Electronic Supplementary Material

Iron Phosphorus Trichalcogenide Ultrathin Nanosheets: Enhance Photoelectrochemical Activity under Visible-light Irradiation

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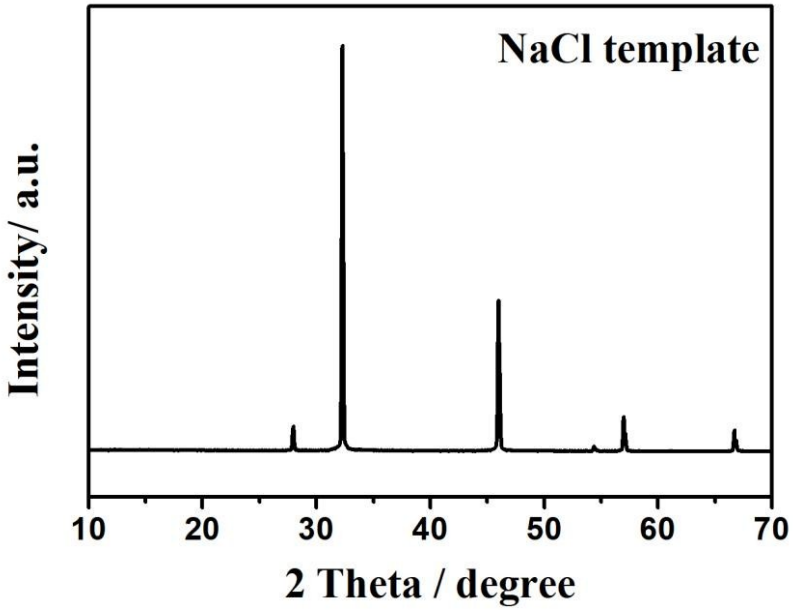

Figure S1. XRD pattern of NaCl template.

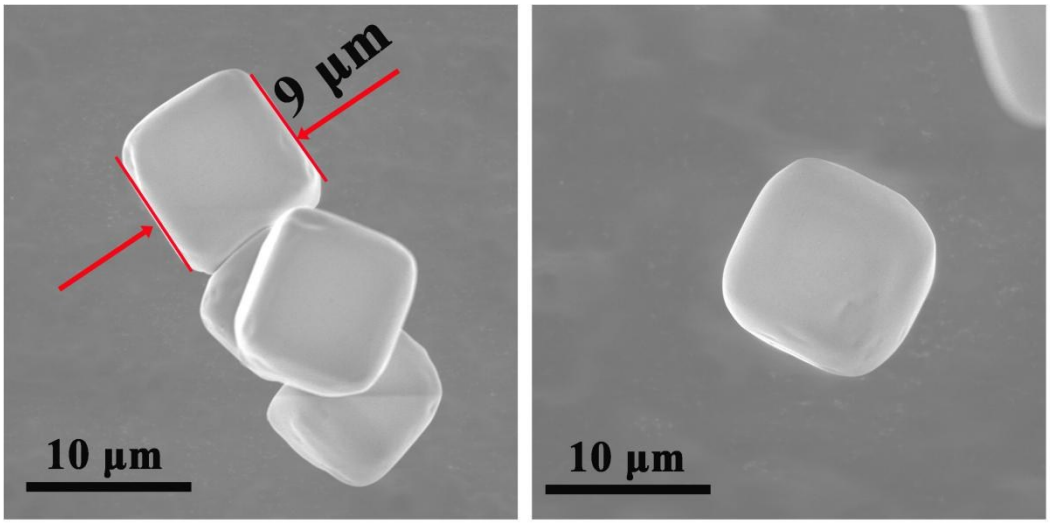

Figure S2. SEM images of NaCl template.

