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Supplementary Information

A Novel Anion Doping Strategy to Enhance Upconversion Luminescence in $NaGd(MoO_4)_2$:Yb^{3+}/Er^{3+} Nanophosphors

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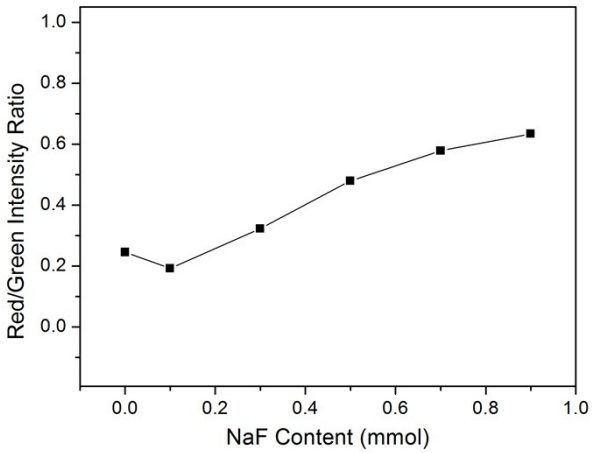

Fig. S1 Dependence of red/green luminescence intensity ratios on F^- doping contents in $NaGd(MoO_4)_2$:Yb^{3+}/Er^{3+}/F^- nanophosphors

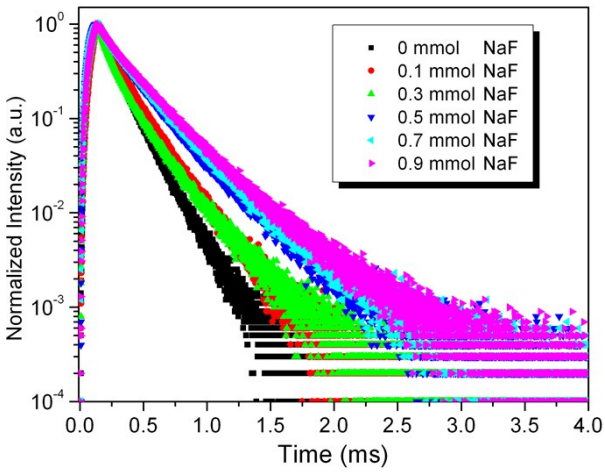

Fig. S2 Semilogarithmic upconversion luminescence dynamic curves for $NaGd(MoO_4)_2$:Yb^{3+}/Er^{3+}/F^- nanophosphors with different F^- contents monitored at 657 nm under 980 nm pulsed excitation.

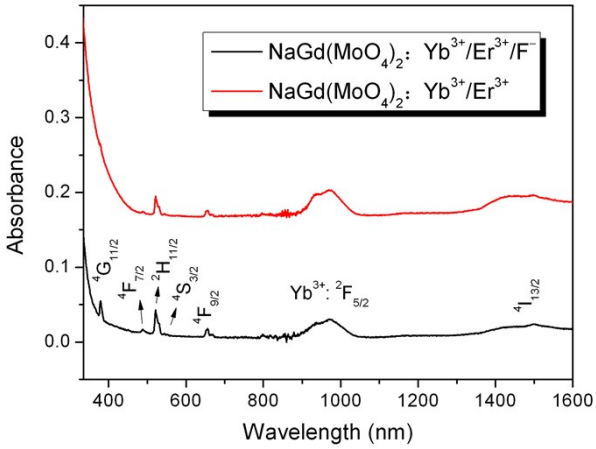

Fig. S3 Absorption spectra of $NaGd(MoO_4)_2$:Yb^{3+}/Er^{3+} and $NaGd(MoO_4)_2$:$Yb^{3+}/Er^{3+}/F^-$ with a 0.5 mmol F^- content.

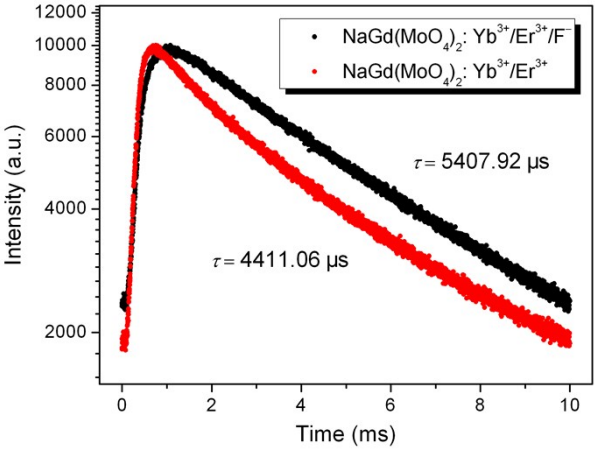

Fig. S4 Luminescence dynamic curves for $^4I_{13/2} \rightarrow {}^4I_{15/2}$ transition in $NaGd(MoO_4)_2$:Yb^{3+}/Er^{3+} and $NaGd(MoO_4)_2$:$Yb^{3+}/Er^{3+}/F^-$ with a 0.5 mmol F^- content under 980 nm pulsed excitation.