

OP6. STUDY ON CHEMICAL CONSTITUENTS OF TWO EDIBLE PLANTS FROM XINJIANG

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Hops (*Humulus lupulus* L.) and figs (*Ficus carica*) are two kinds of edible plants widely distributed in Xinjiang. Hops is cultivated worldwide for commercial use as raw material in the brewing industry since it adds bitterness and aromatic flavors to the beer. These characteristics are mainly ascribed to hop's soft resins. However, its soft resin components are rarely studied and the structures of their derivatives remain unclear. Figs is an Asian species of flowering plant belonging to the genus *Ficus* of the family Moraceae, native to Western Asia and the Middle East. Its fruits, usually known as common figs, have been consumed as a very popular health promoting fruit worldwide since ancient times.

To investigate the potential health-promoting chemical constituents of two edible plants, a phytochemical study on its fruits were therefore carried out, which might provide deeper insight into material basis of them.

These two plants were collected, dried, powdered, and extracted with ethanol. The extraction solutions were combined and concentrated to yield a crude extract, which was suspended in water and then partition successively with petroleum ether, chloroform, ethyl acetate, and butanol extract, respectively. Different fraction was isolated and purified by silica gel, RP-18 gel, Sephadex LH-20 column chromatographies and semipreparative HPLC to afford more than 200 compounds. The racemates were separated by chiral column. Their planar structures were established based on the comprehensive investigation of (1D, 2D) NMR and HR-ESI-MS data. The absolute configurations of compounds were determined by comparing chemical shift of their chiral carbon atoms and the experimental ECD and calculated ones.

In total, more than 200 compounds were isolated from two edible plants. The representative structures are as shown in Figure 1. The anti-inflammatory effects and anti-microbial activities of these isolated prenylated compounds were tested. Some of these compounds show good activity and are superior to positive control.

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REFERENCES

- [1] Erkin Tursun, B. Zuopeng Li, C. Haji Akber Aisa[□], *Ind. Crop. Prod.*, **172**, 114014 (2021).
- [2] Yanping Liu, B. Jiaming Guo, C. Mingming Zhang, E. Yanhui Fu[□], *J. Agric. Food. Chem.*, **67**, 4817 (2019).
- [3] Jiayuan Li, B. Xuezheng Li, C. Gang Chen, D. Cungang wang, and E. Yue Hou[□], *J. Nat. Prod.*, **80**, 3081 (2017).