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Ultrasonic-assisted extraction of thiols from garlic bulbs (Article)

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Abstract

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Cysteine and glutathione (GSH) are important low molecular mass thiols or sulfhydryl compounds that play numerous important roles in metabolism. They also have myriads of applications in industry including pharmaceutical, cosmetic and foods. These compounds naturally occur in plants but less was focused on extracting them from plant sources. Garlic is of particular interest as potential source for thiol compounds since it contains high concentration of organosulfur which correlates with the presence of cysteine and GSH. In this work, water-based ultrasonic assisted extraction was used to extract thiols from garlic bulbs. The effect of garlic concentration and amplitude of sonicator on thiol concentration was investigated. The optimal garlic concentration of 10 % (w/v) was able to extract 0.170 mMthiols and 100 % amplitude of sonicator corresponds to the highest value of thiol compounds obtained. © 2014 AENSI Publisher All rights reserved.

Author keywords

DTNB Ellman's reagent Garlic Thiols Ultrasonic assisted extraction

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References (15)

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1 Borek, C.
Garlic and aging: Current knowledge and future considerations
(2010) *Bioactive Foods in Promoting Health*, pp. 221-234. Cited 3 times.
http://www.sciencedirect.com/science/book/9780123746283
ISBN: 978-012374628-3
doi: 10.1016/B978-0-12-374628-3.00015-3
View at Publisher

2 Ichikawa, M., Ide, N., Yoshida, J., Yamaguchi, H., Ono, K.
Determination of seven organosulfur compounds in garlic by high-performance liquid chromatography

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Zhang, H., Liu, S.
(2014) Asian Journal of Chemistry

Research of S-Allyl-(L)-cysteine content changes in aged garlic
Park, S.H., Kim, S.H., Kim, H.S.
(2010) American Society of Agricultural and Biological Engineers Annual International Meeting 2010, ASABE 2010

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