

## Structural, Optical and Special Spectral changes of Dy<sup>3+</sup> Emissions in Orthovanadates

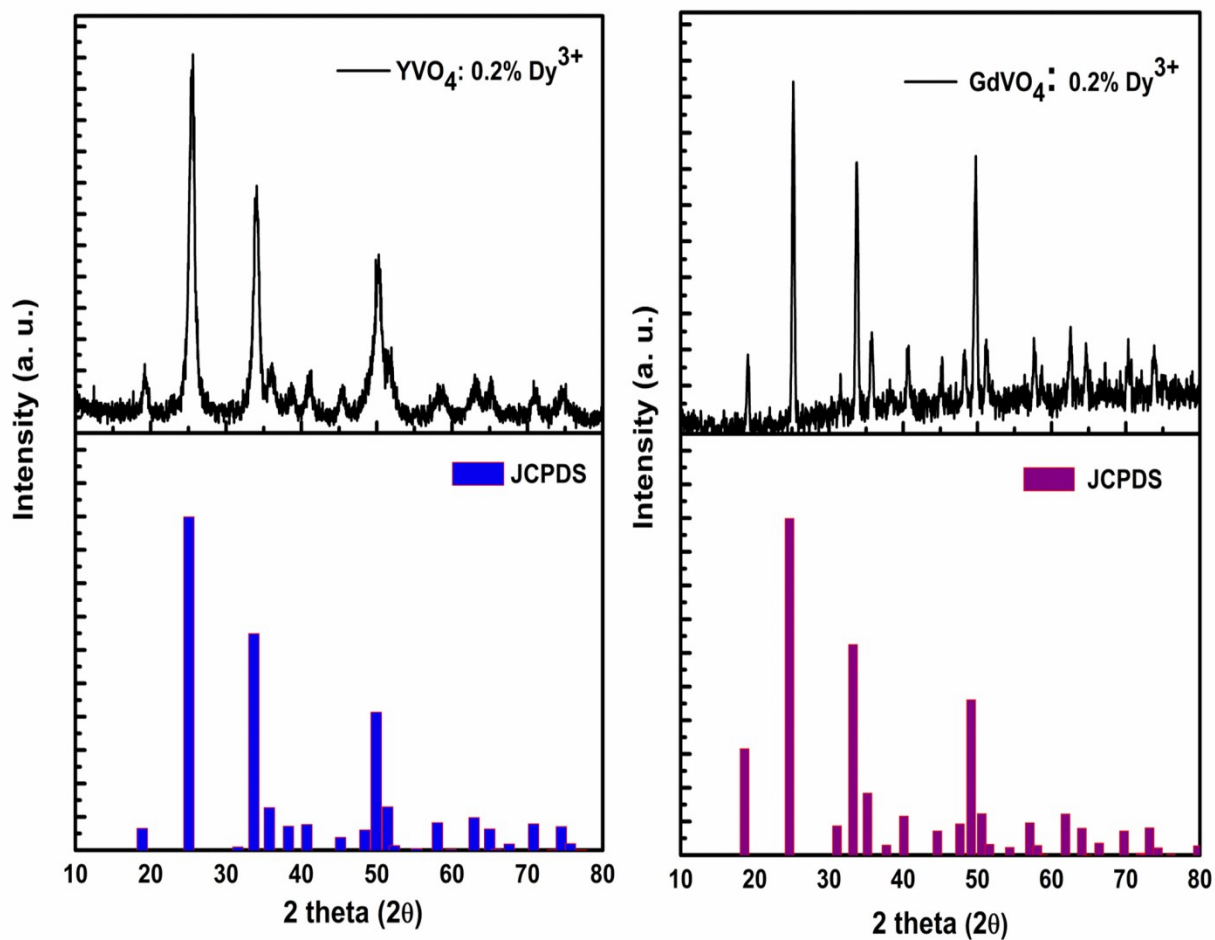
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