

## Supporting information

### **Rapid room-temperature preparation of $\text{MoO}_{3-x}$ quantum dots by ultraviolet irradiation for photothermal treatment and glucose detection**

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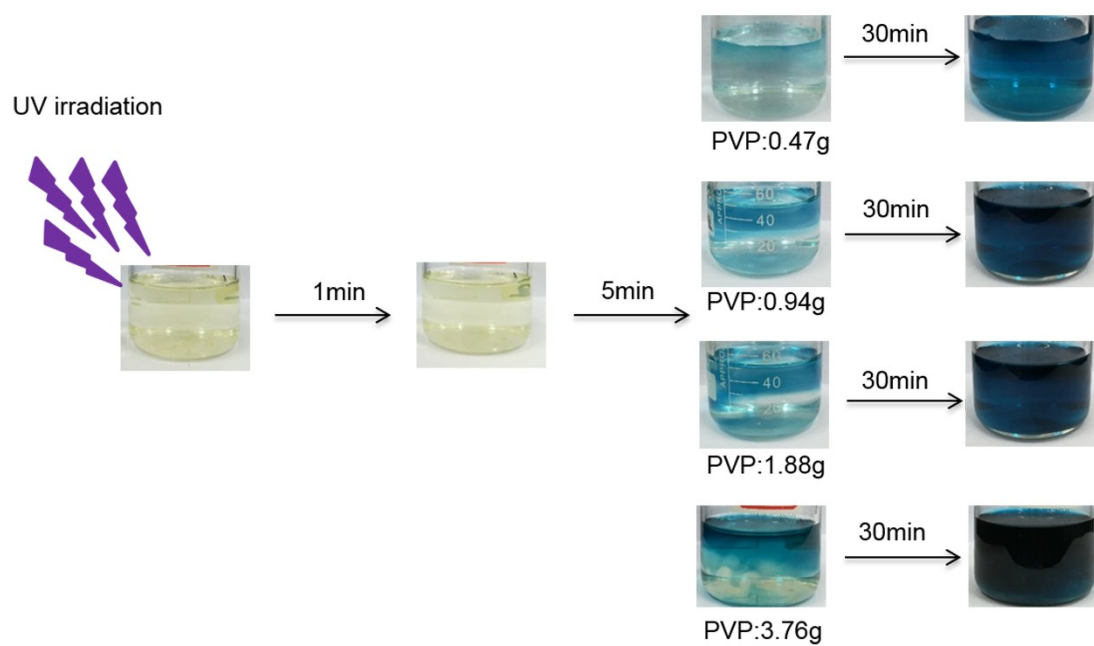
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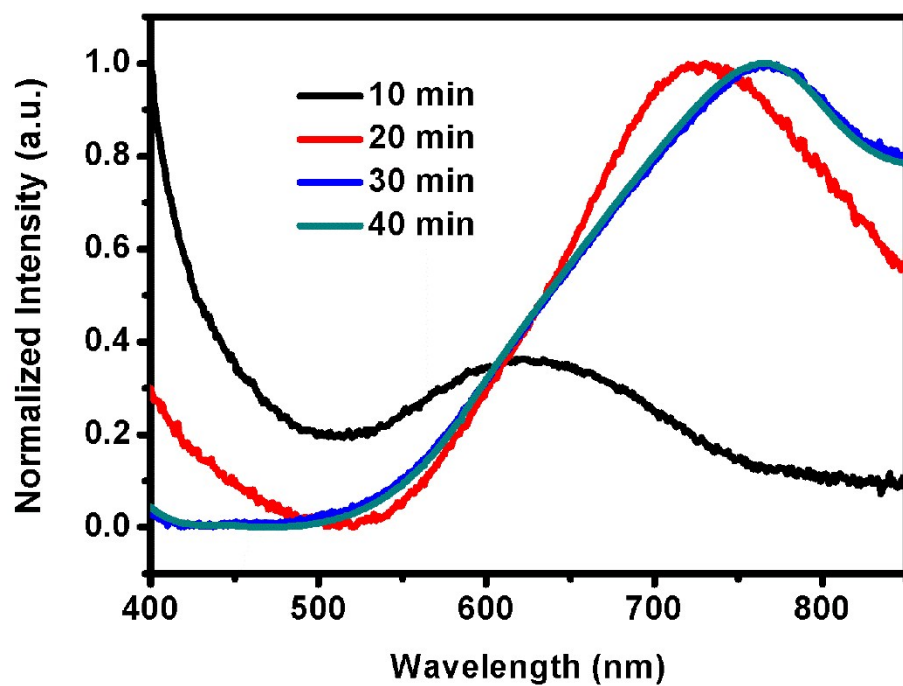
