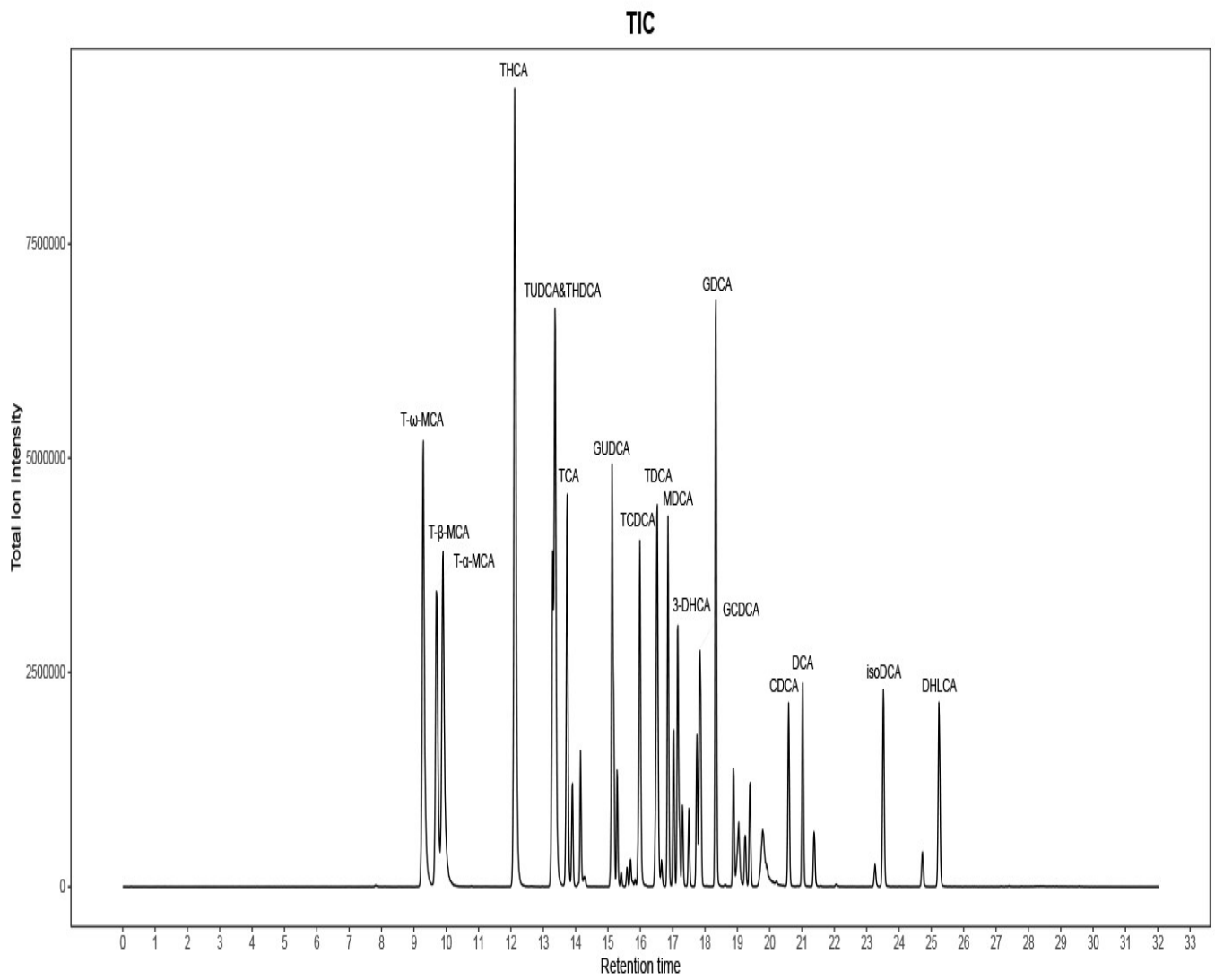


**Figure Captions**

**FigureS1 HPLC chromatogram of bile acids (BAs) in standard solution.**

Figure S1



**Table S1 The ingredient compositions of the experimental diets (g/kg Diet)**

Ingredients	HF	HC
Corn starch	449.5	449.5
Lard	100	100
Soybean oil	40	40
a AIN-76 mineral mixture (%mixture)	35	35
Casein	200	200
b AIN-76 vitamin mixture (%mixture)	10	10
Sucrose	100	100
L-cystine	3	3
Cellulose	50	50
Choline Chloride	2.5	2.5
Cholesterol	10	10
Capsaicin		0.1