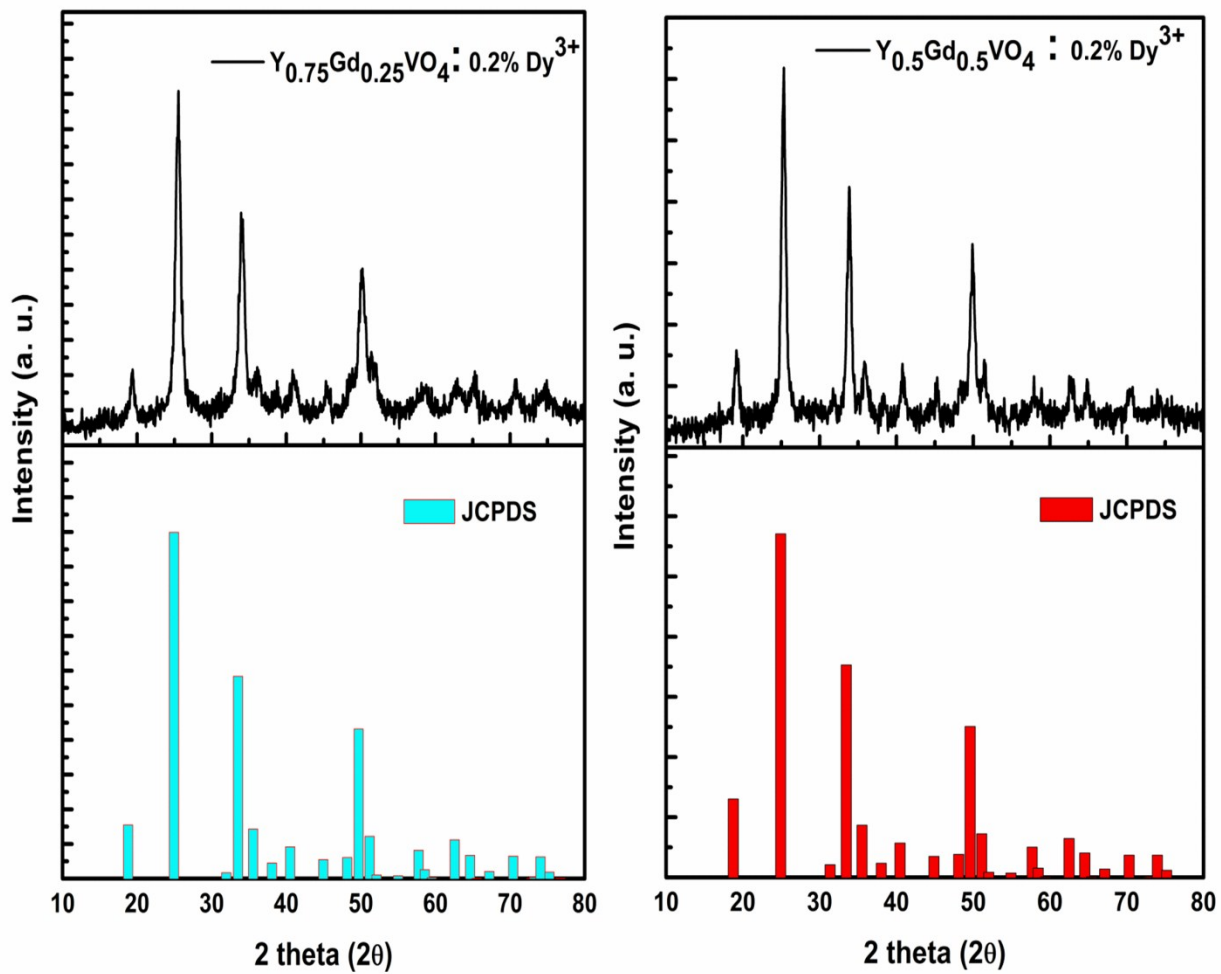
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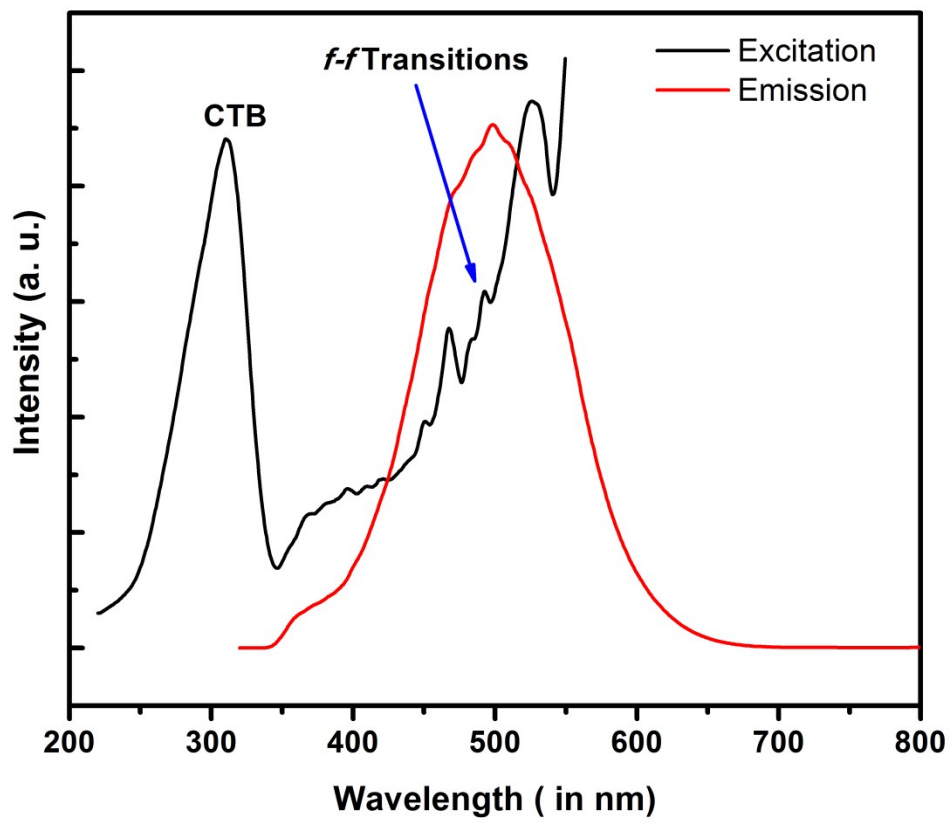
### LIST OF SUPPLEMENTARY DATA



