Supplementary Information

γ-Al_2O_3 nanorods with tuneable dimensions – mechanistic understanding of the hydrothermal synthesis

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The supplementary information herein contains powder X-ray diffraction patterns, length and diameter size histograms calculated from TEM micrographs and N_2 adsorption-desorption isotherms of γ-Al_2O_3 materials discussed in the main article.

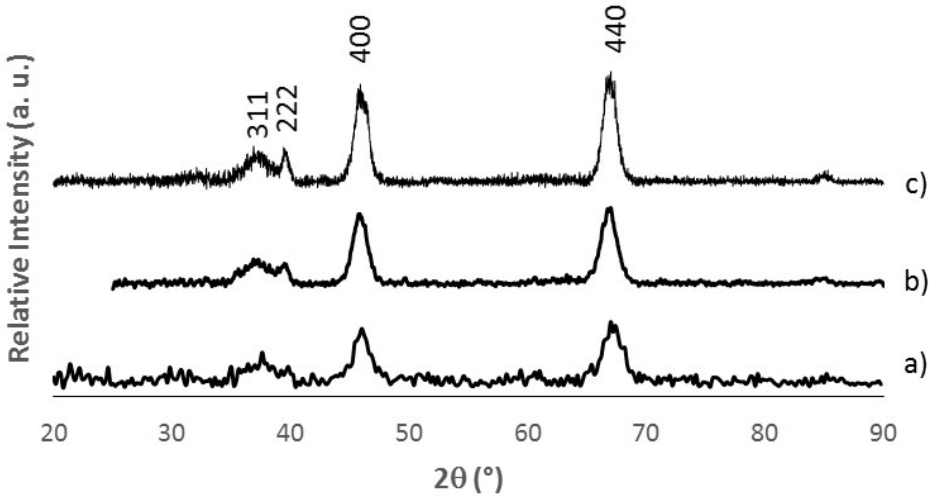

Figure S1. Powder XRD pattern for γ-Al_2O_3 rods synthesised with 1 M NaOH (0.77 NaOH:Al molar ratio) for 20 hours at a) 170 °C b)180 °C and c) 200 °C. (JCPDS Card No. 10-0425)

