Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Information for "Tuneable Fluorescence Enhancement over Nanostructured ZnO Arrays with Controlled Morphology"

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Table S1. KCl concentration used for growing aligned NR forests and NFs.

	aligned NR forests	NFs
KCl concentration used	100 mM, 150 mM, 250 mM, 300 mM	50 mM, 100 mM, 250 mM, 300 mM

Supplementary Figures

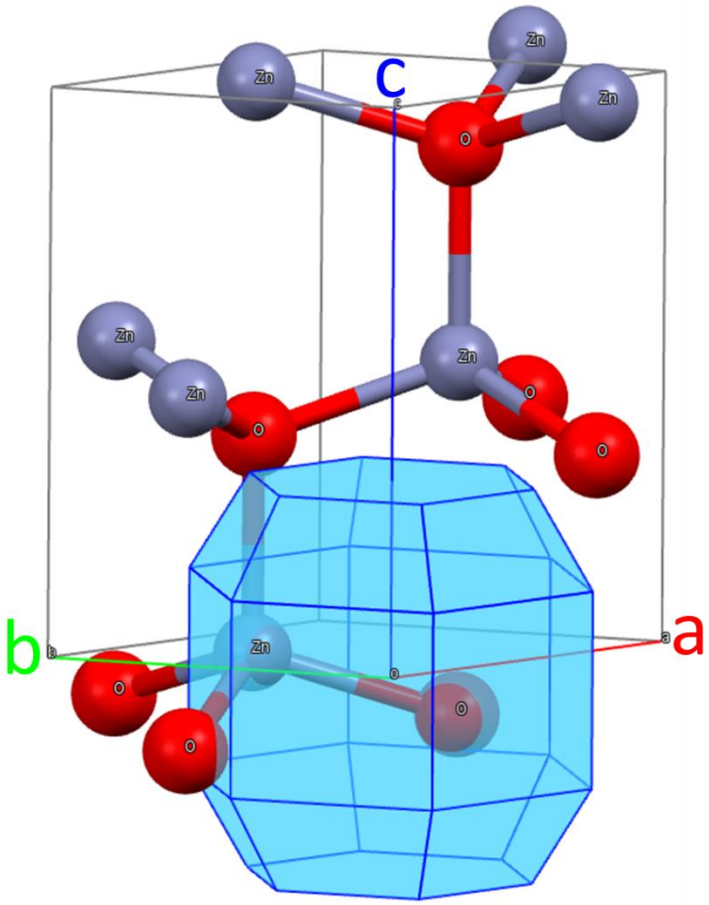

Figure S1. Wurtzite ZnO crystal structure showing a, b and c axis are reconstructed from reference [1] *with Mercury 3.9. The calculated morphology of the structure (in blue) is shown on the bottom.*

