

Supporting information for

Verification of a Greener Method of Sex Determination Through the Multi-Elemental Analysis of Hair Using Electrothermal Vaporization Coupled to Inductively Coupled Plasma Optical Emission Spectrometry

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Table S1. Experimental central composite design used for the multivariate optimization of the RF power, bypass gas flow rate and carrier gas flow rate in ETV-ICPOES.

Standard order	Sequence order	Pt Type	Blocks	RF power (kW)	Bypass gas flow rate (L min ⁻¹)	Carrier gas flow rate (L min ⁻¹)
5	1	0	1	1.55	4.5	4.5
3	2	1	1	1.70	3.0	6.0
1	3	1	1	1.40	3.0	3.0
6	4	0	1	1.55	4.5	4.5
4	5	1	1	1.40	6.0	6.0
2	6	1	1	1.70	6.0	3.0
18	7	-1	3	1.55	4.5	6.0
15	8	-1	3	1.55	3.0	4.5
17	9	-1	3	1.55	4.5	3.0
16	10	-1	3	1.55	6.0	4.5
14	11	-1	3	1.70	4.5	4.5
20	12	0	3	1.50	4.5	4.5
19	13	0	3	1.55	4.5	4.5
13	14	-1	3	1.40	4.5	4.5
10	15	1	2	1.70	6.0	6.0
9	16	1	2	1.40	3.0	6.0
12	17	0	2	1.55	4.5	4.5
7	18	1	2	1.70	3.0	3.0
8	19	1	2	1.40	6.0	3.0
11	20	0	2	1.55	4.5	4.5

Table S2. Eigenanalysis of the correlation matrix. Data correspond with score plot in Fig. 4 and 5.

Principal Component	1	2	3	4	5	6
Eigenvalue	3.7349	1.0450	0.6904	0.5186	0.0106	0.0005
Proportion	0.622	0.174	0.115	0.086	0.002	0.000

Cumulative	0.622	0.797	0.912	0.998	1.000	1.000
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Table S3. Eigenvectors for principal component 1 (PC1) and principal component 2 (PC2) corresponding with Fig. 4 and 5.

Variable	Mg II (279.553)	Mg II (280.270)	SI (182.034)	Sr II (407.771)	Sr II (421.552)	Zn II (213.856)
PC1	0.469	0.456	0.208	0.474	0.470	-0.288
PC2	-0.164	-0.328	0.787	0.192	0.195	0.414