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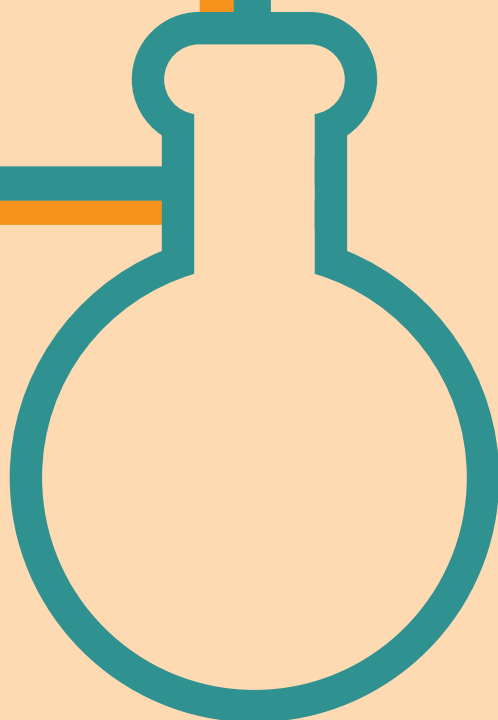
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**BOOK OF
ABSTRACTS**



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BIOACCESSIBILITY OF ZINC IN PET FOOD DETERMINED BY A DYNAMIC LEACHING METHOD

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In dynamic leaching methods, portions of extractant reagents are continuously provided to the solid sample contained in flow-through microcolumns or chambers, enabling the renewal of extracting fluid and avoiding saturation effects from fluid stagnation. These methods are also suitable for fast measurements in real time with small extract manipulation, especially when coupled online with suitable detectors [1]. In this work, the bioaccessible fraction and kinetic leaching profile of zinc in pet food was determined using a robust flow-through device, composed by two filters placed in polypropylene holders to entrap the solid sample, designed for dynamic leaching experiments [2]. Continuous extraction flow was ensured by a peristaltic pump connecting the extraction reservoir and the extraction chamber, at a flow rate of 0.5 mL min⁻¹. Synthetic fluids simulating digestive compartments were applied as extractants. The kinetic extraction profile of fast leachable Zn was evaluated by flame atomic absorption. Operational conditions, including filters' composition and pore size, were tested. Preliminary results have shown that different extracting fluids (with and without digestive enzymes) had an influence on the total amount and on the leaching kinetic profile of Zn. In fact, higher values were obtained when enzymes were present in the extracting fluids. The proposed dynamic leaching method was suitable for evaluation of bioaccessible Zn in pet food. This information will be applied for the improvement of Zn supplementation in dog foods and for designing new products with enhanced mineral delivery.

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