

Supplementary Materials

Article

# Oxygen-Sensitive Photo- and Radioluminescent Polyurethane Nanoparticles Modified with Octahedral Iodide Tungsten Clusters

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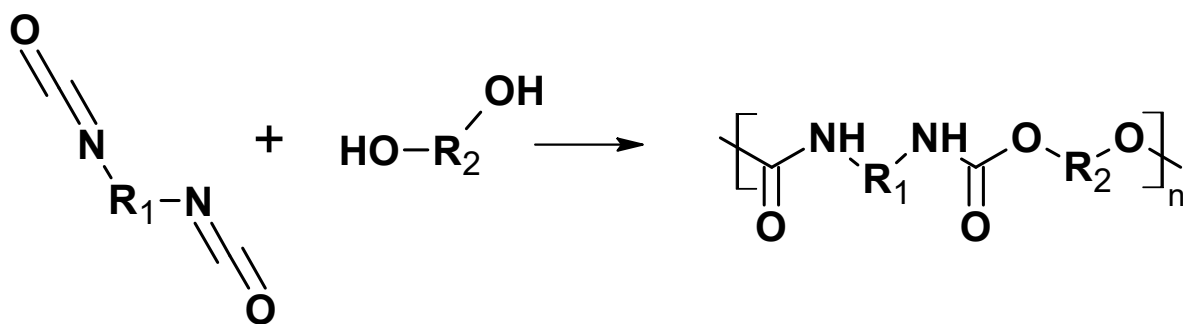


Figure S1. Scheme of polyurethane polymerisation.

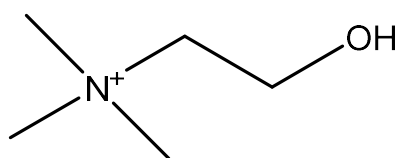


Figure S2. Structure representation of choline.

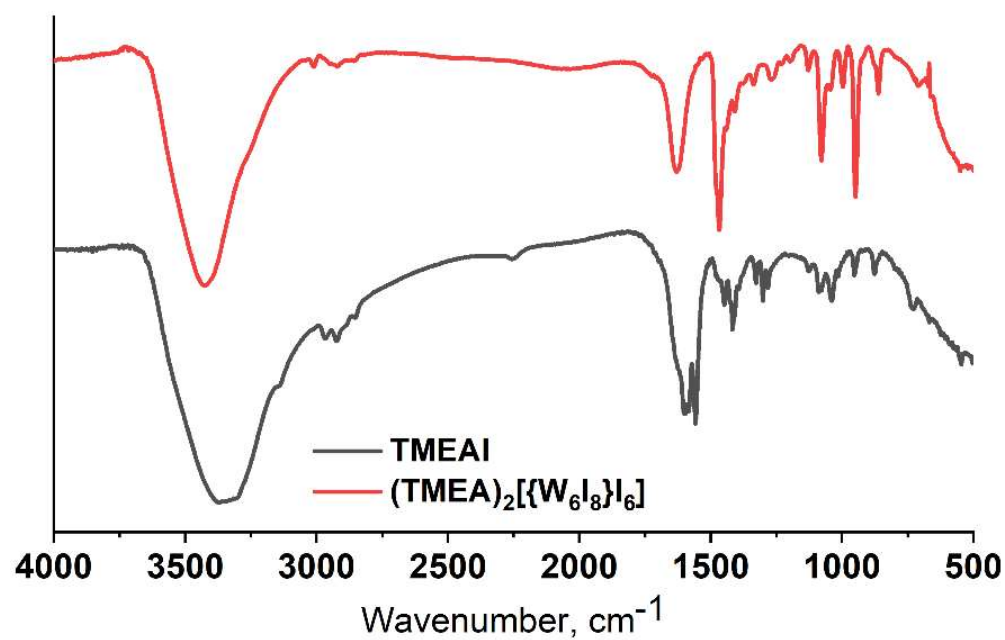


Figure S3. IR spectra for TMEAI and cluster 1.