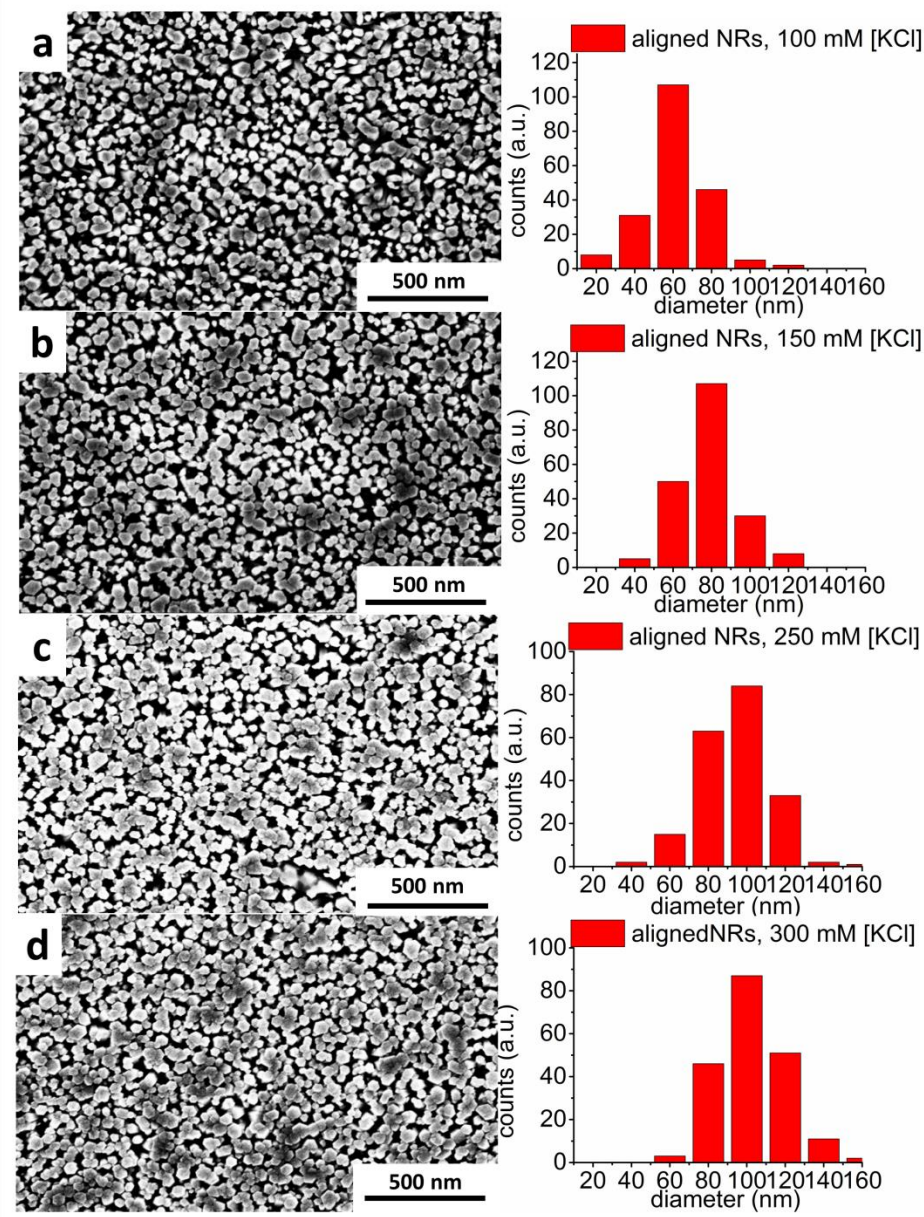

Figure S2. SEM images and rod diameter distributions of aligned NR forests growing in solution with different KCl concentration: a) 100 mM, b) 150 mM, c) 250 mM and d) 300 mM.