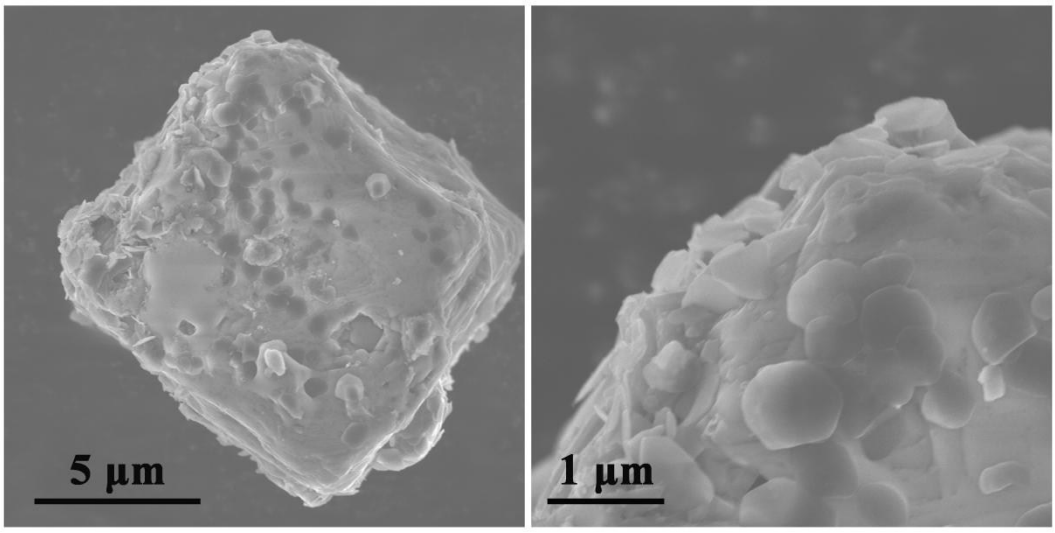

Figure S3. SEM images of $FePS_3$ nanosheets coated NaCl.

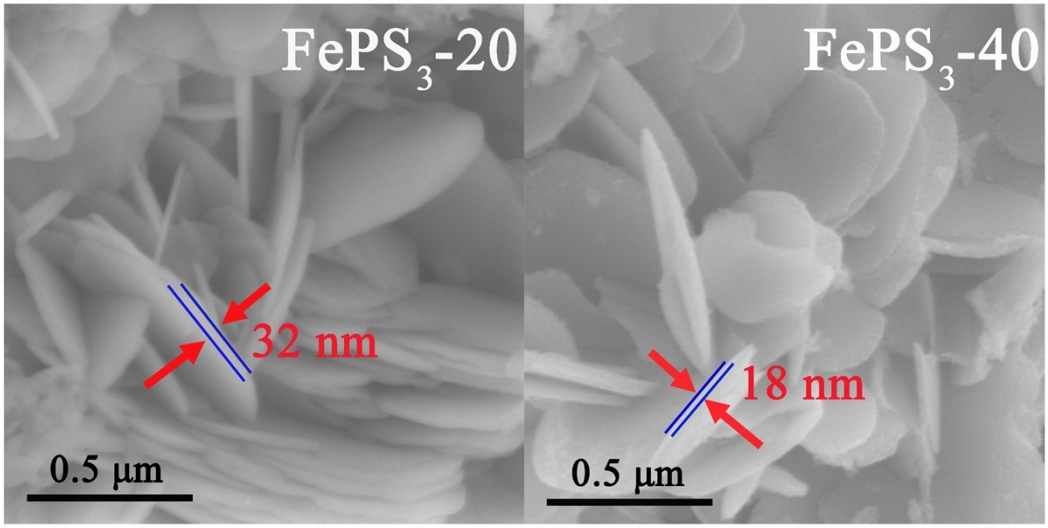

Figure S4. SEM images of $FePS_3$-20 and $FePS_3$-40 samples.

