

## Electronic Supplementary Information

### Influence of microwave hydrothermal reaction factor on morphology of $\text{NaY}(\text{MoO}_4)_2$ nano-/micro- structures and luminescence properties of $\text{NaY}(\text{MoO}_4)_2:\text{Tb}^{3+}$

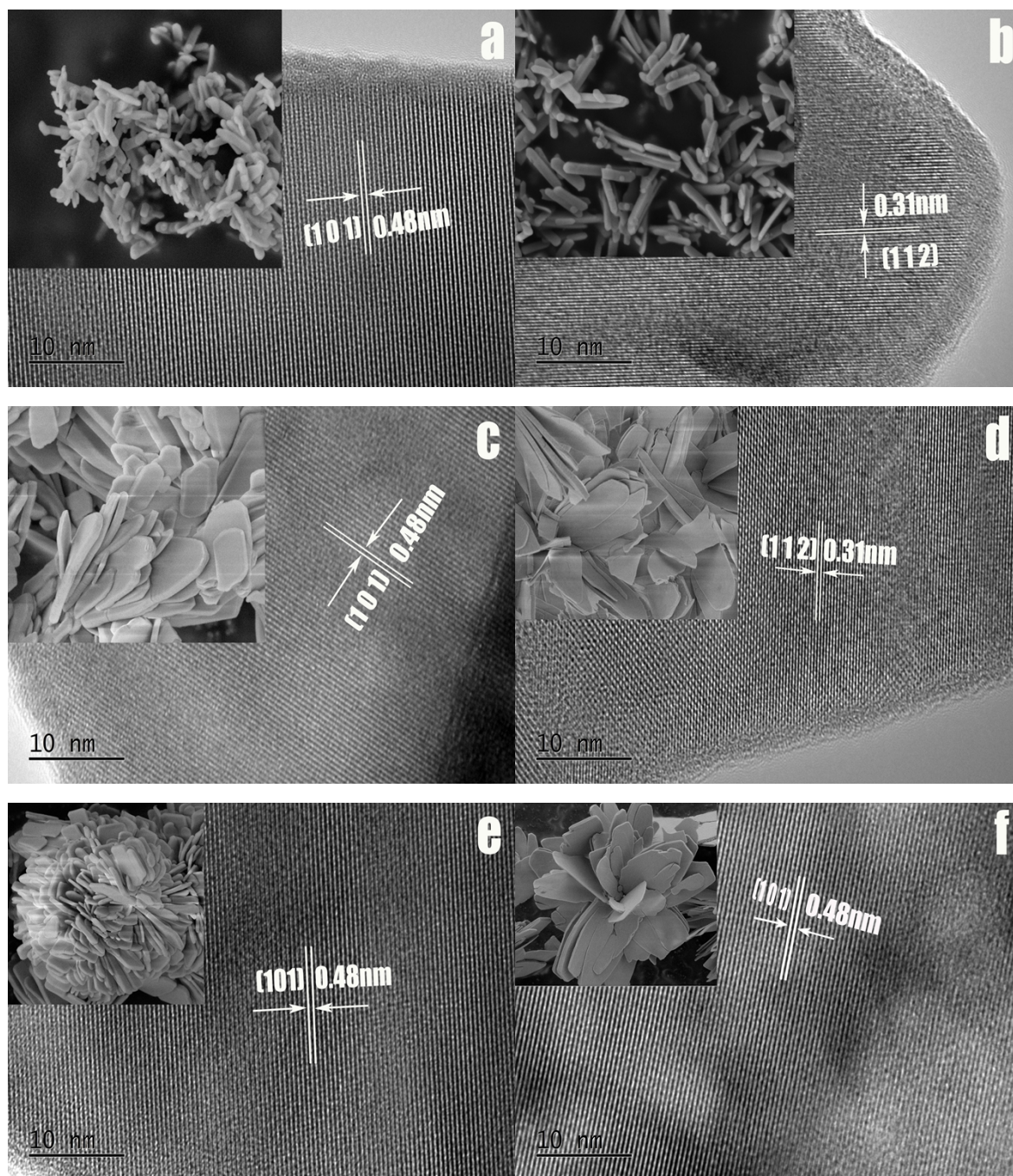
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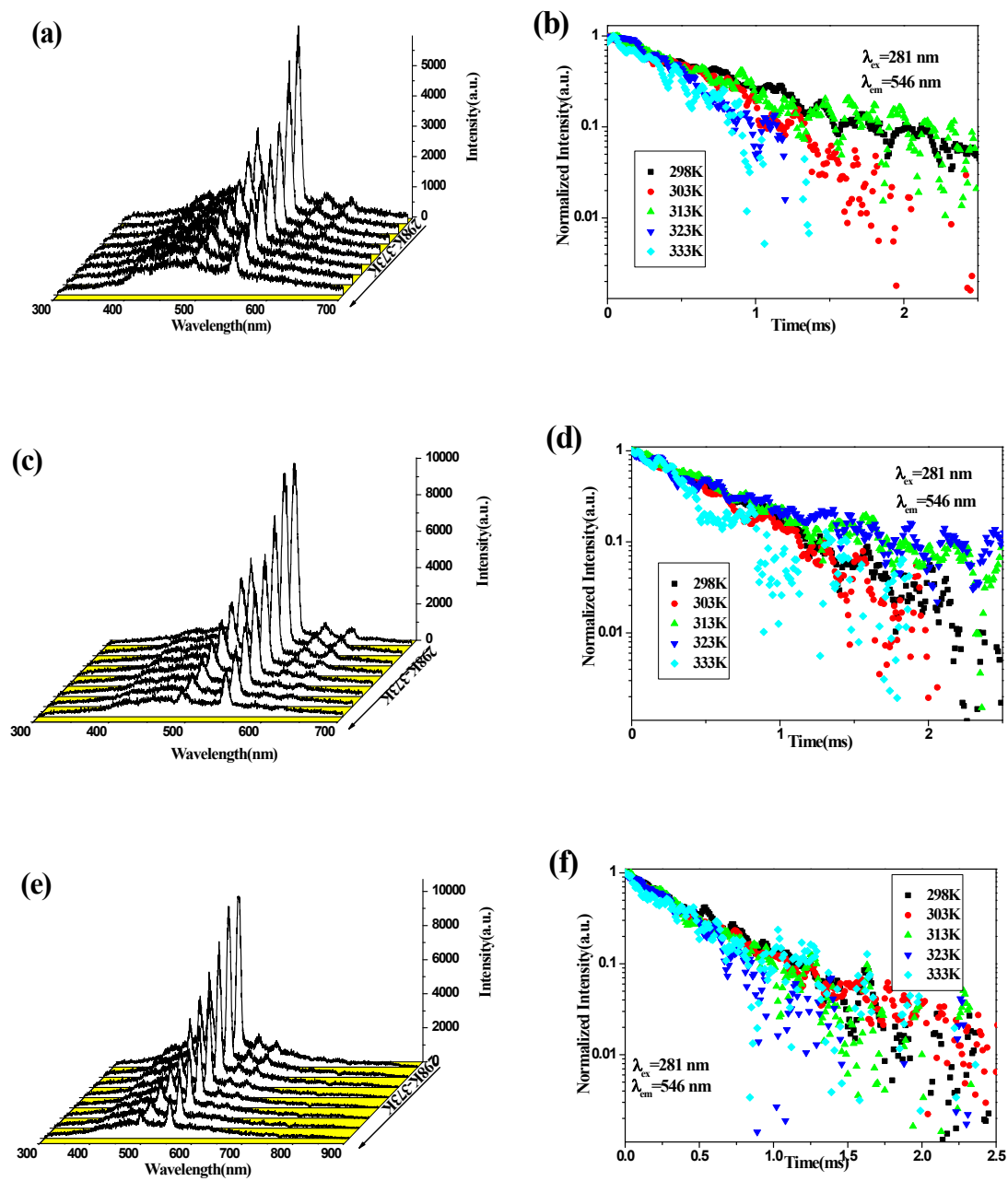
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**Figure S1** HRTEM images of samples prepared with different  $\text{Cit}^{3-}/\text{MoO}_4^{2-}/\text{Ln}^{3+}$ : (a) 0.5/2/1, (b) 1/2/1, (c) 1.5/2/1, (d) 2/2/1, (e) 1.5/3/1, (f) 2/4/1.  $\text{Ln}^{3+}$  represents 2 mmol lanthanide ions (1.9 mmol  $\text{Y}(\text{NO}_3)_3$  and 0.1 mmol  $\text{Tb}(\text{NO}_3)_3$ ). The insets are the morphology of these samples.



**Figure S2** (a), (c), (e) Emission spectra ( $\lambda_{ex}=281\text{nm}$ ) and (b), (d), (f) fluorescent decays of the sample with Cit<sup>3-</sup>/ Ln<sup>3+</sup> molar ratio of 1, 1.5 and 2 at different temperatures.