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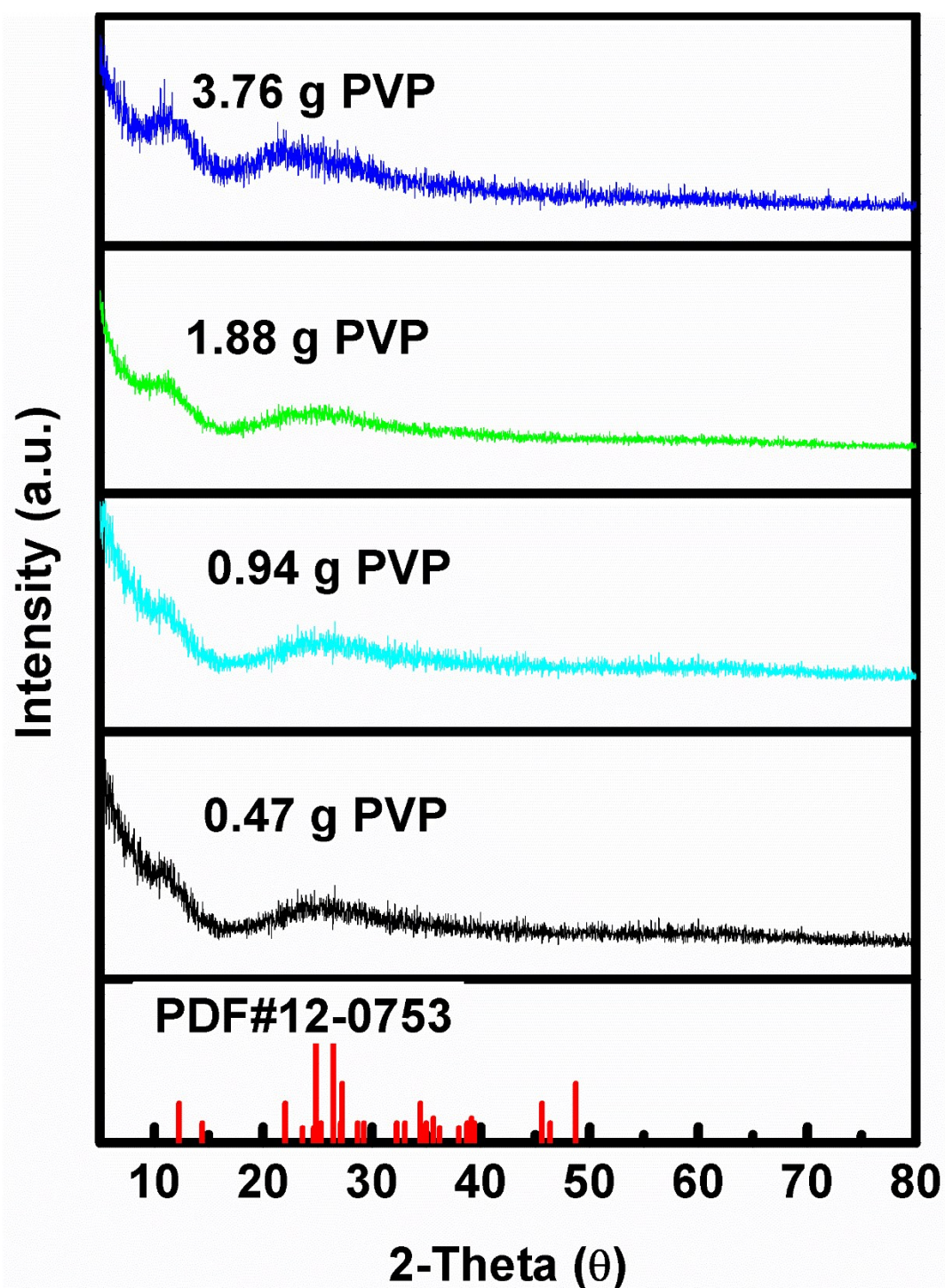
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**Fig. S1** The change in color of products formed under UV lamp in different time with different amount of PVP.



**Fig. S2** UV-vis absorbance spectra of  $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}$  react with PVP for different time.



