NEW BUFADIENOLIDES FROM *KALANCHOE TUBIFLORA* (HARVEY) HAMET

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Three new bufadienolides, kalantuboside B (**1**), kalantubolide A (**2**), and kalantubolide B (**3**), three known bufadienolides (**4**-**6**), and thirteen known compounds (**7**-**19**) were isolated and characterized from the EtOH extract of *Kalanchoe tubiflora* (Harvey) Hamet. The structures of these bufadienolides were assigned based on spectroscopic analyses that included 1D and 2D NMR techniques, such as HMQC, HMBC, and NOESY. The biological evaluation indicated that the bufadienolides showed cytotoxicity against four human tumor cell lines. In addition, the bufadienolides (**4**-**6**) blocked the cell cycle in the G2/M-phase and induced apoptosis in HL-60 cells.

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DESIGN AND SYNTHESIS OF SIMPLIFIED PACLITAXEL ANALOGS BASED ON THE T-TAXOL BIOACTIVE CONFORMATION

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The simplified paclitaxel analogs **1**-**4** have been designed as compounds which should bind to tubulin, based on their similarity to the T-taxol conformation. One caveat is their increased flexibility relative to paclitaxel. The target compounds were synthesized by Grubbs' metatheses of compounds **5**-**8**, which were prepared by coupling β-lactams **9**-**11** with alcohols **12** and **13**. Compounds **12** and **13** were formed by reduction of the intermediate **14**, which was constructed by coupling a *cis*-4-hydroxyproline derivative with 3-(allyloxy)-2-iodobenzaldehyde. The syntheses of **1**-**4** together with their biological data will be presented.

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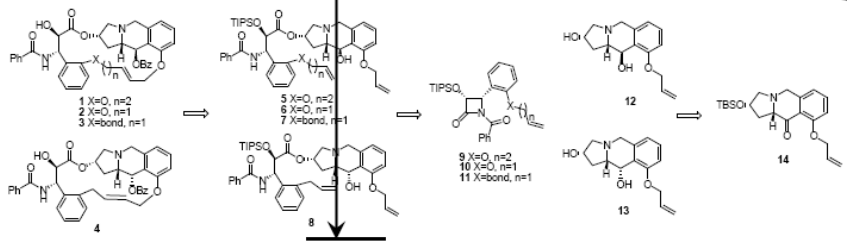

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