

Electronic Supplementary Information (ESI)

Determination of Se and Te in Coal at Ultra-Trace Level by ICP-MS after Microwave-Induced Combustion

*Filipe S. Rondan,^a Alessandra S. Henn,^b Paola A. Mello,^b Magali Perez,^c Liam A. Bullock,^d John Parnell,^d Joerg Feldmann,^c Erico M. M. Flores,^b Marcia F. Mesko^{*a}*

^a *Centro de Ciências Químicas, Farmacêuticas e de Alimentos, Universidade Federal de Pelotas, 96010-610, Capão do Leão, RS, Brazil*

^b *Departamento de Química, Universidade Federal de Santa Maria, 97105-900, Santa Maria, RS, Brazil*

^c *Trace Element Speciation Laboratory (TESLA), Department of Chemistry, University of Aberdeen, King's College, Aberdeen, AB24 3UE, Scotland, UK*

^d *Department of Geology & Petroleum Geology, Meston Building, University of Aberdeen, King's College, Aberdeen, AB24 3UE, Scotland, UK*

Table S1. Operational parameters for the determination of Se and Te by CRC-ICP-MS (Se), ICP-MS (Te), and SS-ETV-ICP-MS (Se and Te).

Parameter	CRC-ICP-MS	ICP-MS	SS-ETV-ICP-MS
Collision/reaction cell gas	H ₂	-	-
Collision/reaction cell gas flow rate, mL min ⁻¹	4.8	-	-
Nebulizer gas flow rate, L min ⁻¹	0.95	0.95	-
Auxiliary gas flow rate, L min ⁻¹	1.20	1.20	1.20
Plasma gas flow rate, L min ⁻¹	18.0	18.0	15.0
RF power, W	1300	1300	1300
RPa	0	0	0
RPq	0.45	0.25	0.25
Sweeps/reading	60	5	1
Reading/replicate	5	3	50 to 70
Replicates	5	3	3
Dwell time, ms	50	50	10
Isotopes, <i>m/z</i> ratio	⁷⁸ Se	¹²⁸ Te	⁸² Se, ¹²⁸ Te

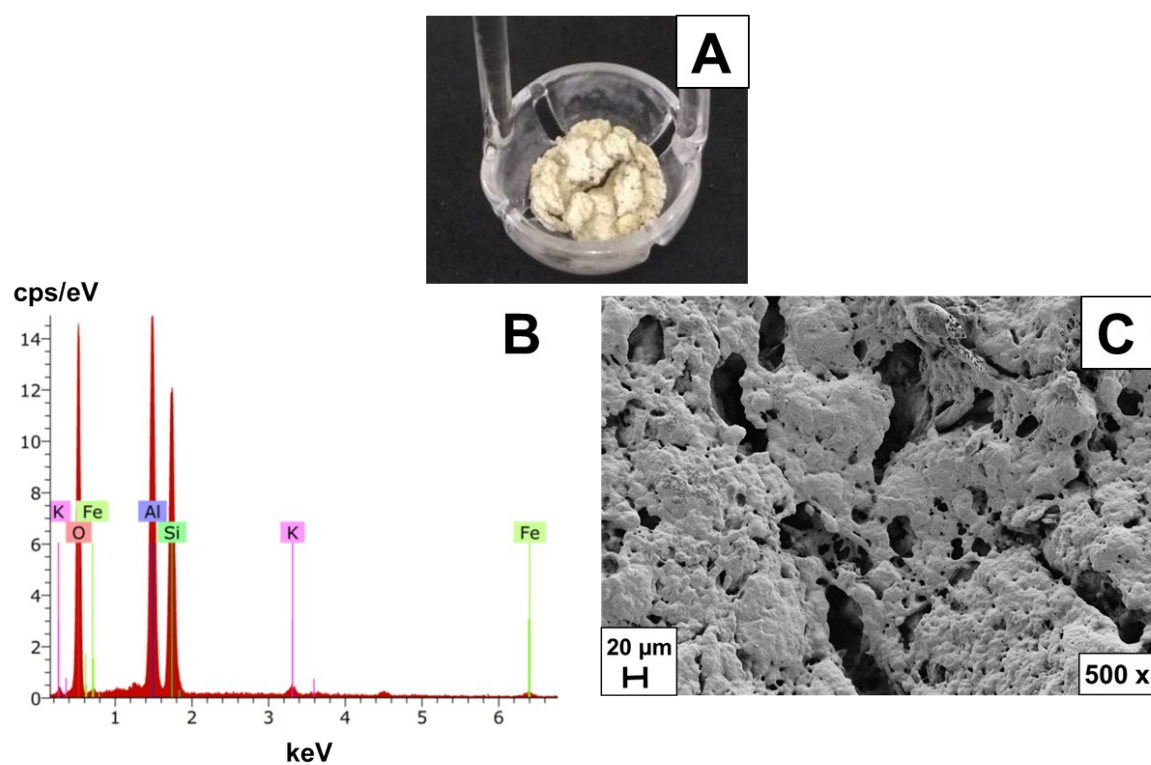


Figure S1. (A) Picture of inorganic residue remaining on the quartz holder after preparation of sample “A” (41% of ash) by MIC, and the respective (B) energy dispersive spectra (SEM-EDS) and (C) surface morphology image (amplified at 500x).