

# Supporting Information for “Nanoscale crystal fabric preserved in dolomite ooids at the onset of the Shuram Excursion”

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## Additional Supporting Information (Files uploaded separately)

1. Table S1

## Introduction

Included in this file are (1) additional crystal orientation maps and histograms of the PIC mapped ooid displayed in Figure 3 of the main text (Figure S2), and (2) additional elec-

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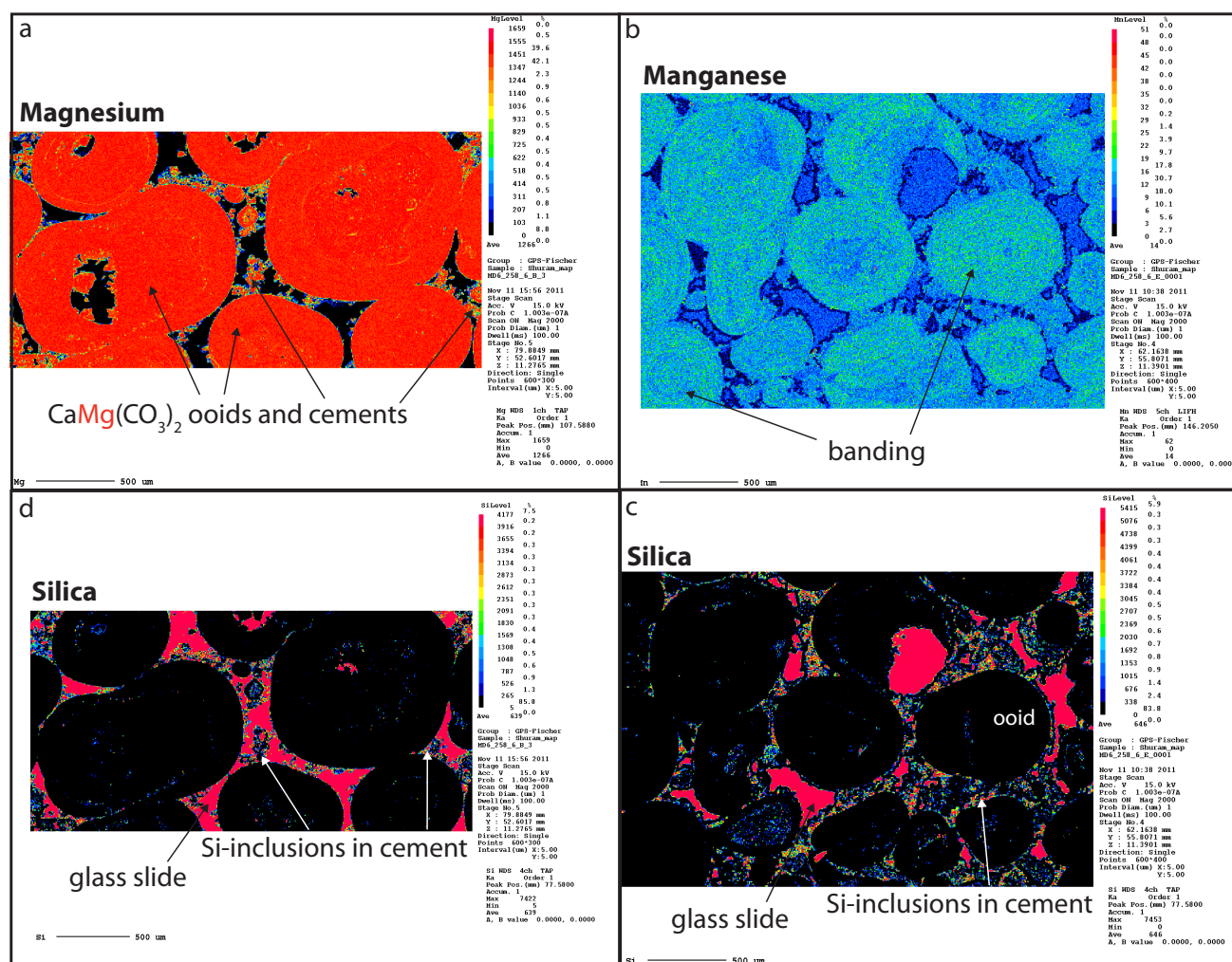
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tron probe microanalysis elemental maps and spot analysis measurements to accompany Figure 2b in the main text (Figure S1 and Table S1). Table S1 can be downloaded as a separate spreadsheet. Crystal orientations were measured by J. Wilcots, K.D. Bergmann, and P.U.P.A. Gilbert over the course of two beamtime sessions in April and November 2018 on beamline 11.0.1.1 at the Advanced Light Source, Lawrence Berkeley National Laboratory, using X-ray PhotoEmission Electron spectroMicroscopy (X-PEEM). Bundles were selected manually in Adobe Photoshop, after the ooid PIC map (Figure 3a) was produced. The color (orientation) of each pixel within each bundle are plotted in histograms. EPMA results were collected by K.D. Bergmann in November 2011 at the California Institute of Technology. All figures and data are stored in a Zenodo repository (DOI:10.5281/zenodo.5259649; Wilcots, Gilbert, and Bergmann (2021)).

