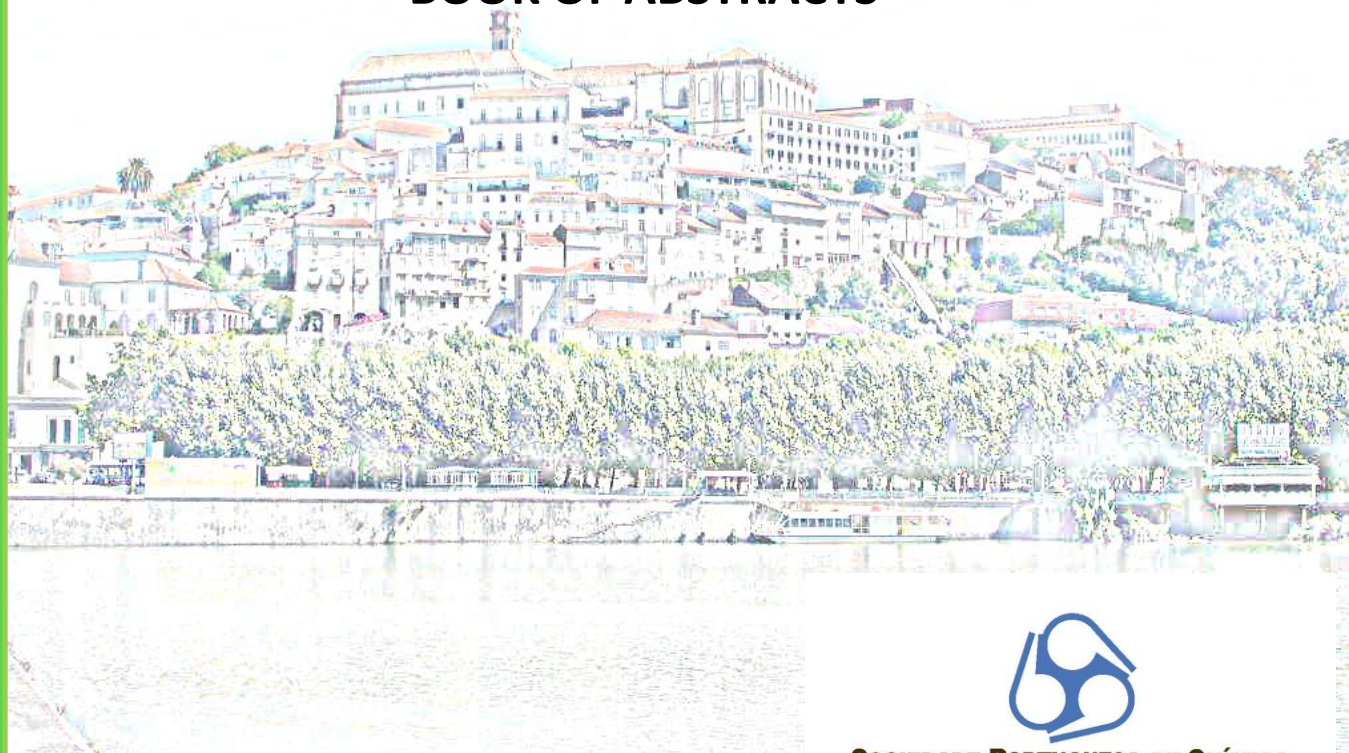


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**LIVRO DE RESUMOS
BOOK OF ABSTRACTS**



SOCIEDADE PORTUGUESA DE QUÍMICA

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OC-25 ARGON-ENRICHED ATMOSPHERES PRESERVE THE OVERALL QUALITY OF BUCKLER SORREL DURING COLD STORAGE

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Nowadays, consumers are looking for healthy, convenient and more sustainable foods with different organoleptic properties of those daily consumed. Wild edible plants can contribute to this demand, since they are important inputs of health-promoting compounds and considered as added-value foods for commercialization [1]. A good example is buckler sorrel (*Rumex induratus* Boiss. & Reut.), an underutilized leafy vegetable appreciated especially in salads due to its peculiar sensory properties [2]. Its revalorisation is therefore a sustainable strategy to improve the diversity of available foods and can be achieved by improving their shelf-life for an extended period of commercialization. Using modified atmosphere packaging (MAP), compositional changes associated with maturation and senescence can be delayed and the initial fresh state and quality prolonged. Inert gases such as argon and nitrogen have been tested, but the literature describing their application and benefits is still limited [3]. In this study, buckler sorrel specimens, sustainable wild harvested in the Northeast region of Portugal, were rinsed in tap water and submitted to different packaging atmospheres: MAP enriched with argon and nitrogen, air-packaging, and vacuum-packaging (no atmosphere). Colour, nutrients, hydrophilic and lipophilic compounds, and antioxidant properties were analyzed after gathering and past 12 days of storage at 4 °C. The results were evaluated through a categorical principal components analysis (CATPCA) in order to find the most suitable atmosphere. Nitrogen-enriched MAP did not induced detachable effects on the evaluated parameters. Air-packaging preserved higher amounts of polyunsaturated fatty acids (mainly due to linoleic and linolenic acids). Vacuum-packaged samples showed higher amounts of γ -tocopherol, monounsaturated fatty acids and flavonoids and similar results were found for argon-enriched MAP, with the additional advantage of their higher antioxidant properties. Thus, this study highlights argon-enriched MAP as a suitable treatment to preserve the overall quality of buckler sorrel during cold storage.

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