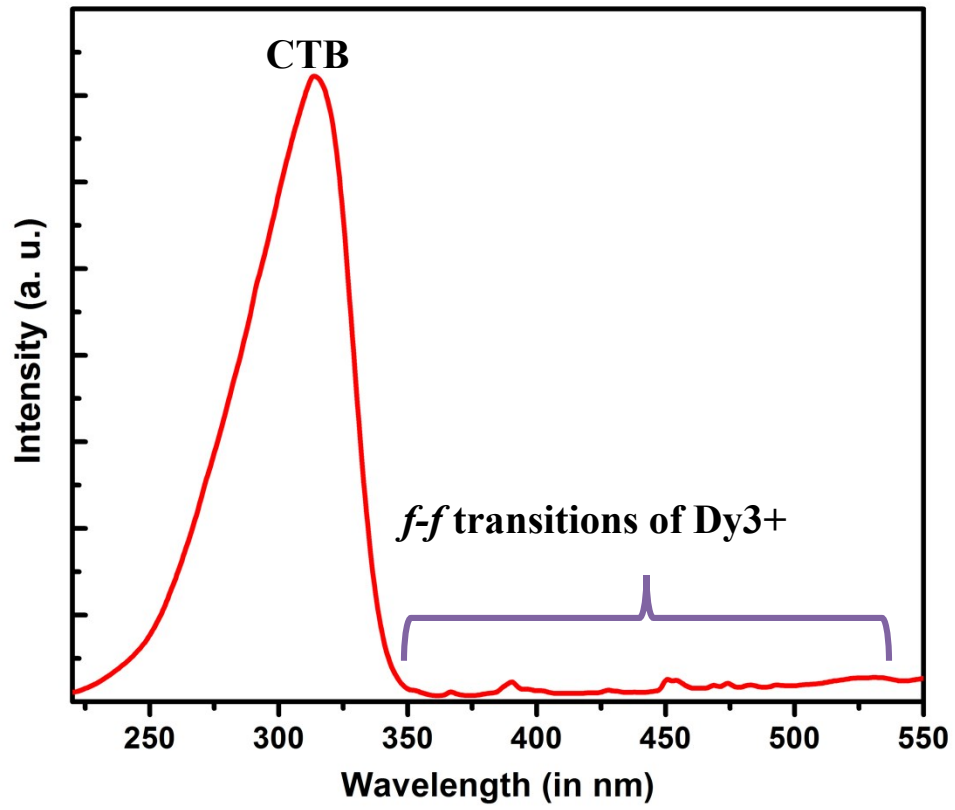
**S1:** XRD pattern of 0.2% Dy<sup>3+</sup> doped YVO<sub>4</sub> and GdVO<sub>4</sub> along with JCPDS pattern.



