Electronic Supplementary Material (ESI) for New Journal of Chemistry.


**Supporting information**

# Controlled Design of PtPd Nanodendrites Ornamented Niobium Oxynitride Nanosheets for Solar-Driven Water Splitting

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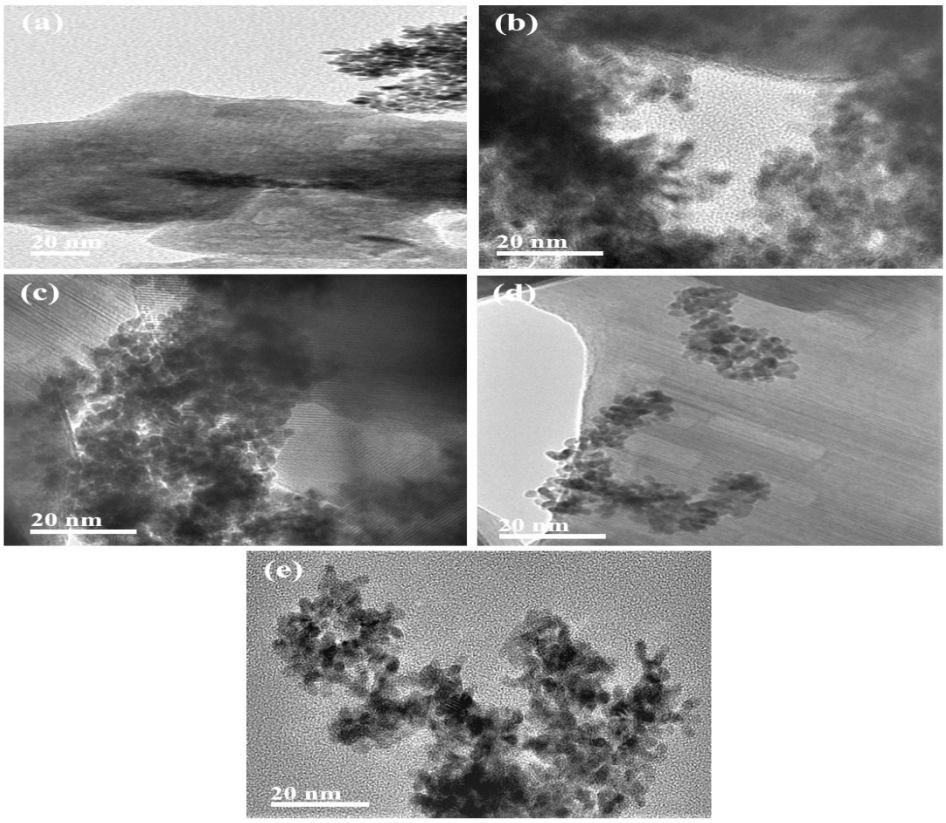


**Fig. S1**. (a) TEM image of PtPd/NbON prepared in the absence of ultrasonic irradiation, (b) using AA (0.05 M), (c) without Pluronic F127, (d) using 1mg of Pluronic F127, and (e) PtPd NDs obtained in the absence of NbON.

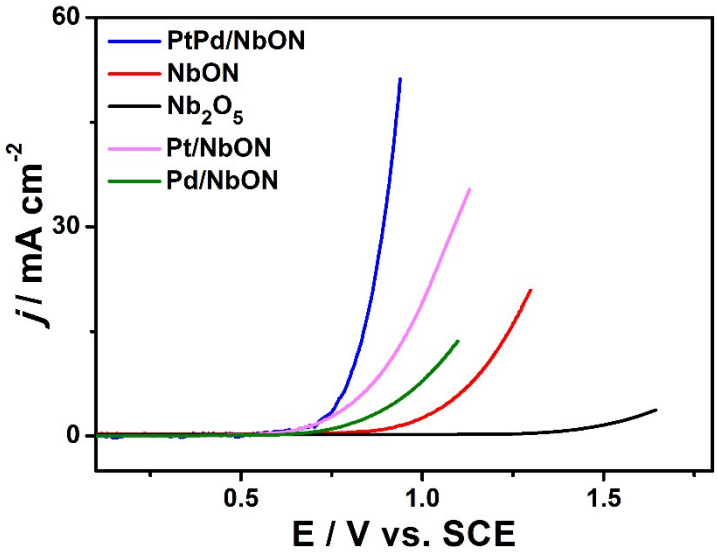


**Fig. S2.** LSV of OER on different catalysts measured in an aqueous solution of 0.1 M KOH at a scan rate of 10 mV $s^{-1}$ at room temperature.

**Table S1.** Equivalent circuit parameters of different photoanodes in 0.1 M KOH.

| | $R_{soln}$ (Ω) | $R_1$ (kΩ) | $Y_1$ | $\alpha_1$ | $R_2$ (kΩ) | $Y_2$ | $\alpha_2$ |
|---|---|---|---|---|---|---|---|
| **$Nb_2O_5$** | 11.27 | 2.266 | 7.79 | 0.934 | 1.548 | 41.3 | 0.917 |
| **NbON** | 9.31 | 0.617 | 23.14 | 0.929 | 0.173 | 793.6 | 0.861 |
| **PtPd/NbON** | 8.85 | 0.041 | 468.3 | 0.959 | 0.082 | 884.4 | 0.915 |

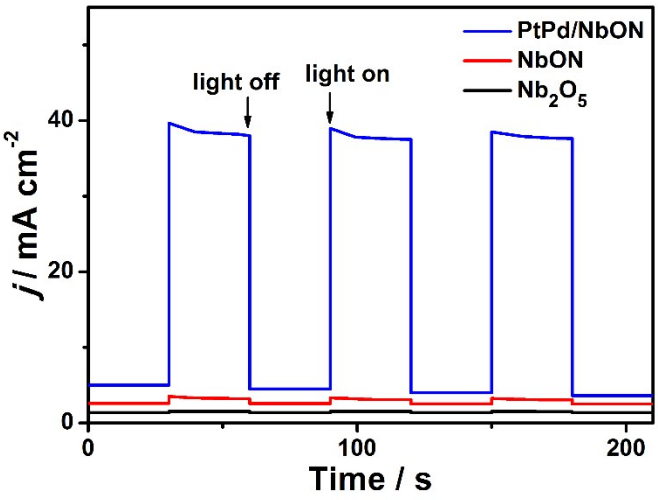


**Fig. S3** Transient photocurrent (J-t) measured for 200 s at a constant external bias of 0.58 V vs. SCE.