

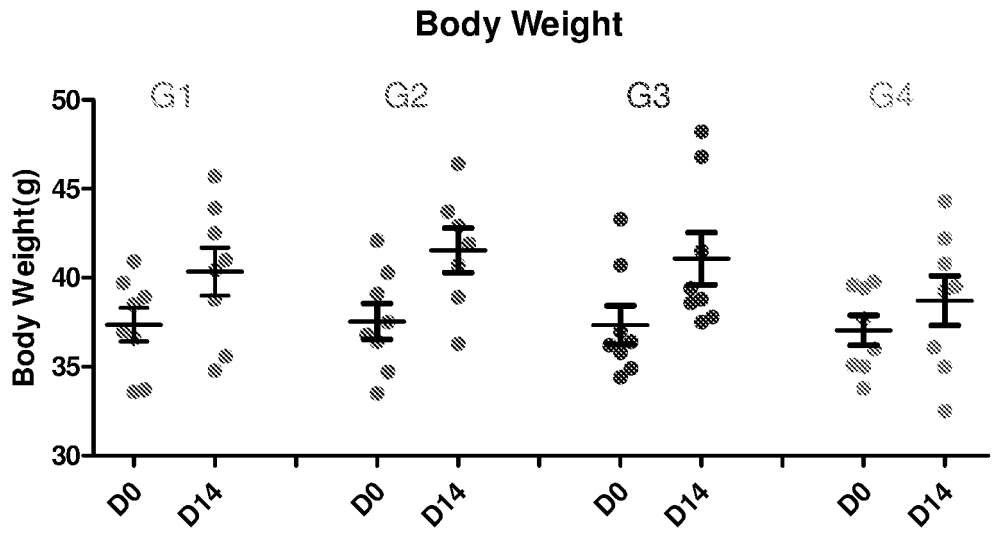


FIG. 1. Body weight of each treatment group at day 0 and day 14.

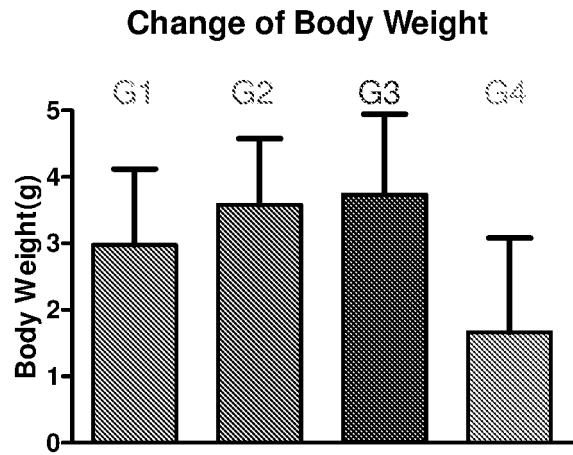


FIG. 2. Change of body weight of each treatment group after 14 days of treatment.

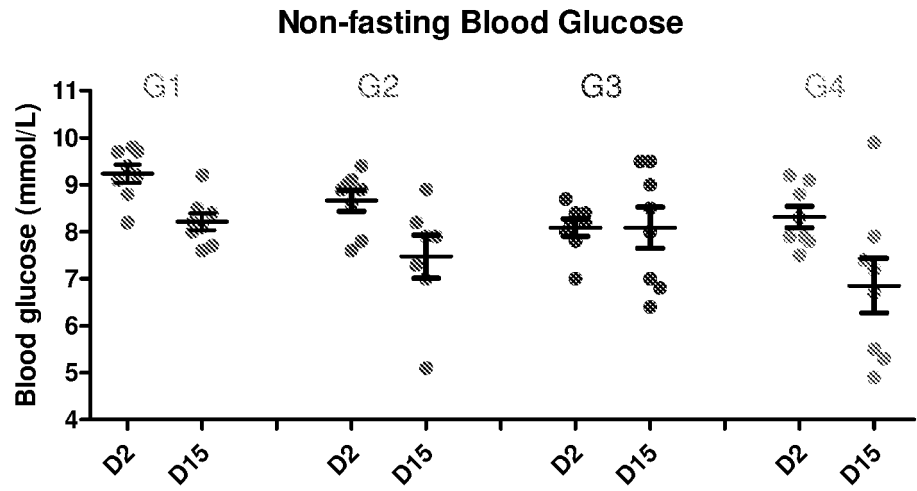


FIG. 3. Blood glucose of each treatment group at day 2 and day 15.

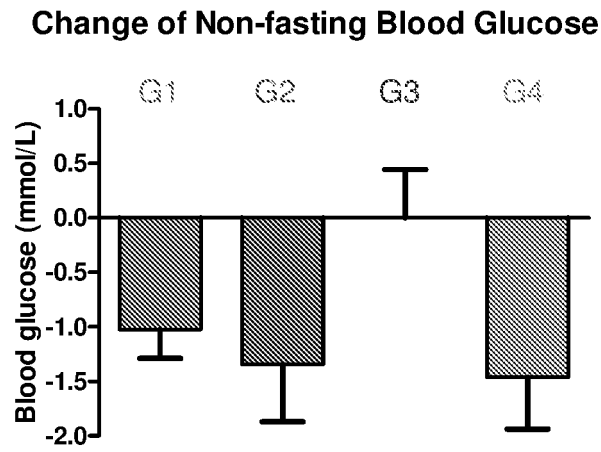
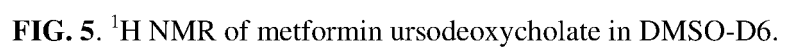


FIG. 4. Change of blood glucose of each treatment group at day 2 and day 15.