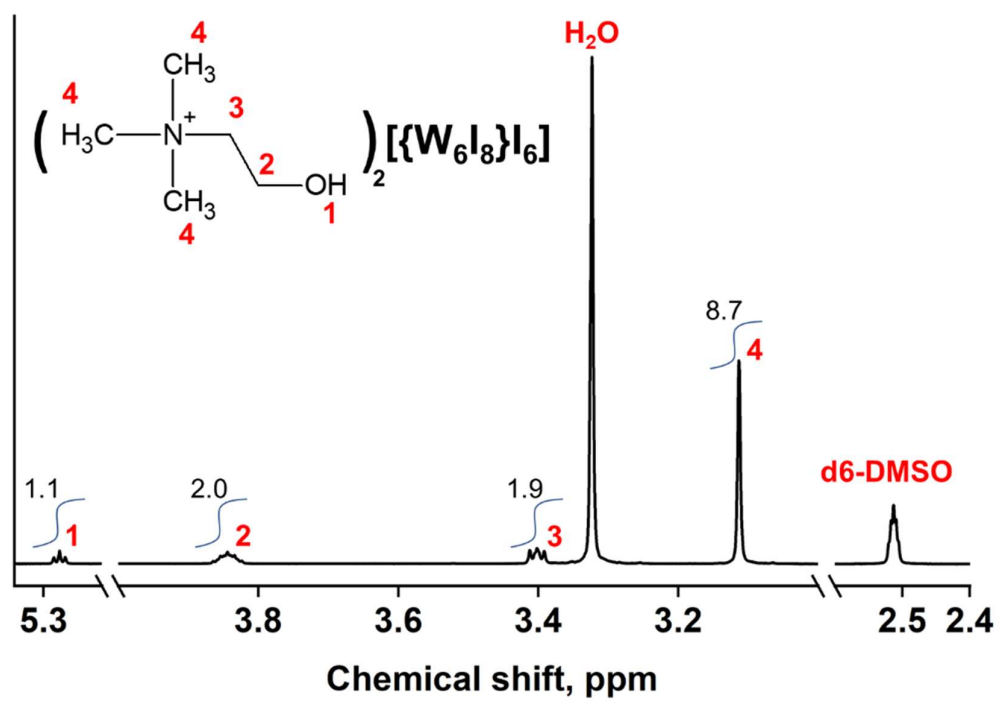


Figure S4.  $^1\text{H}$ -NMR spectra for  $(\text{TMEA})_2[\{\text{W}_6\text{I}_8\}\text{I}_6]$ .

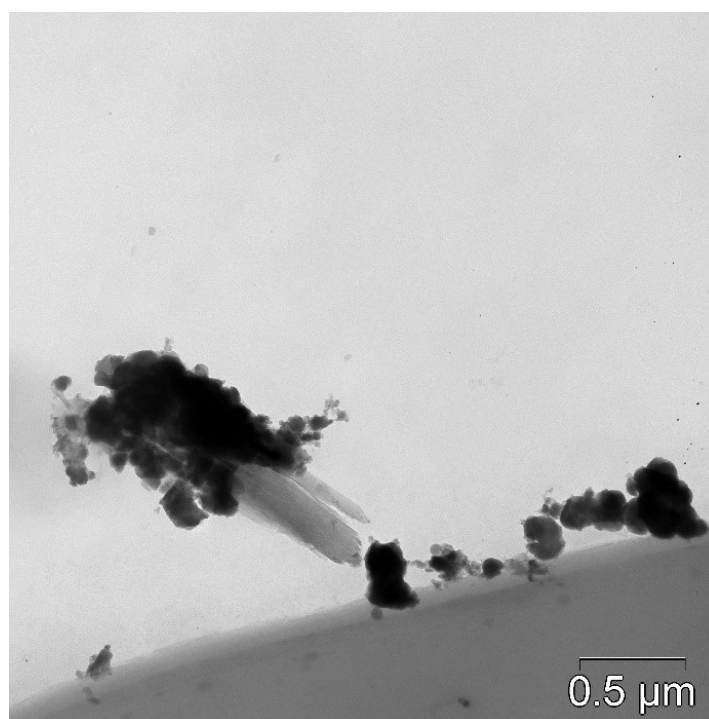


Figure S5. TEM picture of  $1^{\text{I}}$ @pU.

