Pakistan J. Zool., vol. 55(3), pp 1301-1308, 2023 **DOI**: https://dx.doi.org/10.17582/journal.pjz/20210615060610

Supplementary Material

Identification of Absorbed Constituents and their Metabolites Related to Estrogen-Like Activity of Total Glycosides of *Cistanche deserticola* in Rat Serum

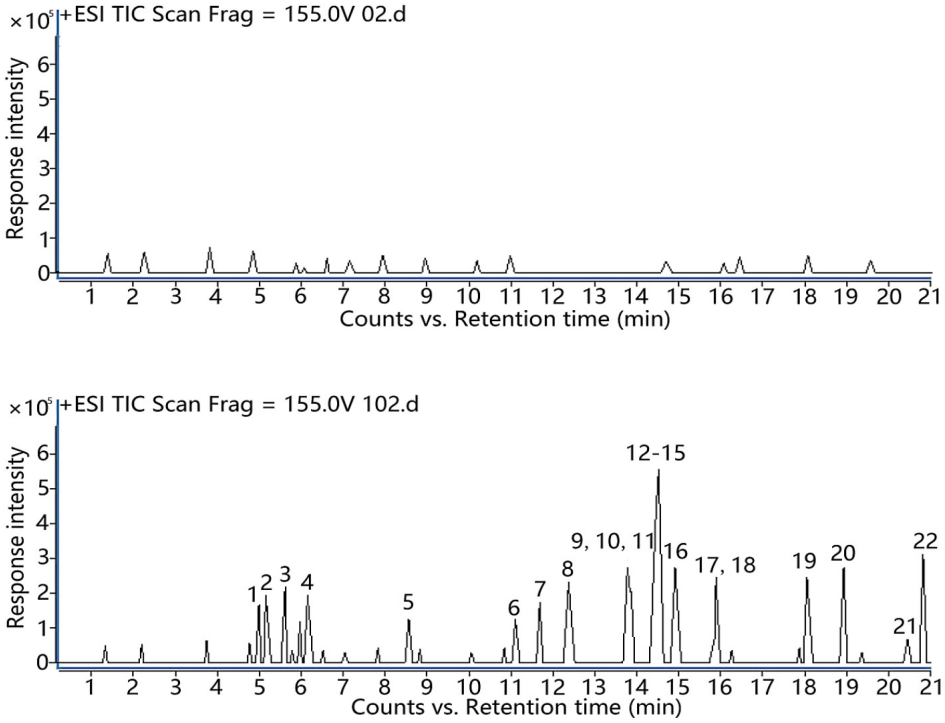
Yang Hu, Jingxin Ding, Beilei Xu, Xiangming Sun, Guoyu Li, Hui Song, Zheng Zong and Wenlan Li*

College of Pharmacy, Harbin University of Commerce, Harbin 150076, China

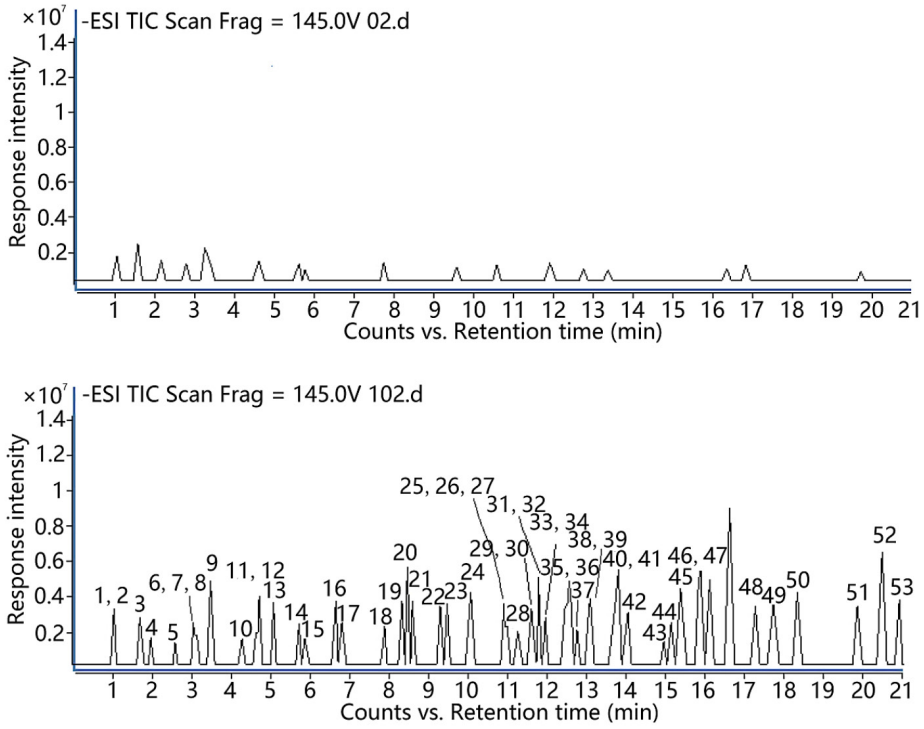
Supplementary Table S1. List of main materials and instruments used in this study.