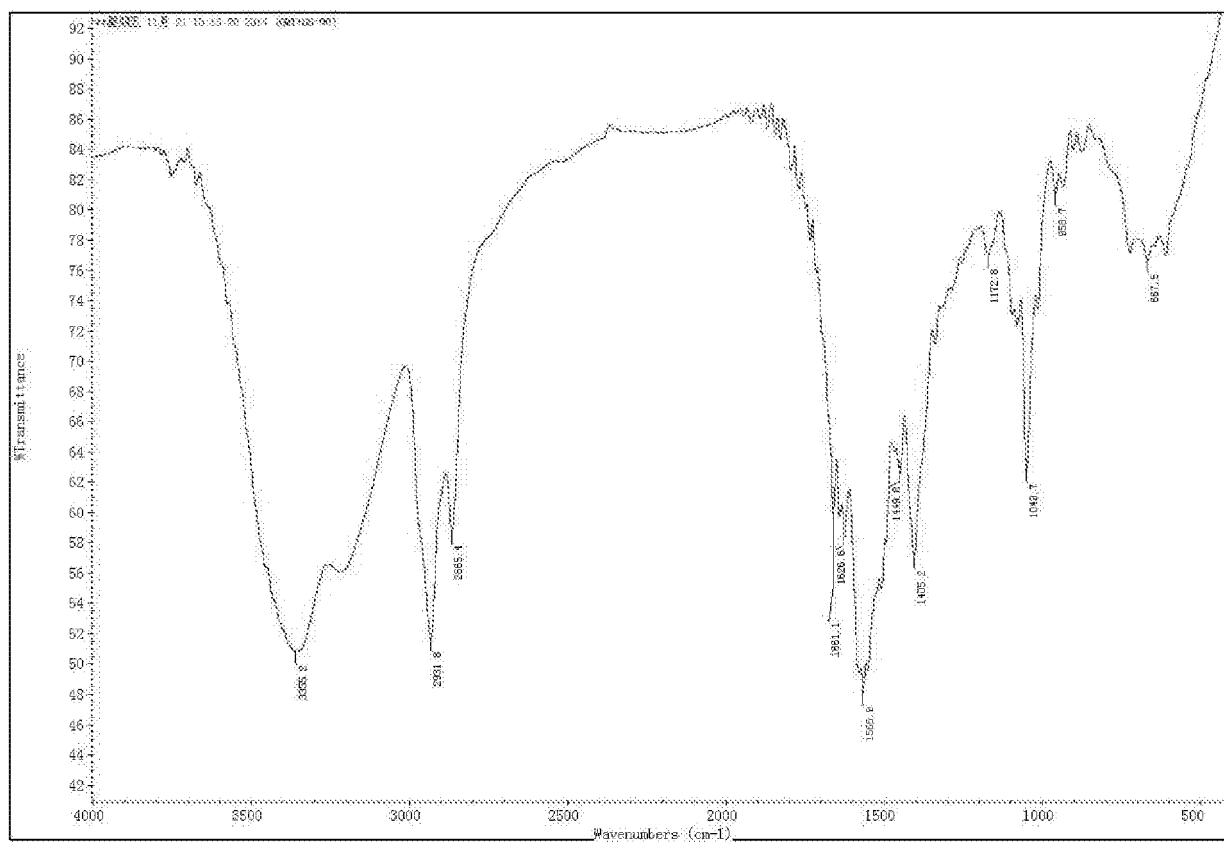


FIG. 6. IR spectrum of metformin ursodeoxycholate.

