

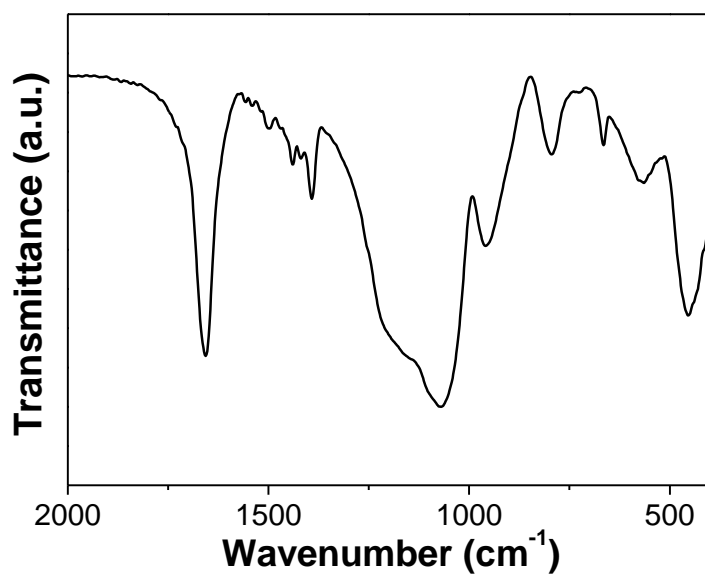
## Supporting information

### **Visible-light sensitized sol-gel-based lanthanide complexes (Sm, Yb, Nd, Er, Pr, Ho, Tm): microstructure, photoluminescence study, and thermostability**

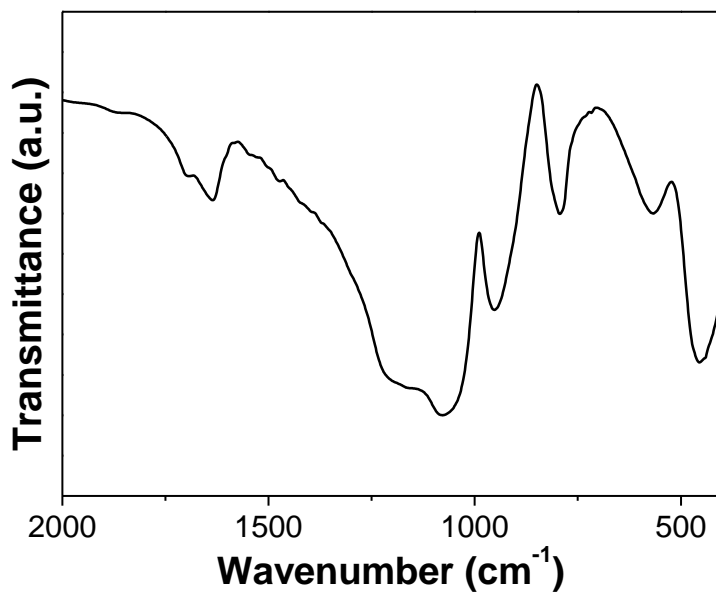
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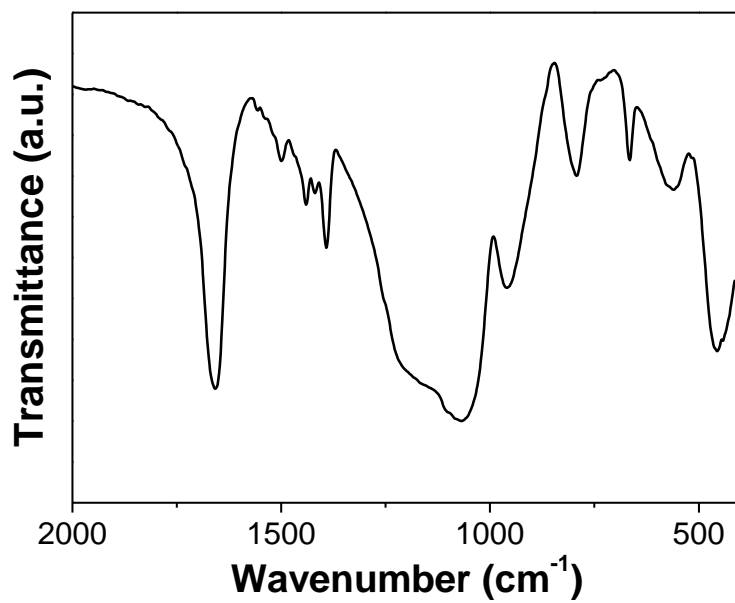
<sup>b</sup> *Key Laboratory of Luminescence and Optical Information Ministry of Education, Institute of Optoelectronic Technology, Beijing Jiaotong University, Beijing 100044, P. R. China*



