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 $^4$I$_{13/2} \rightarrow ^4$I$_{15/2}$ 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.