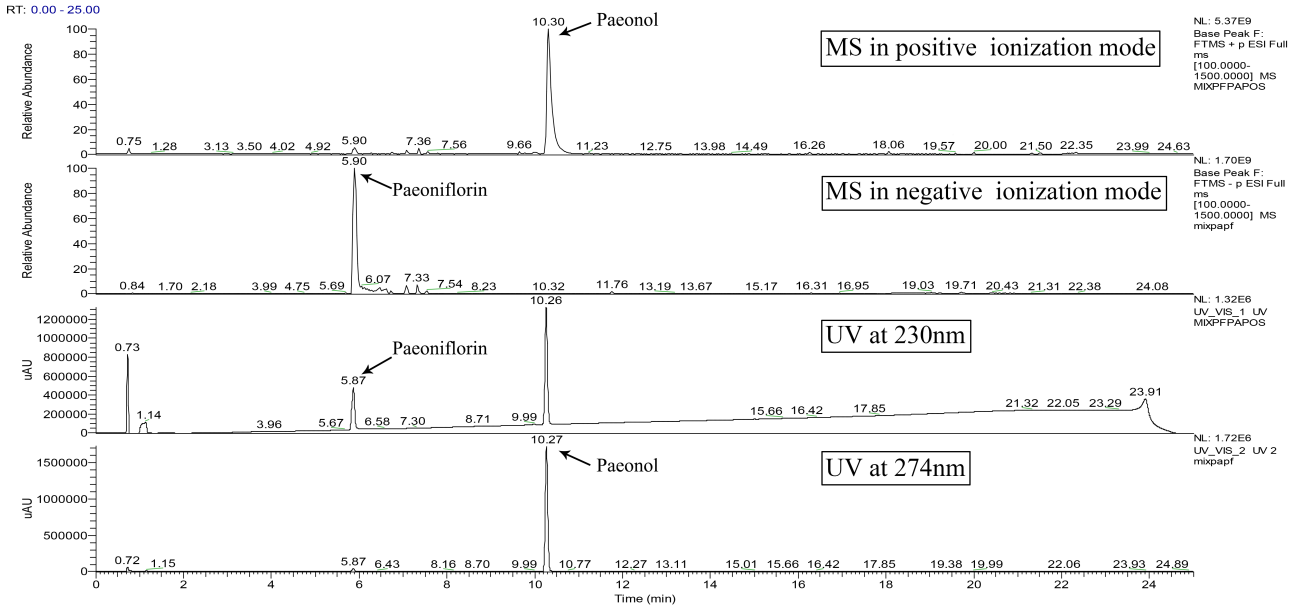
# New insights into Paeoniaceae used as medicinal plants in China

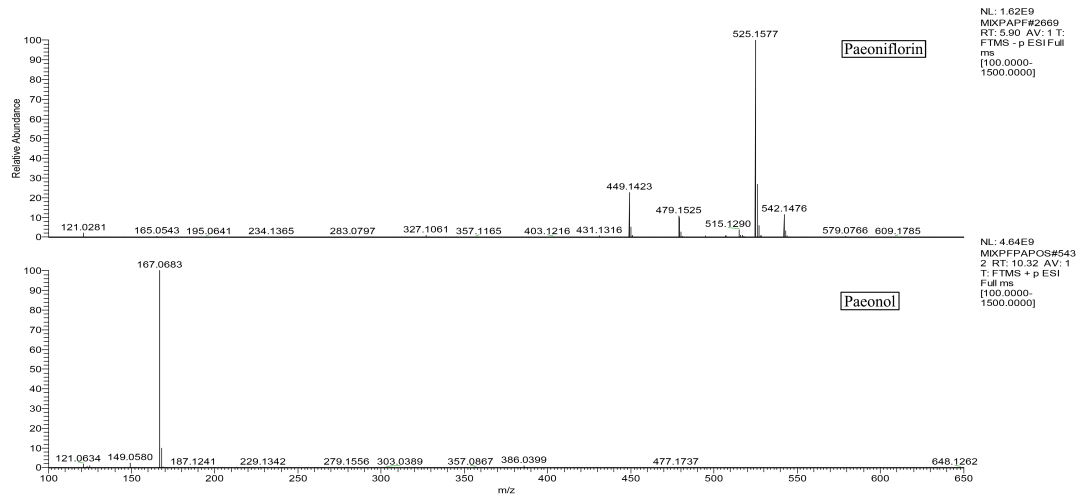
Xiaoxiao Zhang, Yuhui Zhai, Junhui Yuan* & Yonghong Hu*

