

**Cytotoxic pheophorbide-related compounds
from *Clerodendrum calamitosum* and *C.
cyrtophyllum***

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摘要.

Abstract

Three pheophorbide-related compounds (1–3) were isolated from the leaves and stems of *Clerodendrum calamitosum*. The methyl ester of 3 (6) and the known (10S)-hydroxypheophytin a (7) also were isolated from leaves of the related plant *Clerodendrum cyrtophyllum*. Compounds 1 and 6 were isolated for the first time as naturally occurring products from a plant source. All structures were elucidated by detailed spectroscopic analysis. Biological evaluation showed that 1 and 2 exhibited strong cytotoxicity against human lung carcinoma (A549), ileocecal carcinoma (HCT-8), kidney carcinoma (CAKI-1), breast adenocarcinoma (MCF-7), malignant melanoma (SK-MEL-2), ovarian carcinoma (1A9), and epidermoid carcinoma of the nasopharynx (KB), and its etoposide- (KB-7d), vincristine- (KB-VCR), and camptothecin-resistant (KB-CPT) subclones. Compound 3 was less cytotoxic than 1 and 2. Compounds 4–6, the methyl esters of 1–3, showed strongly increased cytotoxicity compared with the parent acids. Interestingly, 6 was the most active derivative among these compounds. Compound 7 was inactive.