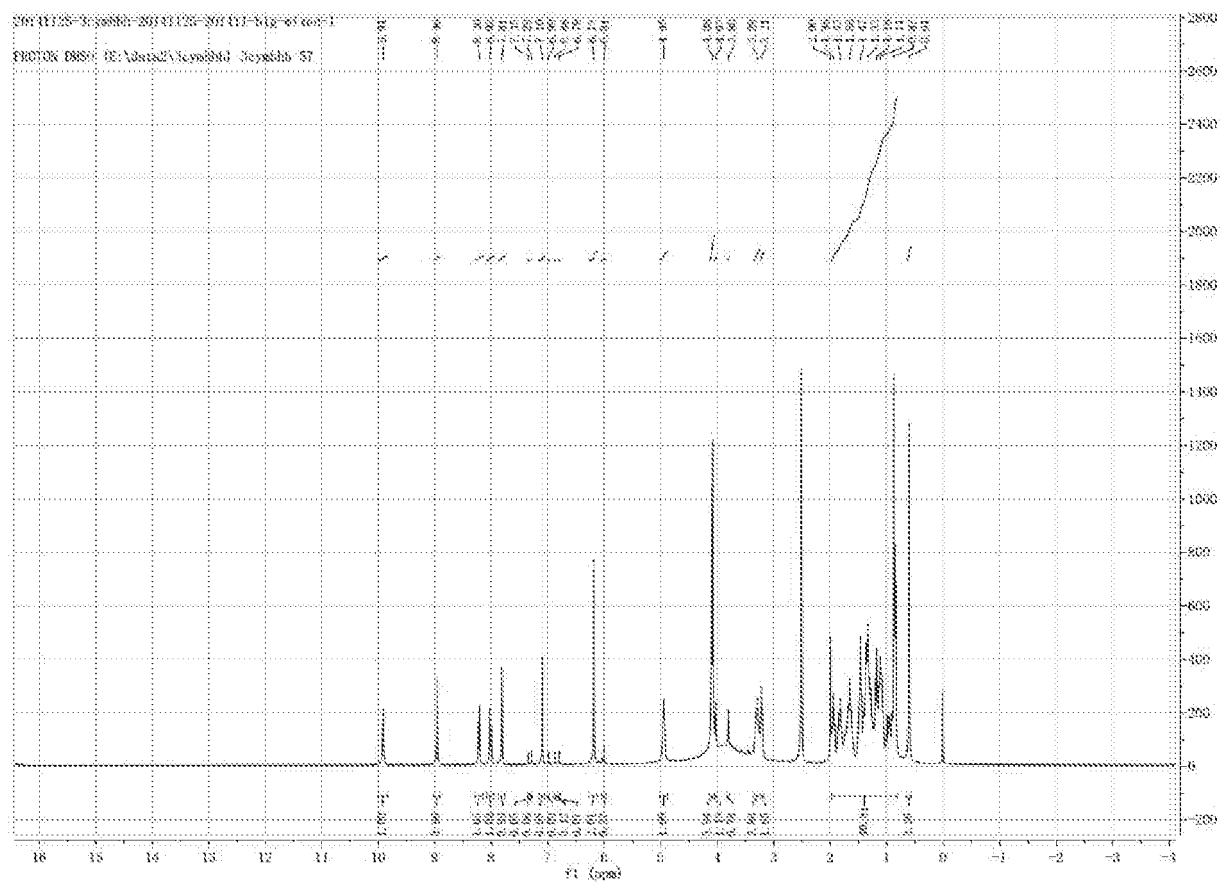


FIG. 7. ^1H NMR of berberine ursodeoxycholate (purified product).

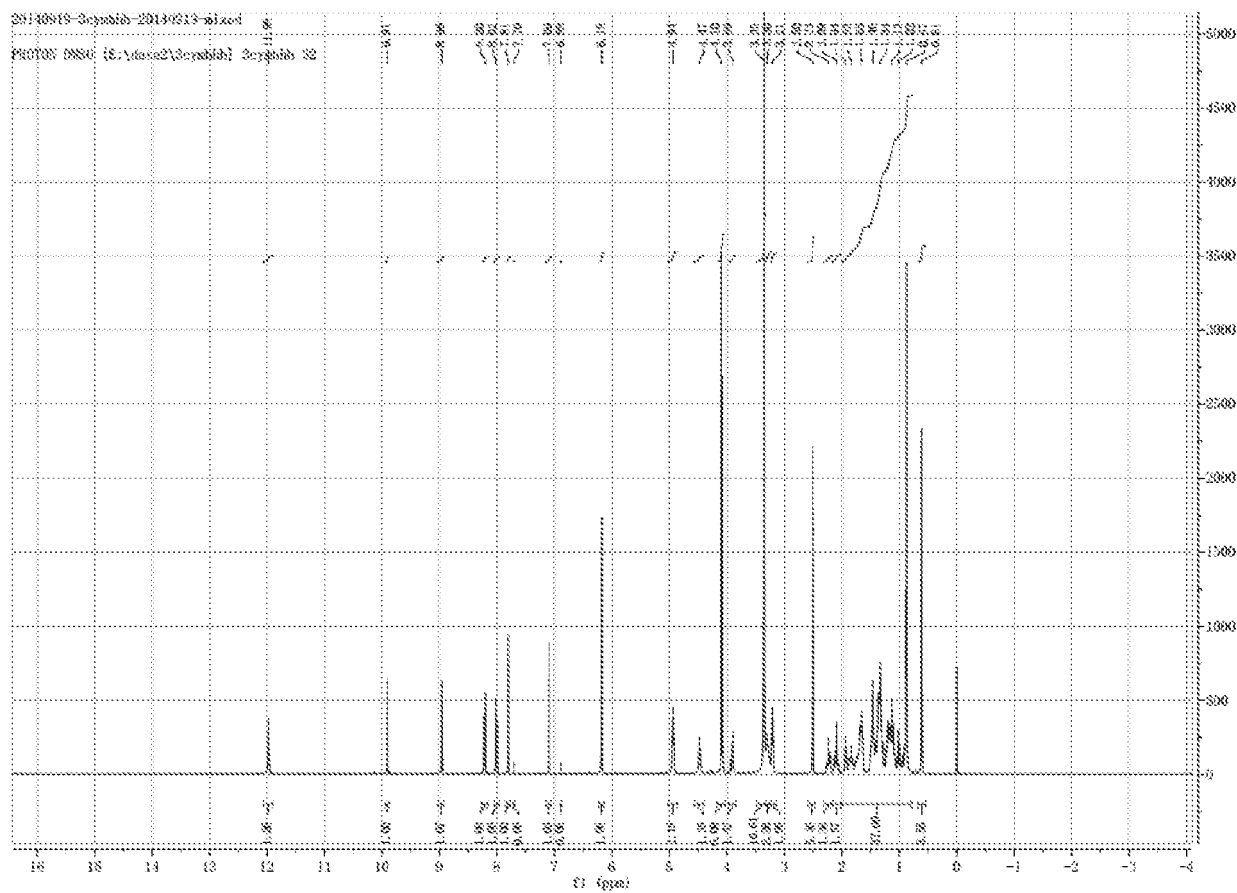


FIG. 8. ^1H NMR of mixture of berberine hydrochloride (1.0 equiv.) and ursodeoxycholic acid (1.0 equiv.) in DMSO- D_6 .

