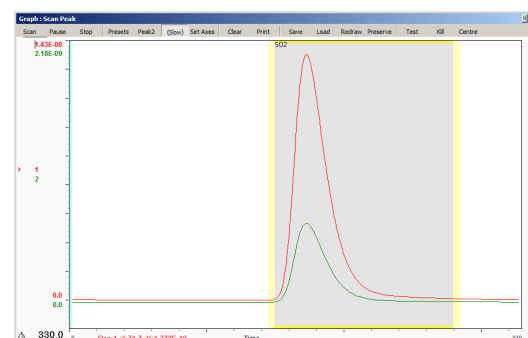




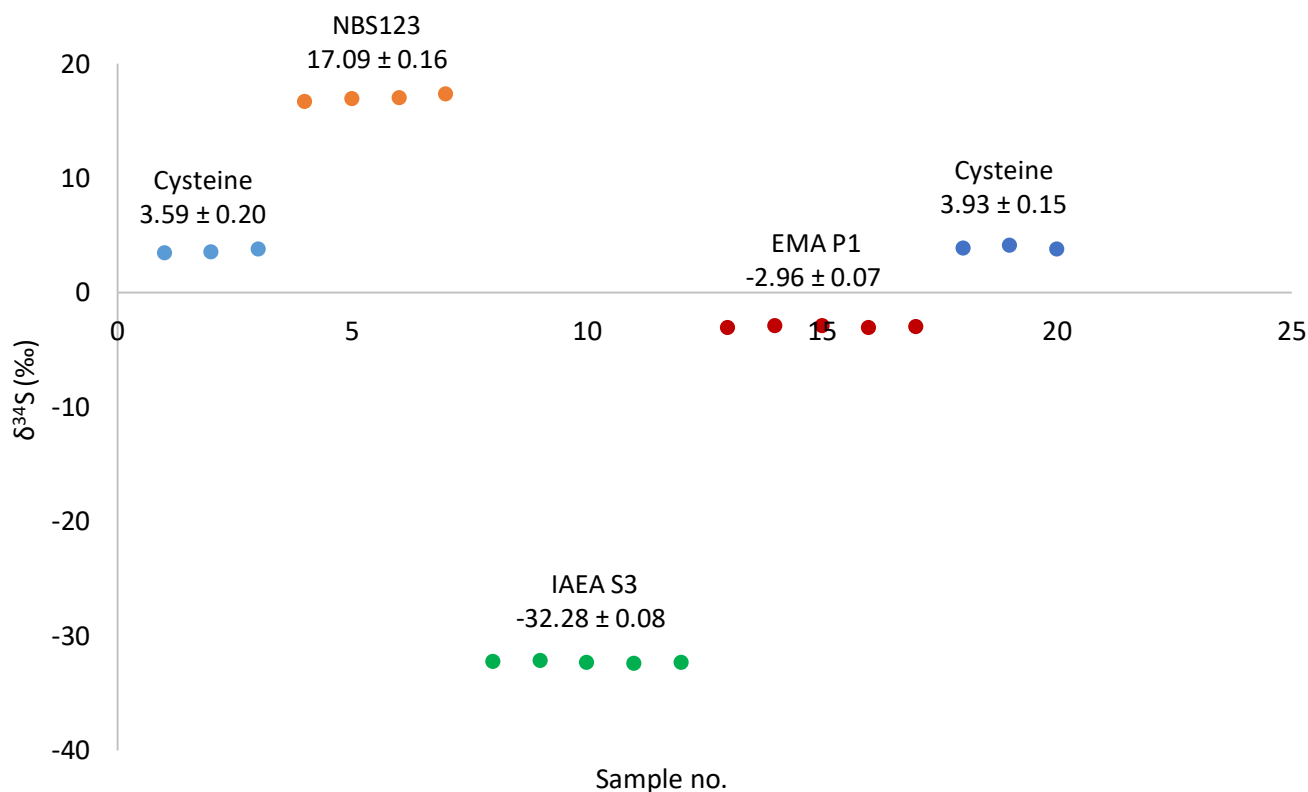
Data bulletin – Accuracy, precision and inter-sample memory on the Integra2 in Sulphur mode

The Integra2 is a combined EA-IRMS and can be used as a dedicated sulphur instrument. This instrument has many advantages over traditional systems:

- The instrument is optimised for S analysis and excellent data is generated. Precision: <math><0.3\text{‰}</math>
- Sercon's innovative trapping loop technology means that an SO_2 cylinder is not needed
- Short run time: <math>< 6\text{ min}</math> per sample



The results below show excellent accuracy and precision over a range of samples at different $\delta^{34}\text{S}$ values, and there is no inter-sample memory effect between samples with $\delta^{34}\text{S}$ differences of up to 50 ‰



Sequential analyses on the Integra2 showing no memory effect on $\delta^{34}\text{S}$ values

| | Cysteine | NBS123 | IAEA S3 | EMA P1 | Cysteine |
|----------|----------|--------|---------|--------|----------|
| | 3.43 | 17.04 | -32.25 | -3.03 | 3.88 |
| | 3.54 | 16.95 | -32.17 | -2.86 | 4.10 |
| | 3.82 | 17.04 | -32.30 | -2.91 | 3.82 |
| | | 17.32 | -32.39 | -3.03 | |
| | | | -32.31 | -2.97 | |
| SD | 0.20 | 0.16 | 0.08 | 0.07 | 0.15 |
| Average | 3.59 | 17.09 | -32.28 | -2.96 | 3.93 |
| Expected | | 17.1 | -32.30 | -3.01 | |