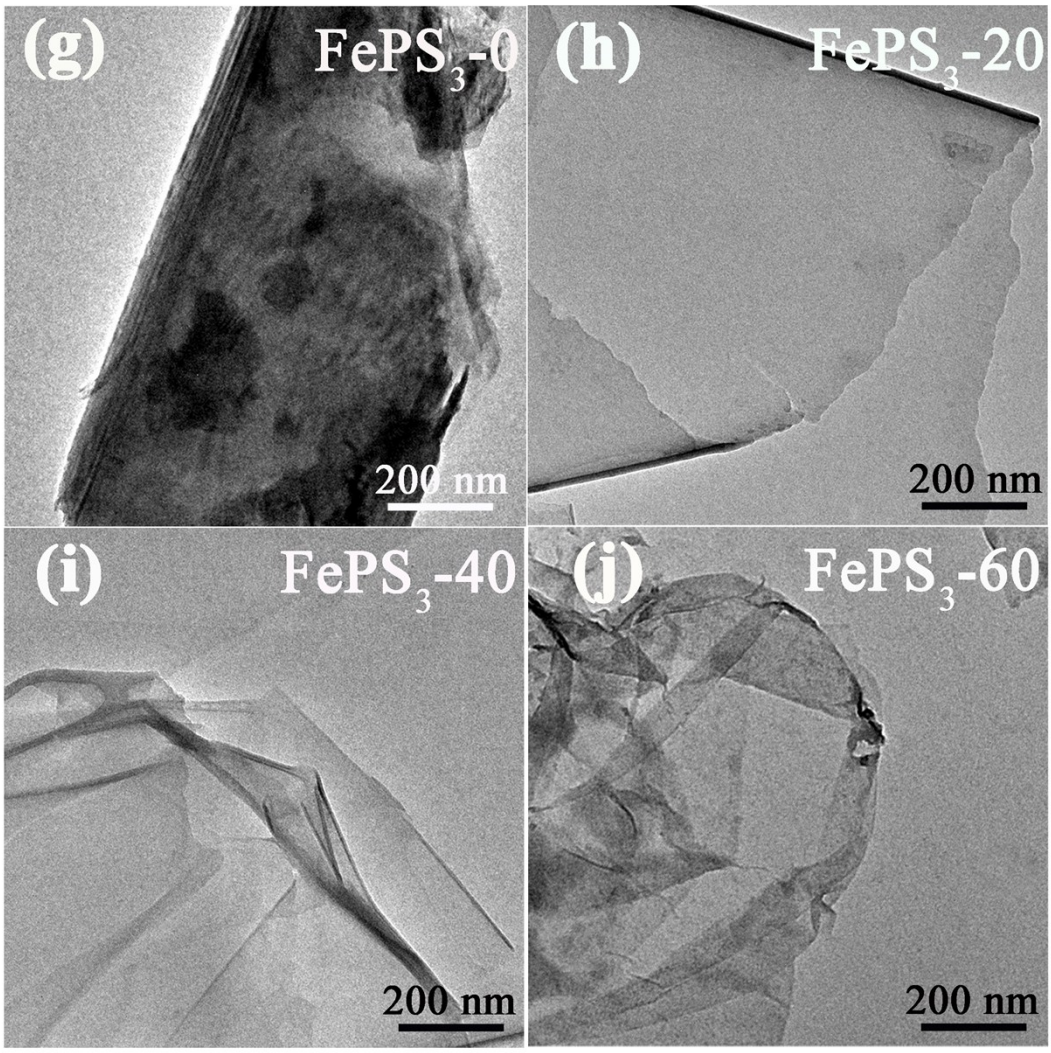

Figure S5. TEM images of various $FePS_3$ samples.

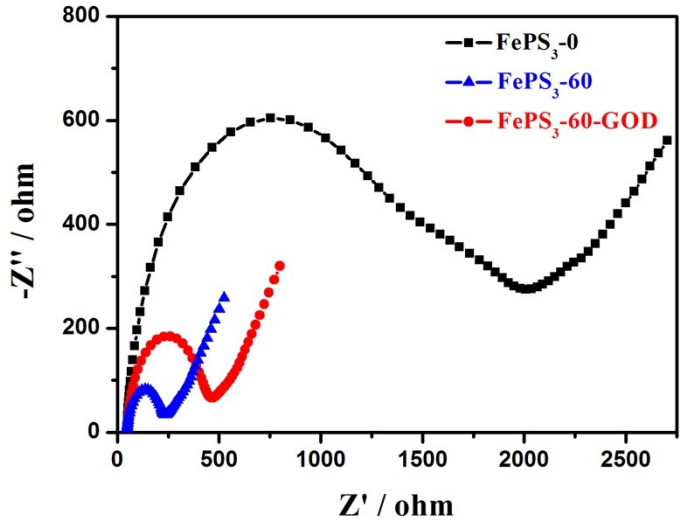

Figure S6. Nyquist plots of $FePS_3$-0, $FePS_3$-60 and $FePS_3$-60-GOD samples.