Materials and instruments	Manufacturers or Sources
Diethylstilbestrol (purity: ≥98%)	Hanpu Pharmaceutical Co., Ltd., Guangzhou, China
Mass spectrometry (MS)-grade formic acid, acetonitrile, methanol	Fisher Scientific, Fair Lawn, NJ, USA)
Phenol red-free RPMI 1640	HyClone, Logan, UT, USA
MTT, DMSO	Sigma-Aldrich, St. Louis, MO, USA
Agilent 1290 HPLC system, Agilent 6530 series quadrupole time-of-flight LC/MS system	Agilent Technologies, Inc., Santa Clara, CA, USA
ACQUITY UPLC BEH C_{18} column (100 mm × 2.1 mm, 1.7 μm)	Waters Crop., Jakarta Selatan, Indonesia
Genius N118LA nitrogen generator	Peak Scientific, Glasgow, UK
Microplate reader	Bio-Rad, Inc., Hercules, CA, USA
The electronic analytical balance AR1140	Ohaus Corporation, Parsippany, NJ, USA
XW-80A vortex mixer	Yugong Machinery Technology Co., Ltd., Shanghai, China
Raw material of dry *Cistanche deserticola*	purchased from Sankeshu Medicinal materials market, Harbin, China
Wistar rats (weighing 210 ± 20 g)	from Harbin Medical University, Harbin, China
MCF-7 cell line	from Research Center of Pharmaceutical Engineering and Technology, Harbin University of Commerce, Harbin, China

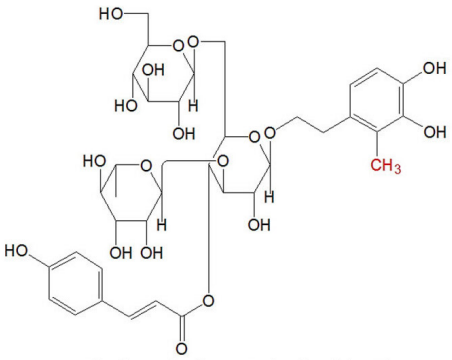
* Corresponding author: lwldzd@163.com
0030-9923/2023/0003-1301 $ 9.00/0



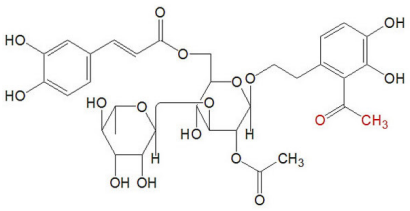
Supplementary Fig. S1. Total ion chromatogram in the positive ion mode. A: blank serum; B: TGs-containing serum.



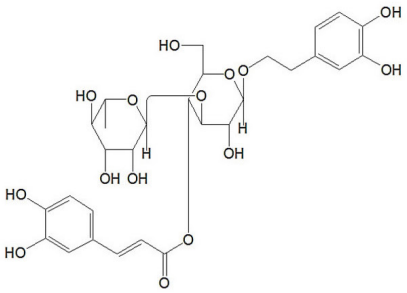
Supplementary Fig. S2. Total ion chromatogram in the negative ion mode. A: blank serum; B: TGs-containing serum.



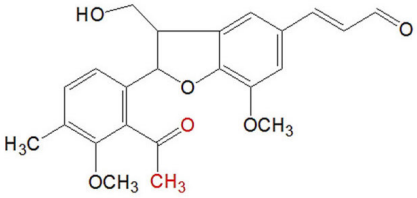
methylated cistantubuloside B



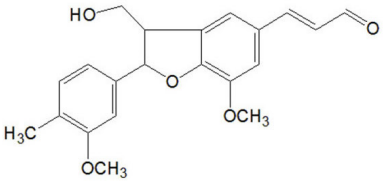
acetylated tubuloside B



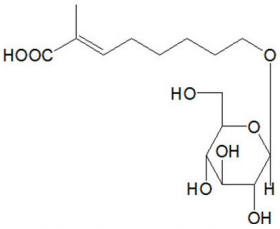
acteoside



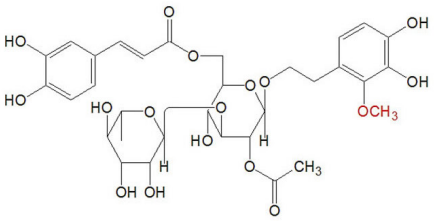
acetylated dehydrodiconiferyl alcohol-4-O-β-D-glucoside