**Table S2 Calibration curves of different Bile acids (BAs) in standard solution**

Bile acid	Full name	Linear equation	Correlation coefficient(R)
GCA	glycocholic acid	$y = 19456.55123 x - 545.84014$	0.9939
GCDCA	Glycochenodeoxycholic acid	$y = 19124.63048 x - 99.95925$	0.9949
TCA	Taurocholic acid	$y = 26515.04574 x + 3108.91887$	0.995
TCDC	Taurochenodeoxycholic acid	$y = 3.81279e4 x - 201.34003$	0.9971
GUDCA	Glycoursodeoxycholic acid	$y = 4.01168e4 x + 1037.08454$	0.9901
ACA	Allocholic acid	$y = 10096.60848 x + 105.66286$	0.9901
UDCA	Ursodeoxycholic acid	$y = 9841.82540 x - 0.53180$	0.9959
DCA	Deoxycholic acid	$y = 8236.18741 x + 498.21137$	0.9959
TUDCA&THDCA	tauroursodeoxycholic and taurohyodeoxycholic acids	$y = 9.65022e4 x - 1637.53227$	0.9919
HDCA	Hyodeoxycholic acid	$y = 10468.03602 x - 32.25731$	0.9903
apoCA	apocholic acid	$y = 6291.34214 x - 119.00821$	0.9938
GDCA	Glycodeoxycholic acid	$y = 6.67654e4 x - 99.49729$	0.9916
GLCA	Glycolithocholic acid	$y = 22509.72450 x - 197.06082$	0.9908
$\alpha$ -MCA	$\alpha$ -Muricholic acid	$y = 1556.55118 x - 58.08017$	0.9976
$\beta$ -MCA	$\beta$ -Muricholic acid	$y = 794.23741 x + 208.75473$	0.9909
7-KLCA	7-ketolithocholic acid	$y = 16301.03036 x - 382.03548$	0.9951
T- $\alpha$ -MCA	Tauro- $\alpha$ -muricholic acid	$y = 3.47228e4 x + 1052.60181$	0.9953
T- $\beta$ -MCA	Tauro- $\beta$ -muricholic acid	$y = 4.68896e4 x + 7335.94996$	0.9955
$\omega$ -MCA	$\omega$ -muricholic acid	$y = 3615.51297 x - 568.52041$	0.9935
MDCA	murideoxycholic acid	$y = 25261.25326 x - 1495.57120$	0.9943

THCA	Taurohyocholic acid Sodium	$y = 8.63854e4 x + 702.34443$	0.9928
TLCA	Taurolithocholic acid	$y = 4.11768e4 x - 1626.26628$	0.9925
TDCA	Taurodeoxycholic acid	$y = 4.35018e4 x - 216.02195$	0.9927
LCA	Lithocholic acid	$y = 8004.65083 x - 188.92508$	0.9961
CA	Cholic acid	$y = 7837.66236 x - 5.72635$	0.9947
CDCA	Chenodeoxycholic acid	$y = 13302.41444 x + 330.85210$	0.9918
HCA	Hyochoolic acid	$y = 3870.87115 x + 326.56671$	0.9953
NorCA	Norchoolic acid	$y = 6670.53579 x + 184.80397$	0.9971
GHCA	glycohyocholic acid	$y = 20392.65444 x + 428.16635$	0.9951
NorDCA	23-Nordeoxycholic acid	$y = 5466.67298 x - 242.10151$	0.9917
isoLCA	Isolithocholic acid	$y = 5085.41896 x - 126.01744$	0.9916
12-KLCA	12-ketolithocholic acid	$y = 9085.64679 x + 26.53912$	0.9961
LCA-3S	Lithocholic acid 3-sulfate Sodium Salt	$y = 3.90375e4 x - 2350.27701$	0.9956
3 $\beta$ -UDCA	3 $\beta$ -Ursodeoxycholic acid	$y = 11149.47740 x + 261.27361$	0.9913
7,12-DKLCA	7,12-diketolithocholic acid	$y = 863.64063 x - 374.85314$	0.9959
DHCA	Dehydrocholic acid	$y = 6249.11507 x - 131.69980$	0.9969
UCA	Ursocholic acid	$y = 11610.30767 x + 310.40718$	0.9901
$\beta$ CA	3 $\beta$ -Cholic acid	$y = 16165.99097 x - 583.24252$	0.9933

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