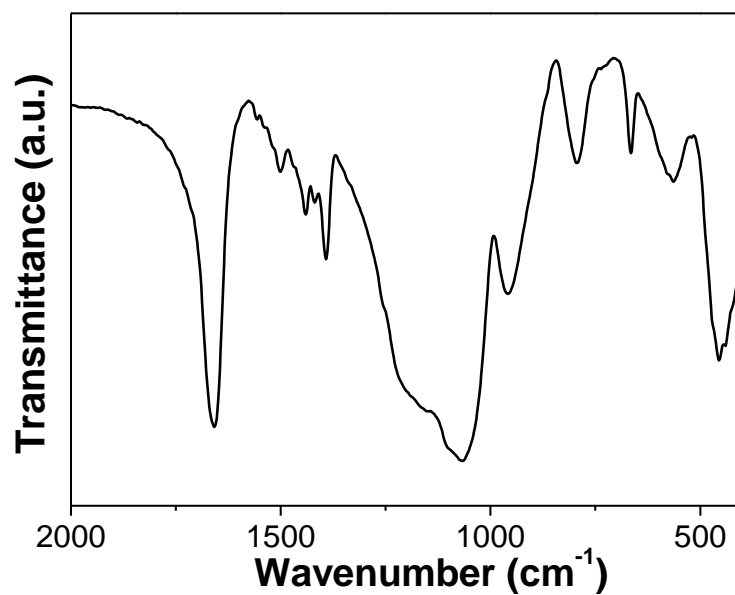
**Figure S1.** FT-IR spectrum of Sm-N-P-Gel.



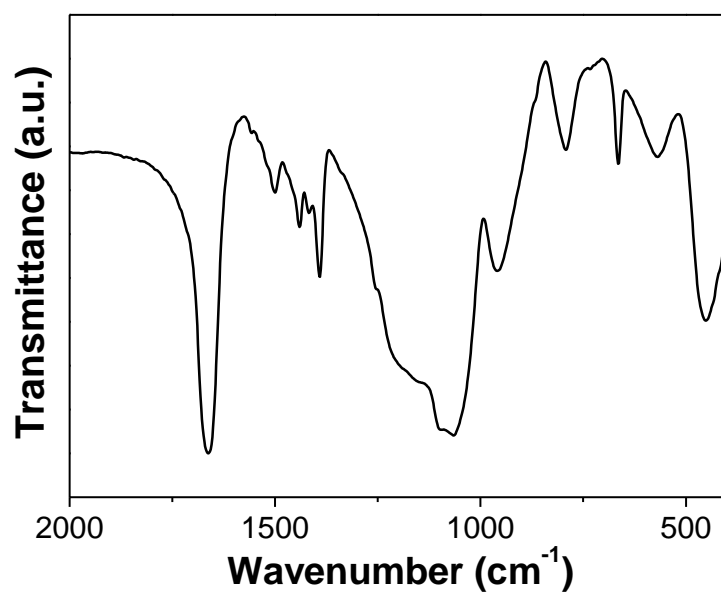
**Figure S2.** FT-IR spectrum of Yb-N-P-Gel.



