

MARINE ORGANISMS AS A SOURCE OF THERAPEUTIC AGENTS: NEW BIOACTIVE METABOLITES ISOLATED FROM THE MARINE SPONGE *PLAKORTIS ZYGGOMPHA*

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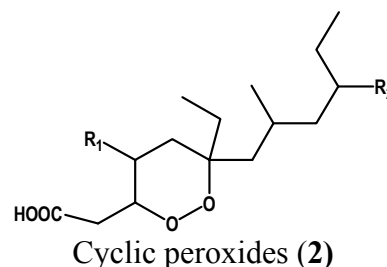
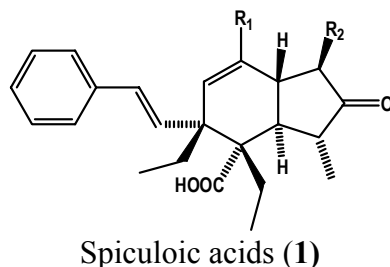
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Recent developments in the applied field of natural products make it obvious that nature provides chemicals, secondary metabolites, of impressive complexity. It is generally accepted that these natural products offer new potential for human therapy. Organisms of choice useful for such exploitation live in the marine environment. Among them, marine sponges (phylum: Porifera), sessile filter feeders, have a long evolutionary history (600-500 million years ago) during which they could develop a chemical defence system to fight successfully against other invading organisms.

As part of our ongoing search of new biologically substances from marine organisms, we undertook the study of the sponge *Plakortis zyggompha* (order Homosclerophorida, family Plakinidae) collected around the Martinique island in 2002.



Plakortis zyggompha



After a biological primary screening, this organism showed interesting pharmacological activity and led to the isolation of new compounds belonging to two different original polyketide families: the spiculoic acids (1) and the cyclic peroxides (2) [1]. The new spiculoic acids family with an uncommon spiculan skeleton was recently described by Andersen *et al.* in 2004 [2].

The structural determination of these new compounds based on 1D and 2D NMR studies and mass spectral determinations is presented, as well as the results of their biological activities evaluation. An interpretation of their relative stereochemistry on the basis of their biogenetic pathway is also proposed.

[1] Publication in press (Journal of Natural Products)

[2] Huang, X. H.; van Soest, R.; Roberge, M.; Andersen, R. J. Spiculoic acids A and B, new polyketides isolated from the Caribbean marine sponge *Plakortis angulospiculatus*. *Organic Letters* 6[1], 75-78. 2004.