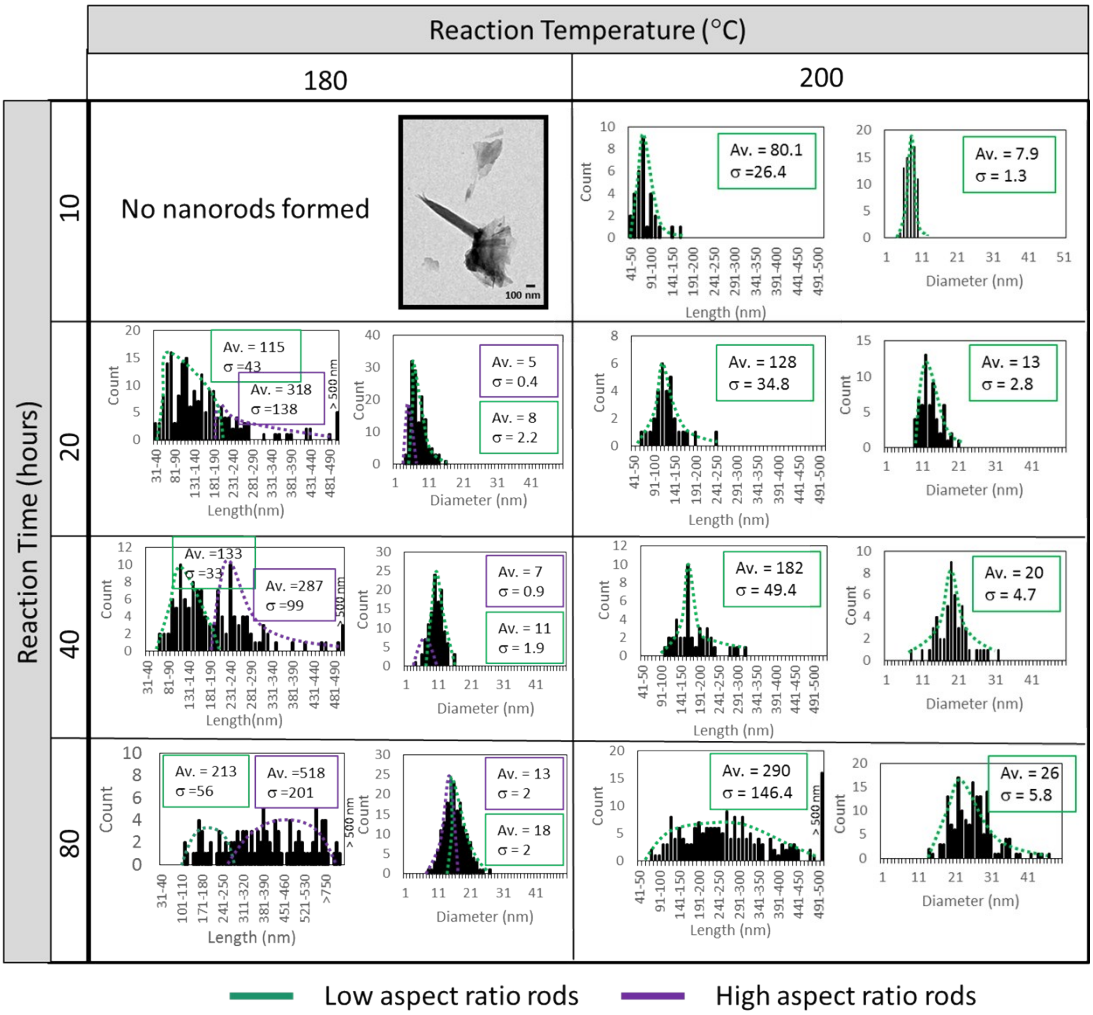

Figure S2. Length and diameter size distributions obtained from analysis of TEM micrographs of γ-Al_2O_3 nanorods synthesised at different time (10-80 hours) and temperatures (180 °C and 200 °C) with 1M NaOH (0.77 NaOH:Al molar ratio).

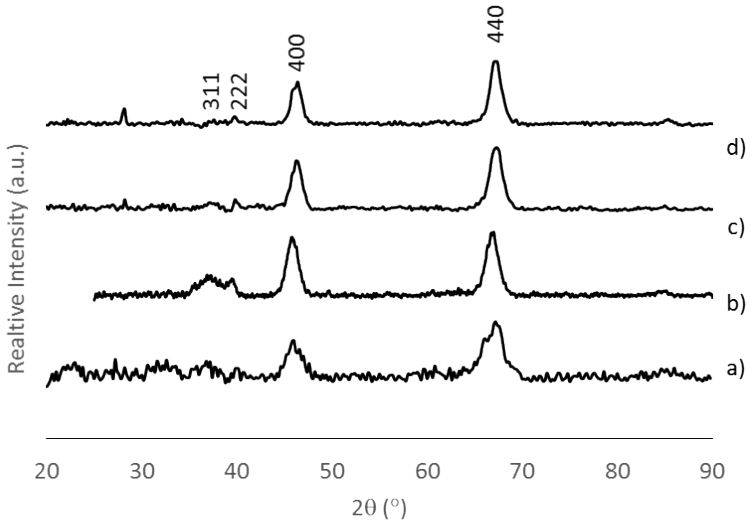

Figure S3. Powder XRD pattern for γ-Al_2O_3 rods synthesised with 1 M NaOH (0.77 NaOH:Al molar ratio) at 180 °C for a) 10 hours b) 20 hours c) 40 hours and d) 80 hours. (JCPDS Card No. 10-0425)

