

Project title: Simultaneous elemental microanalytical method for environmental and food monitoring using passive sampling and miniaturized instrumentation based on microplasma optical emission spectrometry (MULTIPASS)

Degree of achievement of the estimated results stage 1 2022

Crt. No.	Type of result/product proposed	Assumed at contracting	Results (deliverables) achieved	Degree of achievement
1	Experimental model level TRL4 - product	1 DGT-SSETV- μ CCP-OES model technology level TRL4	1 DGT-SSETV- μ CCP-OES model technology level TRL4	Fulfilled 100%
2	Report on the tested and optimized method	Report on testing and optimization of the working conditions for <i>in-situ</i> and <i>ex-situ</i> pre-concentration of Hg, Pb, Cd, As, Sb, Se, Cu and Zn using the DGT device	Report on testing and optimization of the working conditions for <i>in-situ</i> and <i>ex-situ</i> pre-concentration of Hg, Pb, Cd, As, Sb, Se, Cu and Zn using the DGT device	Fulfilled 100%
3	Report on optimisation of DGT-SSETV- μ CCP-OES equipment operating conditions	Report on DGT-SSETV- μ CCP-OES equipment optimization for the determination of Zn, Cd, Cu, Hg and Pb	Report on DGT-SSETV- μ CCP-OES equipment optimization for the determination of Zn, Cd, Cu, Hg and Pb	Fulfilled 100% (Zn, Cd, Cu, Hg si Pb)
4	Product - Specialized software, Rh microfilament temperature control	Specialized software	Specialized software for Hg, Cd, Cu, Pb and Zn evaporation temperature control	Fulfilled 100% (Zn, Cd, Cu, Hg si Pb)
5	Participation at national scientific events	1 participation at a national conference with a presentation	2 participations at the National Conference of Chemistry, XXXVI edition	Exceeded 200%
6	Phase report	Interim research report	Interim research report	Fulfilled 100%

Participation at national scientific events

1. Eniko Covaci, Zsofia Sandor, Bogdan Simion Angyus, Marin Senila, Tiberiu Frentiu. Optical emission spectrometry by electrothermal vaporization in a capacitively coupled plasma microtorch as a specific detector in simultaneous multielemental passive sampling by diffusive gradients in thin films (DGT-SSETV- μ CCP-OES): Preliminary studies on the optimization of working parameters. Conferința Națională de Chimie, ediția XXXVI, secțiunea Chimie anorganică, chimie-fizică și analitică, Călimănești-Căciulata, 04–07 octombrie 2022 - Comunicare orală
2. Zsofia Sandor, Eniko Covaci, Bogdan Simion Angyus, Marin Senila, Tiberiu Frentiu. Microanalytical method for monitoring of toxic elements in surface waters using passive sampling in diffusive gradients in thin films and detection by capacitively coupled plasma microtorch optical emission spectrometry with electrothermal vaporization (DGT-SSETV- μ CCP-OES). Conferința Națională de Chimie, ediția XXXVI, secțiunea Chimie anorganică, chimie-fizică și analitică, Călimănești-Căciulata, 04–07 octombrie 2022 - poster