Electronic Supplementary Information

Multicolor tuning and white light emission from lanthanide doped $YPVO_4$ nanorods: Energy transfer studies

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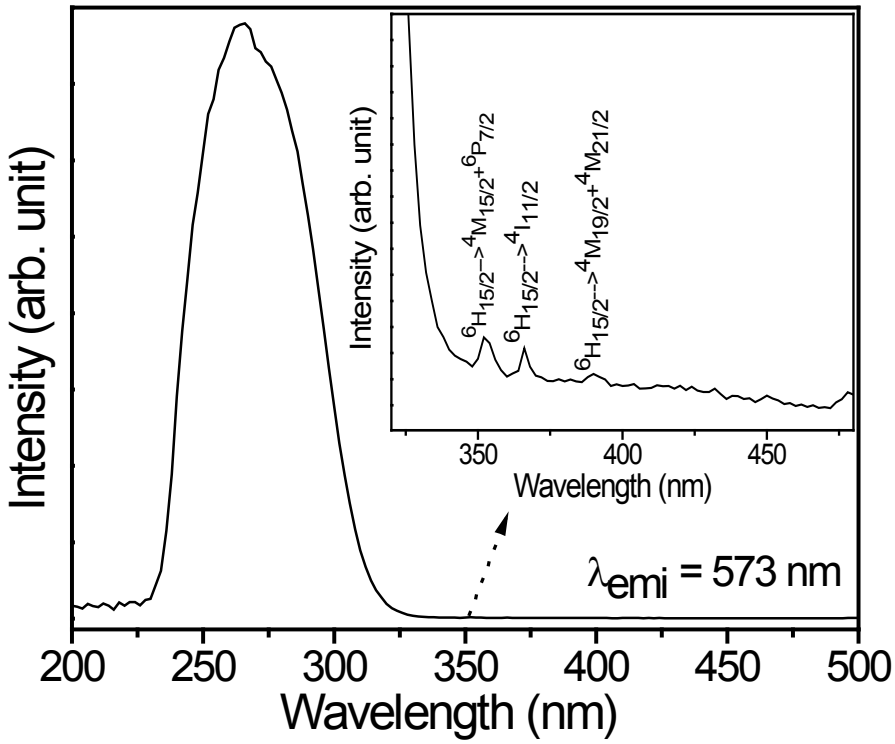

Fig. S1 The excitation spectrum ($\lambda_{emission}$ = 573 nm) of $YP_{0.85}V_{0.15}O_4:Dy^{3+}$ (1 at.%). Inset shows the expanded portion (325-475 nm) showing *f-f* transition absorption.

