

**In situ formation of NbO<sub>x</sub>/NbN microcomposite: seeking potential in  
photocatalytic and electrochemical applications**

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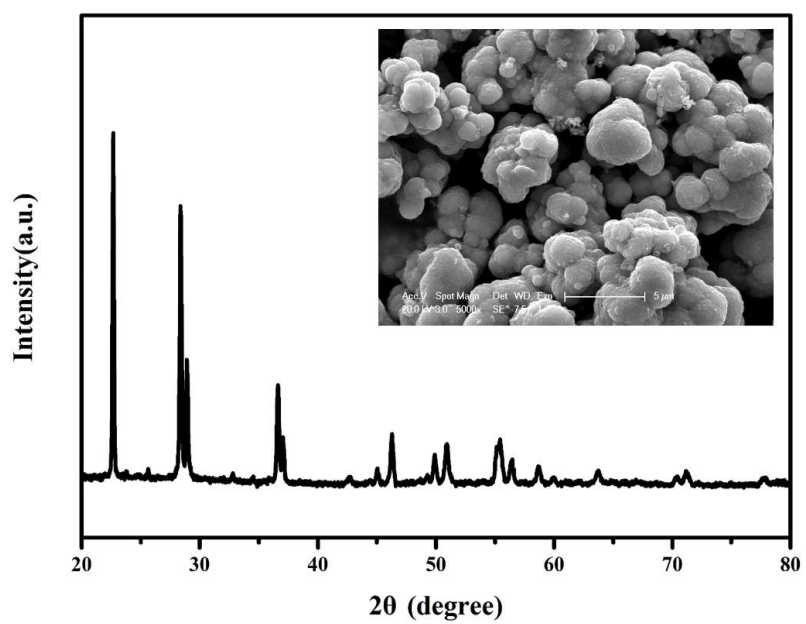
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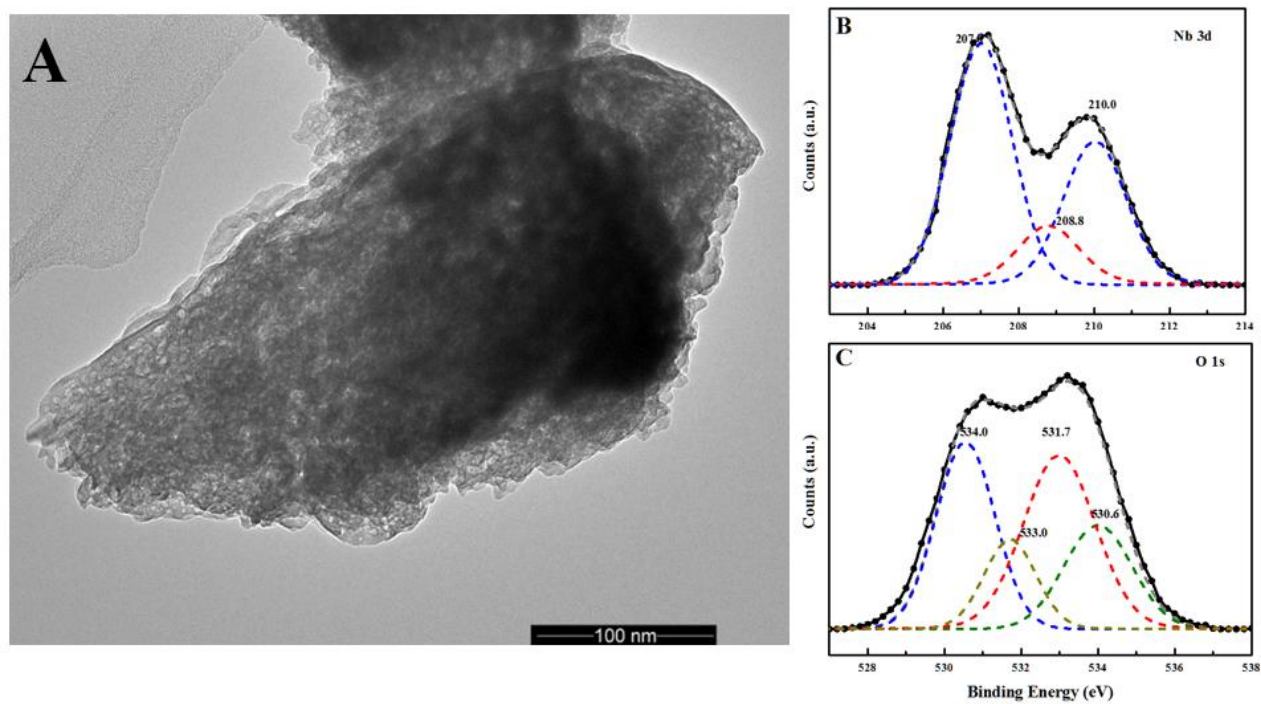
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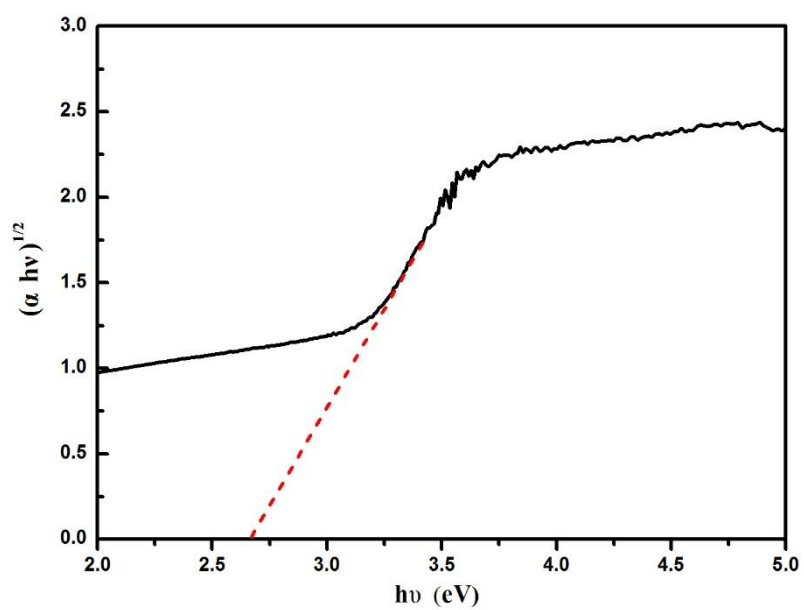
## Electronic Supplementary Information