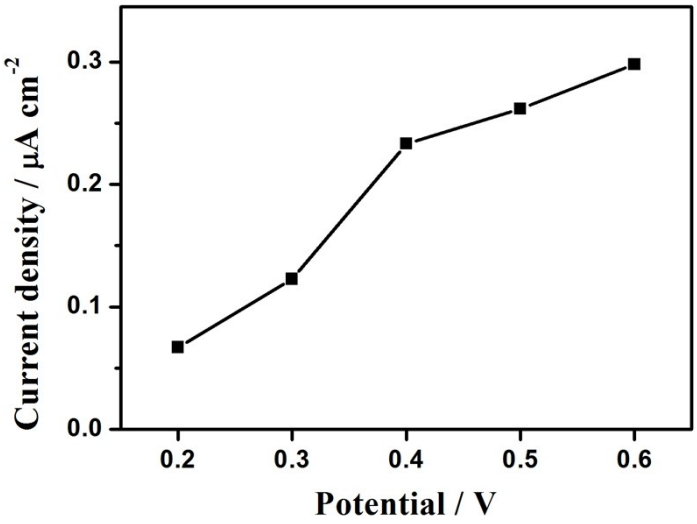

Figure S7. Photocurrent of $FePS_3$ PEC biosensor at different applied potential with addition of 0.1 mM glucose.

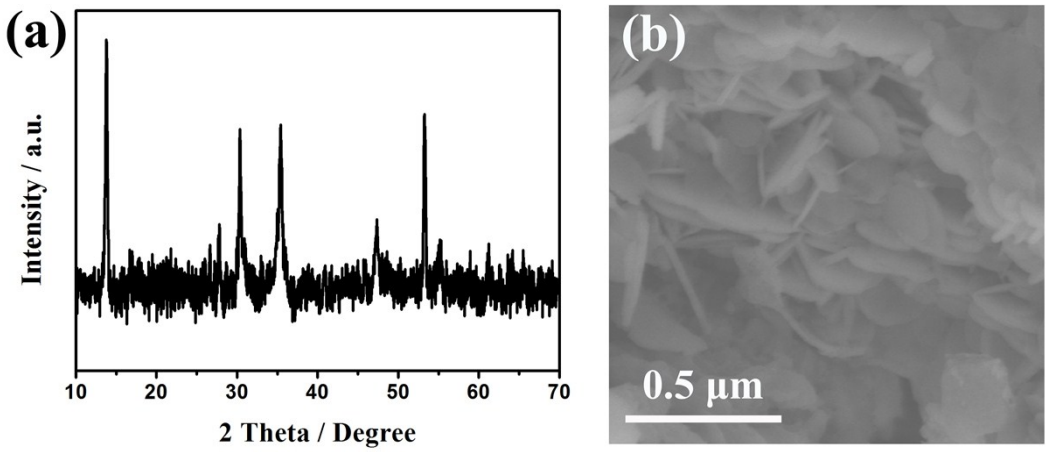

Figure S8. XRD pattern and SEM image of $FePS_3$-60 sample after 2 h continuous photoelectrochemical test.

Table S1. Performance comparison of the proposed photoelectrochemical glucose sensor with the other similar configurations previously reported.

Method	Linear Range	Detection Limit	Reference
Zinc oxide	5.7~10000 μM	\	1
Ag_2S/SnO_2/ITO	100~12200 μM	32.4 μM	2
ZnS-CdS/MWCNT	10~1000 μM	3 μM	3
BiOI/NiO/ITO	5~10000 μM	1.6 μM	4
ZnO-Au@CdS	0~400 μM	0.14 μM	5
AuNi arrays	0.01~13 mM	3 μM	6
Au-TiO_2	0.1~100 μM	0.023 μM	7
gold nanoparticle	1.0~1000 μM	0.46 μM	8
MnO_2-C_3N_4-TiO_2	4~1750 μM	4 μM	9
$FePS_3$ nanosheets	0.1~15000 μM	0.042 μM	This work

Table S2. Analysis of real samples

Sample	Added (mM)	Found (mM)	Recovery (%)	RSD (%) / n=5
1	0	4.81	\	1.9
2	1.0	5.89	101.3	2.1
3	5.0	9.77	99.6	3.8
4	10.0	14.85	100.5	1.5

Reference

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