

## RESEARCH ARTICLE



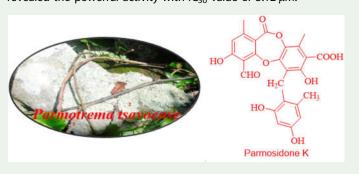
# Parmosidone K, a new *meta*-depsidone from the lichen *Parmotrema tsavoense*

Thi-Hoai-Thu Nguyen<sup>a</sup>, Thi-My-Nhung Nguyen<sup>b</sup>, Thanh-Trung Nguyen<sup>c,d</sup>, Huu-Hung Nguyen<sup>e</sup>, Ngoc-Hong Nguyen<sup>f</sup>, Dinh-Tri Mai<sup>g,h</sup>, Bui-Linh-Chi Huynh<sup>i</sup>, Cong-Luan Tran<sup>j\*</sup> and Thuc-Huy Duong<sup>b\*</sup>

<sup>a</sup>Faculty of Basic Sciences, University of Medicine and Pharmacy at Ho Chi Minh City, Ho Chi Minh City, Vietnam; <sup>b</sup>Department of Chemistry, Ho Chi Minh City University of Education, Ho Chi Minh City, Vietnam; <sup>c</sup>Institute of Research and Development, Duy Tan University, Da Nang, Vietnam; <sup>d</sup>Faculty of Pharmacy, Duy Tan University, Da Nang, Vietnam; <sup>e</sup>Faculty of Biotechnology, Van Lang University, Ho Chi Minh City, Vietnam; <sup>f</sup>CirTech Institute, Ho Chi Minh City University of Technology (HUTECH), Ho Chi Minh City, Vietnam; <sup>g</sup>Faculty of Chemistry, Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam; <sup>h</sup>Faculty of Technology, Van Lang University, Nguyen Khac Nhu, Ho Chi Minh City, Vietnam; <sup>h</sup>Department of Nature, Dong Nai University, Bien Hoa, Vietnam; <sup>k</sup>Faculty of Pharmacy and Nursery, Tay Do University, Can Tho, Vietnam

#### **ABSTRACT**

Further phytochemical investigation on *P. tsavoense* led to one new *meta*-depsidone, parmosidone K together with one known compound, barbatic acid. Their structures were determined by 1D and 2D NMR analysis, high resolution mass spectroscopy, and comparison their NMR data with those reported in literatures. Parmosidone K was evaluated for  $\alpha$ -glucosidase inhibition and revealed the powerful activity with IC<sub>50</sub> value of 3.12  $\mu$ M.



#### **ARTICLE HISTORY**

Received 4 September 2020 Accepted 25 October 2020

### **KEYWORDS**

Parmotrema; *Parmotrema tsavoense*; depsidone; parmosidone; α-glucosidase

## 1. Introduction

Lichens are complex symbiotic organisms of fungi and algae, producing various bioactive metabolites (Huneck and Yoshimura 1996; Müller 2001). Among them, depsidone, an unique scaffold, endowed with diverse biological activities such as capacity