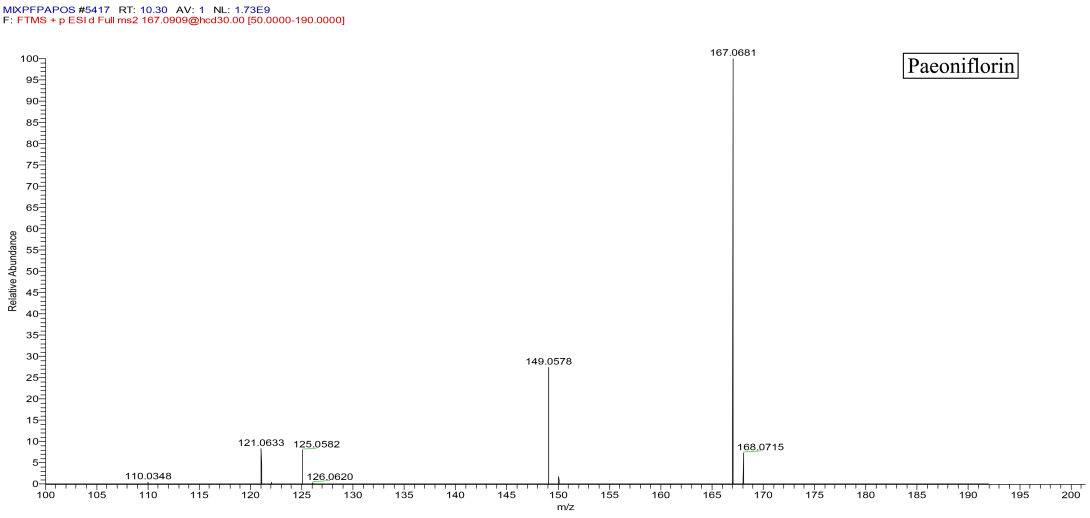
Shanghai Key Laboratory of Plant Functional Genomics and Resources, Shanghai Chenshan Plant Science Research Centre, Chinese Academy of Sciences, Shanghai Institute of Jiangnan Tree Peony, Shanghai Chenshan Botanical Garden, Shanghai, 201602, China

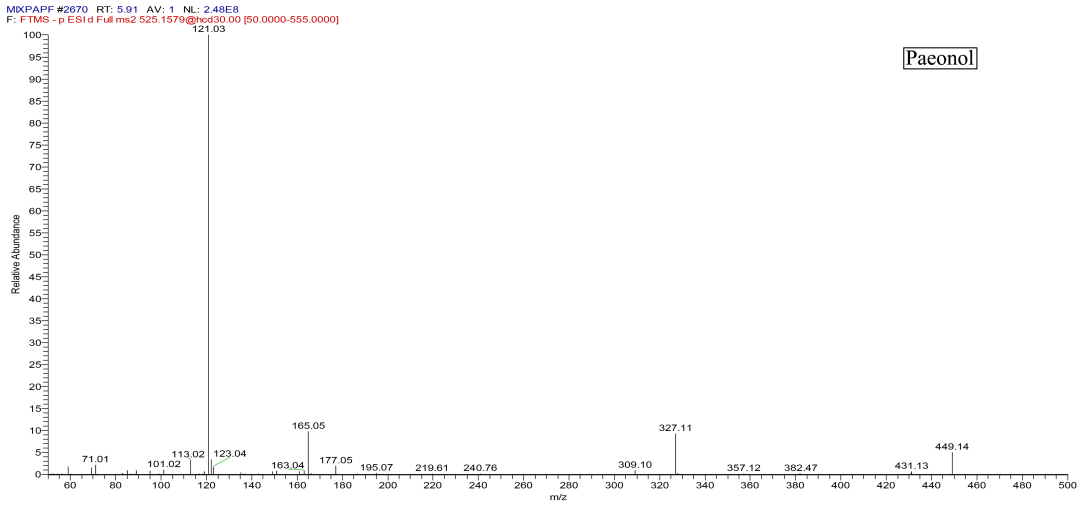
Correspondence and requests for materials should be addressed to J. Y. (email: yuanjunhuigsly@126.com) or Y. H. (email: huyonghong@csnbgsh.cn)




