A New C_{20}-diterpenoid Alkaloid from the Lateral Roots of *Aconitum carmichaeli*

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**Abstract**

A new C\(_{20}\)-diterpenoid alkaloid carmichaedine (1) and six known alkaloids (2-7) were isolated from the lateral roots of *Aconitum carmichaeli*. Their structures were established on the basis of extensive spectroscopic analyses. Compound 1 exhibited potent antibacterial activity against *Bacillus subtilis* with minimum inhibitory concentration of 8 \(\mu\)g/mL.

**Keywords**: *Aconitum carmichaeli*; Ranunculaceae; diterpenoid alkaloid; carmichaedine, antibacterial
Figure S1. Key $^1$H-$^1$H COSY (-----), HMBC (→) and NOESY (↔) correlations of compound 1.
Figure S2. MS spectra of compound 1.

Elemental composition calculator

Target m/z: +573.9218 amu
Tolerance: +100.0000 ppm
Result type: Elemental
Max num of results: 100
Min DEE: -1.8000 Max DEE: +40.0000
Electron state: Even
Num of charges: 1
Add water: N/A
Add proton: N/A
File Name: NU-94+.xtif

| Elements | Min Number | Max Number |
|----------|------------|------------|
| 1 Sr      | 0          | 0          |
| 2 C       | 0          | 32         |
| 3 F       | 0          | 0          |
| 4 H       | 0          | 66         |
| 5 Ir      | 0          | 0          |
| 6 S       | 0          | 1          |
| 7 Na      | 0          | 0          |
| 8 O       | 0          | 8          |
| 9 C       | 0          | 0          |

| Formula  | Calculated m/z (amu) | rEa Error | rFM Error | DEE |
|----------|----------------------|------------|------------|-----|
| 1 C32 H46 N 08 | 573.9217              | 0.0156     | 0.0088     | 10.5 |
Figure S3. $^1$H NMR spectra of compound 1.
Figure S4. $^{13}$C NMR spectra of compound 1.
Figure S5. $^1$H-$^1$H COSY spectra of compound 1.
Figure S6. NOESY spectra of compound 1.
Figure S7. HMQC spectra of compound 1.
Figure S8. HMBC spectra of compound 1.