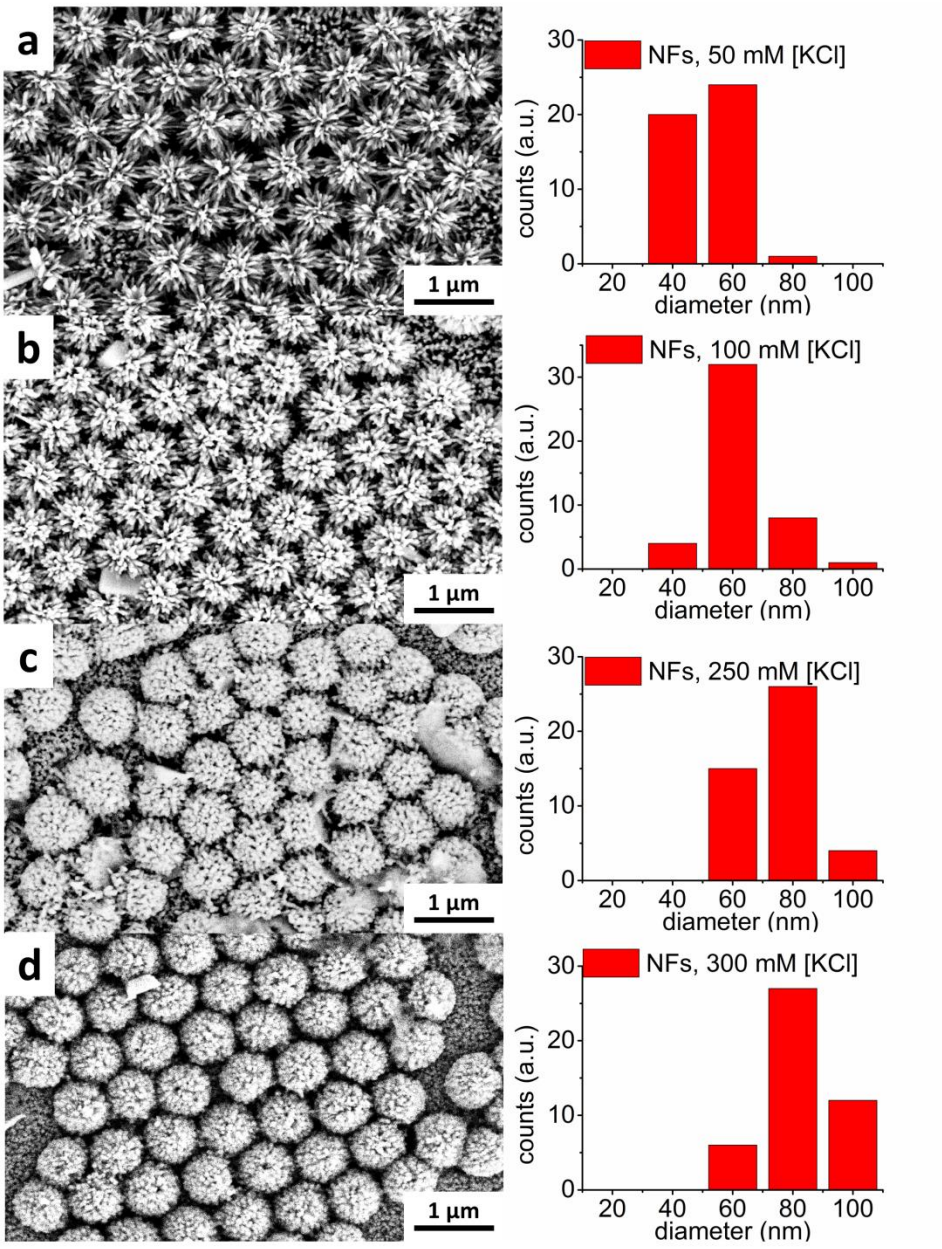

Figure S3. SEM images and rod diameter distributions of NFs growing in solution with different KCl concentration: a) 50 mM, b) 100 mM, c) 250 mM and d) 300 mM.

