## Can cooking practices affect dietary exposure to <sup>210</sup>Po in seafood?

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The internal exposure, due to ingestion, typically range between  $200 - 800 \ \mu$ Sv/y, depending on food habits (UNSCEAR, 2000). One of the radionuclides of major concern is <sup>210</sup>Po due to its high radiotoxicity. Moreover, it has been demonstrated to be the main contributor to internal dose by food consumption (IAEA, 2017). To carry out a realistic dose assessment, food preparation and cooking effect must be considered since activity concentration of the radionuclides could change due to different process such as thermal influence, dehydration, or interaction with other substances. However, the impact of food preparation and cooking could be different for each radionuclide since it depends on the physical and chemical properties of the element (Komperød et al., 2020). Therefore, the current study investigated **the impact of cooking techniques on** <sup>210</sup>Po **in seafood**, in particular blue mussel (*Mytilus edulis*) and Norwegian lobster (*Nephrops norvegicus*). The figure shows the increase or reduction in the content of <sup>210</sup>Po in blue mussels and Norwegian lobster after cooking practice, compared to the reference group.



The results show high variability in the influence of cooking practices on the levels of <sup>210</sup>Po. This could be related to the difficulties to have a representative control group, since we are assuming a homogeneous levels of <sup>210</sup>Po and water contents in the samples. In general, the results of the study highlight an increase of <sup>210</sup>Po levels after cooking. For blue mussel, boiling, steaming and roasting experiments increased, on average, the levels around 50%. However, when MW was used for cooking them, the impact on <sup>210</sup>Po levels was lower. For Norwegian lobster, considering the average values of the replicates, boiling and steaming increased the level of <sup>210</sup>Po approximately 90%, in the case of panfrying the increase on average was around 50%, while in the case of roasting the lowest increase was found, < 10% on average.

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