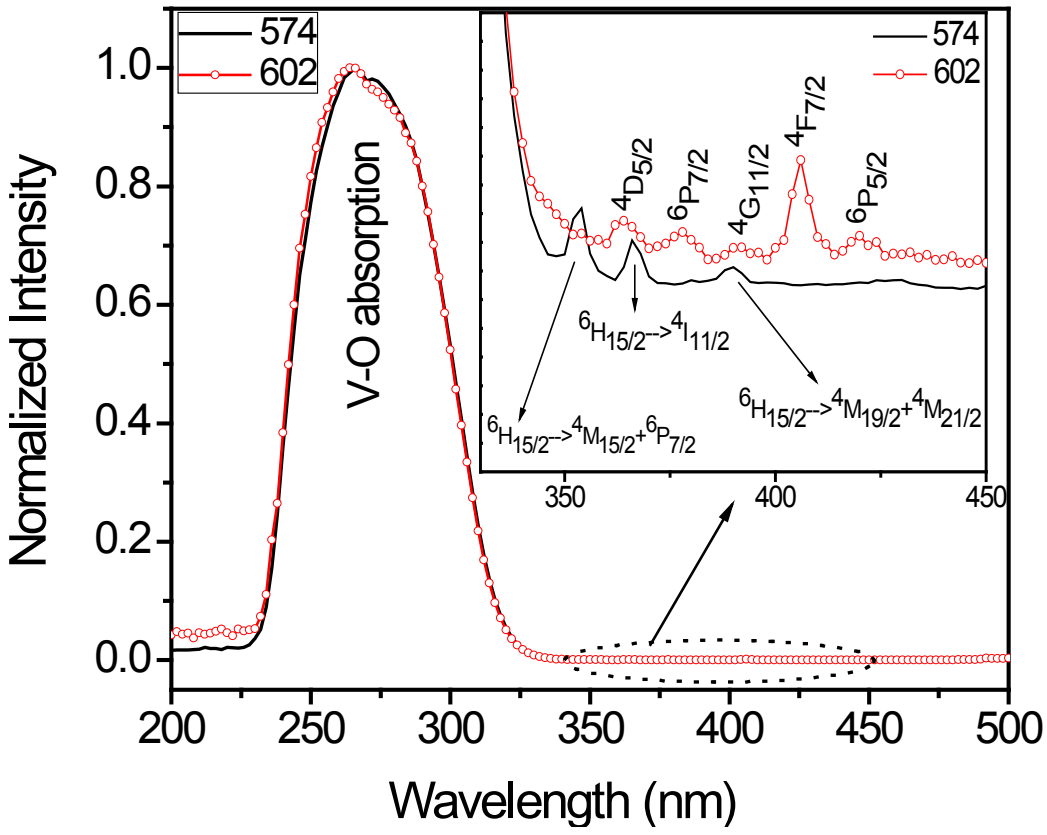

Fig. S2 Excitation spectra of Sm^{3+} (0.75 at.%) co-activated with Dy^{3+} (1 at.%) in $YP_{0.8}V_{0.2}O_4$ nanorods at different emission wavelengths (602 nm, Sm^{3+} and 574 nm, Dy^{3+}). Inset shows the respective *f-f* transition absorptions.