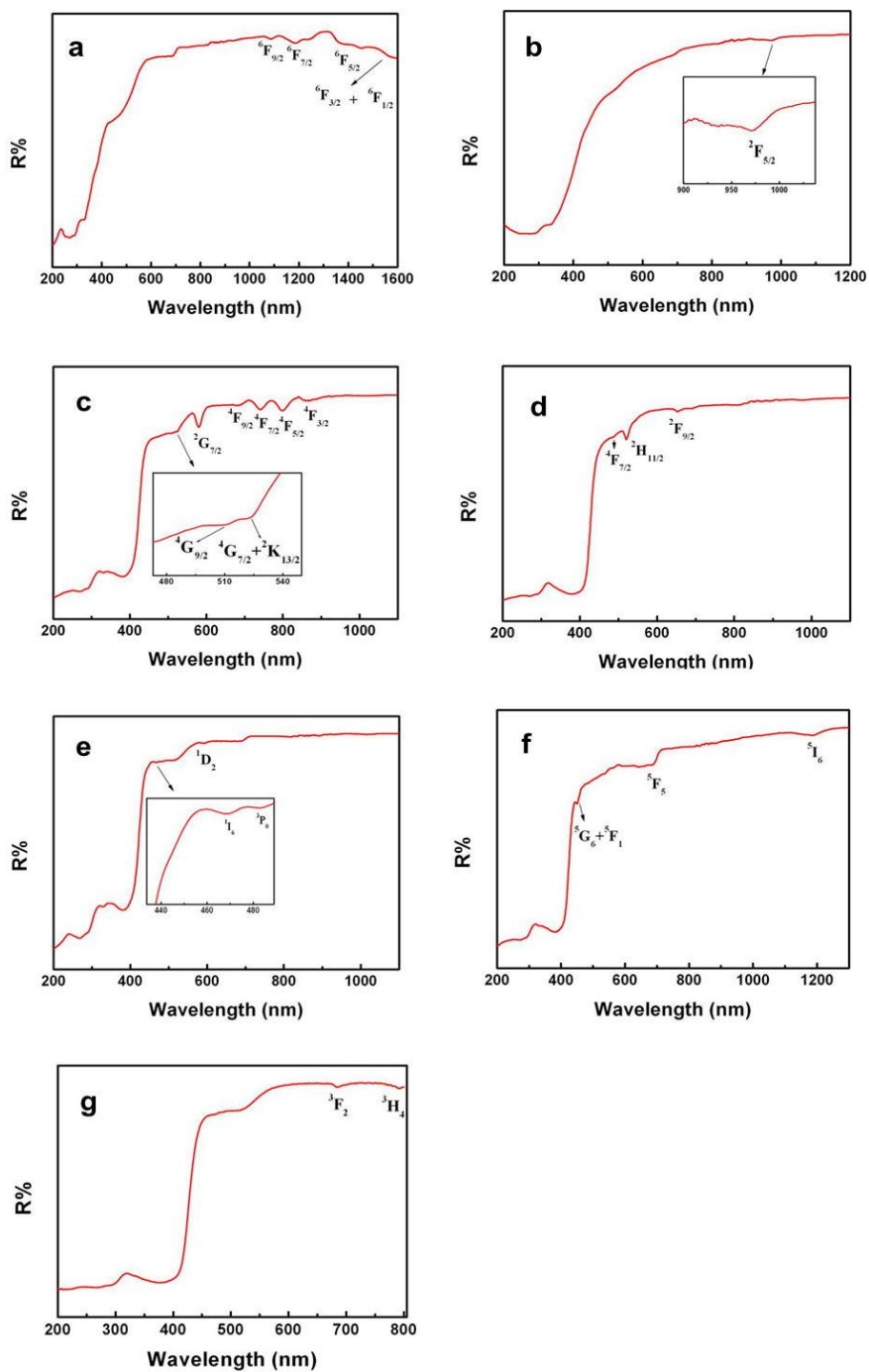
**Figure S3.** FT-IR spectrum of Nd-N-P-Gel.



**Figure S4.** FT-IR spectrum of Ho-N-P-Gel.



**Figure S5.** FT-IR spectrum of Tm-N-P-Gel.



**Figure S6.** DR spectra of (a) Sm-N-P-Gel, (b) Yb-N-P-Gel, (c) Nd-N-P-Gel (d) Er-N-P-Gel, (e) Pr-N-P-Gel (f) Ho-N-P-Gel and (g) Tm-N-P-Gel.

