**SUPPLEMENTARY MATERIAL**

**Quantitative Composition Determination by Mössbauer Spectroscopy**

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**Table S1**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | Fe-content (μmoles) |
|  | Sample (g) | Fe2O3 (g) | Sample | Fe2O3 |
| IC 0.5% Fe | 0.29743 | 0.00215 | 27.0 | 26.9 |
| IC 1.0% Fe | 0.29602 | 0.00478 | 52.8 | 59.8 |
| IC 2.0% Fe | 0.29333 | 0.00682 | 99.2 | 85.4 |
| IC 5.0% Fe | 0.29632 | 0.01984 | 266 | 248 |
| IC 10% Fe | 0.28483 | 0.02808 | 504 | 351 |
| Si 0 hr | 0.60493 | 0.02326 | 43.0 | 291 |
| Si 1 hr | 0.59966 | 0.02521 | 141 | 316 |
| Si 2 hr | 0.60136 | 0.02350 | 168 | 294 |
| Si 4 hr | 0.59724 | 0.02352 | 211 | 294 |
| Si 8 hr | 0.59362 | 0.02646 | 230 | 331 |
| Si 16 hr | 0.60101 | 0.02354 | 234 | 295 |

**Table S1** Mass of sample and Fe2O3 IS powders in all Bellcore plastic films used for quantitative Fe content determination

**Table S2**

|  |  |  |  |
| --- | --- | --- | --- |
|  | IC | Fe2O3 | FeSi2 |
| CS (mm/s) | 0.4241 | 0.3857 | 0.1443 |
| QS (mm/s) | 0.6112 | -0.1064 | 0.5587 |
| HWHM (mm/s) | 0.4754 | 0.3195 | 0.4823 |
| H (T) |  | 51.52 |  |

**Table S2** Mössbauer fitting parameters for the pure phases of the Fe containing species evaluated in this work, where H is the hyperfine magnetic field in Tesla units.