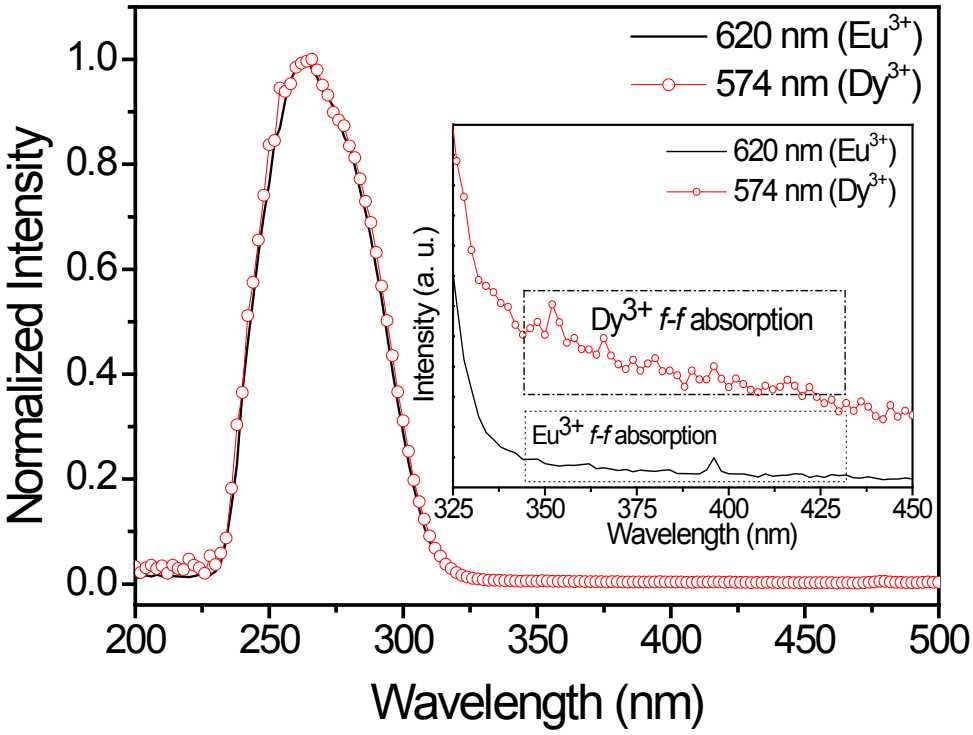

Fig. S3 Excitation spectra of Eu^{3+} (1 at.%) co-activated with Dy^{3+} (0.5 at.%) in $YP_{0.8}V_{0.2}O_4$ nanorods monitoring at different emission wavelengths (620 nm, Eu^{3+} and 574 nm, Dy^{3+}). Inset shows the respective *f-f* transition absorptions.

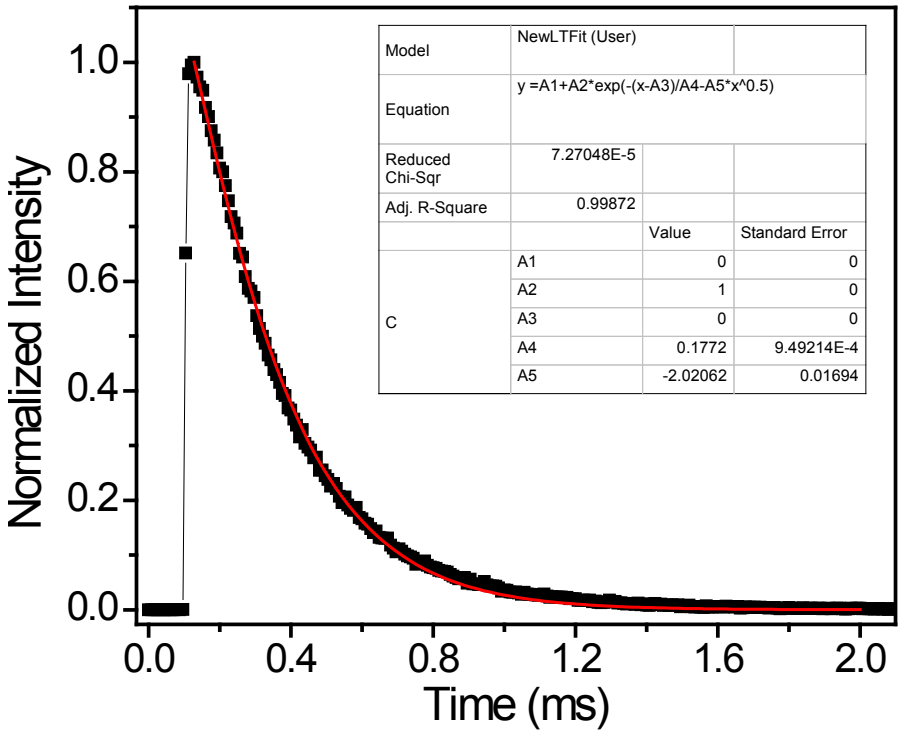

Fig. S4 Typical fitting of $YP_{0.8}V_{0.2}O_4:Dy^{3+}$ (1.5 at.%) using equation 2 in the main text.

Table S1 Luminescence decay lifetimes of Dy^{3+} (different concentrations) and VO_4^{3-} in $YP_{0.8}V_{0.2}O_4$.

Dy^{3+} (at.%) in $YP_{0.8}V_{0.2}O_4$	τ_{V-O} (μs)	R^2	τ_{Dy} (μs)	R^2
0.1	60±3	0.99	163±2	0.99
0.25	48±2	0.98	265±2	0.99
0.5	53±2	0.99	236±2	0.99
0.75	35±2	0.99	216±2	0.99
1.0	15±1	0.99	204±2	0.99
1.5	10±1	0.98	184±2	0.99
2.0	6±0.3	0.99	177±3	0.99
3.0	4±0.3	0.98	170±4	0.99