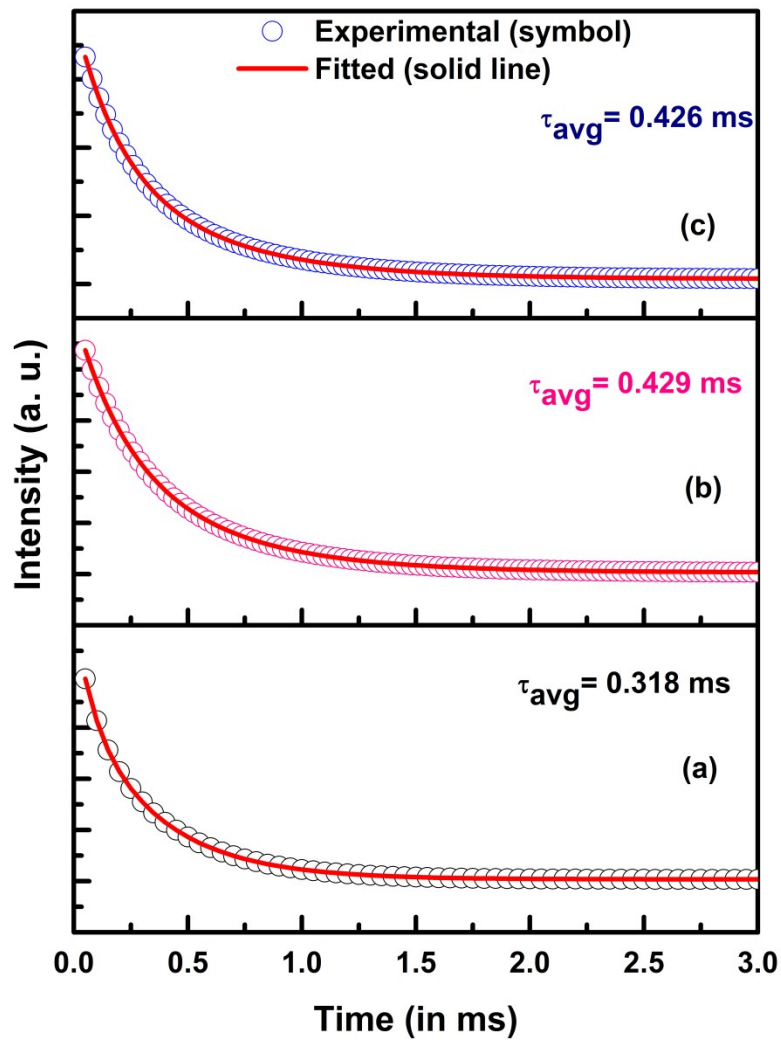
**S2:** XRD pattern of 0.2%  $\text{Dy}^{3+}$  doped  $\text{Y}_{0.75}\text{Gd}_{0.25}\text{VO}_4$  and  $\text{Y}_{0.5}\text{Gd}_{0.5}\text{VO}_4$  along with JCPDS pattern.