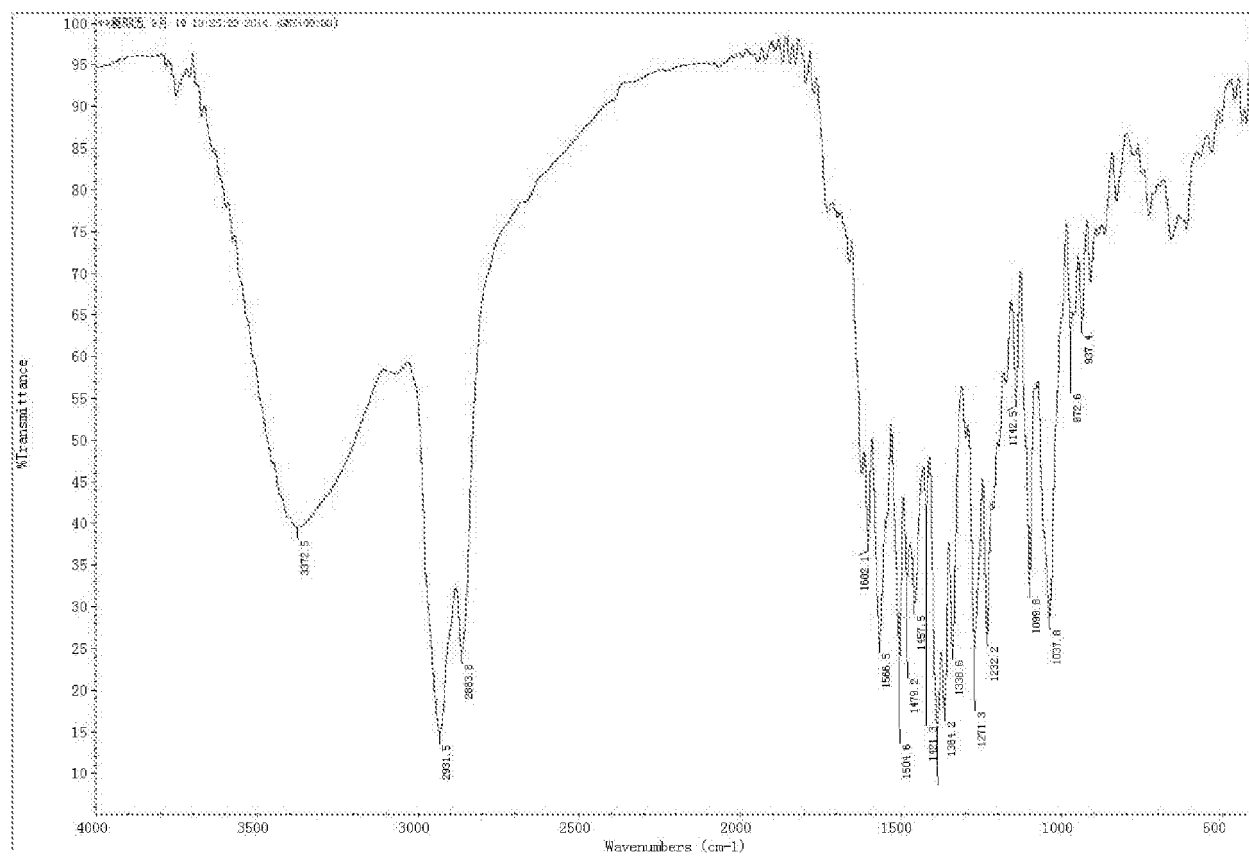


FIG. 9. IR spectrum of berberine ursodeoxycholate (crude product).

The carbonyl stretching vibration band C=O of ursodeoxycholic acid at about 1721 cm^{-1} disappeared in IR spectrum of berberine ursodeoxycholate.

