



# ANTIOXIDANT EFFECTS AND SALICIN CONTENT OF BARK EXTRACTS OF SEVEN WILLOW SPECIES



Emilia Gligorić<sup>1\*</sup>, Ružica Igić<sup>2</sup>, Ljiljana Suvajdžić<sup>1</sup>, Branislava Teofilović<sup>1</sup>, Nevena Grujić<sup>1</sup>

<sup>1</sup>University of Novi Sad, Faculty of Medicine, Department of Pharmacy, Hajduk Veljkova 3, Novi Sad, Serbia

<sup>2</sup>University of Novi Sad, Faculty of Sciences, Department of Biology and Ecology, Trg Dositeja Obradovića 3, Novi Sad, Serbia

[\\*emilia.sefer@mf.uns.ac.rs](mailto:emilia.sefer@mf.uns.ac.rs)

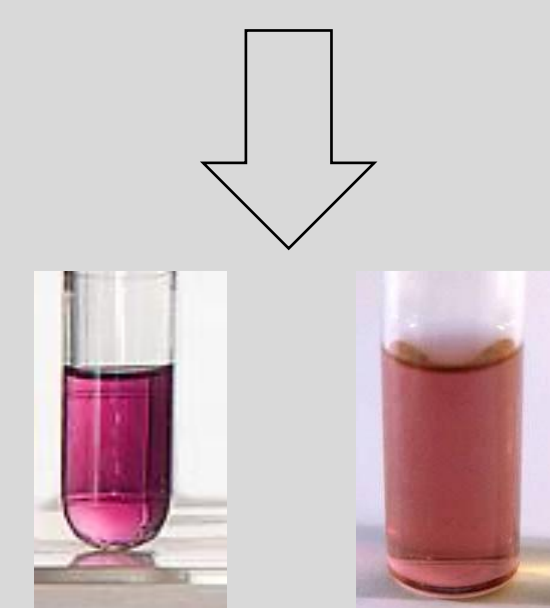
## INTRODUCTION

Willow bark (*Salix* sp., Salicaceae) is traditionally used to treat pain, fever and inflammation. The antioxidant activity of willow bark extracts is closely related to their anti-inflammatory effect. Salicin is regarded as one of the main active agents found in willow bark, responsible for its pharmacological effects. The objective of this study was to evaluate the antioxidant effects and salicin content of bark extracts of seven different willow species.

## MATERIAL AND METHODS



Maceration with 70% ethanol for 48 hours



DPPH OH



Column

**Salicin**  
Zorbax CB-C18 (4.6 × 150 mm, 5 μm)

Mobile phase

d. water,  
tetrahydrofuran and  
*ortho*-phosphoric acid  
(97.7:1.8:0.5) (v/v/v)  
(isocratic mode)