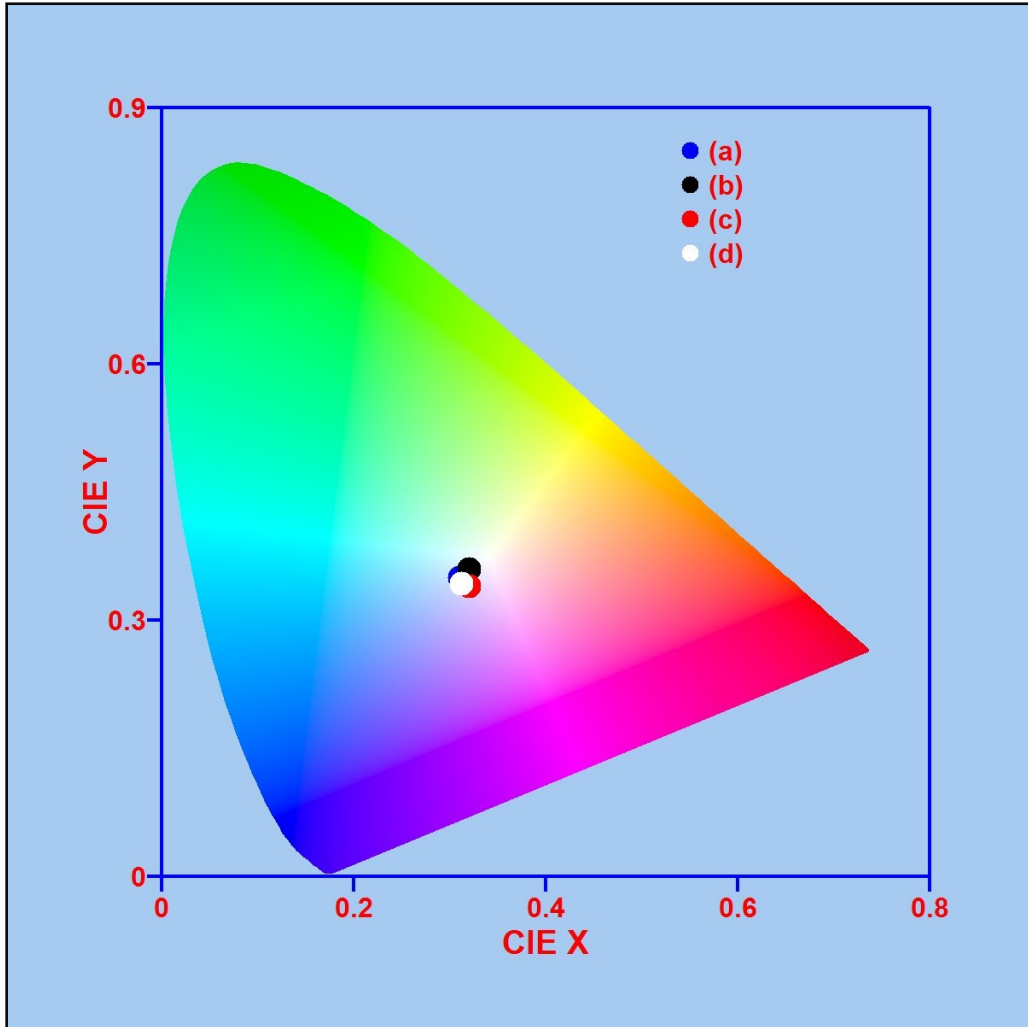
S3: Excitation spectra of  $\text{YVO}_4:0.2\% \text{Dy}^{3+}$  and emission spectra of  $\text{YVO}_4$ .



S4: Excitation spectra of  $\text{Y}_{0.25}\text{Gd}_{0.75}\text{VO}_4: 0.2\% \text{Dy}^{3+}$ .



**S5:** Luminescence decay curve of 0.2% Dy<sup>3+</sup> doped (a) YVO<sub>4</sub> (b) Y<sub>0.25</sub>Gd<sub>0.75</sub>VO<sub>4</sub> & (c) GdVO<sub>4</sub>.



**S6:** CIE diagram of 0.2% Dy<sup>3+</sup> doped Y<sub>0.25</sub>Gd<sub>0.75</sub>VO<sub>4</sub> annealed at (a) 500 °C (b) 600 °C (c) 700 °C (d) 800 °C.

**S7:** CIE co-ordinates and CCT values.

$\text{Y}_{0.25}\text{Gd}_{0.75}\text{VO}_4 : 0.2\%$			
$\text{Dy}^{3+}$ annealed at	x -Coordinate	y-coordinate	CCT (in K)
500 °C	0.31	0.35	6493
600 °C	0.32	0.36	6007
700 °C	0.32	0.34	6072
800 °C	0.31	0.34	6563