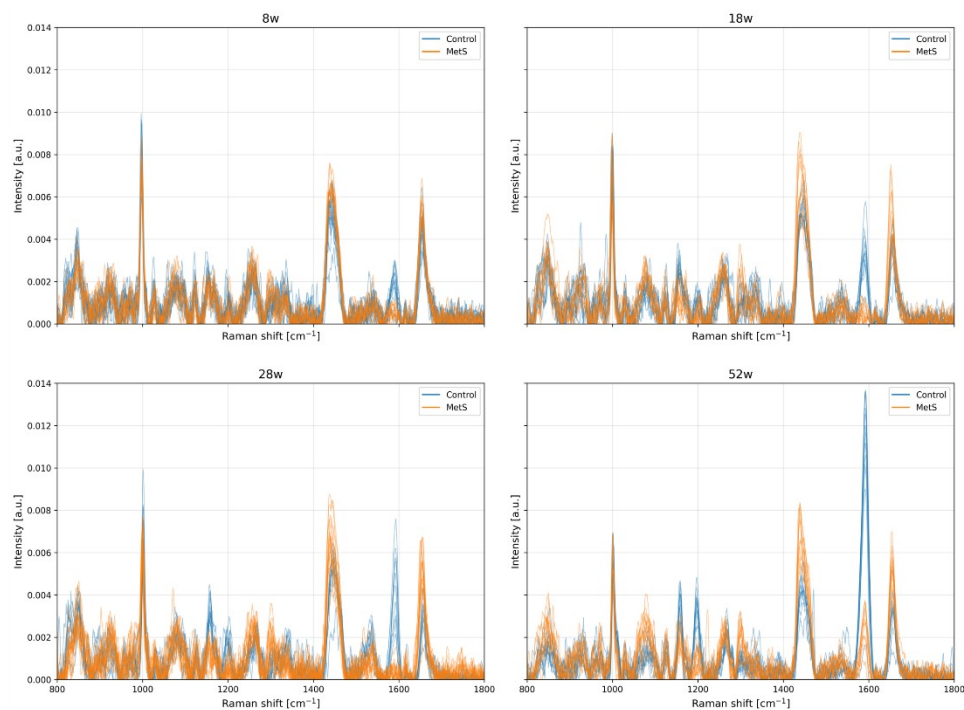


Fig. S1 a) Raw Raman spectra of liver samples from control and MetS. b) preprocessed Raman spectra after smoothing, baseline correction, and normalization.