

Electronic Supplementary Information for

ZnFe₂O₄: Rapid and sub-100 °C synthesis and Anneal-tuned magnetic properties

Ranajit Sai,^{a,b} Suresh D. Kulkarni,^{a,b} K. J. Vinoy^c, Navakanta Bhat^{a,c} and S. A. Shivashankar^{*a,b}

^a Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore, India.

^b Materials Research Centre, Indian Institute of Science, Bangalore, India

^c Electrical Communication Engineering, Indian Institute of Science, Bangalore, India..

Experimental

The temperature profile of the microwave-assisted reaction is shown in Fig 11. It can be seen that the reaction temperature is only 95 °C and is reached in a very short duration. A comparison of the temperature-time profiles of the two annealing processes (CA/RA) is shown in Figure 12. For the convenience of understanding the profiles are plotted in log time scale.

The experimental results reported here are the typical ones among many obtained under each set of conditions of synthesis and processing. That is, the results are entirely reproducible. Magnetic measurements, however, could not be repeated more than twice (due to lack of instrumental access).

Captions for Figures in ESI:

Fig. 11: Plot of the reaction condition (Temperature Profile) during the preparation of Zinc Ferrite by the modified Kitchen microwave oven.

Fig. 12: Temperature-time profile of the annealing protocols. Note the log scale of the time axis.