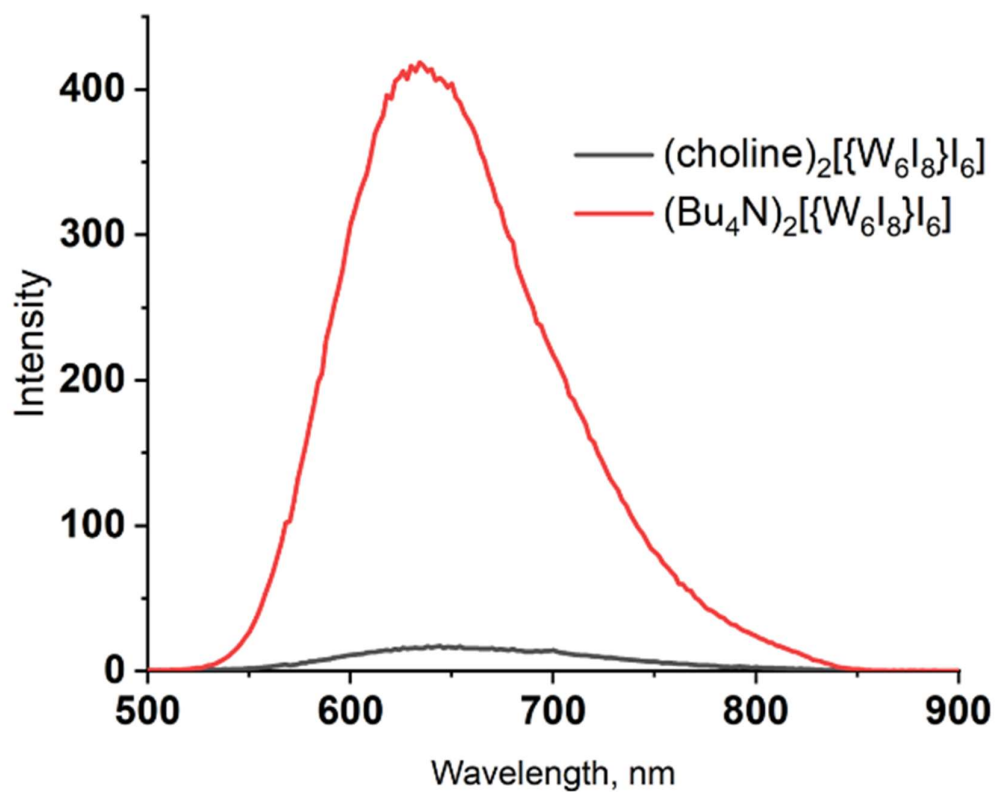


Figure S6. Comparison of luminescence spectra of tungsten clusters (choline)<sub>2</sub>[(W<sub>6</sub>I<sub>8</sub>)I<sub>6</sub>] and (Bu<sub>4</sub>N)<sub>2</sub>[(W<sub>6</sub>I<sub>8</sub>)I<sub>6</sub>] in solid state,  $\lambda_{\text{ex}} = 350 \text{ nm}$ ,  $5 \times 5$ .