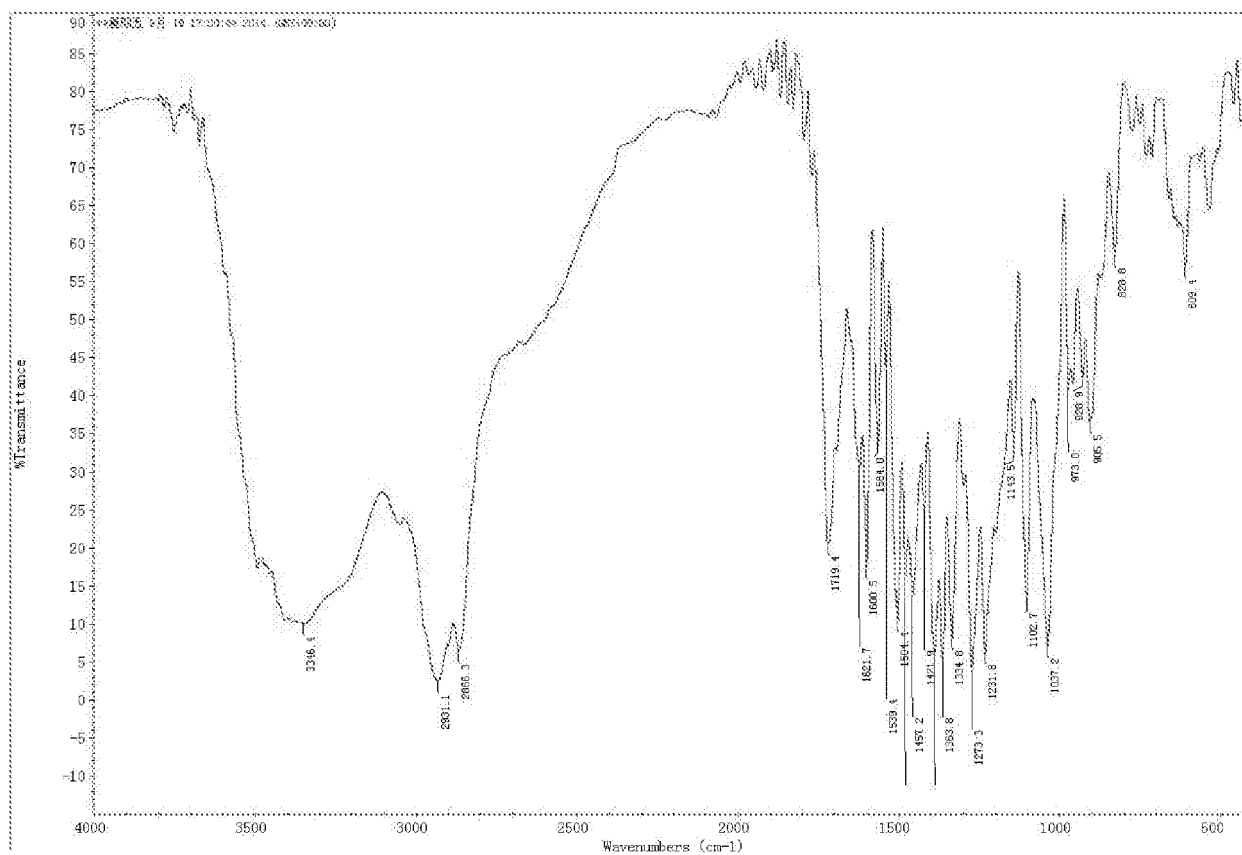


FIG. 10. IR spectrum of mixture of berberine hydrochloride (1.0 equiv.) and ursodeoxycholic acid (1.0 equiv.). The carbonyl stretching vibration band C=O of ursodeoxycholic acid appears at about 1719 cm⁻¹.

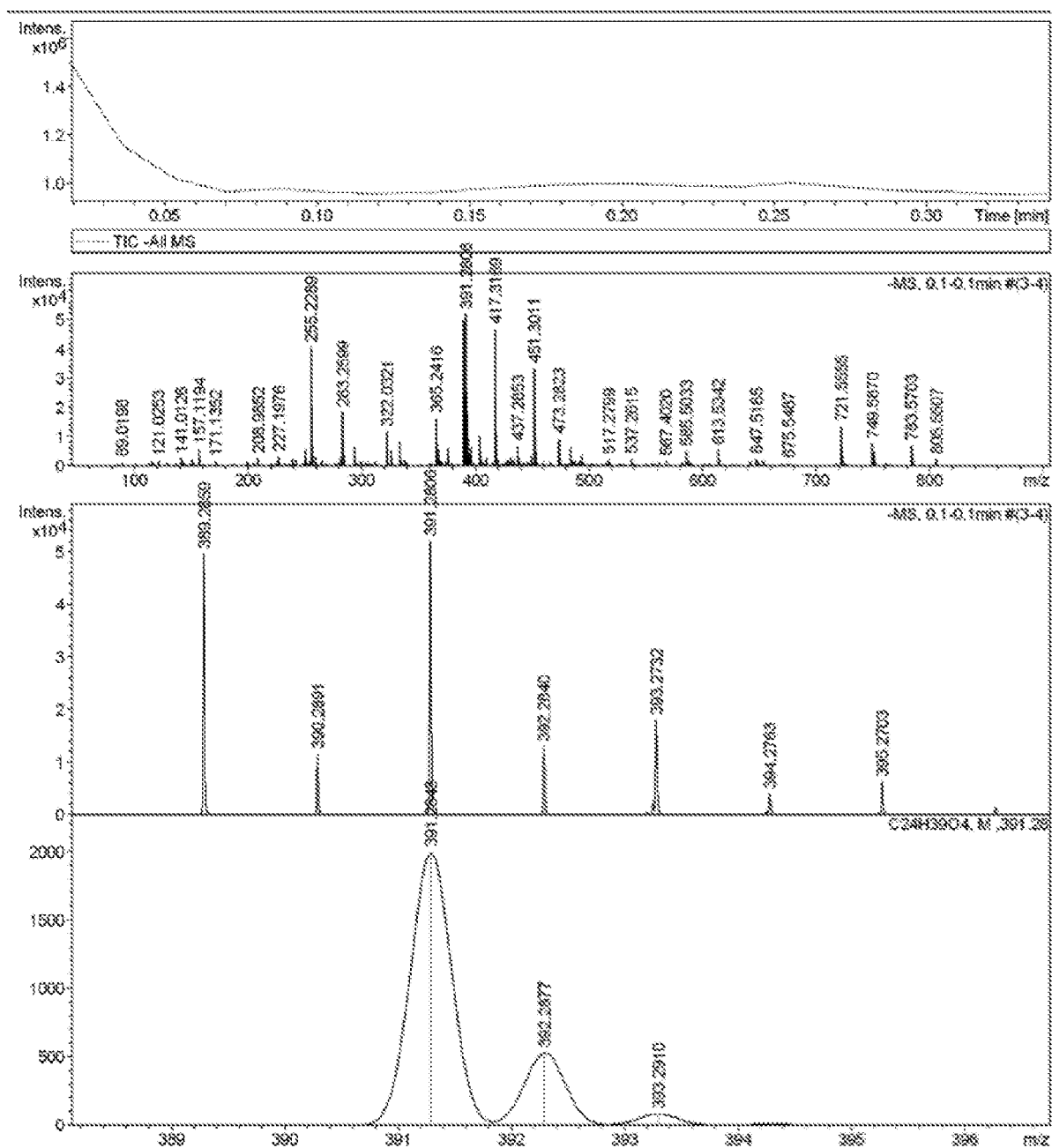


FIG. 11. Mass spectrometry of berberine ursodeoxycholate: in negative MS mode, molecular mass of UDCA $[M-H]^-$ 391.28 was identified.

