

NEW FINDINGS OF DOCTORAL DISSERTATION

Name of Doctoral candidate: Nguyen Thi Hang

Dissertation title: “Study on botanical characteristics, chemical constituents and *in vitro* anti-inflammatory activities of *Gouania leptostachya* DC. (Rhamnaceae)”

Speciality: Medicinal Materials - Traditional Pharmacy

Code of speciality: 9720206

Name of academic advisors:

1. Assoc. Prof. Dr. Nguyen Thi Bich Thu
2. Assoc. Prof. Dr. Tran Van On

Name of academic institute: National Institute of Medicinal Materials

Summary of new findings of the dissertation:

1. Botany

This study described and analyzed the morphological and anatomical characteristics of stems and leaves, as well as identified the microscopy properties of their powders.

1. Chemical constituents:

Structure of 15 compounds isolated from *Gouania leptostachya* were identified, in which:

- ✓ 5 new saponin triterpenoides named gouaniaside VII-IX, joazeiroside C, and gouanioside A.
- ✓ 5 compounds were isolated from genus *Gouania* for the first time: 4 flavonoids (quercitrin, isoquercitrin, catechin, and kaempferol-3-*O*-[(6-*O*-*E*-caffeoyl)- β -D-galactopyranosyl]-(1 \rightarrow 2)- α -L-rhamnopyranoside), and 1 fructoside (*n*-butyl- β -D-fructopyranoside).
- ✓ 3 compounds were isolated from *Gouania leptostachya* for the first time: lupeol, alphitolic acid, and epigouanic acid.

2. Biological activities:

- The *in vitro* anti-inflammatory properties of *G. leptostachya* crude EtOH extract, *n*-hexane fraction, ethyl acetate (EtOAc) fraction, *n*-BuOH fraction, aqueous fractions on inhibiting the production of PGE₂, NO, IL-1 β , IL-6, and COX-2 in LPS-stimulated RAW 264.7 macrophage cells were published for the first time.
- The *in vitro* anti-inflammatory properties of isolated compounds from *G. leptostachya* on inhibiting the production of PGE₂, NO, IL-1 β , IL-6, and COX-2 in LPS-stimulated RAW 264.7 macrophage cells were published for the first time.

Hanoi, July 05th, 2023

ACADEMIC ADVISORS

**DOCTORAL
CANDIDATE**

Assoc. Prof. Dr. Nguyen Thi Bich Thu Assoc. Prof. Dr. Tran Van On Nguyen Thi Hang