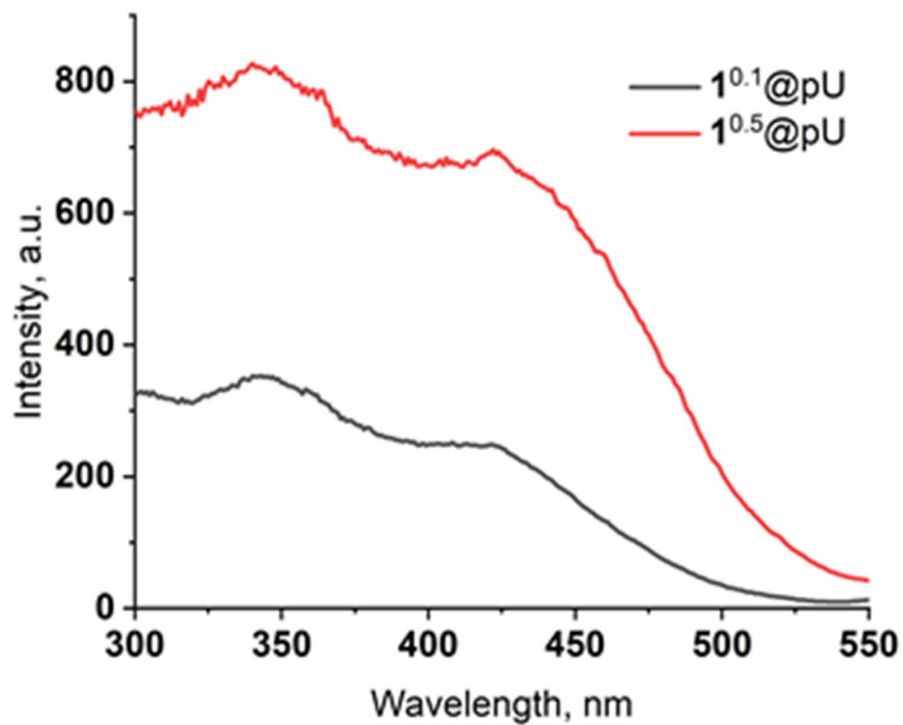
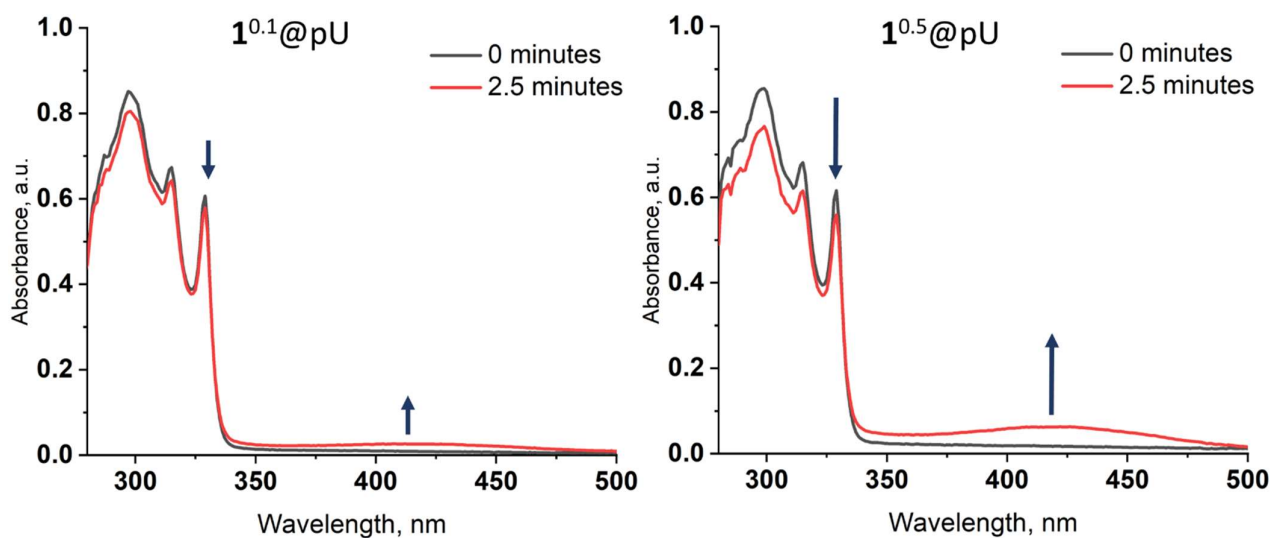
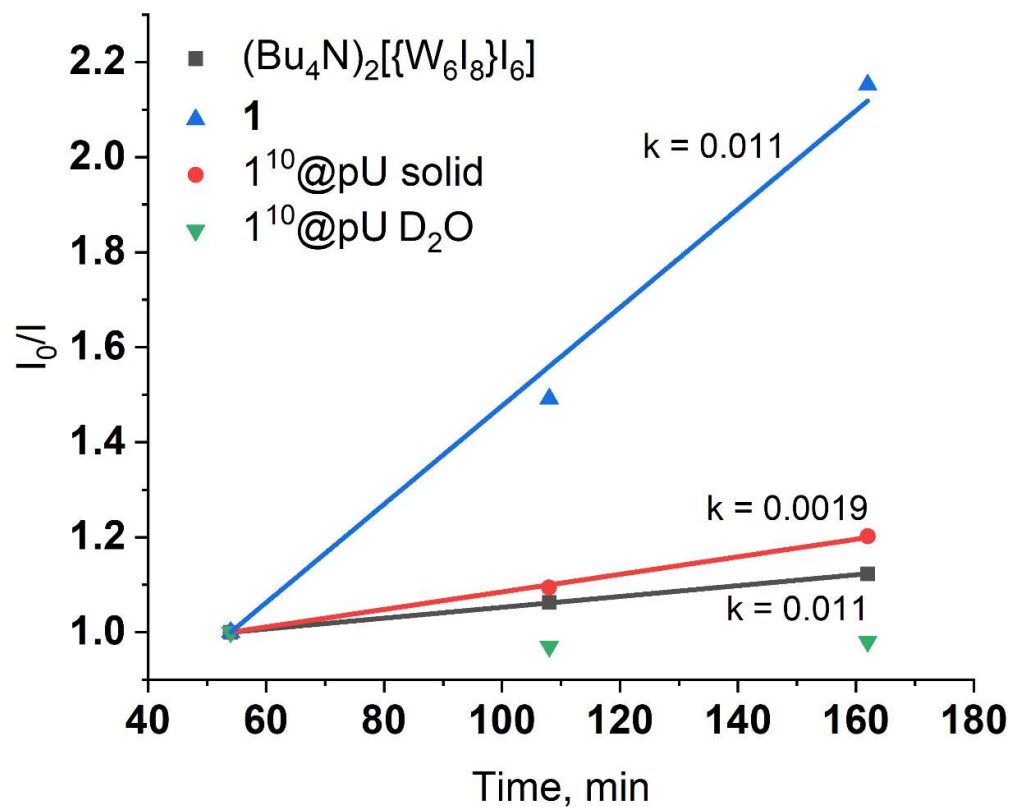


