SUPPLEMENTARY MATERIAL

Cycloartane-type triterpenoids from *Astragalus hoantchy* French.

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**Abstract**

A new cycloartane-type triterpenoid, \(3\beta\)-acetoxy-\(9\beta,19\)-cyclolanost-24\(E\)-ene-1\(\alpha\),16\(\beta\) -diol-27-\(\beta\)-D-glucopyranoside (1), together with three known ones (2–4) were isolated from the aerial parts of *Astragalus hoantchy*. The structure of compound 1 was elucidated by detailed spectroscopic analyses including 1D and 2D NMR, HRESIMS, and IR experiments. All of the four compounds were isolated from *A. hoantchy* for the first time. The antifungal activities of compounds 1–4 against a phytopathogenic fungus (*Alternaria solani*) were evaluated with the result that compound 3 exhibited a moderate activity with an IC\(_{50}\) value of 284 \(\mu\)g/mL.

**Keywords:** *Astragalus hoantchy*; Leguminosae; cycloartane triterpenoid; antifungal activity

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Table S1. $^1$H NMR and $^{13}$C NMR spectroscopic data of compound 1 in CD$_3$OD

| No. | $^1$H NMR | $^{13}$C NMR | Key HMBC |
|-----|-----------|--------------|----------|
| 1   | 3.48 m    | 73.44 d      | C-3, 5, 9, 10 |
| 2   | 1.74-1.86 m | 35.02 t | C-3, 4, 5, 10 |
| 3   | 4.99 dd (10.0, 6.0) | 78.08 d | C-1", 1, 2, 4, 5, 28, 29 |
| 4   |           | 40.59 s      |          |
| 5   | 1.92-1.98 m | 40.85 d | C-4, 10, 19, 29 |
| 6   | 1.65-1.74 m | 21.16 t |          |
| 7   | 1.18-1.27 m | 26.38 t |          |
| 8   | 1.52 dd (12.4, 3.6) | 49.85 d | C-6, 7, 10, 14, 19, 30 |
| 9   |           | 22.18 s      |          |
| 10  |           | 31.00 s      |          |
| 11a | 2.30-2.41 m | 26.38 t | C-9,10, 12, 19 |
| 11b | 1.14-1.22 m | 26.38 t | C-9,10, 12, 19 |
| 12  | 1.57-1.65 m | 34.02 t |          |
| 13  |           | 46.43 s      |          |
| 14  |           | 47.68 s      |          |
| 15a | 1.92-1.98 m | 49.73 t | C-8, 13, 14, 16, 17, 30 |
| 15b | 1.23-1.32 m | 49.73 t | C-8, 13, 14, 16, 17, 30 |
| 16  | 4.31 dd (12.8, 7.2) | 72.92 d | C-13, 14, 15, 17, 20 |
| 17  | 1.58-1.70 m | 57.69 d | C-12, 13, 15, 16, 18, 20, |
| 18  | 1.12 s    | 19.77 q      | C-12, 13, 14, 17 |
| 19a | 0.66 d (4.0) | 31.23 t | C-1, 5, 8, 9, 10, 11 |
| 19b | 0.43 d (4.0) | 31.23 t | C-1, 5, 8, 9, 10, 11 |
| 20  | 1.74-1.86 m | 31.23 d | C-16, 17, 23 |
| 21  | 0.92 d (6.8) | 18.36 q | C-17, 20, 22 |
| 22  | 1.01-1.09 m | 37.04 t |          |
| 23  | 2.07-2.20 m | 25.94 t | C-20, 22, 24, 25 |
| 24  | 5.49 d (6.0) | 131.03 d | C-22, 23, 25, 26, 27 |
| 25  |           | 132.24 s     |          |
| 26  | 1.65 s    | 14.17 q      | C-24, 25, 27 |
| 27a | 4.16 d (11.2) | 76.06 t | C-1', 24, 25, 26 |
| 27b | 3.99 d (11.2) | 76.06 t | C-1', 24, 25, 26 |
| 28  | 0.84 s    | 25.93 q      | C-3, 4, 5, 29 |
| 29  | 0.85 s    | 14.83 q      | C-3, 4, 5, 28 |
| 30  | 0.92 s    | 20.54 q      | C-8, 13, 14, 15 |
| 1'  | 4.21 d (7.6) | 102.50 d | C-27, 3', 5' |
| 2'  | 3.12-3.18 m | 75.03 d |          |
| 3'  | 3.27-3.33 m | 78.08 d |          |
| 4'  | 3.23-3.28 m | 71.70 d |          |
| 5'  | 3.20-3.22 m | 77.79 d |          |
| 6'a | 3.81 dd (11.6, 1.6) | 62.79 t |          |
| 6'b | 3.61 dd (11.6, 5.2) | 62.79 t |          |
| 1"  |           | 172.67 s     |          |
| 2"  | 1.98 s    | 21.16 q      | C-1"    |
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