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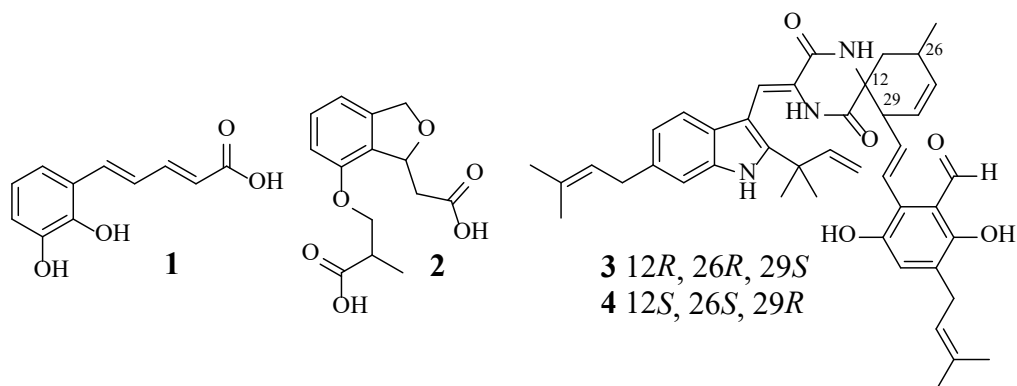
Polyketides and echinulin-derivatives from Vietnamese strain of marine fungus *Eurotium niveoglaucum*

Key words: marine-derived fungi, secondary metabolites, polyketides, echinulin

The marine fungi are perspective sources of bioactive compounds, which are usually have a cytotoxic, antibiotic and anti-inflammatory activities [1]. Since marine environment possesses complicated conditions for living, marine fungi can produce compounds with unique structure. Recently cephalosporin C was the only marine fungal compound that used as a medical drug, but today fingolimod developed from myriocin is approved by FDA and EMA, and plinabulin, the synthetic derivative of diketopiperazine phenylahistin, is under phase III of clinical trials (according to clinicaltrials.gov) [3, 4].

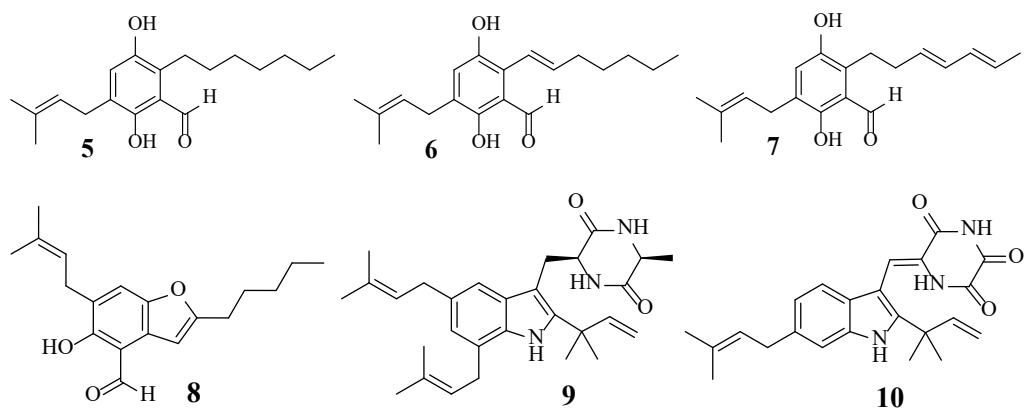
The coast of Vietnam is an insufficiently studied area of South China Sea, because most researches are focus on the coast of China and Taiwan Strait. Besides the high level of bacterial colonization in tropical seas is a stimulating factor for marine fungi. Therefore, exploration of fungi of Vietnamese coast is topical.

In this research work the metabolite composition of marine-derived fungus *Eurotium niveoglaucum* (sediments, Nha Trang Bay, South China Sea) was investigated. The fungus was cultured on a rice medium in Erlenmeyer cobs at 25°C during 21 days. The fungal mycelium was extracted by EtOAc, then obtained solution was dried in vacuum. Further dried residue was



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dissolved in EtOH-H₂O system (1:4), and sequentially extracted by hexane, EtOAc and BuOH. The EtOAc fraction was purified by column chromatography on SiO₂, LH-20 and normal- and reversed-phase HPLC. As a result, two new polyketides niveoglaucines A-B (**1-2**) together with number of known metabolites such as (+)-cryptoechinulin B (**3**) and (–)-cryptoechinulin B (**4**), flavoglaucin (**5**), tetrahydroauroglaucin (**6**), isodihydroauroglaucin (**7**), 5-hydroxy-6-(3-methylbut-2-enyl)-2-(pent-1-enyl)benzofuran-4-carbaldehyde (**8**), echinulin (**9**) and neoechinulin (**10**) were isolated. Structures of isolated compounds were established by combination of 1D and 2D ¹H and ¹³C NMR and HR ESIMS data, as well as ECD spectra (for compounds **3** and **4**).

It should be noted, it is a first case of isolation of (+)-cryptoechinulin B (**3**) and (–)-cryptoechinulin B (**4**) as the individual compounds [2]. Besides niveoglaucine B (**2**) have a unique fragment of 3-hydroxyisobutyric acid (3-HIBA). To the best of our knowledge there are no cases of isolation of natural compounds with this moiety.

The supposed biosynthesis scheme of niveoglaucines A-B (**1-2**) was proposed.

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