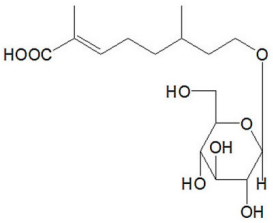
dehydrodiconiferyl alcohol-4-O-β-D-glucoside



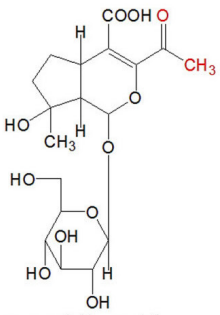
demethylated kankanoside E



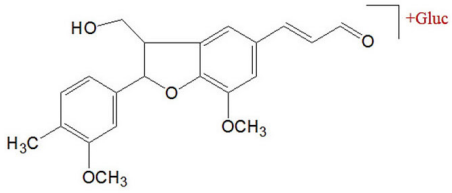
methoxylated tubuloside B



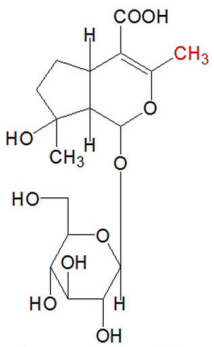
kankanoside E



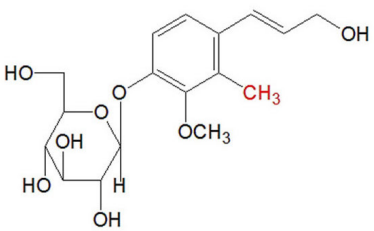
acetylated mussaenosidic acid



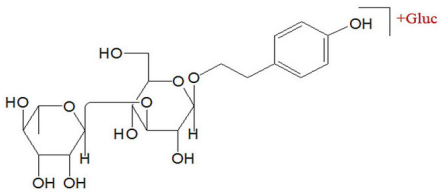
dehydrodiconiferyl alcohol-4-O-β-D-glucoside glucuronidated conjugate



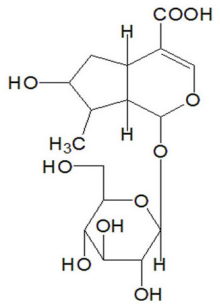
methylated mussaenosidic acid



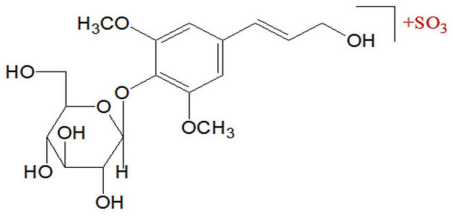
methoxylated coniferin



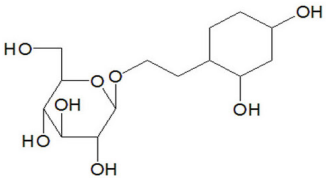
cistanoside G glucuronidated conjugate



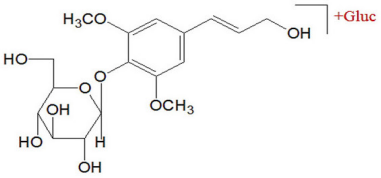
8-epiloganic acid



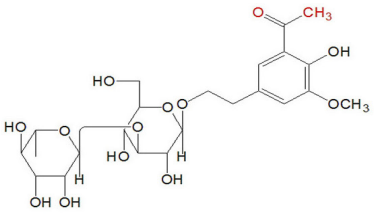
syringin sulfated conjugate



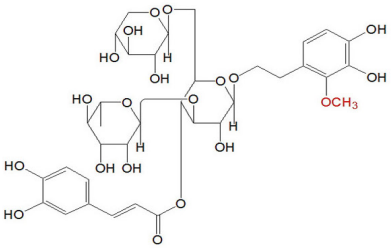
3,4-dihydroxyphenylethanoid glycoside



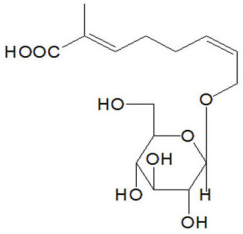
syringin glucuronidated conjugate



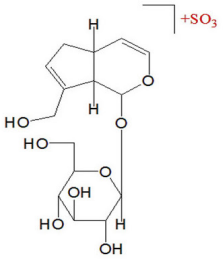
acetylated cistanoside E



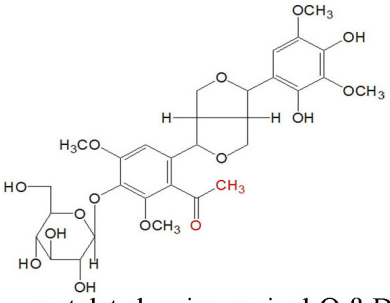
methoxylated arenarioside



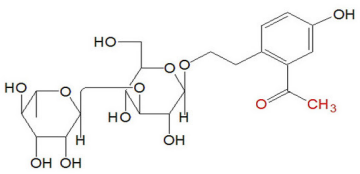
demethylated (2E,6Z)-8-O-β-D-glucopyranosyloxy-2,6-dimethyl-2,6-octadienoic acid



