SUPPLEMENTARY MATERIAL

Mass spectrometry guided isolation two new benzoquinoline alkaloids from *Macleaya cordata*

Zhi-Xing Qing^{a,c,1}, Yu-Qin Xu^{a,1}, Peng Yang^{a,c}, Kun Yu^{a,c}, Pi Cheng^{b,c}, Jian-Guo Zeng^{a,b,c,*}

^a*School of pharmacy, Hunan University of Chinese Medicine, Changsha 410208, China ;*

^b*Hunan Co-Innovation Center for Utilization of Botanicals Functional Ingredients (Hunan),
Hunan Agricultural University, Changsha 410128, China ;*

^c*Hunan Engineering Research Center of Botanical Extraction, Changsha 410331, China*

¹: *These authors contribution equally to this work.*

*Corresponding author: Jian-Guo Zeng. Tel.: +86-731-84686560; Fax: +86-731-84686560.

E-mail: ginkgo_1world@163.com. Address: Hunan Agricultural University, Furong District,
Changsha, Hunan, 410128, P. R. China.

Abstract Two new alkaloids, named 2,3-Methylenedioxy-7,10-dimethyl-7,8,9,10-tetrahydro-benzoquinoline (**1**) and 2,3-Methylenedioxy-7,10-dimethyl-8-carboxyl-benzoquinoline (**2**), were detected primarily from the fruits of *macleaya cordata* by their different fragmentation pathways. And then isolation the two compounds were performed by column chromatography and preparative HPLC under the guide of mass spectrometry. Finally, their structures were determined by spectroscopic analysis.

Keywords: *Macleaya cordata*; Benzoquinoline alkaloids; Mass spectrometry-guided isolation; 2,3-Methylenedioxy-7,10- dimethyl- 7,8,9,10 -tetrahydrobenzoquinoline.

2,3-Methylenedioxy-7,10-dimethyl-8-carboxyl-benzoquinoline;

Supplementary Fig.S1 ^1H , ^{13}C , DEPT, HMQC and HMBC spectra of compound **1**.

Supplementary Fig.S2 ^1H , ^{13}C , DEPT, HMQC and HMBC spectra of compound 2.

Supplementary Fig.S3 the MS/MS spectra of compounds **1** and **2**.

Supplementary Fig.S4 ^{a,b}Total Ion Chromatograms of extract of *M. cordata* and Fra.4;

^{c,d} Ultraviolet spectra of Fra.5 and Fra.3.