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Abstract

LC-ESI/MS Profile and *In vitro* Antioxidant Activities of *Lathyrus latifolius* Growing in Algeria

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Abstract

Background and aim: The genus *lathyrus* belongs to the Fabaceae family, many species of this genus are important economically and are used as fodder, food for humans, feed animals, ornamental plants and nitrates to soil. For the first time, this work is devoted to the phytochemical and biological study of a medicinal plant belonging to the Algerian flora *Lathyrus latifolius*.

Materials and methods: This research was conducted to assess the phytochemical composition of ethyle acetate, butanolic and chloroform extracts using liquid chromatography-mass spectrometry, following by testing *in vitro* antioxidant ability using DPPH, ABTS^{·+}, O₂ – DMSO alkaline, Reducing power, β -Carotene-linoleic acid and CUPRAC assays.

Results: The liquid chromatography results showed that ethyle acetate extract have a high amount of Hesperidin (583.31 μ g/ml) and Quercetin-3-D-xyloside (27.467 μ g/ml), while the amounts present in the butanolic extract are respectively (3.360 μ g/ml) and (1.812 μ g/ml). Furthermore, butanol and ethyle acetate extracts had good antioxidant activity in all tests used.

Conclusion: In conclusion, the presence of phenolic compounds may contribute to their antioxidant activity.

Keywords: *Lathyrus latifolius*, Antioxidant activity, Hesperidin, Phenolic acids, Flavonoids

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