



**5th Portuguese Young
Chemists Meeting**
(5th PYChem)
&
**1st European Young
Chemists Meeting**
(1st EYChem)

Centro Cultural Vila Flor
Guimarães, Portugal
26th – 29th of April



ICVS/3B's
Instituto de Química
Vinculada à Universidade do Porto



Câmara Municipal de Guimarães





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General Programme

| | 26 April | 27 April | 28 April | 29 April |
|---------------|--|---|--|---|
| 9:00-13:20 | Registration and Workshop of Open Science and European Open Access Policies in H2020 | Organic Chemistry and Medicinal Chemistry | Inorganic, Physical, Analytical and Electrochemistry | Materials Chemistry and Nanomaterials and Surface Chemistry |
| 13:30 | Opening Ceremony | Lunch | Lunch | Lunch |
| 14:00 - 18:00 | Green Chemistry + Chemistry of Natural Products | Biochemistry and Medicinal Chemistry | CHEM2NATURE Symposium: Chemical strategies for modification of natural origin materials Assembleia GQJ (17h) | Materials Chemistry and Nanomaterials and Surface Chemistry |
| 18:00 | | | | Closing Ceremony |
| 19:00 | Welcome Cocktail | Walking Tour | Gala Dinner | |
| 21:30 | Get-together night | | | |



P11. Nutritional and chemical characterization of food products enriched with biological produced fruits of *Vaccinium myrtillus* L.

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Vaccinium myrtillus L. belongs to Ericaceae family, being commonly known for its sweet small fruits: the blueberries. Widely consumed in fresh, these fruits are also used in jams and marmalades due to their digestive and hypoglycemic properties and also due to the presence of several bioactive compounds [1]. Therefore, it has become a very appealing matrix in the development of functional products that, beyond their nutritional properties, will add a long-term beneficial physiological/health effect [2]. In the present work, three novel blueberry based products developed by RBR Foods Company (Portugal), were characterized in terms of their nutritional and chemical properties: carbohydrates, ash, proteins, fat and energetic value (following official methods of food analysis), fatty acids profile (by CG-FID), soluble sugars (by HPLC-RI), organic acids (by HPLC-DAD) and tocopherols (by HPLC-fluorescence). The products result from a mixture of the fruits with rose petals (P1), marigold petals (P2) and apple and goji berries (P3). The blueberry fruits were used as control sample. The nutritional profile of the novel products was very similar to the control sample: the carbohydrates were the most abundant macronutrient, followed by proteins and total fat. Regarding sugars, fructose, glucose and sucrose were identified in all the samples. P1 and P2 didn't show significant differences in comparison to the control, however, P3 revealed a lower concentration of sugars. In terms of fatty acids composition, all the studied samples presented higher contents in polyunsaturated fatty acids, especially due to the contribution of linoleic and α -linolenic acids. The results of tocopherols revealed that the control sample only presented two isoforms of tocopherols, α - and γ -tocopherol, being the same observed in P3. However, P1 revealed the presence of all the isoforms of tocopherols, while P2 was lacking δ -tocopherol; which is related with the contribution of rose and marigold petals, respectively. The α -tocopherol isoform was the most abundant in all the studied samples. Overall, this work contributed to the nutritional characterization of novel blueberry based products and is a part of a wider project that aims the detailed study of these products, namely their potential to be used as functional foods.

References

- [1] Korus, A.; Jaworska, G.; Bernaś, E.; Juszczak, L. J. Food Sci. Technol. 2015, 52, 2815-2823. [2] Milner J.A. Am. J. Clin. Nutr. 2010, 7, 1654-1659.

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