TABLE S1: Matrix effect on the determination of coal.

Sample	Standard curve			Peak Area$_{blank}$ [3]
	Dynamic range of sulfur (mg)	Linear least squares regression equation	Correlation coefficient (r)	
Coal[1]	0.033 - 0.142	$Y = 1.565 \times 10^{-6}X + 3.174 \times 10^{-3}$	1.0000	248 ± 11
Coal in Kit blank[2]	0.036 - 0.132	$Y = 1.547 \times 10^{-6}X + 8.932 \times 10^{-3}$	0.9998	2438 ± 642

[1]Standard curve of coal was constructed without existence of Kit blank.

[2]Standard curve of coal was constructed with Kit blank of 1.54 ± 0.03 mg.

[3]Average peak areas ($\pm$ SD, n = 2) of tin blanks and Kit blanks, respectively.

TABLE S2: Inter-day results for the determination of ECD.

Test no.	Sample[1]	Standard curve			Sulfur weight (mg)	Recovery yield (%)
		Dynamic range of sulfur (mg)	Linear least squares regression equation	Correlation coefficient (r)		
1	Bk_{Kit}	0.033 - 0.178	$Y = 1.445 \times 10^{-6}X + 2.802 \times 10^{-3}$	0.9997	0.000 ± 0.001	-
	Std_{ECD} #1				0.127 ± 0.002	100.53 ± 1.19
	Std_{ECD} #2				0.135 ± 0.001	94.19 ± 0.46
	Std_{ECD} #3				0.157 ± 0.001	100.90 ± 0.88
	Std_{ECD} #4				0.164 ± 0.001	94.98 ± 0.31
2	Bk_{Kit}	0.031 - 0.144	$Y = 1.493 \times 10^{-6}X + 2.113 \times 10^{-3}$	0.9987	0.000 ± 0.000	-
	Std_{ECD} #1				0.122 ± 0.007	96.47 ± 5.92
	Std_{ECD} #2				0.137 ± 0.001	95.29 ± 0.97
	Std_{ECD} #3				0.161 ± 0.001	103.66 ± 0.72
	Std_{ECD} #4				0.170 ± 0.000	98.50 ± 0.28

3	Bk$_{Kit}$	0.031 - 0.144	$Y = 1.493 \times 10^{-6}X + 2.113 \times 10^{-3}$	0.9987	0.001 ± 0.002	-
	Std$_{ECD}$ #1				0.125 ± 0.003	98.80 ± 2.68
	Std$_{ECD}$ #2				0.136 ± 0.001	94.83 ± 0.78
	Std$_{ECD}$ #3				0.159 ± 0.001	102.05 ± 0.61
	Std$_{ECD}$ #4				0.166 ± 0.002	96.07 ± 0.92
4	Bk$_{Kit}$	0.032 - 0.138	$Y = 1.446 \times 10^{-6}X + 3.341 \times 10^{-3}$	0.9998	0.001 ± 0.001	-
	Std$_{ECD}$ #1				0.130 ± 0.001	102.72 ± 1.19
	Std$_{ECD}$ #2				0.138 ± 0.001	95.95 ± 0.38
	Std$_{ECD}$ #3				0.159 ± 0.000	102.00 ± 0.31
	Std$_{ECD}$ #4				0.162 ± 0.000	94.30 ± 0.14

[1]Compositions of calibration standards and blanks are shown in Table 2.

TABLE S3: Real-sample analytical results.

| Batch No. | Standard curve | | | Recovery yield of QC$_{coal}$ (%) | ECD weight (mg)[1] |
	Dynamic range of coal (mg)	Linear least squares regression equation	Correlation coefficient (r)		
1	1.025 - 3.327	$Y = 1.624 \times 10^{-6}X + 1.600 \times 10^{-3}$	0.9995	101.26	0.934 ± 0.021
2	1.058 - 3.403	$Y = 1.582 \times 10^{-6}X + 1.791 \times 10^{-3}$	0.9994	100.81	0.952 ± 0.013
				101.94	
3	1.033 - 3.376	$Y = 1.629 \times 10^{-6}X + 7.410 \times 10^{-4}$	0.9998	99.52	0.984 ± 0.007
				106.62	

[1]The determined value of ECD by the proposed method; nominal weight of ECD was 0.956 mg.