

## New Illudane-type Sesquiterpenes from the Fruiting Body of *Omphalotus japonicus*

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**Purpose:** Wild mushrooms are important food ingredients in Japan. However, food poisoning due to misidentification of poisonous as edible mushrooms are occurring every year. In the most of cases were caused by *Omphalotus japonicus* (*Tsukiyo-take* in Japanese). In the previous study, illudin S, an illudane-type sesquiterpene was founded as the toxic substance from *O. japonicus*. Furthermore, several analogous, dihydroilludin S, neoilludin A and B, were also isolated. However, there were few studies on the detail food poisoning caused with *O. japonicus*. Furthermore, *Omphalotaceae* mushrooms were well known to produce a variety of sesquiterpenes. Therefore, we investigate constituents from the *O. japonicus*.

**Methods:** *O. japonicus* was collected in Yamagata University Forest, Yamagata prefecture. The fruiting body was extracted with methanol and then the solvent was removed under vacuum. The residue was suspended with distilled water and partitioned with hexane, ethyl acetate, and butanol, respectively. Ethyl acetate and butanol fractions were subjected to several steps chromatography to afforded compounds 1-6.

**Results and conclusion:** Based on NMR, HRMS, IR, and CD analyses, compounds 1-3 were identified as known compound, illudin S, neoilludins A and B, respectively. Compound 4 was found as a new epimer of neoilludin B at C-4. Compounds 5 and 6 were also new analogue compounds similar to those of neoilludins A and B, except 4-OH in neoilludins A and B were replaced to 4-OMe in 5 and 6, respectively. In addition, illudin S, 5 and 6 were exhibited Ca<sup>2+</sup> inhibition activity.