CHEMISTRY JOURNAL OF MOLDOVA. General, Industrial and Ecological Chemistry. 2019, 14(2), 79-89
ISSN (p) 1857-1727 ISSN (e) 2345-1688
http://cjm.asm.md
http://dx.doi.org/10.19261/cjm.2019.637

THE EFFECT OF SOLVENTS AND EXTRACTION PROCEDURE ON THE RECOVERY OF PHENOLIC COMPOUNDS AND THE ANTIOXIDANT CAPACITY OF ALGERIAN *BASSIA MURICATA* L. EXTRACTS

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Abstract. This paper focuses on the study of the effect of extraction solvent choice on phenolic compounds contents and antioxidant activity of *Bassia muricata.* In this study, five different solvents namely: water, acetone, ethanol, methanol and hexane, and three extraction techniques were used to extract phenolic compounds: microwave-assisted extraction, Soxhlet and maceration. Total phenolics (TPC), total flavonoids (TFC) and condensed tannins contents (CTC) were determined. The results showed that different solvents with different polarity had a major effect on polyphenolic contents and antioxidant activity; the highest TPC (122.15-144.82 mg GAE/g), TFC (64.12-70.32 mg QE/g) and CTC (30.38-36.09 mg CE/g) were obtained with methanol. However, different extraction methods gave comparable results. *In vitro* antioxidant activities were evaluated using the DPPH radical scavenging ability, reducing capacity and *β*-carotene bleaching assay. The methanolic extract showed the highest scavenging abilities on DPPH radicals and lipid peroxidation, while the aqueous extract exhibited the strongest reducing power. Microwave-assisted extraction was the best suited for the extraction of antioxidant molecules when compared to Soxhlet and maceration.

Keywords: polyphenol, flavonoid, condensed tannin, antioxidant, *Bassia muricata*.

Received: 23 September 2019/ Revised final: 06 December 2019/ Accepted: 08 December 2019