

Electronic Supplementary Information documents

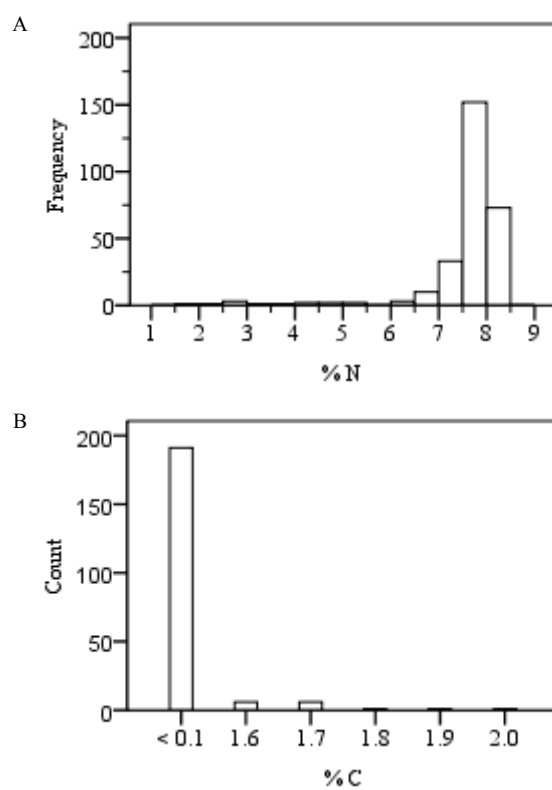


Figure 1 Distribution of A) % N (n = 284) and B) % C (n = 206) in AgNO₃ samples prepared from groundwater and soil-water samples (adapted from Minet⁸).

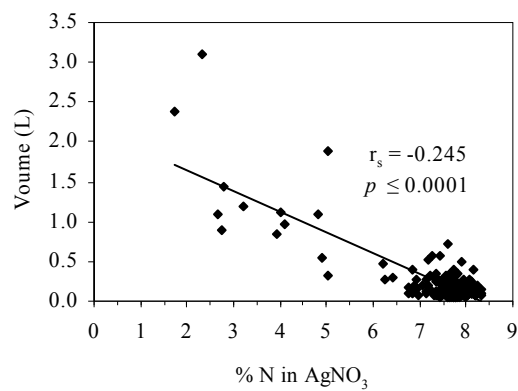


Figure 2 Variation of % N in AgNO₃ samples (n = 284) with volume passed through the anion exchange resin (in L) in soil-water and groundwater samples (adapted from Minet⁸).

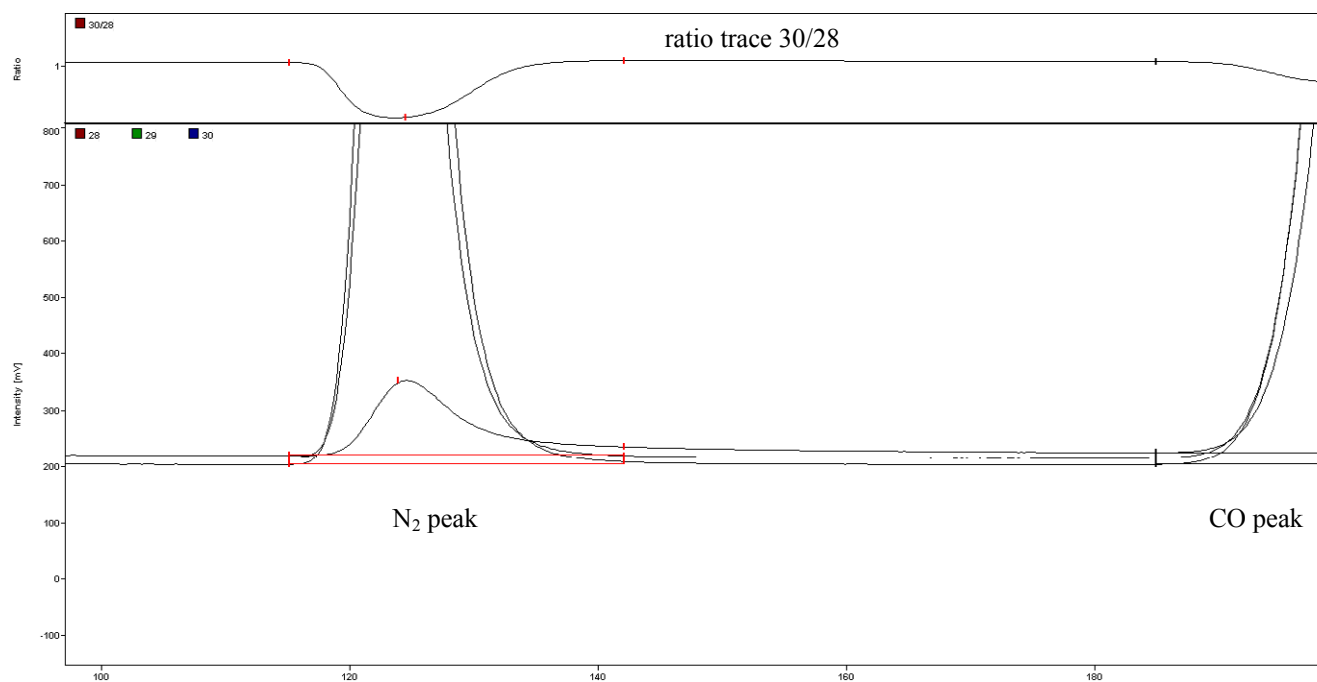


Figure 3 Enlarged chromatogram illustrating the separation between N₂ and CO peaks during $\delta^{18}\text{O}$ analysis of silver nitrate.

Table 1 Comparison of $\delta^{15}\text{N-NO}_3^-$ and $\delta^{18}\text{O-NO}_3^-$ values measured by CF-IRMS between KNO_3 salts (*in italic*) and converted AgNO_3 . ($\delta^{15}\text{N}$ and $\delta^{18}\text{O}$ in permil ‰ against AIR and V-SMOW respectively) (adapted from Minet ⁸).

Type of material	$\delta^{15}\text{N-NO}_3^-$	$\delta^{18}\text{O-NO}_3^-$
<i>KNO₃ (commercial product No.1)</i>	<i>-20.4 ± 0.2</i>	<i>13.4 ± 0.9</i>
Converted in AgNO₃ (with Ag₂O batch 1)	-20.7 ± 0.1	14.2 ± 0.3
Converted in AgNO₃ (with Ag₂O batch 1)	-20.9 ± 0.1	14.6 ± 0.4
Converted in AgNO₃ (with Ag₂O batch 1)	-20.7 ± 0.1	15 ± 0.7
Converted in AgNO₃ * (with Ag₂O batch 3)	-20.3 ± 0.2	14.8 ± 1.3
Converted in AgNO₃ † (with Ag₂O batch 3)	-20.5 ± 0.1	14 ± 0.2
<i>KNO₃ (commercial product No.2)</i>	<i>-1.2 ± 0.1</i>	<i>21.3 ± 0.5</i>
Converted in AgNO₃ (with Ag₂O batch 2)	-1.2 ± 0.1	20.4 ± 0.6
Converted in AgNO₃ (with Ag₂O batch 2)	-1.1 ± 0.1	21.3 ± 0.2
<i>KNO₃ (IAEA-NO-3 standard)</i>	<i>4.8 ± 0.1</i>	<i>25.7 ± 0.2</i>
Converted in AgNO₃ (with Ag₂O batch 1)	4.1 ± 0.2	25.4 ± 0.7

* % N = 7.6 ± 0.4

† % N = 7.8 ± 0.1