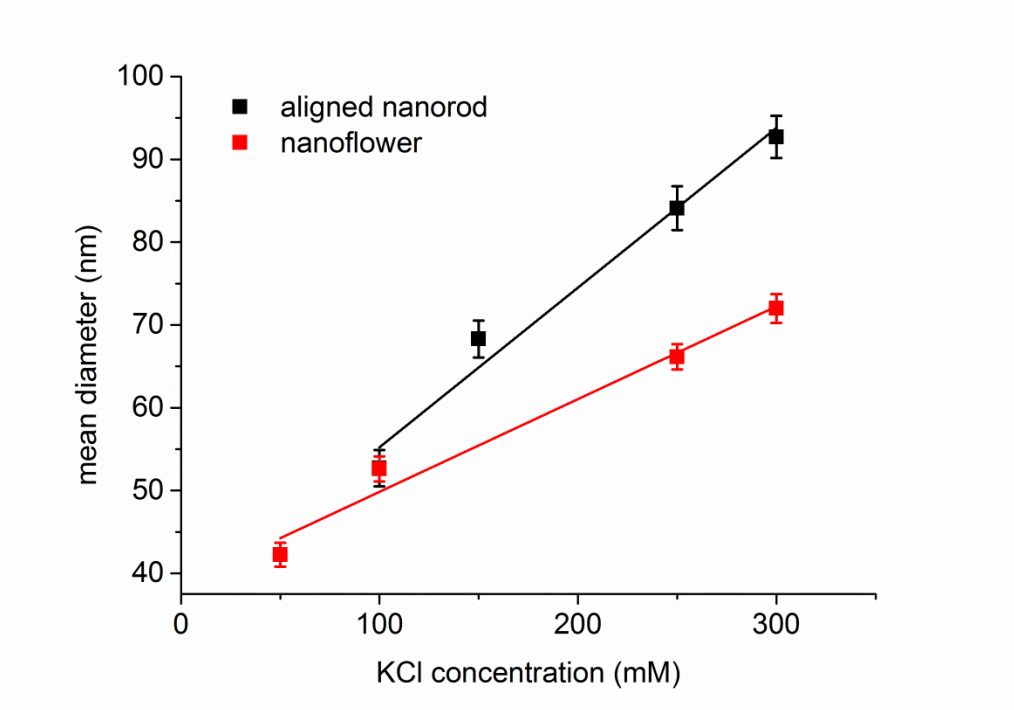

Figure S4. The mean diameter of NRs versus KCl concentration. The mean diameter can be approximated as a linear function of KCI concentration (mean diameter = m.concentration+c). For aligned NR forests m=0.192±0.021 and C=35.9±4.3. For nanoflower m=0.112±0.013 and C =38.6±2.4.

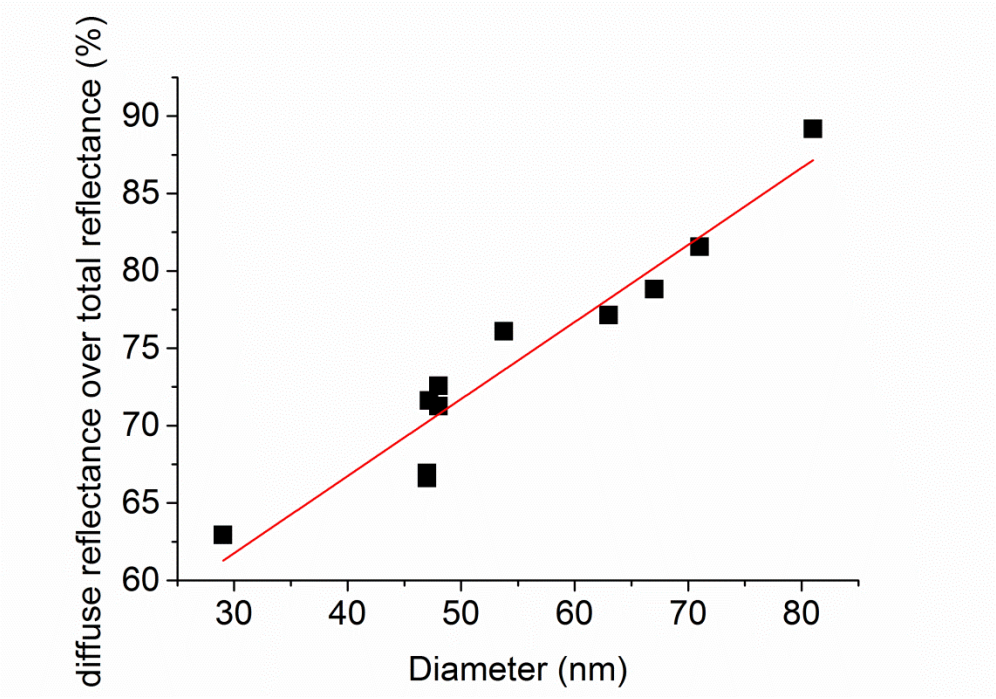

Figure S5. Relative diffuse reflectance versus diameter of NRs top surface for NFs.

Reference

1 H. Sowa and H. Ahsbahs, *J. Appl. Crystallogr.*, 2006, **39**, 169–175.