

Scopus

Document details

[< Back to results](#) | 1 of 1[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More... >](#)[Full Text](#) [View at Publisher](#)Journal of Food Science
Volume 79, Issue 6, June 2014, Pages C1130-C1136GC-MS-Based Metabolite Profiling of *Cosmos caudatus* Leaves Possessing Alpha-Glucosidase Inhibitory Activity (Article)Javadi, N.^a, Abas, F.^a [✉](#), Hamid, A.A.^a, Simoh, S.^d, Shaari, K.^b, Ismail, I.S.^b, Mediani, A.^a, Khatib, A.^c [✉](#)^aDept. of Food Science, Faculty of Food Science and Technology, Univ. Putra Malaysia, Serdang, 43400, Malaysia^bLaboratory of Natural Products, Inst. of Bioscience, Univ. Putra Malaysia, Serdang, 43400, Malaysia^cDept. of Pharmaceutical Chemistry, Faculty of Pharmacy, Intl. Islamic Univ. Malaysia, Kuantan, 25200, Malaysia[View additional affiliations](#) [v](#)

Abstract

[v View references \(30\)](#)

Cosmos caudatus, which is known as "Ulam Raja," is an herbal plant used in Malaysia to enhance vitality. This study focused on the evaluation of the α -glucosidase inhibitory activity of different ethanolic extracts of *C. caudatus*. Six series of samples extracted with water, 20%, 40%, 60%, 80%, and 100% ethanol (EtOH) were employed. Gas chromatography-mass spectrometry (GC-MS) and orthogonal partial least-squares (OPLS) analysis was used to correlate bioactivity of different extracts to different metabolite profiles of *C. caudatus*. The obtained OPLS scores indicated a distinct and remarkable separation into 6 clusters, which were indicative of the 6 different ethanol concentrations. GC-MS can be integrated with multivariate data analysis to identify compounds that inhibit α -glucosidase activity. In addition, catechin, α -linolenic acid, α -D-glucopyranoside, and vitamin E compounds were identified and indicate the potential α -glucosidase inhibitory activity of this herb. © 2014 Institute of Food Technologists®.

Author keywords

[Cosmos caudatus](#) [Diabetes](#) [GC-MS](#) [Metabolomics](#) [\$\alpha\$ -glucosidase inhibitory activity](#)

Indexed keywords

Species Index: [Cosmos caudatus](#) [Raja](#)EMTREE drug terms: [alpha glucosidase](#) [catechin](#) [enzyme inhibitor](#) [linolenic acid](#) [plant extract](#)EMTREE medical terms: [Asteraceae](#) [chemistry](#) [human](#) [Malaysia](#) [mass fragmentography](#) [metabolism](#) [metabolome](#) [plant leaf](#) [procedures](#) [regression analysis](#)MeSH: [alpha -Glucosidases](#) [alpha -Linolenic Acid](#) [Asteraceae](#) [Catechin](#) [Enzyme Inhibitors](#) [Gas Chromatography - Mass Spectrometry](#) [Humans](#) [Least - Squares Analysis](#) [Malaysia](#) [Metabolome](#) [Plant Extracts](#) [Plant Leaves](#)Metrics [View all metrics >](#)12 Citations in Scopus
75th Percentile
2.25 Field-Weighted
Citation ImpactPlumX Metrics [v](#)Usage, Captures, Mentions,
Social Media and Citations
beyond Scopus.

Cited by 12 documents

 α -Glucosidase and α -amylase inhibitors from seed oil: A review of liposoluble substance to treat diabetesTeng, H. , Chen, L.
(2017) *Critical Reviews in Food Science and Nutrition*Characterization of metabolite profile in *Phyllanthus niruri* and correlation with bioactivity elucidated by nuclear magnetic resonance based metabolomicsMediani, A. , Abas, F. , Maulidiani, M.
(2017) *Molecules*Rapid investigation of α -glucosidase inhibitory activity of *Phaleria macrocarpa* extracts using FTIR-ATR based fingerprintingEasmin, S. , Zaidul, I.S.M. , Ghafour, K.
(2017) *Journal of Food and Drug Analysis*[View all 12 citing documents](#)

Inform me when this document is cited in Scopus:

[Set citation alert >](#)[Set citation feed >](#)