3ème conférence Internationale des énergies renouvelables CIER-2015

Proceedings of Engineering & Technology (PET)

pp.232-233

Comparison of methods for evaluation of the antioxidant capacity and phenolic compounds in Pistacia lentiscus

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Abstract

The antioxidant activity (DPPH, Oxygen uptake method) and the total phenolic content (Folin- Ciocalteu assay) of six different extracts (Hexane, Ethyl- acetate , EtOH, MeOH, 80% MeOH and 50% MeOH) from the leaves of *pistacia lentiscus L* (Anacardiaceae), were investigated. The hydro-methanol extracts exhibited the higher radical-scavenging effect against DPPH (IC_{50}= 13,73±0,2 -15,66±0,47 µg/ml). α-tocopherol (IC_{50}=21,16±0,76 µg/ml) and (+)-catechin (IC_{50}=7,6±0µg/ml) were employed as antioxidant references. The antioxidant capacity of extractives was also determined by evaluating oxygen uptake inhibition[OUI (%)]. All extracts under study inhibit the oxidation of LH. It was also found that their antioxidant capacities increased from hexane to hydro-methanol extract (50:50%V/V). In addition to the evaluation of this activity, the contents of total phenolic [TP] compounds were determined using the Folin-Ciocalteu method. However, there was a high and significant correlation between polyphenolic content and antioxidant activity of different extractives.

Keywords: *Pistacia lentiscus;* essential oils; chemical composition; extracts; DPPH assays Oxygen uptake method, total phenolics content.

ISSN: 2356-5608