B115 A rapid and sensitive LC/NMR method for the absolute configuration determination of two 6-alkylated α-pyrones at the microgram level

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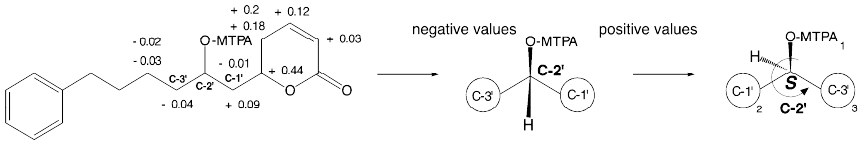
Determination of the absolute configuration at the asymmetric centers of two α-pyrones isolated from *Ravensara crassifolia* (Lauraceae) was performed using Mosher's method (1). Conventional analysis of the ester derivatives by ^{1}H NMR was replaced by LC/NMR (2) analysis of the crude reaction mixture. Completion of the reaction was checked by APCI LC/MS on 5% of the total mixture and LC-^{1}H NMR spectra were recorded on the 95% remaining in the stop-flow mode. The main advantages of this new method are its rapidity and sensitivity. Typically only a few micrograms have to be injected on-column and no clean-up procedures are necessary. These aspects are very important in natural product chemistry since often the sample amounts are very limited.



References: 1. Ohtani, I. et al. (1991) J. Am. Chem. Soc. 113: 4092-4096**. 2.** Wolfender, J.-L. et al. (2001) Phytochem. Anal. 11: 1-22.

B116 Chemical constituents of *Inula verbascifolia* subsp. *methanea* and *I. pseudolimonella* (Asteraceae) growing in Greece. Biological activities

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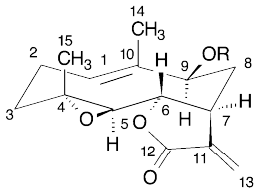
The aerial parts of *Inula verbascifolia* subsp. *methanea* yielded three new epoxygermacranolides, compounds **1**-**3**, in addition to the previously known 9β-hydroxyparthenolide **4** and the flavonoid apigenin **5**. From *Inula pseu - dolimonella* were also isolated: 9β-hydroxyparthenolide **4**, inusiniolide **6**, dammaradienyl acetate **7** and dammaradienol **8**. All isolated compounds were identified by means of spectral data (IR, ^{1}H NMR, ^{13}C NMR, HRFABMS and CIDMS).



1: R = $COCH_2C(CH_3)(OH)CH_2CH_3$

2: R = $COCH_2C(CH_3)(OH)CH_3$

3: R = $COCH(CH_3)CH(OH)CH_3$

The *in vitro* cytotoxic activities of compounds **1-3** were evaluated against six human solid tumor cell lines. Compounds **1-3** showed the most potent activity against the three colon cancer and PC-3 androgen insensitive cell-lines, but moderate one against the MCF-7 and LNCaP cells. Compound **3** was the most active against HCT-116 colon cell line (IC_{50}, 0.39 μg/mL). Compounds **1-4**, **6-8** were also assayed for their antimicrobial activities against six Gram (±) bacteria as well as against three pathogenic fungi. All the tested compounds showed an interesting profile against Gram (±) bacteria with **4** to exhibit the strongest antibacterial activity and **8** the strongest antifungal one.