## **Electronic Supplementary Information**

## Well-Dispersed $KRE_3F_{10}$ (RE = Sm-Lu, Y) Nanocrystals: Solvothermal Synthesis and Luminescence Properties

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## Table S1 Summary of Crystal Structures, Space Groups, JCPDS, Morphologies, Sizes,and Average Crystallite size (D) of REF3 (RE = La-Nd)

RE elements	Composition	Crystal phase	Space group	JCPDS	Morphology	Average edge length or diameter [nm]	D (nm) from XRD
La	REF <sub>3</sub>	hexagonal	<i>P</i> 3 <i>c</i> 1	32-0483	nanoplate	18.0	14.2
Ce			P3c1	38-0452		18.7	14.0
Pr			P3c1	46-1167		19.9	21.5
Nd			Р6 <sub>3</sub> /тс т	09-0416		16.3	15.5



Figure S1 XRD patterns of as-prepared  $\text{REF}_3$  (La to Nd) products with a hexagonal crystal structure.



**Figure S2** TEM (A, B) of  $LaF_3$ , TEM (C) and HRTEM (inset in C) of  $CeF_3$ , TEM (D) of  $PrF_3$  as well as TEM (E) and HRTEM (F) images of NdF<sub>3</sub>.