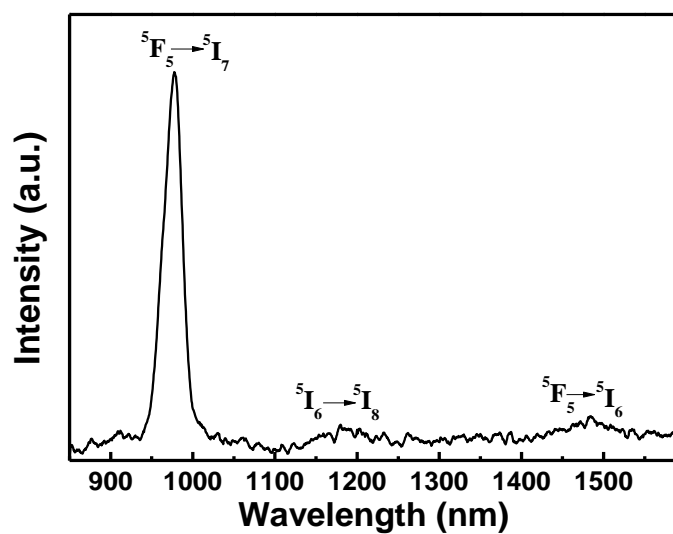


Figure S7. Emission ( $\lambda_{\text{ex}} = 401$  nm) spectrum for the Ho-N-P-Gel material.

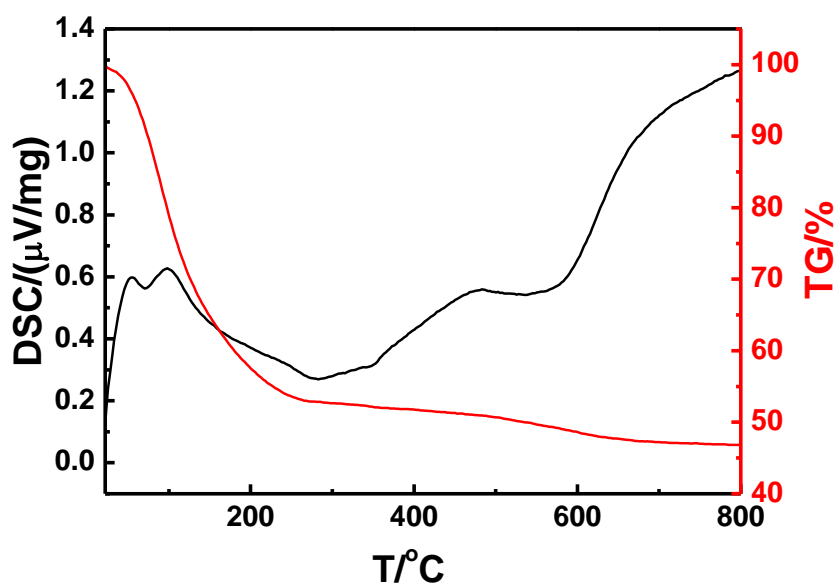


Figure S8. The TG and DSC curves of Sm-N-P-Gel material.

