linoleic acid (5.1-8.1%), oleic acid (5.2-6.8%) and palmitic acid (2.3-4.0%). It was found that tocopherol content was the highest at lower pressures. It indicated that tocopherols are more easily extracted than triglyceride at low pressure. The main tocopherol isomer was γ (2285-5724 mg/kg), followed by α (31-146 mg/kg) and δ-tocopherol (40 to 187 mg/kg).
**Conclusions:** Response surface methodology was applied for supercritical CO2 extraction of pomegranate seed oil. The main variables that affected punicic acid content were pressure, temperature and entrainer. It was predicted that the optimum extraction condition was 450 bar, 48 °C and 10 % ethanol. The main fatty acid of pomegranate seed oil was punicid acid (>65.1%). The Pomegranate seed oil showed a high tocopherol content and higher yields at lower extraction pressures.
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**Effect of Soil Characteristics on Phenolic Compounds and Antioxidant Activity of Merlot Wine** **UP26**

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**Introduction and Objectives:** Serra Gaúcha is the most important Brazilian viticultural area, where Merlot is one of the most demanded varieties. However, there are very few studies concerning the effect of soil characteristics on the composition of phenolic compounds and antioxidant activity of Brazilian wines. Therefore, the objective of this work was to establish the effect of three taxonomic classes of soil, i. e., Argissolo (Ultisol), Cambissolo (Inceptisol) and Neossolo (Entisol), on the phenolic compounds of wines made from grapes grown on these soils in the DO Vale dos Vinhedos, Bento Gonçalves, RS.
**Methods:** Grape samples of 40 kg from each taxonomic class of soil were harvested in 2012, crushed and destemmed. The juice was transferred into 20-L glass recipients where SO2 was added, followed by the addition of Saccharomyces cerevisiae. After the end of alcoholic and malolactic fermentations, wines were kept in a 24°C controlled-temperature room. Later on, their phenolic composition and antioxidant activities were determined. Absorbance at 420, 520 and 620 nm, color intensity, hue, anthocyanins, tannins and total polyphenols index were analyzed by physicochemical procedures, and resveratrol, kaempferol, myricetin, quercetin and malvidin, by HPLC coupled with a DAD detector. The antioxidant activity was investigated by DPPH reduction by wine substances using a Trolox standard solution. The results were analyzed by principal component analysis (PCA).
**Results:** The three most important principal components (PCs) represented 95.01% of the total variation, where PC1 discriminated wines from Argissolo 2 (Ultisol) that exhibited higher absorbance values at 420, 520 and 620 nm, color intensity, anthocyanins and total polyphenols index, while Cambissolo (Inceptisol) had lower ones but higher quercetin contents; PC2 discriminated wines from the Neossolo 2 (Entisol) from those of Neossolo 1 (Entisol), the first ones being characterized by higher values of malvidin, kaempferol and resveratrol and the second by higher tannins concentration; PC3 discriminated wines from Argissolo 1 (Ultisol) that had higher myricetin concentration but lower antioxidant activity.
**Conclusions:** These results show that different taxonomic classes of soil affect the wine physicochemical composition, which means that it is possible to make products with different sensory characteristics and typicalities, allowing enologists to predict the characteristics of the wine to be produced.

**Purification of Heme-peptide Ion and Prediction of Molecular Structure** **UP27**

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