**Fig. S3** XRD pattern of as-prepared  $\text{MoO}_{3-x}$  QDs sample, of which standard PDF card for JCPDs no. 12-0753.

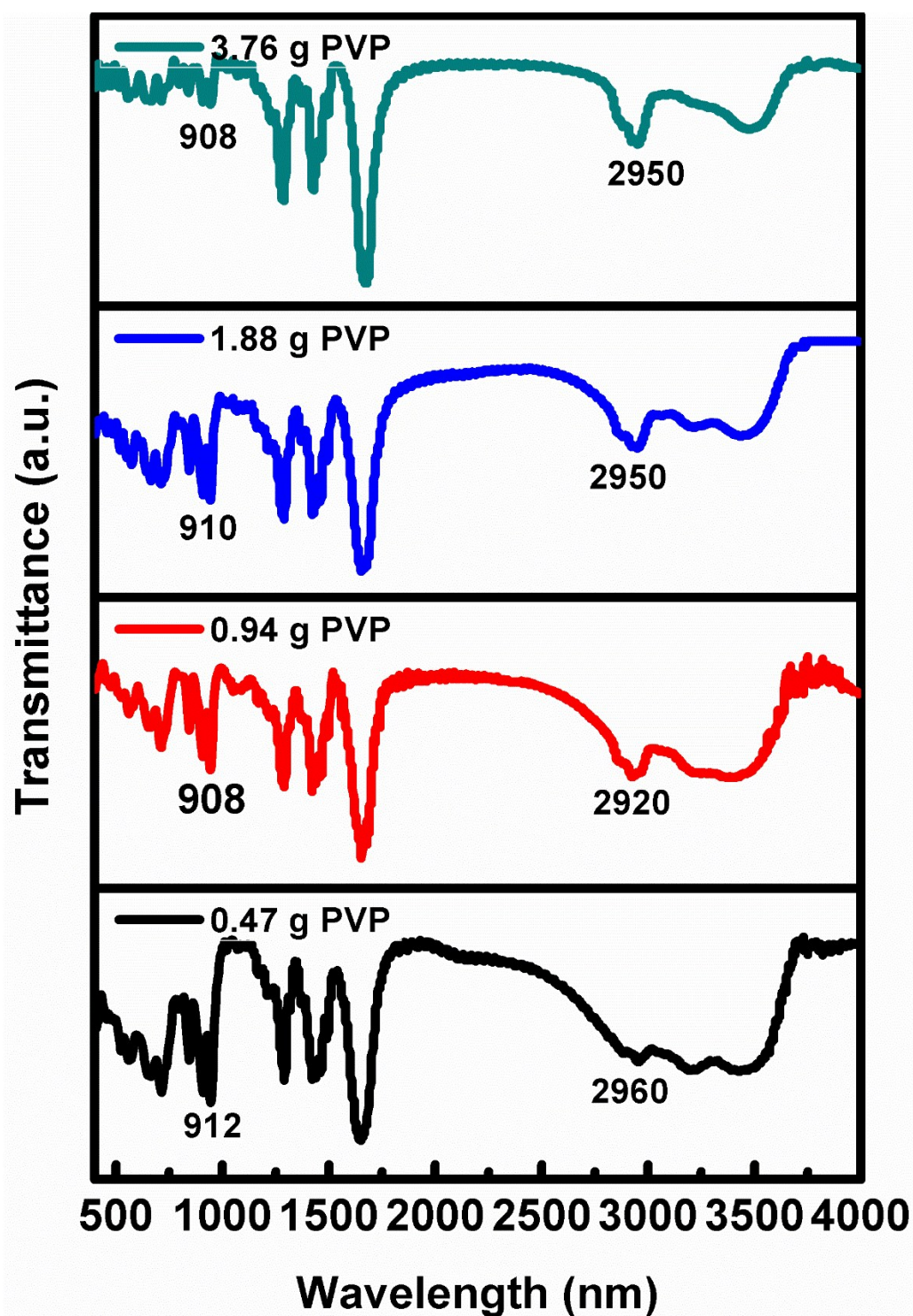


Fig. S4 FT-IR spectrum with different amount of PVP.