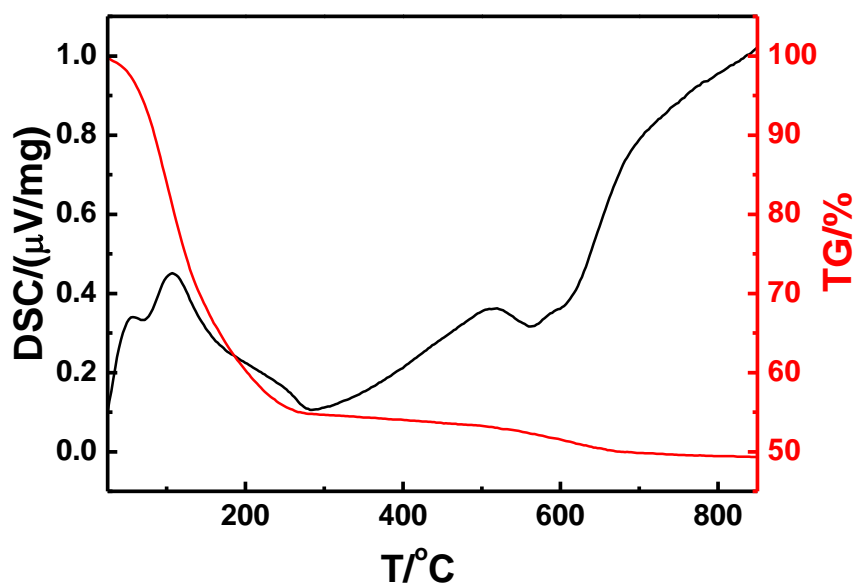


Figure S9. The TG and DSC curves of Yb-N-P-Gel material.

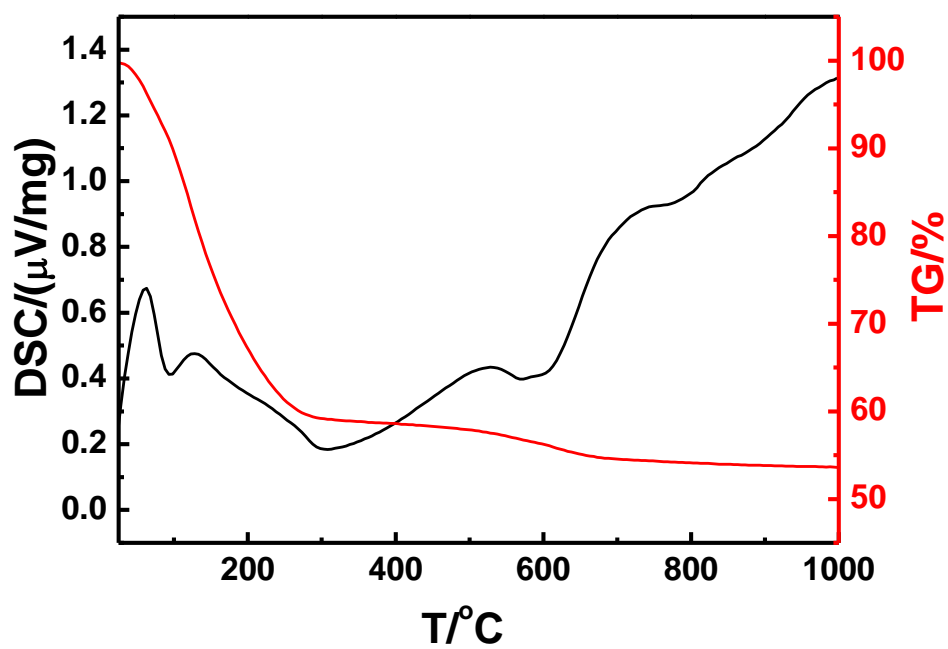


Figure S10. The TG and DSC curves of Er-N-P-Gel material.

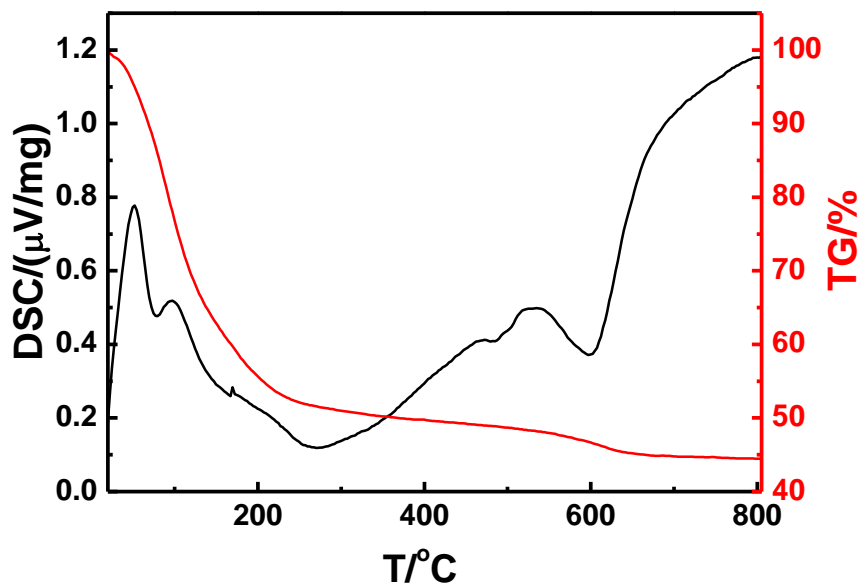


Figure S11. The TG and DSC curves of Pr-N-P-Gel material.

