SUPPLEMENTARY MATERIAL

Isolation of a new β-carboline alkaloid from aerial parts of *Triclisia sacleuxii* and its antibacterial and cytotoxicity effect.

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Abstract.

A new β-carboline alkaloid named sacleuximine A (1) together with known compounds palmatine (2), isotetrandrine (3), *trans*-N-feruloyltyramine (4), *trans*-N-caffeoyltyramine (5), yangambin (6), syringaresinol (7), sesamin (8), (+) epi-quercitol (9), 4-hydroxybenzaldehyde (10), β-sitosterol (11), quercetin 3-*O*-rutinoside (12) and myricetin 3-*O*-β-glucose (1→6) α-rhamnoside (13) have been isolated from methanol extract of *Triclisia sacleuxii* aerial parts. Compounds 1-10 were evaluated for their cytotoxicity against human adenocarcinoma (HeLa), human hepatocarcinoma (Hep3B), and human breast carcinoma (MCF-7) cells lines and also for antibacterial activities against both Gram-positive and Gram-negative bacteria. The cytotoxicity (IC\(_{50}\)) values ranged between 0.15 and 36.7 µM while the minimum inhibitory concentrations (MICs) were found to be in the range of 3.9 and 125 µM, respectively. This is the first report of antibacterial compounds and the isolation of lignans together with a β-carboline alkaloid from *Triclisia sacleuxii*.
Keywords: *Triclisia sacleuxii*; Menispermaceae; secondary metabolites; cytotoxicity; antibacterial, aerial parts.

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Mass List:

| # | m/z  | I     | I %  | S/N   |
|---|------|-------|------|-------|
| 1 | 337.2| 236098| 19.7 | 593684.3 |
| 2 | 444.4| 135100| 11.3 | 339716.6 |
| 3 | 488.4| 196677| 16.4 | 494557.4 |
| 4 | 576.4| 189078| 15.8 | 475447.6 |
| 5 | 644.4| 546547| 45.7 | 1374325.8 |
| 6 | 645.5| 1196479|100.0| 3000620.9|
| 7 | 647.5| 126974| 10.6 | 319283.1 |
| 8 | 667.5| 224950| 18.8 | 565650.0 |
| 9 |      |       |      |       |
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Table S1: $^1$H and $^{13}$C NMR (CDCl$_3$) data of Sacleuximine A (1)

| Atom | $^{13}$C (ppm) | $^1$H (ppm) | HMBC |
|------|---------------|-------------|------|
| 1    | 51.1          | 5.82 (1H, dd, $J$=9.6, 4.3) | H-3α,β, H-1’ |
| 3    | 41.0          | 4.07 (1H, dd, $J$=13.7, 4.1Hz) | 3.38 (1H, dd, $J$=13.0, 4.6Hz) |
| 4    | 22.9          | 2.76 (2H, m) | |
| 4a   | 107.7         |             | |
| 4b   | 127.1         |             | |
| 5    | 102.9         | 6.86 (1H, d, $J$=2.4Hz) | H-7 |
| 6    | 149.5         |             | H-8 |
| 7    | 111.3         | 6.67 (1H, dd, $J$=8.6, 2.4Hz) | |
| 8    | 111.6         | 7.00 (1H, d, $J$=8.6Hz) | |
| 8a   | 131.1         |             | H-7 |
| 9a   | 135.2         |             | |
| -NH  | -             | 6.90 (1H, s) | |
| 1’   | 39.3          | 3.14 (1H, dd, $J$=13.0, 4.6Hz) | 2.93 (1H, dd, $J$=12.9, 9.8Hz) |
| 2’   | 129.8         |             | H4’/6’ |
| 3’, 7’| 131.0         | 7.15 (2H, d, $J$=8.4Hz) | H-1’α,β |
| 4’, 6’| 115.7         | 6.82 (2H, d, $J$=8.4Hz) | |
| 5’   | 154.9         |             | |
| 1’’  | 177.1         |             | H-2’’ |
| 2’’  | 34.1          | 2.35 (1H, t, $J$=7.5Hz) | |
| 3’’  | 24.9          | 1.67 (2H, m) | |
| (-CH$_2$)$_{20}$| 29.9-32.1| 1.25 (br m) | |
| -CH$_3$| 14.1        | 0.88 (3H, t, $J$=6.7 Hz) | |
Table S2: Minimum Inhibitory Concentrations (μg/ml) of Compounds 1-10 Isolated from aerial parts of *Triclisia sacleuxii* against Selected Bacterial Strains.

| Compound | E.coli<sup>a</sup> | *P. aeruginosas*<sup>a</sup> | *S. epidermis*<sup>b</sup> | *S. aureus*<sup>b</sup> |
|----------|-------------------|------------------|------------------|------------------|
| 1        | 125               | 31.3             | 62.5             | *S. aureus*<sup>b</sup> |
| 2        | 62.5              | 31.3             | 31.3             | 62.5             |
| 3        | 31.3              | 15.7             | 7.8              | 15.7             |
| 4        | 15.7              | 15.7             | 7.8              | 7.8              |
| 5        | 31.3              | 62.5             | 31.3             | 15.7             |
| 6        | 7.8               | 7.8              | 7.8              | 62.5             |
| 7        | 7.8               | 7.8              | 3.9              | 3.9              |
| 8        | 7.8               | 7.8              | 7.8              | 3.9              |
| 9        | 125               | 125              | 62.5             | 7.8              |
| 10       | 125               | 125              | 125              | 125              |
| Tetracyline | 0.97          | 0.97             | 0.97             | 125              |

<sup>a</sup>Gram negative bacteria  <sup>b</sup>Gram positive bacteria