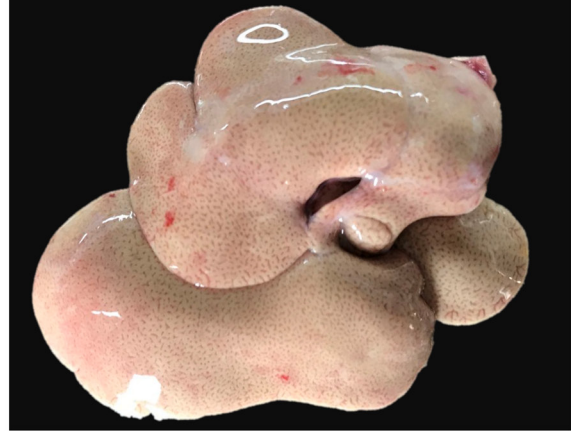


Figure S1. Macroscopic appearance of the liver in the different groups. (A) Control group; (B) high fat and fructose diet group; (C) low H<sub>2</sub> group; (D) high H<sub>2</sub> group.

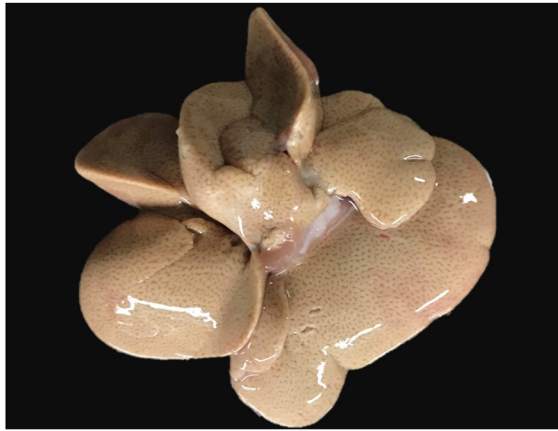
**A**



**B**



**C**



**D**



Table SI. Conditions for tandem mass spectrometry analysis of lipid species.

Lipid species	Precursor→Product Ions (m/z)	Collision energy (eV)	Declustering potential (V)
FC	369.3→147.1	25	110
d7-cho (IS)	376.3→147.1	33	80
CE 16:0	642.6→369.4	20	40
CE 16:1	640.6→369.4	20	40
CE 18:0	670.6→369.4	20	40
CE 18:1	668.6→369.4	20	40
CE 18:2	666.6→369.4	20	40
CE 18:3	664.6→369.4	20	40
CE 20:3	692.6→369.4	20	40
CE 20:4	690.6→369.4	20	40
CE 20:5	688.6→369.4	20	40
CE 22:6	714.6→369.4	20	40
CE 17:0 (IS)	656.7→369.4	20	40
TG 17:0/17:0/17:0 (IS)	866.8→579.6	30	95
TG 48:0	824.8→551.5	30	95
TG 48:2	820.8→549.5	30	95
TG 48:3	818.8→547.5	30	95
TG 49:1	836.8→563.5	30	95
TG 50:1	851.8→552.5	30	95
TG 50:2	846.8→547.5	30	95
TG 50:3	846.8→575.6	30	95
TG 50:4	844.8→599.5	30	95
TG 51:2	862.8→589.6	30	95
TG 52:2	876.8→603.6	30	95
TG 52:3	874.8→603.6	30	95
TG 52:4	872.8→599.6	30	95
TG 54:2	904.9→603.6	30	95
TG 54:4	900.8→599.5	30	95
TG 54:5	898.9→599.6	30	95
TG 54:6	896.9→599.6	30	95
TG 56:6	924.9→603.6	30	95
TG 56:8	920.9→599.6	30	95

FC, free cholesterol; CE, cholesteryl ester; TG, triacylglycerol.