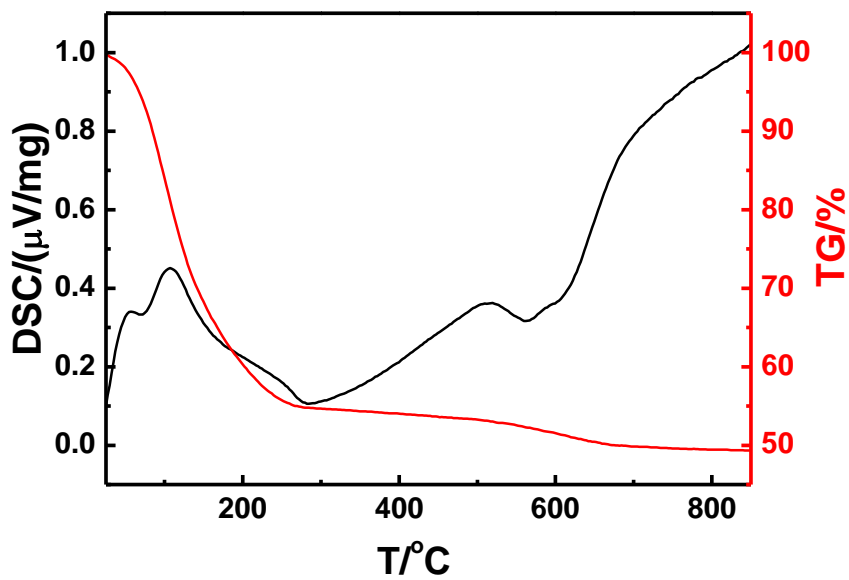
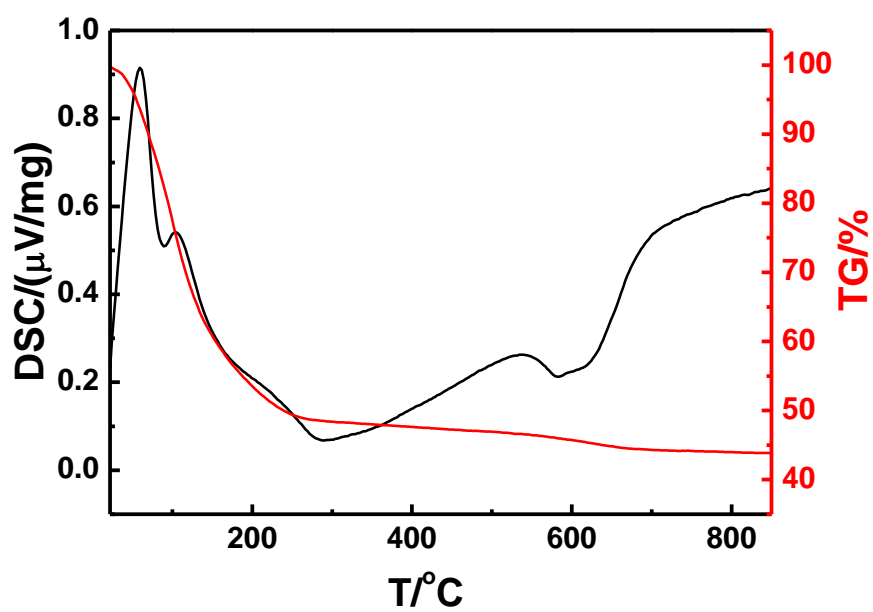


Figure S12. The TG and DSC curves of Ho-N-P-Gel material.





**Figure S13.** The TG and DSC curves of Tm-N-P-Gel material.