**Supplementary Figure S1.** Representative UPLC-MS trace of mixed references.




**Supplementary Figure S2.** MS spectra of paeoniflorin and paeonol.

**Supplementary Table S1.** The plant species in this study used for detection of paeoniflorin.

| No. | Species | Family | Organ |
|---|---|---|---|
| 1 | *Salvinia molesta* | Saliviniaceae | Leaf, root |
| 2 | *Ilex cornuta* | Aquifoliaceae | Leaf |
| 3 | *Ilex chinensis* | Aquifoliaceae | Leaf |
| 4 | *Pyracantha fortuneana* | Rosaceae | Leaf |
| 5 | *Photinia serrulata* | Rosaceae | Leaf |
| 6 | *Euonymus myrianthus* | Celastraceae | Leaf |
| 7 | *Cyclobalanopsis myrsinifolia* | Fagaceae | Leaf |
| 8 | *Ligustrum japonicum* | Oleaceae | Leaf |
| 9 | *Acer pseudosieboldianum* | Aceraceae | Leaf |
| 10 | *Cephalotaxus sinensis* | Cephalotaxaceae | Leaf |
| 11 | *Narcissus tazetta* | Amaryllidaceae | Leaf |
| 12 | *Camellia japonica* | Theaceae | Leaf |
| 13 | *Magnolia delavayi* | Magnoliaceae | Leaf |
| 14 | *Mahonia fortunei* | Berberidaceae | Leaf |
| 15 | *Hydrocotyle sibthorpioides* | Apiaceae | Leaf |
| 16 | *Epipremnum aureum* | Araceae | Leaf |

**Supplementary Table S2.** Experimental data of paeoniflorin and paeonol.

| | Paeoniflorin | Paeonol |
|---|---|---|
| $t_R$/min | 5.87 | 10.27 |
| $[M+HCOO]^-$ *m/z* | 525.1577 | / |
| $[M+H]^+$ *m/z* | / | 167.0683 |
| Calibration equation[a] | y = 12425.5259 x + 938.0193 | y = 45191.3413 x + 313.5921 |
| $r^2$ | 0.9990 | 0.9994 |
| Linear range (mg $mL^{-1}$) | 0.06-5.58 | 0.01-1.21 |
| LOD[b] (mg $mL^{-1}$) | 0.12 | 0.22 |
| LOQ[c] (mg $mL^{-1}$) | 0.24 | 0.34 |
| Intra-day RSD[d] (%) (n = 6) | 2.38 | 1.46 |
| Inter-day RSD (%) (n = 6) | 2.12 | 1.69 |
| Recovery and RSD (%) (mean, n = 6) | 101.61, 2.21 | 98.86, 1.31 |

[a] y, peak area; x, concentration of compound (mg $mL^{-1}$); [b] LOD=limit of detection, S/N=3; [c] LOQ=limit of quantification, S/N=10; [d] RSD (%) = (standard deviation/ mean) ×100.