

Volatile composition of the essential oil *Salix excelsa* from Iran

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Background and Aims: *Salix excelsa* is a genus belongs to Salicaceae, which distributed in Dena Mountain and Golestan province. The willow family of plants, *Salix*, contains notable amounts of phenolic compounds, so they have antioxidant activity. Antibacterial activity was also reported for other species of this family. The chemical constituents of the essential oil from *S. excelsa* is investigated at the present work.

Methods: The essential oil was isolated by hydrodistillation and analyzed by combination of gas chromatography (GC) and gas chromatography/mass spectrometry (GC/MS).

Results: Forty-nine components were identified, constituting approximately 86.3% of the oil. The major constituents of essential oil were salicylaldehyde (36.0%), pentadecanal (6.1%), (Z)-3, 7, 11, 15-tetramethyl-2-hexadecene-1-ol (5.5%), β -eudesmol (3.8) and (2E)-nonene-1-al (3.6%).

Conclusions: The aldehydes were identified as the major constituents of the essential oil of the plant (50.6%). Due to the highest amount of salicylaldehyde in the volatile oil of this genus, the plant might have good antibacterial activity.

Keywords: *Salix excelsa*; Essential oil; Salicylaldehyde