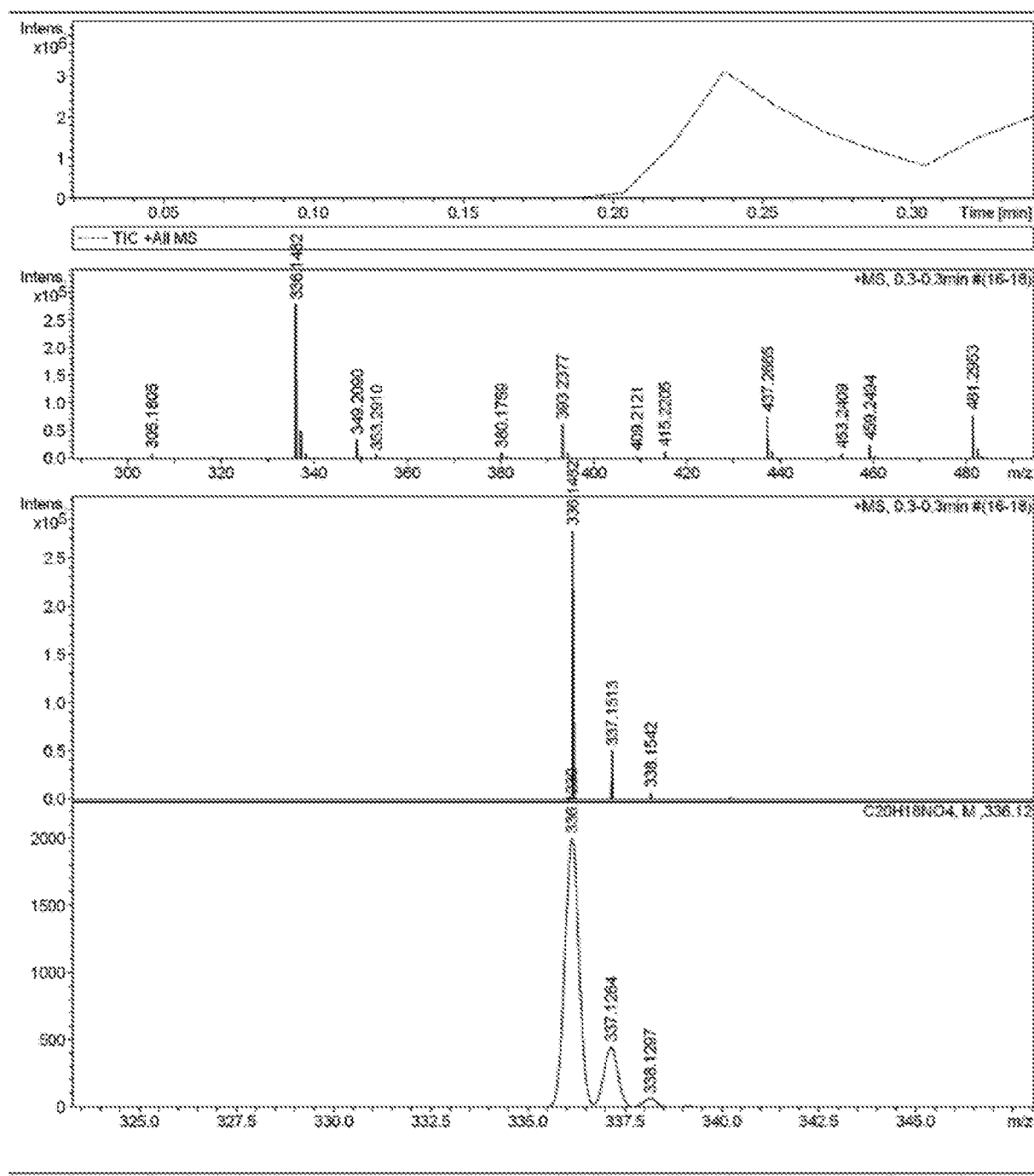


FIG. 12. Mass spectroscopy of berberine ursodeoxycholate: in positive MS mode, molecular mass of BBR⁺ 336.14 was identified.

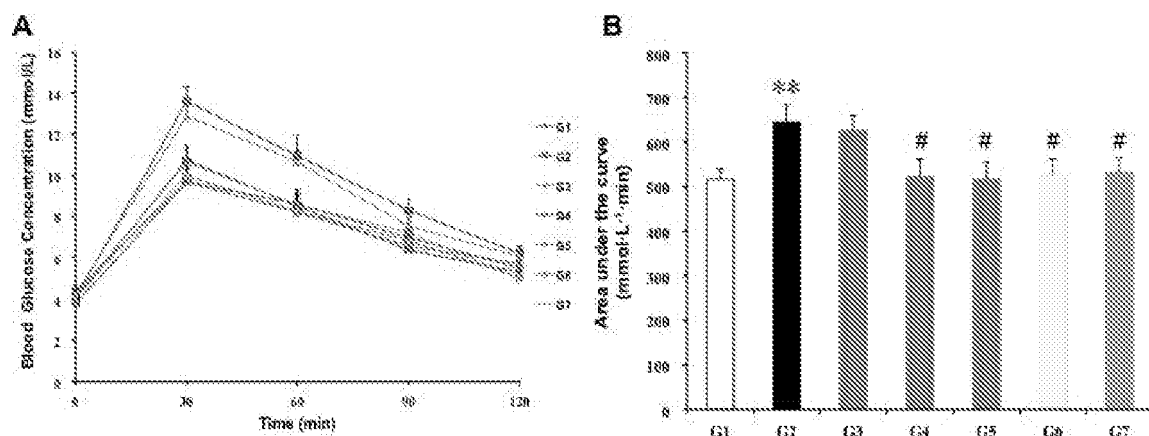


FIG.13. (A) Plasma glucose concentrations during oral glucose tolerance test (OGTT) and (B) the area under the OGTT glucose curve. Data are expressed as the mean $\pm$ S.E.M (n=7~13). ** $p < 0.01$ G2 vs. G1. # $p < 0.05$ G4, G5, G6, or G7 vs. G2.

