



BIS 2022

The 4th Borobudur International Symposium
Online Virtual Conference, 21 December 2022

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Email: bis@unimma.ac.id

Date: 5 March 2024

Letter of Acceptance for Full Paper

Dear Authors: Kirana Anggraini*, Dyah Ayu Woro Setyaningrum, Laviany Putri Shihran, Isra Fauziyyah, Laela Wulansari, Hening Tyas Andayani

We are pleased to inform you that your paper, entitled:

"The Effect of Different Types of Solvents in The Extraction Process of Javanese Chilies Fruits (*Piper retrofractum* Vahl) on Capsaicin Levels"

has been reviewed and accepted to be presented at BIS 2022 conference to be held on 21 December 2022 in Magelang, Indonesia.

Please make the payment for registration fee before the deadlines, visit our website for more information.

Thank You.

Best regards,

A blue ink signature of Prof. Dr. Muji Setiyo, overlaid on the Borobudur International Symposium 2022 logo.

Prof. Dr. Muji Setiyo, S.T.,M.T.
BIS 2022 Chairperson





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Date: 5 March 2024

Letter of Acceptance for Abstract

Dear Authors: Kirana Anggraini*, Dyah Ayu Woro Setyaningrum, Lavianny Putri Shihran, Isra Fauziyyah, Laela Wulansari, Hening Tyas Andayani

We are pleased to inform you that your abstract (ABS-426, Oral Presentation), entitled:

"The Effect of Different Types of Solvents in The Extraction Process of Javanese Chilies Fruits (*Piper retrofractum* Vahl) on Capsaicin Levels"

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Prof. Dr. Muji Setiyo, S.T.,M.T.
BIS 2022 Chairperson



Determination of the Best Solvent types on Capsaicin Levels in the Extraction of Javanese Chilli Fruit (*Piper retrofractum Vahl*)

Kirana Anggraini^{1,a)}, Dyah Ayu Woro Setyaningrum^{2,b)}, Laela Wulansari^{3,c)}, Hening Tyas Andayani⁴⁾, Laviany Putri Shihran⁵⁾, Isra Fauziyyah⁵⁾

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⁴*Fachärztin der Innere Medizin, Städtische Kliniken Mönchengladbach, Germany*

⁵*Medical Science Study Program, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia*

^{a)} *Corresponding author: kirana_anggraeni@trisakti.ac.id*

^{b)} *dyahayu94@trisakti.ac.id*

^{c)} *laela2002@gmail.com*

Abstract. Javanese Chili (*Piper retrofractum Vahl*) is a native tropical plant of Indonesia. Javanese chilies contain piperine alkaloids, cavisin, piperidine, saponins, polyphenols, essential oils, palmitic acid, tetrahydropiperic acid, isobutyldeka-trans-2,4-dienamide, 1 undesylenevl-3,4-methylene-dioxybenzene.

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Asus



Abstrak belum mencantumkan tujuan dan implikasi dari penelitian yang dilakukan

06 Februari 2023, 10.29

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Maksimal judul adalah 12 kata
Similarity check terdeteksi 54%, batas maksimal 20%

06 Februari 2023, 10.12

205.21 ppm. The highest concentration of capsaicin was found in ethyl acetate solvent of 785.58 mg/g.

INTRODUCTION

Javanese chili (*Piper retrofractum* Vahl.) is a native tropical plant of Indonesia. The use of spice plants as medicine in Indonesia is common because they are easy to obtain, to process, and have been used for generations. The use of spice plants is also influenced by the level of knowledge, age, education level, economic status, environmental factors, and sources of information/information media¹. The part of the Javanese chili plant that contains the most secondary metabolites is found in its fruit. Javanese chili contains piperine alkaloids, cavinin, piperidine, saponins, polyphenols, essential oils, palmitic acid, tetrahydropiperic acid, isobutyldeka-trans-2, 4-dienamide, 1 undesylenyl-3, 4-methylene-dioxybenzene². Compounds contained in Javanese chilies include: piperoctadecalidine, piperine, pipernonaline, guineensine, methyl piperate, N-isobutyl-2E, 4E, 8Z-eico-satrienamida and β -sitosterol^{3,4}. Capsaicin (8-Methyl-N-vanillyl-trans-6-nonenamide) is the active compound found in hot peppers that gives chilies their hot taste⁵. Capsaicin was first purified in 1876⁶ but its structure began to be described in 1919⁷. Due to its chemical structure, capsaicin is well absorbed up to 94% when administered topically or orally⁸.

Studies demonstrate the efficacy of capsaicin as an analgesic⁹. Treatment with capsaicin is effective in various types of pain conditions such as complex regional pain syndromes and neuropathic pain^{10,11}; postsurgical neuropathic pain^{12,13}; post-herpetic neuralgia^{14,15} and painful diabetic peripheral neuropathy^{16,17}. The use of nasal capsaicin can prevent cluster headache

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Penulisan kutipan wajib menggunakan IEEE style

06 Februari 2023, 10.37

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Insulin homeostasis, reducing itching and sypmtoms, and an alternative.....

06 Februari 2023, 10.16

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INTRODUCTION

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< 5 dari 6 >



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In allodynia area after using.....

06 Februari 2023, 10.18

Place, Collecting, and Determining Samples. The research material was the fruit of the Javanese chili plant taken from the Biopharmaca Cultivation Conservation Unit (BCCU) of the Tropical Biopharmaca Research Center, LPPM IPB, which was obtained from Java which was harvested at the age of 3-4 months after flowering. The determination was carried out at the Biopharmaca Cultivation Conservation Unit (BCCU).

Simplicia Making. Three kilograms of fresh Java chilies were weighed, then washed and dried in direct sunlight for 4-5 days. After drying, the dry sorting is carried out, and mashed with a blender. The simplicia powder obtained was sieved using an 80-mesh sieve and then weighed. The simplicia powder is then stored in a clean, dry container and protected from sunlight for the next extraction process.

Production of Java Chili Extract. Extract preparation and testing were carried out at the Laboratory of the Tropical Biopharmaca Research Center, Institute for Research and Community Service (LPPM), IPB University. Samples of Java chili simplicia were weighed for extraction with 10 grams of various solvents each, then added solvents namely 96%, 70%, 30% ethanol, 500 mL of water, ethyl acetate, and n-hexane. Maceration was carried out 2 x 24 hours with several times of stirring, then it was filtered. The collected filtrate was concentrated using a vacuum rotary evaporator at 45-50°C to obtain a viscous ethanol extract of 96%, 70%, 30%, water, ethyl acetate, and n-hexane extract.

Water content. Two grams of Javanese chili simplicia were weighed in a

< 6 dari 6 >



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Determining

06 Februari 2023, 10.40



Certificate

To certify that :

Kirana Anggraini

has contributed as

Presenter

in The 4th Borobudur International Symposium 2022
"The Innovation Chain: A Contribution to Society and Industry"

Rector
of Universitas Muhammadiyah Magelang

Dr. Lilik Andriyani, SE., M.Si

Chairman of 4th BIS 2022

Prof. Dr. Muji Setiyo, ST., MT.

Organized by : Co-host:



December 21st, 2022
Magelang, Central of Java, Indonesia

