



## BIS 2022

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

Website: <https://bis.unimma.ac.id/2022>

Email: [bis@unimma.ac.id](mailto:bis@unimma.ac.id)

Date: 2 March 2024

### Letter of Acceptance for Full Paper

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

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

**"Effect of Different Solvent Types on Red Ginger Rhizome Extraction Process (Zingiber officinale Roscoe var rubrum) on Gingerol and Shagol 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,

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





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We are pleased to inform you that your abstract (ABS-425, Oral Presentation), entitled:

**"Effect of Different Solvent Types on Red Ginger Rhizome Extraction Process (Zingiber officinale Roscoe var rubrum) on Gingerol and Shagol Levels"**

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8. Wei QY, Ma JP, Cai YJ, Yang L, Liu ZL. (2005). Cytotoxic and apoptotic activities of diarylheptanoids and gingerol-related compounds from the rhizome of Chinese ginger. *Journal of Ethnopharmacology*, 102, 177-184.
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15. Srikandi S, Humaeroh M & Sutamihardia R (2020). Kandungan Gingerol Dan Shogaol

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Please ceck more the guideline of refference part  
10 Februari 2023, 22.43

gingerols and shogaols can be described in phytochemical screening by the positive reactions in the flavonoids, saponins, and tannins which indicate the presence of phenol groups. In general, the bioactive components in red ginger are non-polar, characterized by more bioactive components that dissolve in hexane, then ethyl acetate and ethanol<sup>14,15</sup>.

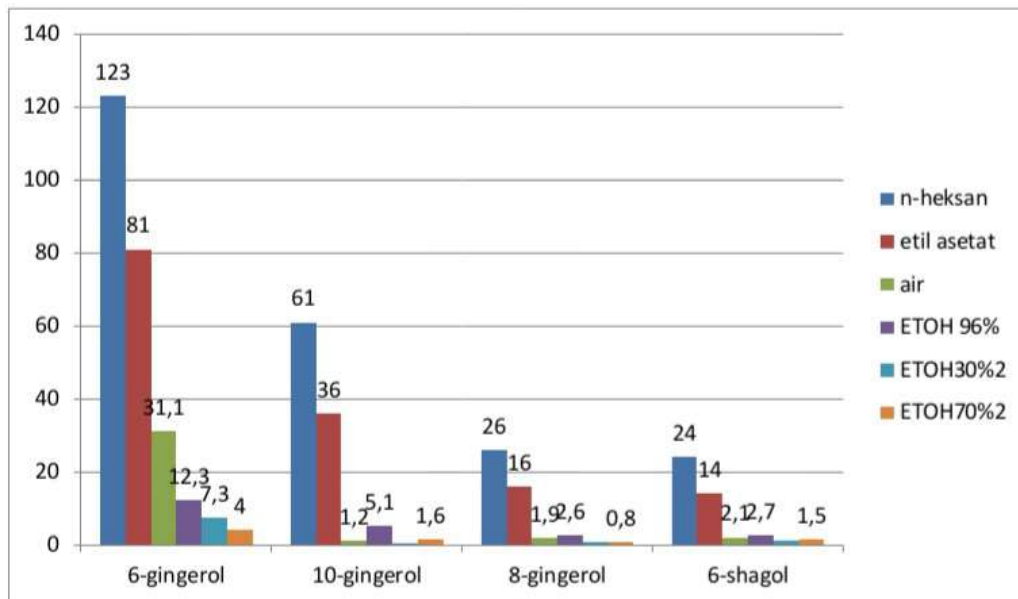


Figure 1. Graph of gingerol and shogaol levels of various red ginger extracts

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Please explain more information about the best solvent based on this study and how the solvent can produce the best extract

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to process, and have been used for generations. One of the most used spices is a ginger rhizome. The bioactive compounds in red ginger have certain biological activities when red ginger is consumed or extracted<sup>2</sup>. The chemical content of ginger rhizome is volatile components (camphene,  $\beta$ -phellandrene, curcumene, cineole, geranyl acetate, terpineol, borneol, geraniol, limonene,  $\beta$ -elemene, zingiberol, linalool,  $\alpha$ -zingiberene,  $\beta$ -sesquiphellandrene,  $\beta$ -bisabolene, zingiberenol and  $\alpha$ -Farnesene) and non-volatile components which consists of biologically active components namely gingerols (6, 8 and 10), shogaol (6, 8, and 10), paradol and zingerone<sup>3,4</sup>. Ginger contains pungent phenolic compounds known as gingerols. One of them, 6-gingerol (1-[4'-hydroxy-3'-methoxyphenyl]-5-hydroxy-3-decanone), is the main pharmacologically active component of ginger<sup>5,6</sup>, and the active part of the molecule is part of the aliphatic chain containing the hydroxyl<sup>7</sup>. 6-Gingerol has been reported to have various biological properties including anticancer, antioxidant, anti-inflammatory, anti-platelet aggregation, and anti-fungal<sup>8,9,10</sup>.

Red ginger extraction is a separation process that is carried out to obtain certain desired components from the starting material. The selection of methods, solvents, and steps greatly affects the quality of the resulting product. The composition of chemical compounds from plants (phytochemicals) is essential for determining the quality of herbal products because it determines their safety and effectiveness. The present research was conducted to find out the best solvent in the extraction process of red ginger rhizome. |

## METHOD

**Place, Time of Sampling, and Determination of Samples.** The research material was the fruit of the red ginger plant taken from the Biopharmaca Cultivation and Conservation Unit (BCCU) of the Tropical Biopharmaceutical Research Center, LPPM IPB University which was

< 1 dari 3 >



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Please add more detail information about the importance of select the colvents in proceess of extraction, what kind of solvent that usually used, what differences of each solvent and how to select the solvent in order to produce thebest extract

10 Februari 2023, 22.38



# Certificate

To certify that :

**Kirana Anggraini**

has contributed as

## Presenter

in The 4<sup>th</sup> 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 4<sup>th</sup> BIS 2022



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

Organized by : Co-host:



December 21<sup>st</sup>, 2022  
Magelang, Central of Java, Indonesia