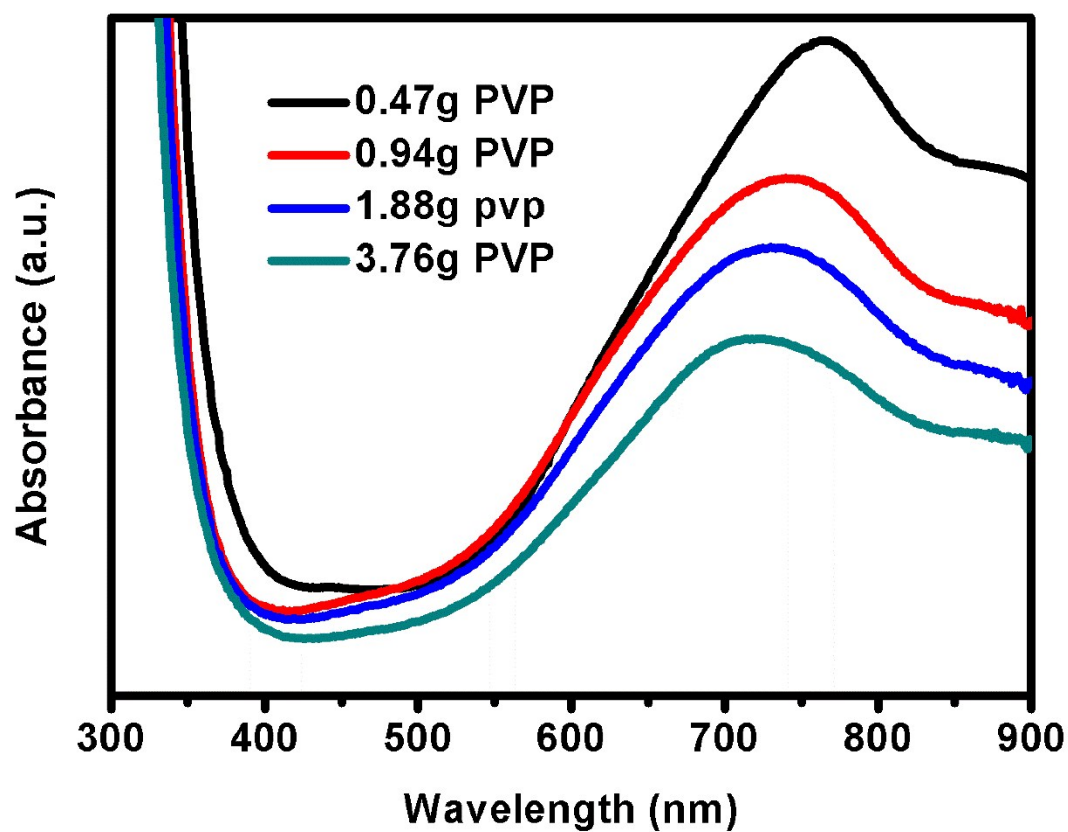


Fig. S5 UV-vis absorption spectra of  $\text{MoO}_{3-x}$  QDs with different amount of PVP.

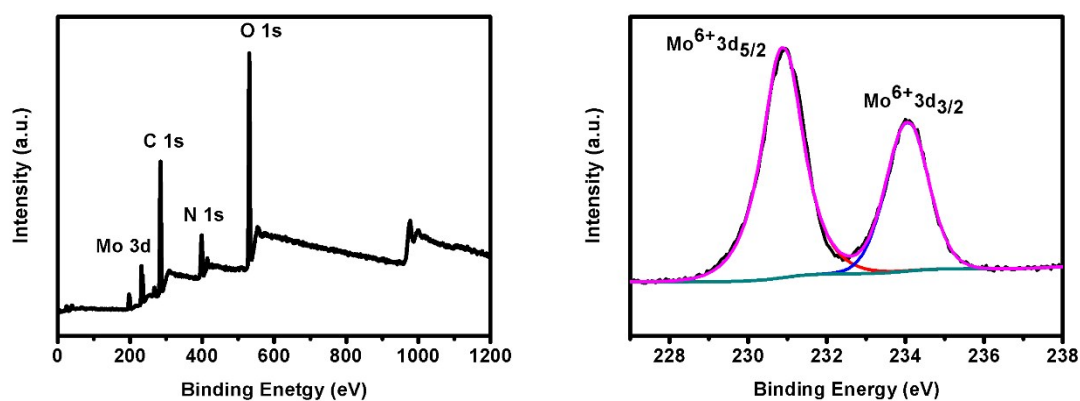


Fig. S6 XPS spectrum after the glucose concentration detection. (a) The full range of XPS spectra. (b) Mo3d spectrum shows that the valence state of Mo ion is +6.