Flow rate

1 mL/min

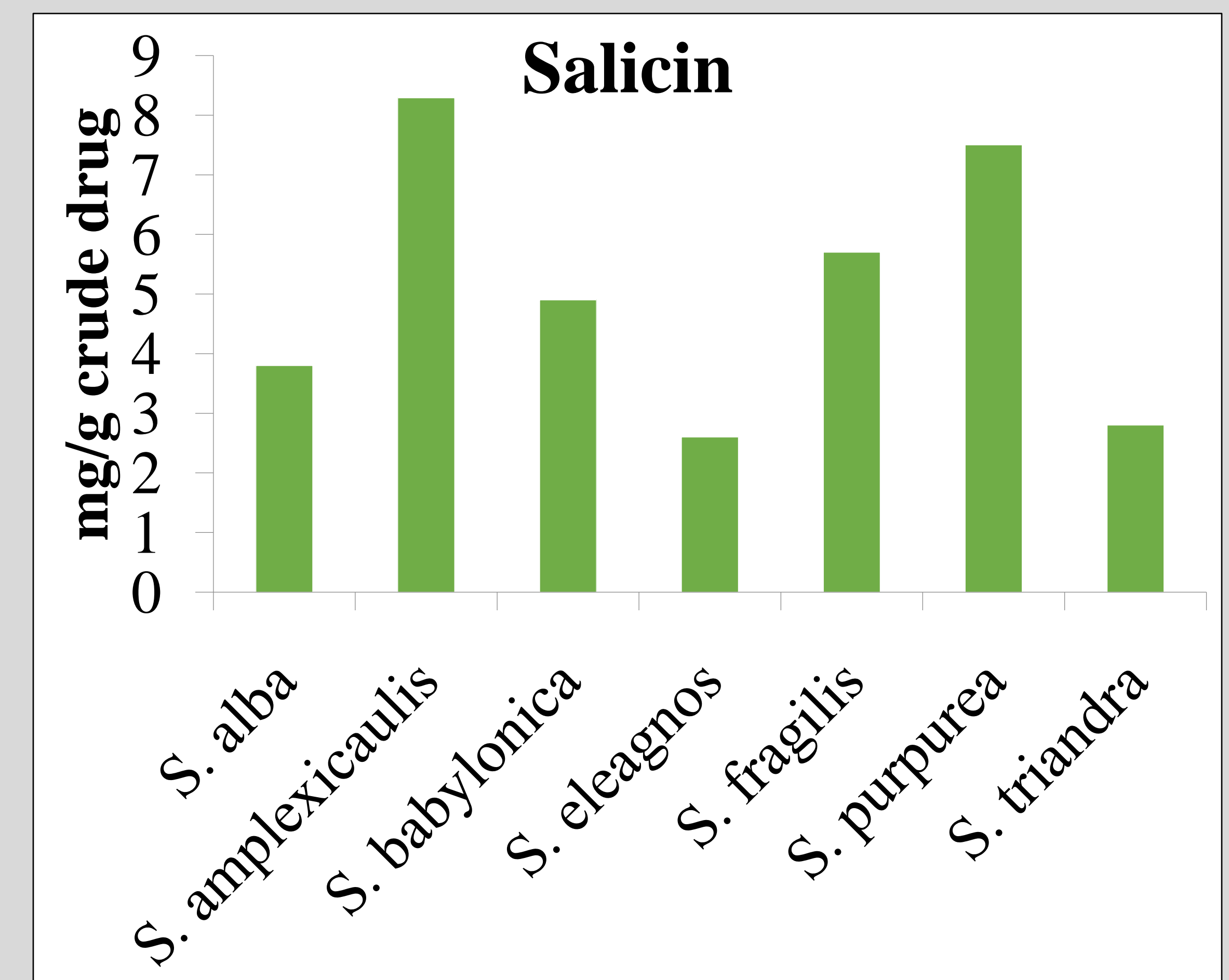
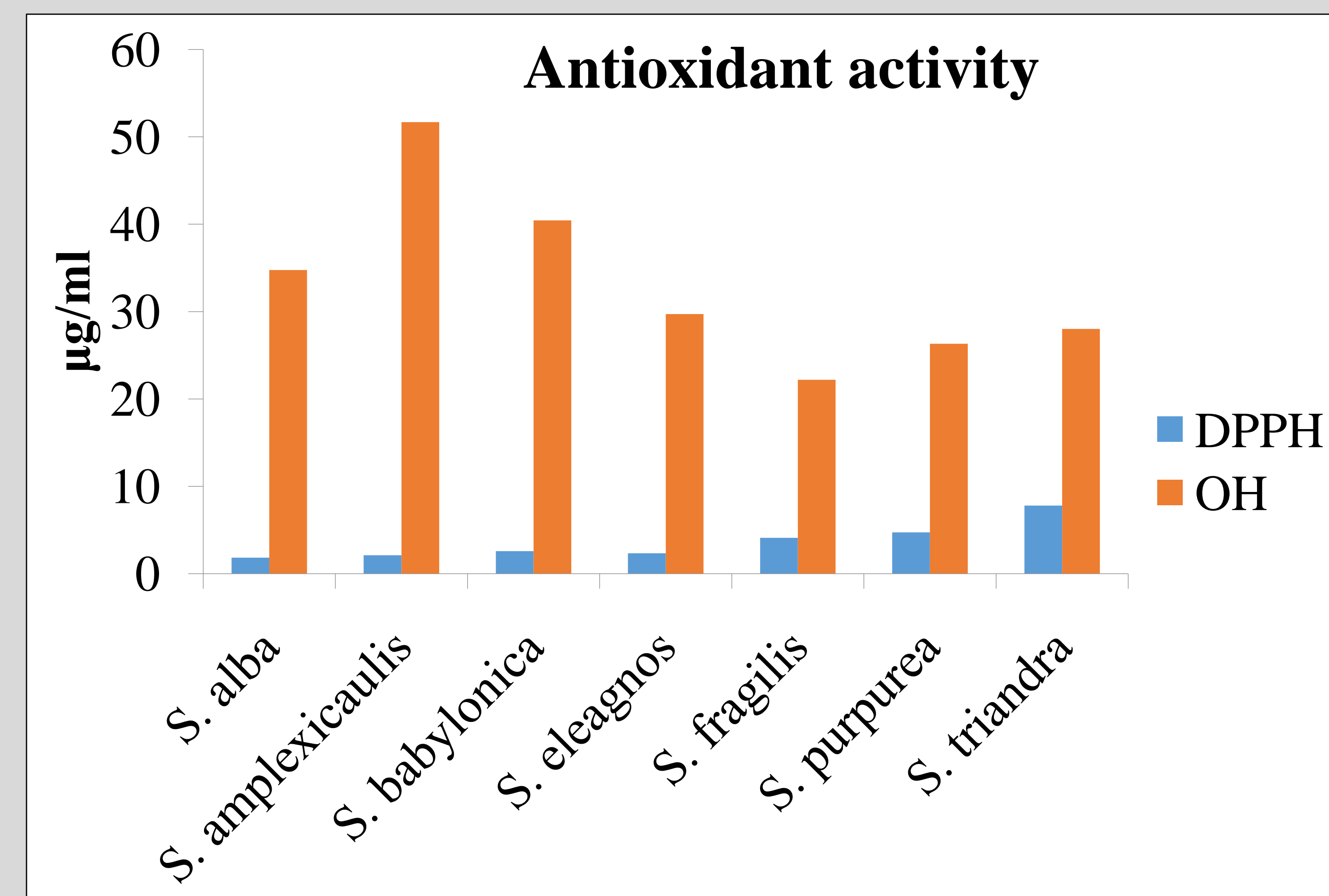
Run time

15 min

UV detection

270 nm

## RESULTS



## CONCLUSION

The obtained results indicate that bark extracts of all investigated willow species exhibited strong antioxidant activity in both DPPH and OH radical scavenging assays. Results also showed that *Salix* species other than those in commercial use, contain significant or even greater amounts of salicin and could be used as valuable sources of this bioactive compound.