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Short Note

4-Methoxy-3-(3-methylbut-2-en-1-yl)-7-[(3-methylbut-2-en-1-yl)oxy]quinolin-2(1*H*)-one from *Melicope Moluccana* T.G. Hartley

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Academic Editor: Norbert Haider
Received: 16 February 2017; Accepted: 31 March 2017; Published: 7 April 2017

Abstract: 4-Methoxy-3-(3-methylbut-2-en-1-yl)-7-[(3-methylbut-2-en-1-yl)oxy]quinolin-2(1*H*)-one (**1**) was isolated from the leaves of *Melicope moluccana* T.G. Hartley. The chemical structure of **1** was elucidated using mainly UV, IR, HRESIMS, 1D and 2D-NMR spectroscopy.

Keywords: 4-Methoxy-3-(3-methylbut-2-en-1-yl)-7-[(3-methylbut-2-en-1-yl)oxy]quinolin-2(1*H*)-one; 2-quinolone alkaloid; *Melicope moluccana*

1. Introduction

Melicope is one of the genus of the family Rutaceae, consisting of about 320 species growing in the world [1]. Phytochemical studies have shown that the species produce a variety of alkaloids [2,3], flavonoids [4,5], coumarins [6], acetophenones [7], and lignans [8], which exhibit various biological activities, including antioxidant [8,9], anticancer [10,11], and antiinflammatory [12]. This study is part of our research on the chemical constituents of *Melicope* species found in Indonesia. In continuation of our research for alkaloid compounds in this medicinal plant, we report the isolation of 4-methoxy-3-(3-methylbut-2-en-1-yl)-7-[(3-methylbut-2-en-1-yl)oxy]quinolin-2(1*H*)-one (**1**) from the methanol extract of the leaves of *Melicope moluccana* T.G. Hartley. The chemical structure of compound **1** were established by UV, IR, HRESIMS, 1D and 2D-NMR, and by comparison with those related compounds previously reported. Cytotoxic and antiplasmodial activities of isolated compound from this species are also briefly described.

2. Result and Discussion

The dried and powdered leaves of *M. moluccana* (2.0 kg) were extracted with methanol. The residue was partitioned with *n*-hexane. The methanol extract was then adjusted to pH 3–4 with 3% sulfuric acid and partitioned with ethyl acetate to separate the non-alkaloid compound. Acid extracts were basified with ammonia solution (pH 8–9) and partitioned with ethyl acetate to give the crude alkaloid.

The crude alkaloid (5 g) was fractionated by column chromatography on silica gel eluted with mixtures of *n*-hexane-ethyl acetate (9:1 to 1:1) to give four major fractions A–D. Fraction A (325 mg) was further separated by radial chromatography to yield two sub-fractions (A_1, A_2). Sub-fraction A_1 was purified using radial chromatography eluted with *n* hexane-chloroform (from 1:1 to 3:7) to give compound **1** (Figure 1).