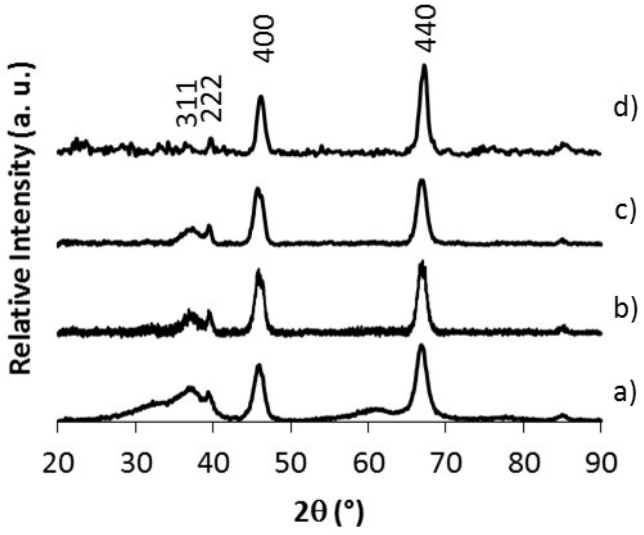

Figure S4. Powder XRD pattern for γ-Al_2O_3 rods synthesised with 1 M NaOH (0.77 NaOH:Al molar ratio) at 200 °C for a) 10 hours b) 20 hours c) 40 hours and d) 80 hours. (JCPDS Card No. 10-0425)

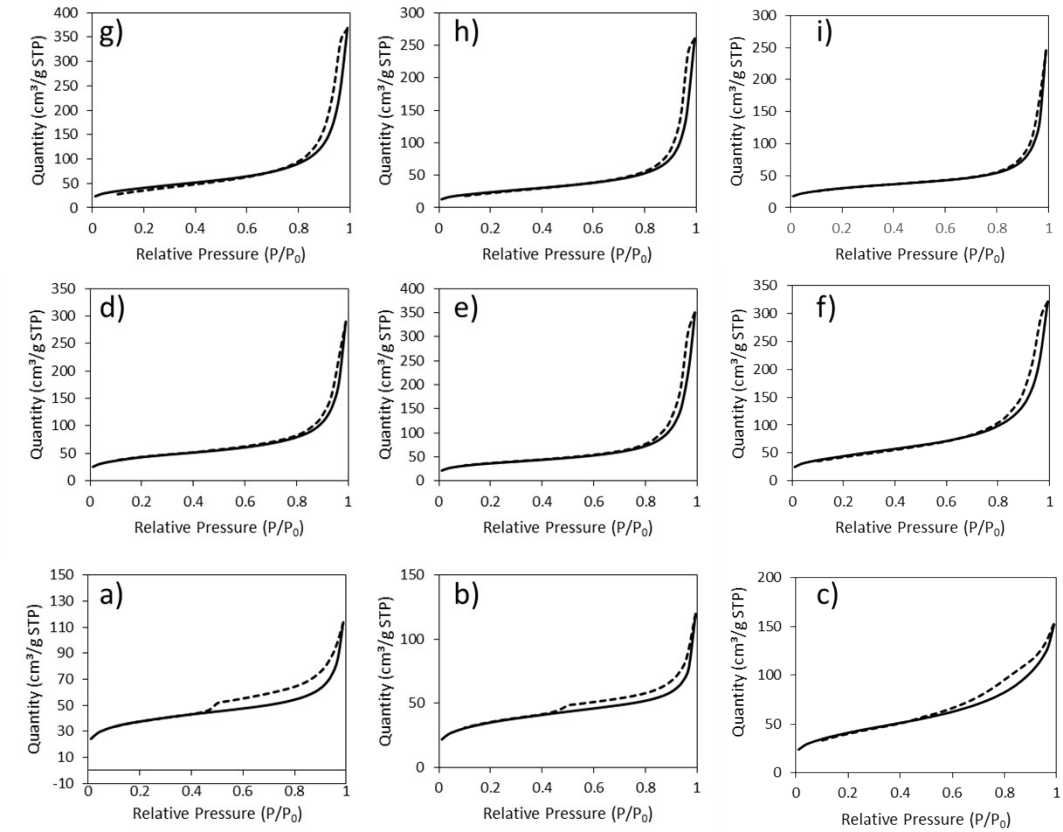

Figure S5. N_2 adsorption-desorption isotherms at -196 °C of γ-Al_2O_3 synthesised with 1 M NaOH (0.77 NaOH:Al molar ratio) at a) 170 °C for 20 hours, b) 180 °C for 10 hours, c) 180 °C for 20 hours, d) 180 °C for 40 hours, e) 180 °C for 80 hours, f) 200 °C for 10 hours, g) 200 °C for 20 hours, h) 200 °C for 40 hours and 1) 200 °C for 80 hours. Adsorption shown by the solid line and desorption is represented by the dashed line.