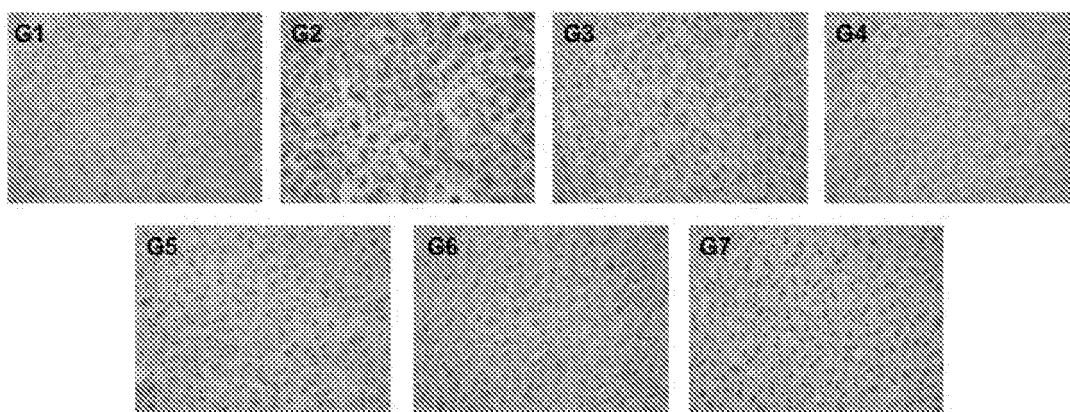


FIG.14. Image of liver Sultan III staining in various groups (n=7~13).

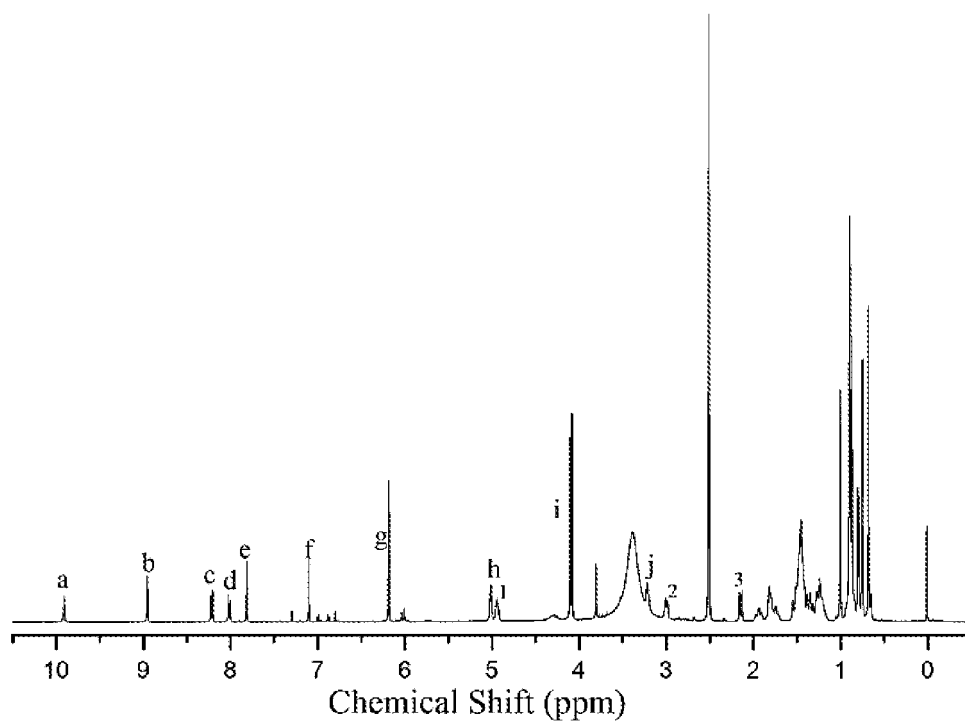


FIG. 15. ^1H NMR of Berberine ursolic salt (400MHz, DMSO-d_6)

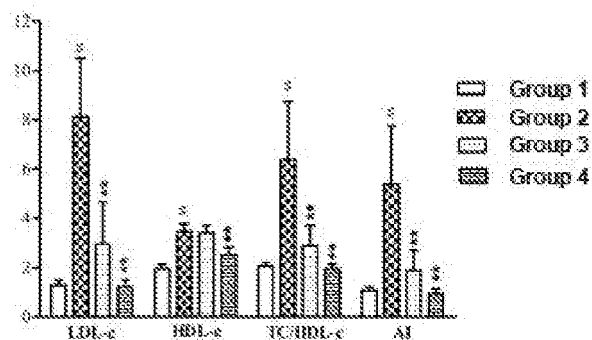


FIG.16. The Effect of BUDCA on Serum LDL-c level, Serum HDL-c level, TC/HDL-c and AI of Hyperlipidemic Hamsters

