

## Electronic Supplementary Information

# Laser ablation – tandem ICP-mass spectrometry (LA-ICP-MS/MS) imaging of iron oxide nanoparticles in Ca-rich gelatin microspheres

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## Electronic Supplementary Information

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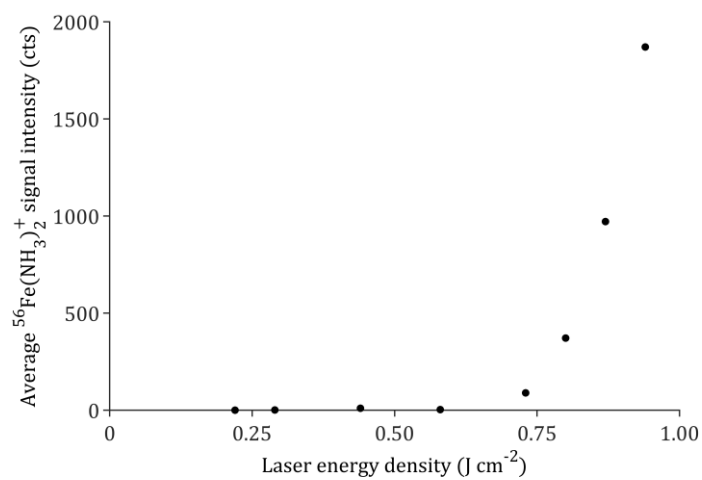
**1.1. Figure S1:** Evaluation of the signal background contribution by ablation of a soda-lime-silica glass microscope slide substrate: average  $^{56}\text{Fe}(\text{NH}_3)_2^+$  signal response, expressed in counts, versus the applied laser energy density, expressed in  $\text{J cm}^{-2}$ .

**1.2. Figure S2:** LA-tandem ICP-MS images of the quantitatively ablated gelatin droplet standards. The left and right columns display the  $\text{Fe}(\text{NH}_3)_2^+$  and  $\text{Y}(\text{NH}_3)_6^+$  images, respectively, for the gelatin standards with an Fe concentration of (a)  $0.74 \mu\text{g g}^{-1}$ , (b)  $6.41 \mu\text{g g}^{-1}$ , (c)  $13.94 \mu\text{g g}^{-1}$ , (d)  $24.22 \mu\text{g g}^{-1}$ , (e)  $35.67 \mu\text{g g}^{-1}$ , (f)  $46.83 \mu\text{g g}^{-1}$  and (g)  $58.79 \mu\text{g g}^{-1}$  (+ Y as internal standard). The minimum-maximum signal intensity of the color bars for  $\text{Fe}(\text{NH}_3)_2^+$  and  $\text{Y}(\text{NH}_3)_6^+$  are  $0 - 1.00 \times 10^4$  and  $0 - 1.50 \times 10^3$ , respectively.

**1.3. Figure S3:** Calibration curve with corresponding 95% confidence interval of the linear regression, calculated and plotted based on the normalized integrated  $^{56}\text{Fe}(\text{NH}_3)_2^+$  signal intensity, expressed in cts, and the absolute mass of Fe, expressed in fg, obtained by quantitative ablation of the air-dried gelatin droplet standards.

