INTRODUCTION
The present work constitutes the first task of a three-year project that aims for the optimization and validation of a methodology to determine the total concentration of Arsenic (As) and Selenium (Se) and its species in fish products by using HPLC-ICP-MS. Fish and seafood are some of the foodstuffs in which higher concentrations of arsenic may be found. However, not all forms of arsenic share the same level of toxicity and it is known that this element in fish is mainly present in a less toxic form making speciation of arsenic in fish of uttermost importance to correctly evaluate the toxicological risk associated with the consumption of these products.

Prior to initializing speciation studies the method for determination of total arsenic and selenium content was optimized.

MATERIALS AND METHODS
In order to optimize the sample digestion procedure using closed vessel microwave digestion (Ethos 1, Milestone) several HNO\textsubscript{3}:H\textsubscript{2}O\textsubscript{2} ratios and different time and temperature conditions were studied. Results were evaluated by calculating the extraction yield of trace elements from matrix trueness of certified reference materials results.

After optimizing the digestion program samples, such as Hake and European plaice, were studied in order to evaluate method repeatability and reproducibility. For assessment of accuracy Reference materials (DORM-3 and BCR-627) and spiked samples were used. Samples, of the same brand, were acquired at a local market. Prior to the digestion these samples were homogenized and lyophilized. Moisture content was determined so that the presented results refer to fresh weight.

From each fish sample three independent subsamples were analyzed daily throughout three different days. To assure linearity of the calibration curve only curves with $r \geq 0.9998$ were accepted.

RESULTS

Recovery percentages indicated that digestion conditions are complex and food matrix dependent. In the present work the best results were obtained with the combination of 4ml HNO\textsubscript{3} and 2ml H\textsubscript{2}O\textsubscript{2}. Also fundamental is matching as much as possible the concentration of nitric acid used in the preparation of calibration solutions to the one from test solutions after microwave digestion.

Recovery using commercial standards and reference materials was the best parameter to assess the adequacy of the analytical procedure. The used results were supported by good laboratory performance in proficiency testing schemes (PTS) for arsenic. However more samples should be analyzed to clarify if a negative trend exists as suggested by looking at the control chart for recovery %.

In the case of selenium that suffers interferences which may not be effectively corrected by the interference equations, the use of collision cell should be analyzed to clarify if a negative trend exists as suggested by looking at the control chart for recovery %.

**References**
(1) Martin Nash, Speciation of Arsenic in Fish Tissues using HPLC Coupled with XSeries\textsubscript{II} ICP-MS, Application Note: 40741, Thermo.
(2) Food Standards Agency, UK, Arsenic in fish and shellfish, SSIS82/05, 2005