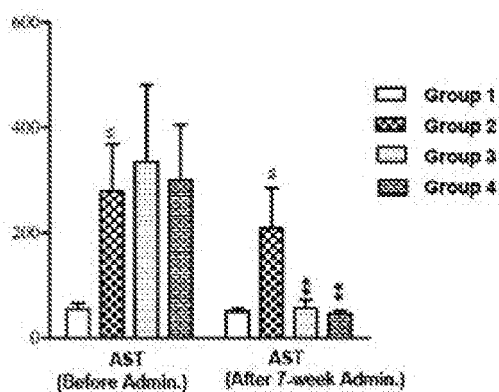


FIG.17. The Effect of BUDCA on Serum AST Level of Hyperlipidemic Hamsters

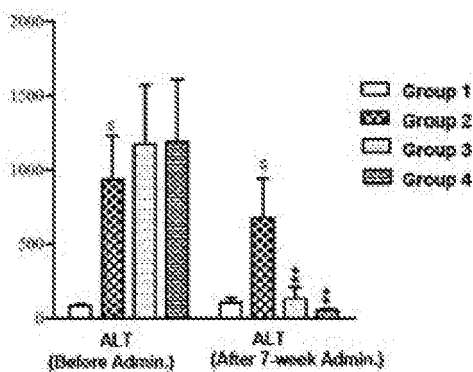


FIG.18. The Effect of BUDCA on Serum ALT Level of Hyperlipidemic Hamsters

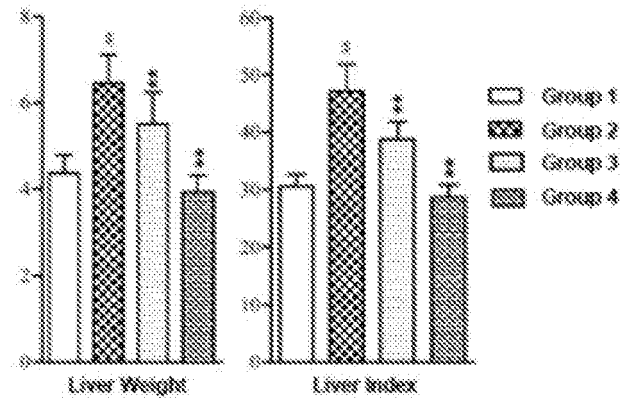


FIG.19. The Effect of BUDCA on Liver Weight and Liver Index of Hyperlipidemic Hamsters

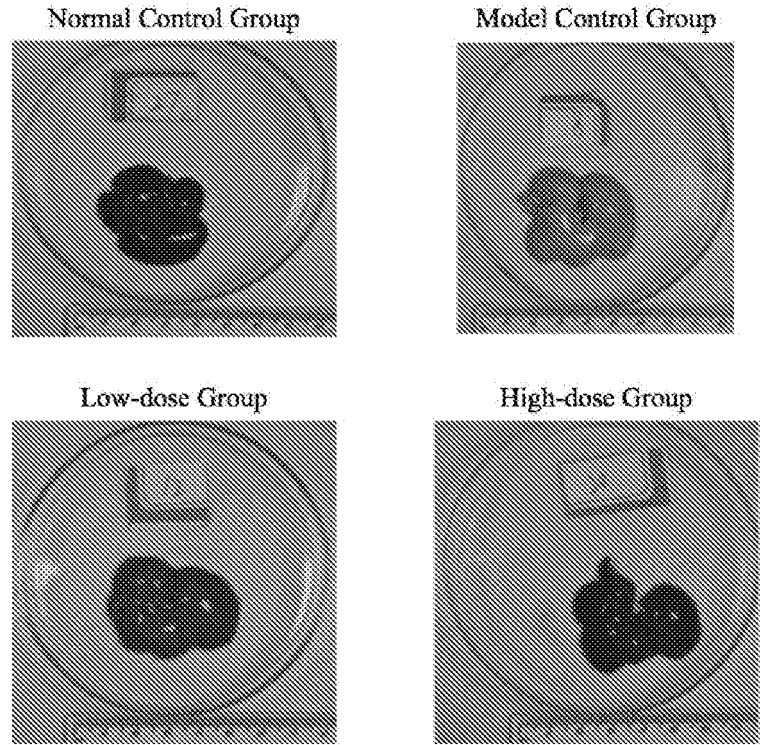


FIG.20. The General Observation of Lipid Deposition in Liver Tissue

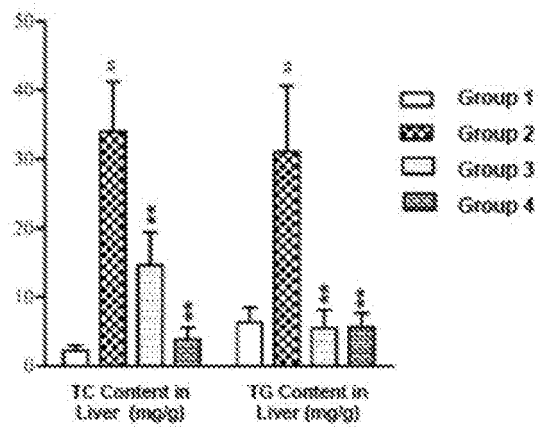


FIG. 21. The Effect of BUDCA on TC and TG Content in Livers of Hyperlipidemic Hamsters

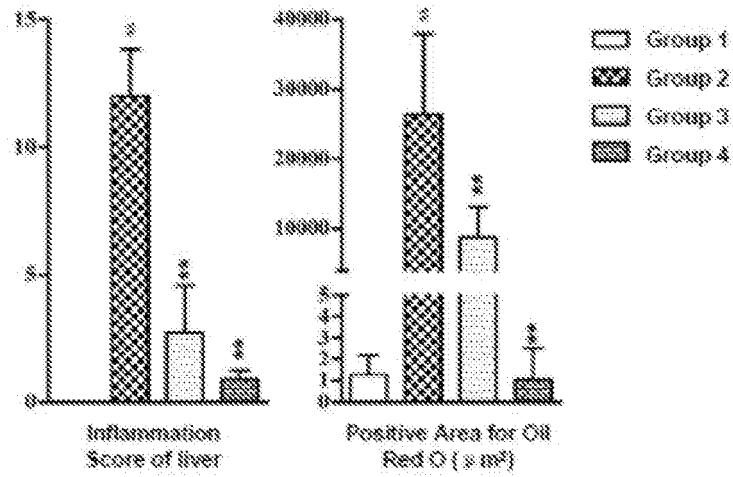


FIG. 22. The Effect of BUDCA on Inflammation Score and Positive Area for Oil Red O