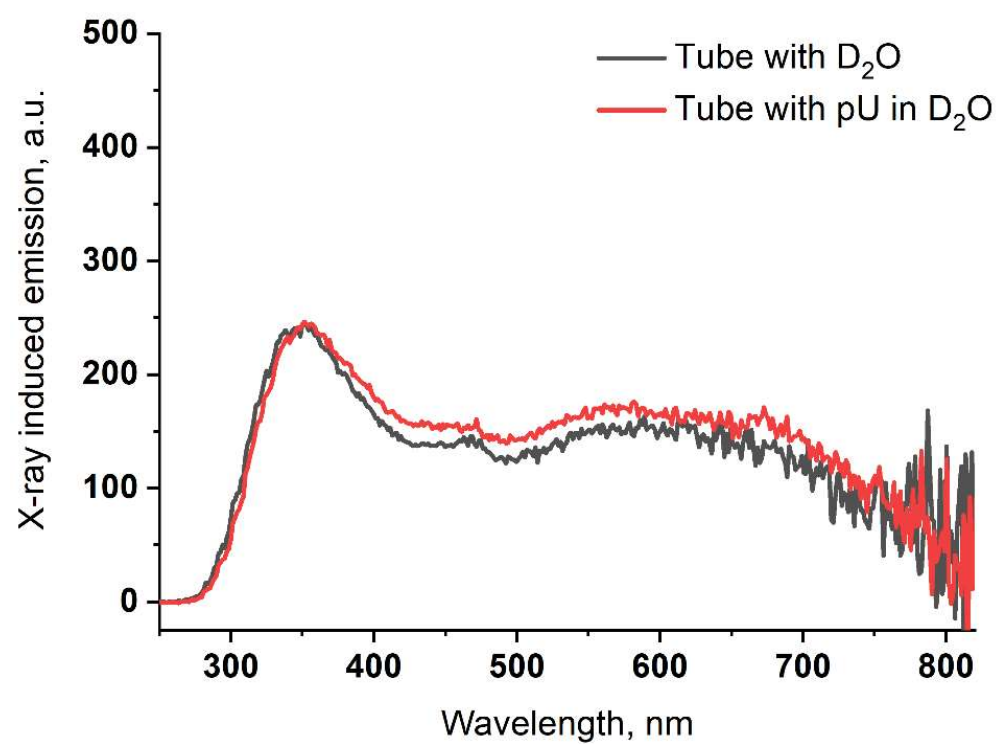
Figure S7. Excitation spectra for  $1^{0.1}@pU$  and  $1^{0.5}@pU$  in solid state,  $\lambda_{\text{em}} = 645 \text{ nm}$ .



**Figure S8.** Characteristic UV-vis spectra of aqueous solutions (20 mL) of DHN (0.1 mM) in the presence of particles ( $0.05 \text{ mg mL}^{-1}$ )  $1^{0.1}@pU$  and  $1^{0.5}@pU$  before and after white light irradiation.



**Figure S9.**  $I_0/I$  vs irradiation time for XEOL spectra of molybdenum glass tube with  $\text{D}_2\text{O}$  and neat pU dispersion in  $\text{D}_2\text{O}$ .



**Figure S10.** XEOL spectra of molybdenum glass tube with D<sub>2</sub>O and neat pU dispersion in D<sub>2</sub>O.