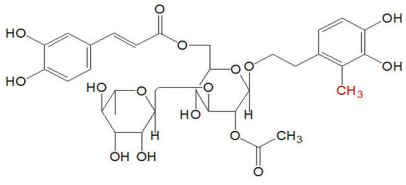
bartsioside sulfated conjugate



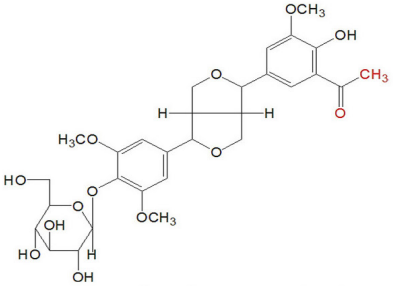
acetylated syringaresinol-O-β-D-glucopyranoside



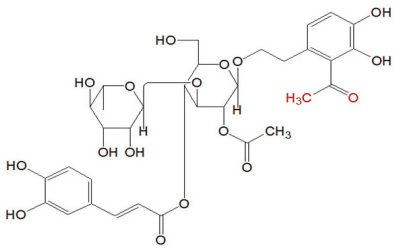
acetylated cistanoside G



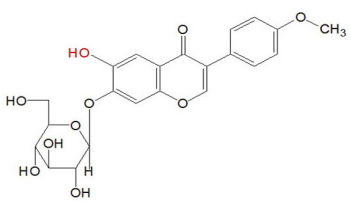
methylated tubuloside B



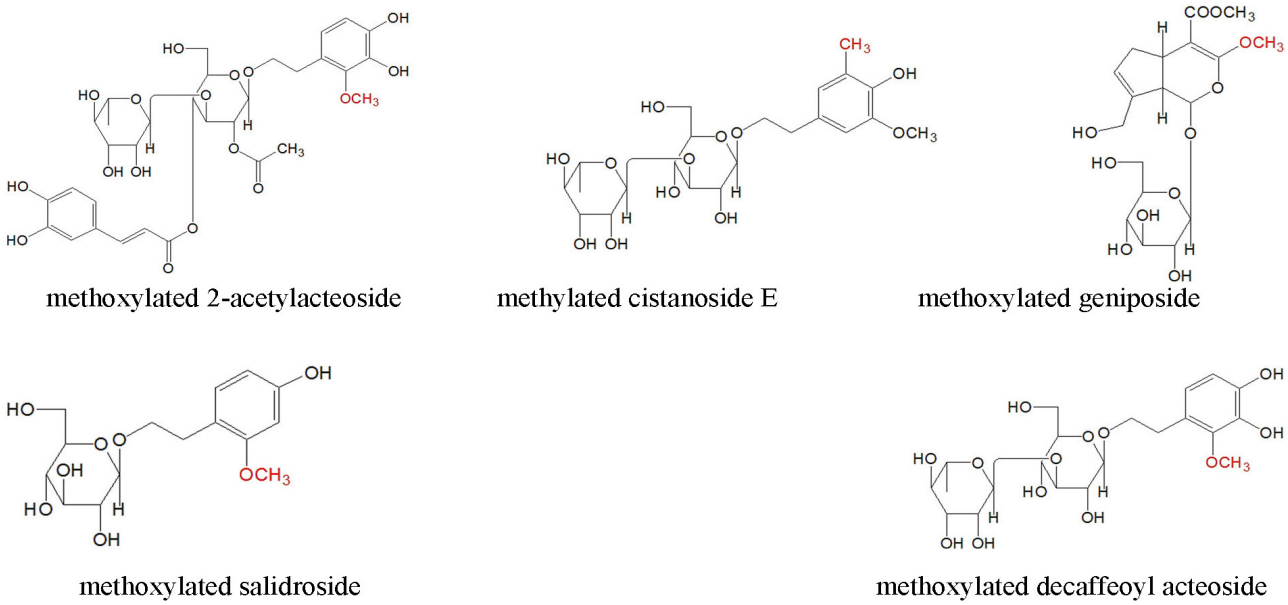
acetylated eucommin A



acetylated 2-acetylacteoside



hydroxylated ononin



Supplementary Fig. S3. *In vivo* active compounds leading to the estrogen-like activity of TGs.