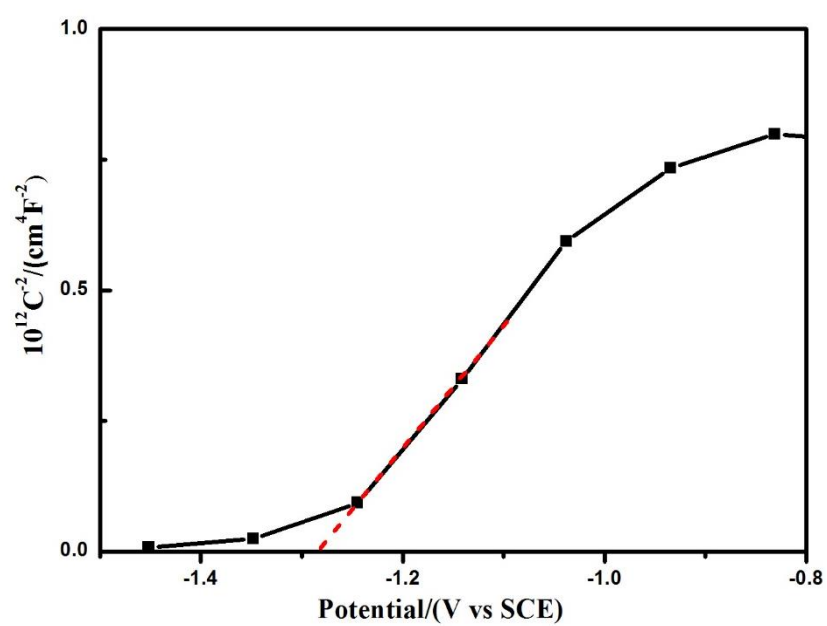
**Figure S1.** XRD patterns and SEM image of commercial Nb<sub>2</sub>O<sub>5</sub> powders.



**Figure S2.** TEM and XPS results of the NbO<sub>x</sub>@NbN-3 photocatalyst after 60 hours' photoreaction in methanol solution under 500W Xe irradiation.



**Figure S3.** Tauc plot of  $(\alpha h\nu)^{1/2}$  versus  $h\nu$  for NbO<sub>x</sub>@NbN-3 sample.



**Figure S4.** Mott-Schottky curve of NbO<sub>x</sub>@NbN-3 coated electrode.