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Journal of Analysis and Testing
Volume 2, Issue 4, 1 October 2018, Pages 352-355

Comparative Analysis of Polyphenolic and Antioxidant Constituents in Dried Seedlings and Seedless Acacia nilotica Fruits (Article)

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Abstract

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The phenolic and antioxidant constituents in Acacia nilotica fruits have become an important source of medicinal and therapeutic benefit with powerful biological properties. This study investigated the phenolic content and antioxidant capacity of powdered Acacia fruits with seeds and without seeds. The phenolic content and antioxidant capacities in them were determined using Folin–Ciocalteu and DPPH free radical-scavenging assays. The total phenolic and antioxidants of A. nilotica with seeds were spectrophotometrically determined to be 47.61 and 6.18% greater than when the seeds were removed from the dried fruits, respectively. The LC–MS/QTOF analysis shows the presence of 282 and 214 phenolic compounds in the methanol extracts of A. nilotica with seeds and without seeds, respectively. The present study, therefore, revealed that dried A. nilotica fruits with seeds have higher total phenolic content, antioxidant capacity, and bioactive constituents, which indicated that they have more medicinal value than fruits without seeds.

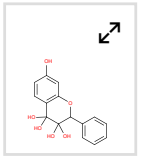
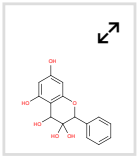
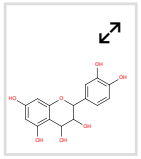
SciVal Topic Prominence

Topic: Capsicum | Peppers | Capsaicin content

Prominence percentile: 93.266

Chemistry database information

Substances

Author keywords

Acacia nilotica | DPPH antioxidant capacity | Liquid chromatography–mass spectrometry | Total phenolic content

Funding details

Funding sponsor	Funding number	Acronym

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Funding sponsor	Funding number	Acronym
Ministry of Higher Education, Malaysia	RDU-160148	MOHE

Funding text

We acknowledge the financial contribution of the Ministry of Higher Education, Malaysia, for their support through the FRGS (RDU-160148) research grants.

ISSN: 2096241X
Source Type: Journal
Original language: English
DOI: 10.1007/s41664-018-0071-7
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