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Supplementary Material for:

A simple and reliable calibration method for direct analysis of ground-roasted

coffee by portable XRF: an accurate analytical tool for Total Diet Studies

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Figure S1 - Calibration curve using CRM for Figure S2 - Calibration curve using CRM for Figure S3 - Calibration curve using CRM for Figure S4 - Calibration curve using CRM for P determination by pXRF (equipment 1 at 15 P determination by pXRF (equipment 2 at 15 kV and 16.2 μA).

1800000

1600000 -

1400000 -

1200000

1000000

800000

600000

400000

200000

Intensity (counts)

kV and 16.2 μA).

kV and 16.2 μA).

K determination by pXRF (equipment 1 at 15 K determination by pXRF (equipment 2 at 15

kV and 16.2 μA).



Figure S5 - Calibration curve using CRM for Figure S6 - Calibration curve using CRM for Figure S7 - Calibration curve using CRM for Figure S8 - Calibration curve using CRM for Ca determination by pXRF (equipment 1 at Ca determination by pXRF (equipment 2 at Mg determination by pXRF (equipment 1 at Mg determination by pXRF (equipment 2 at 15 kV and 16.2 µA). 15 kV and 16.2 µA). 15 kV and 16.2 µA). 15 kV and 16.2 µA).









Figure S9 - Calibration curve using CRM for Figure S10 - Calibration curve using CRM Figure S11 - Calibration curve using CRM Figure S12 - Calibration curve using CRM P determination by pXRF (equipment 1 at 50 for P determination by pXRF (equipment 2 at for K determination by pXRF (equipment 2 at kV and 15.8 µA).

50 kV and 15.8 µA).

50 kV and 15.8 µA).

50 kV and 15.8 µA).









Figure S13 - Calibration curve using CRM Figure S14 - Calibration curve using CRM Figure S15 - Calibration curve using CRM Figure S16 - Calibration curve using CRM for Ca determination by pXRF (equipment 1 for Ca determination by pXRF (equipment 2 for Mg determination by pXRF (equipment 1 for Mg determination by pXRF (equipment 2 at 50 kV and 15.8 µA). at 50 kV and 15.8 µA). at 50 kV and 15.8 µA). at 50 kV and 15.8 µA).

Intensity (counts)



Figure S17 - Calibration curve using ICP OES data for P determination by pXRF (equipment 1 at 15 kV and 16.2 μ A).

Figure S18 - Calibration curve using ICP OES data for P determination by pXRF (equipment 1 at 50 kV and 15.8 µA).

OES data for P determination by pXRF (equipment 2 at 15 kV and 16.2 µA).

Figure S19 - Calibration curve using ICP Figure S20 - Calibration curve using ICP OES data for P determination by pXRF (equipment 2 at 50 kV and 15.8 µA).



Figure S21 - Calibration curve using ICP Figure S22 - Calibration curve using ICP Figure S23 - Calibration curve using ICP Figure S24 - Calibration curve using ICP OES data for K determination by pXRF (equipment 1 at 15 kV and 16.2 μ A). (equipment 1 at 50 kV and 15.8 μ A). (equipment 2 at 15 kV and 16.2 μ A). (equipment 2 at 50 kV and 15.8 μ A).