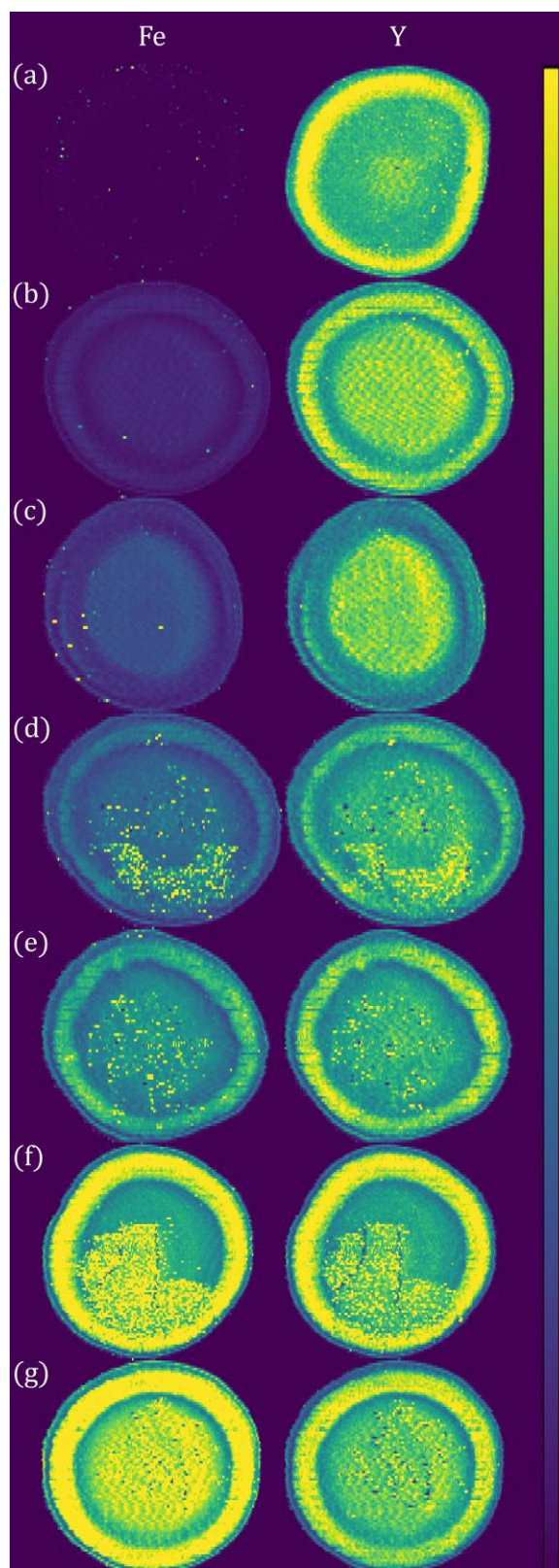
## 1. Figures

## 1.1. Figure S1



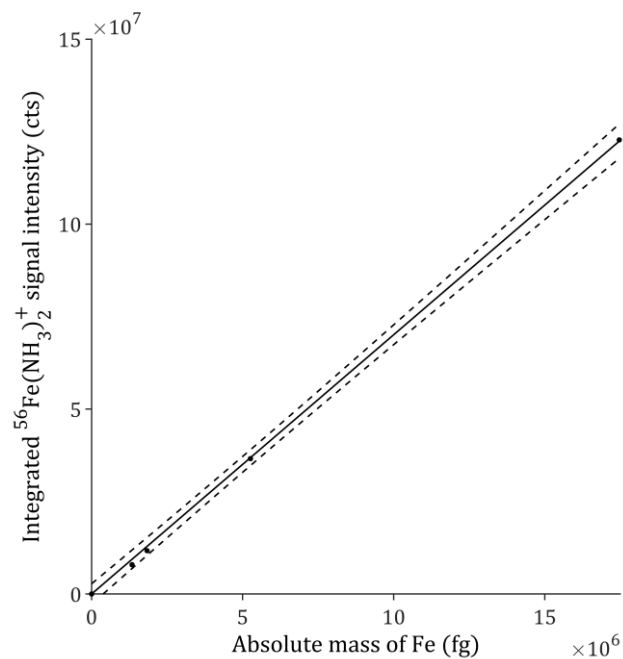
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**Figure S2.** LA-tandem ICP-MS images of the quantitatively ablated gelatin droplet standards. The left and right columns display the  $\text{Fe}(\text{NH}_3)_2^+$  and  $\text{Y}(\text{NH}_3)_6^+$  images, respectively, for the gelatin standards with an Fe concentration of (a)  $0.74 \mu\text{g g}^{-1}$ , (b)  $6.41 \mu\text{g g}^{-1}$ , (c)  $13.94 \mu\text{g g}^{-1}$ , (d)  $24.22 \mu\text{g g}^{-1}$ , (e)  $35.67 \mu\text{g g}^{-1}$ , (f)  $46.83 \mu\text{g g}^{-1}$  and (g)  $58.79 \mu\text{g g}^{-1}$  (+ Y as internal standard). The minimum-maximum signal intensity of the color bars for  $\text{Fe}(\text{NH}_3)_2^+$  and  $\text{Y}(\text{NH}_3)_6^+$  are  $0 - 1.00 \times 10^4$  and  $0 - 1.50 \times 10^3$ , respectively.

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