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New Aza-sesquiterpenoids of Protoilludane Origin from the Fungus *Clavicorona divaricata*

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Mushrooms have proved to be a rich source of secondary metabolites with unusual structures as well as interesting biological activities. Despite their potential for drug development, few bioactive metabolites have been reported from mushrooms as compared with higher plants and microbes. In our screening project on bioactive metabolites of Basidiomycetes we have investigated the metabolites produced by the fungus *Clavicorona divaricata* in MPG agar cultures and isolated divaricatine A and B together with the nor-sesquiterpenoids tsugicoline L and M. Successively, the fermentation of the fungus in different conditions, one week still and two weeks shaken at 180 rpm gave rise to complex mixtures, from which new aza-sesquiterpenoids were isolated. The poster describes the isolation, structure elucidation and absolute configuration assessment of these novel metabolites The skeleton of these compounds was never found before among the sequiterpenes of protoilludane origin, except for illudinine, a metabolite isolated from some strains of *Clitocybe illudens*.. A possible mechanism of their formation is also suggested.

The origin of the nitrogen source may be derived from a D-Amino acid oxidase (DAAO), a FAD-dependent enzyme, that catalyzes the oxidative deamination of D-amino acids, to give α-keto acids and ammonia; this enzyme probably was formed in the aerobic fermentation of the fungus and the malt-peptone medium is a rich source of amino acids.

The new metabolites showed a weak antibacterial activity against *Bacillus cereus* and *Sarcinea lutea* (50μg/disc), and inhibited the growth of *Lepidum sativum* (After 48 h, the inhibition of the root elongation was 85, 91 and 72%, respectively).