

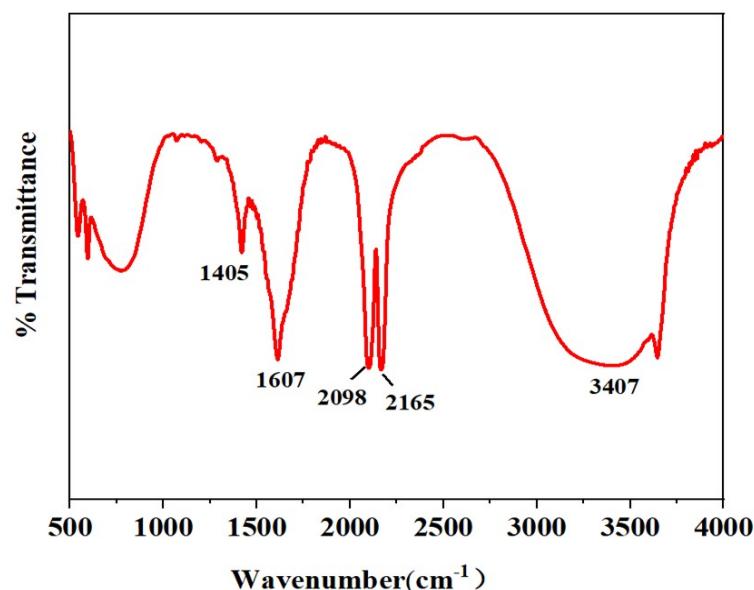
## Supplementary Information

### NiFe PBA/AuNPs nanocomposite sensitive immunosensor for electrochemical detection of PSA

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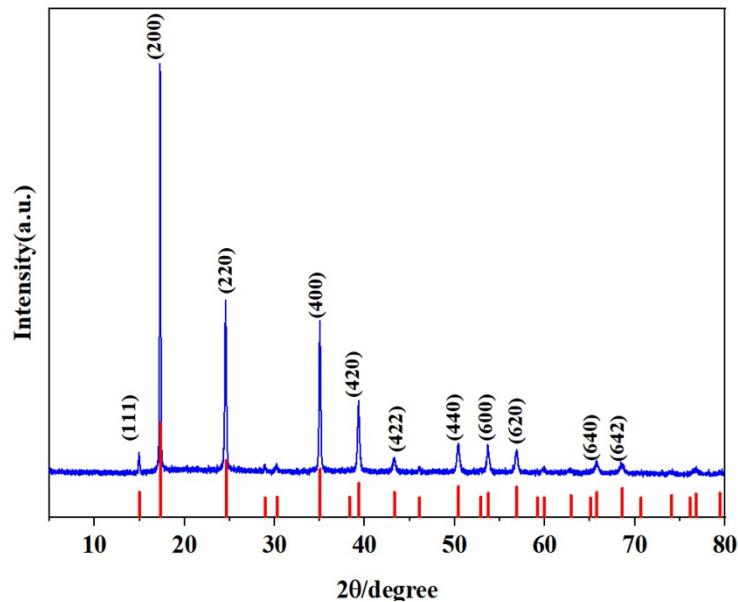
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**Fig S1**



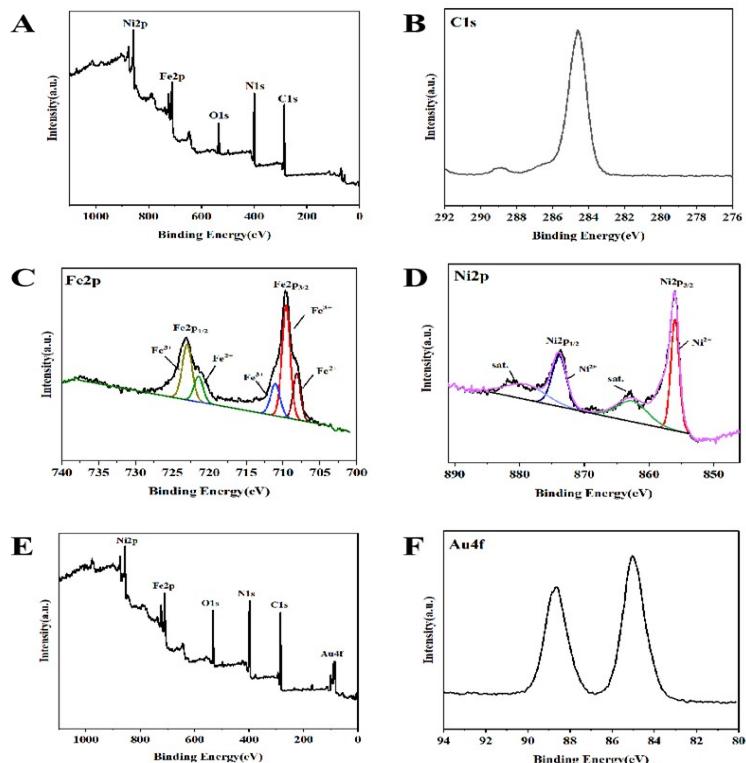
**Fig. S1** FTIR spectra of NiFe PBA/AuNPs.

