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29–31 May 2024 | Online

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The 3rd International Electronic Conference on Processes

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29–31 May 2024 | Online



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Welcome from the Chair

Dear Colleagues,

We are pleased to announce the **3rd International Electronic Conference on Processes—Green and Sustainable Process Engineering and Process Systems Engineering (ECP 2024)**, which will be hosted online from **29 to 31 May 2024**.

This conference will present the latest studies in process/system-related research in chemistry, biology, material, energy, environment, food and engineering fields. The goal is to show the current state, challenges, and opportunities and future trends in process systems engineering.

All processes/system-related scientists or researchers are welcome to join this event and share their findings around the following general and related themes, including, but not limited to, the following:

- Green chemistry engineering and environment-relevant processes;
- Experimental, theoretical, and computational research on process development and engineering;
- Process modeling, simulation, optimization, and control;
- Food-relevant processing and improvement of food quality;
- Sustainable and renewable systems engineering;
- Energy system and current demand and electricity market;
- Supply chain management;
- Circular economies;
- Eco-friendly processes and methods.

Submitted abstracts will be reviewed by the conference committee. All accepted abstracts will be available online in Open Access form on Sciforum.net during and after the conference. Following the conference, selected contributions will be invited for submission to the *Processes* journal (ISSN: 2227-9717, Impact Factor: 3.5), with a **20% discount** on the publication fee.

We look forward to having you join us at this exciting event.



Prof. Dr. Giancarlo Cravotto
Conference Chair
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and Technology,
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sciforum-090389: Fatty Acid Profile, Total Fat, Protein, Moisture and Ash in Different Edible Parts of Albacore Tuna (*Thunnus alalunga* Bonnaterre, 1788)—Preliminary Results

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Studying tuna's nutritional composition and potential health benefits is essential for understanding its impact on health, particularly concerning the fatty acid (FA) and protein content in its edible parts. Tuna has a huge number of edible parts and each of them may differ in nutritional profile. Most studies on *Thunnus* genus only assess the nutritional value of the muscle in general. This study assessed the specific proximal composition and fatty acid profile of different edible parts of a 13 kg male *Thunnus alalunga* (Bonnaterre, 1788) caught in June 2023 in the Cantabrian Sea. Samples of 10 different tuna edible parts were taken at the fish market from a certified trader and subsequently frozen at $-18\text{ }^{\circ}\text{C}$ until analyzed. ANOVA and Boferroni's test ($p\ 0.05$) were performed. The moisture (oven dry, $103 \pm 2\text{ }^{\circ}\text{C}$), ash (muffle furnace, $550 \pm 50\text{ }^{\circ}\text{C}$), protein (Kjeldahl method) and energy content (UE Regulation No. 1169/2011) were significantly higher in the liver (75.0%), top and low loin (1.8%), top loin (28.2%) and belly (206.7 kcal/100 g), respectively. A total of 28 FAs (GC-FID with a HP5 column) were quantified as a percentage of the total fat extracted with the Soxtec method. In general, the value of total polyunsaturated FAs (PUFAs) was higher than that of total monounsaturated FAs (MUFAs) and total saturated FAs (SFAs). The belly was the tuna edible part with the highest values of fat content (12.5%) and PUFAs, n-3PUFAs EPA + DHA (eicosapentaenoic + docosahexaenoic) and h:H ratio (hypocholesterolaemic/hypercholesterolaemic) FAs. The belly and the tail cut had the highest values of EPA + DHA/total fat and PUFAs/SFAs. The belly and low loin showed the highest n-3/n-6 FA ratio. Compared with other parts, the top loin had the highest thrombogenicity index values. We concluded that there is significant variability in nutritional profiles among the samples, with some exhibiting particularly richness in n-3PUFA EPA + DHA beneficial to human health in terms of their fatty acid profile.



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