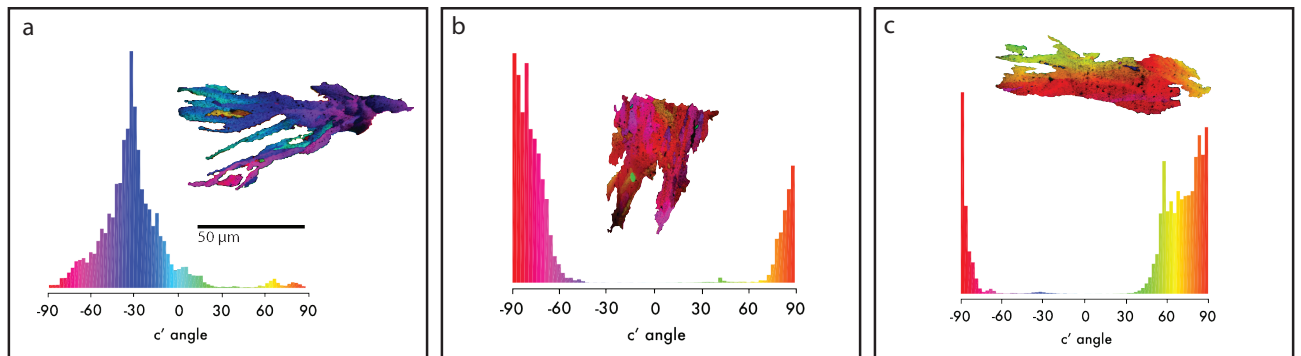
## References

- Wilcots, J., Gilbert, P. U., & Bergmann, K. D. (2021, August). *juliawilcots/synchrotron-paper-data: Release for submission*. Zenodo. Retrieved from <https://doi.org/10.5281/zenodo.5259650> doi: 10.5281/zenodo.5259650



**Figure S1.** Elemental maps of two thin sections of the upper Khufai oolite. **a** and **d** show Mg and Si in sample MD6 258.6 B3 (see Table S1), respectively. **b** and **c** show Mn and Si in sample MD6 258.6 e1 (Table S1).

**Table S1.** Electron probe microanalyses (EPMA) collected by K.D. Bergmann on Nov. 16 2011. Methods are described in the main text and the data file is available as a separate file.



**Figure S2.** Histograms of crystal orientations within three bundles highlighted in Figure 3e of the main text. Like the two bundles displayed in Figure 3b,c of the main text, crystals within these bundles are co-oriented within  $\sim 60^\circ$  within in bundle. Each bundle is plotted in its original orientation.