**Fig S2**



**Fig. S2 XRD pattern of NiFe PBA/AuNPs.**

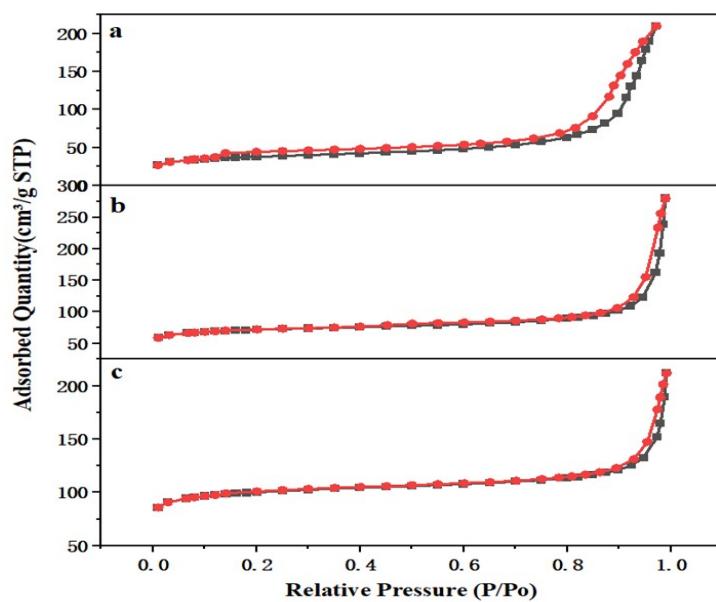
**Fig S3**



**Fig. S3 XPS spectra of NiFe PBA: (A) full scan; (B) C1s; (C) Fe2p; (D) Ni2p.**

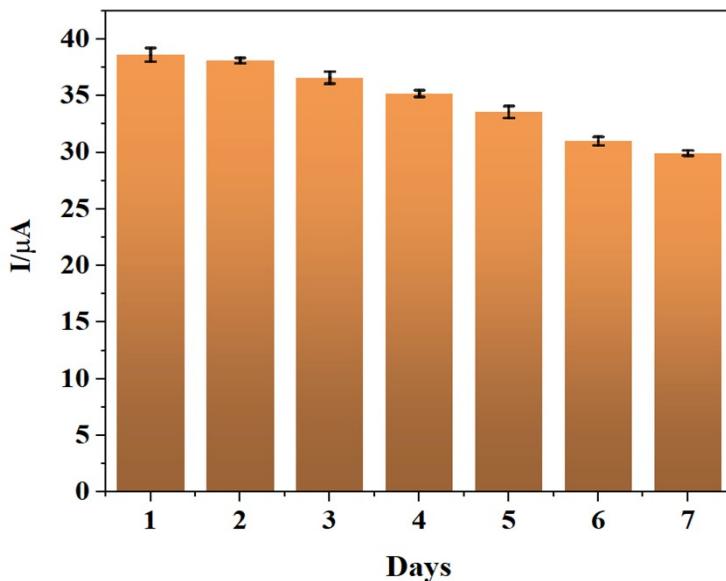
**XPS spectra of NiFe PBA/AuNPs:(E) full scan; (F)Au4f**

**Fig S4**



**Fig. S4** N<sub>2</sub> adsorption-desorption isotherms of (a) CoFe PBA (b) MnFe PBA and (c) NiFe PBA

**Fig S5**



**Fig. S5** Stability test of prepared biosensor

**Table S1**

Reproducibility test of prepared biosensor (n=5)

Sample	Current response ( $\mu\text{A}$ )	Average ( $\mu\text{A}$ )	RSD (%)
1	30.64		
2	30.16		
3	31.22	30.85	2.92
4	30.01		
5	32.22		