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Supplementary file

Trypsin/$Zn_3(PO_4)_2$ Hybrid Nanoflowers: Controlled Synthesis and Excellent Performance as an Immobilized Enzyme

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Table S1. Data for the synthesis of trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers.

No.	Trypsin (g)	$Zn(Ac)_2 \cdot 2H_2O$ (g)	Reaction time (min)
1	0	0.56	120
2	0.01	0.56	120
3	0.0250	0.56	120
4	0.05	0.56	120
5	0.10	0.56	120
6	0.25	0.56	120
7	0.05	0.42	120
8	0.05	0.28	120
9	0.05	0.14	120
10	0.0250	0.56	10
11	0.0250	0.56	20
12	0.0250	0.56	30
13	0.0250	0.56	60
14	0.30	0.56	120

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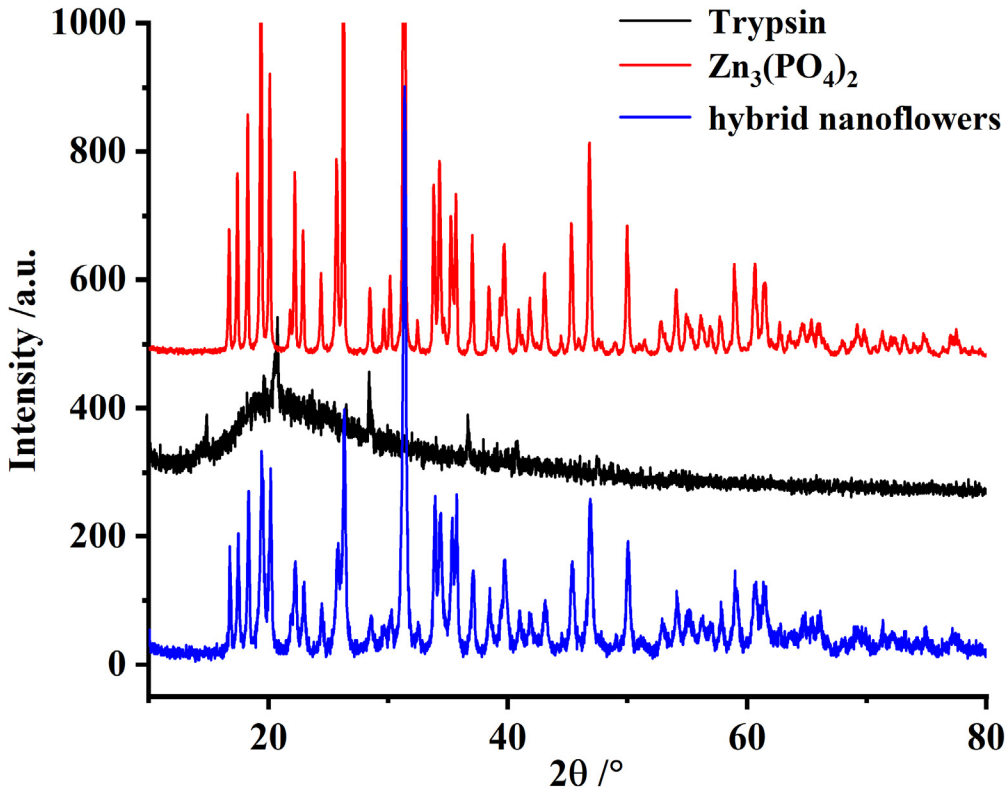

Figure S1. XRD patterns of the trypsin, $Zn_3(PO_4)_2$ and trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers.

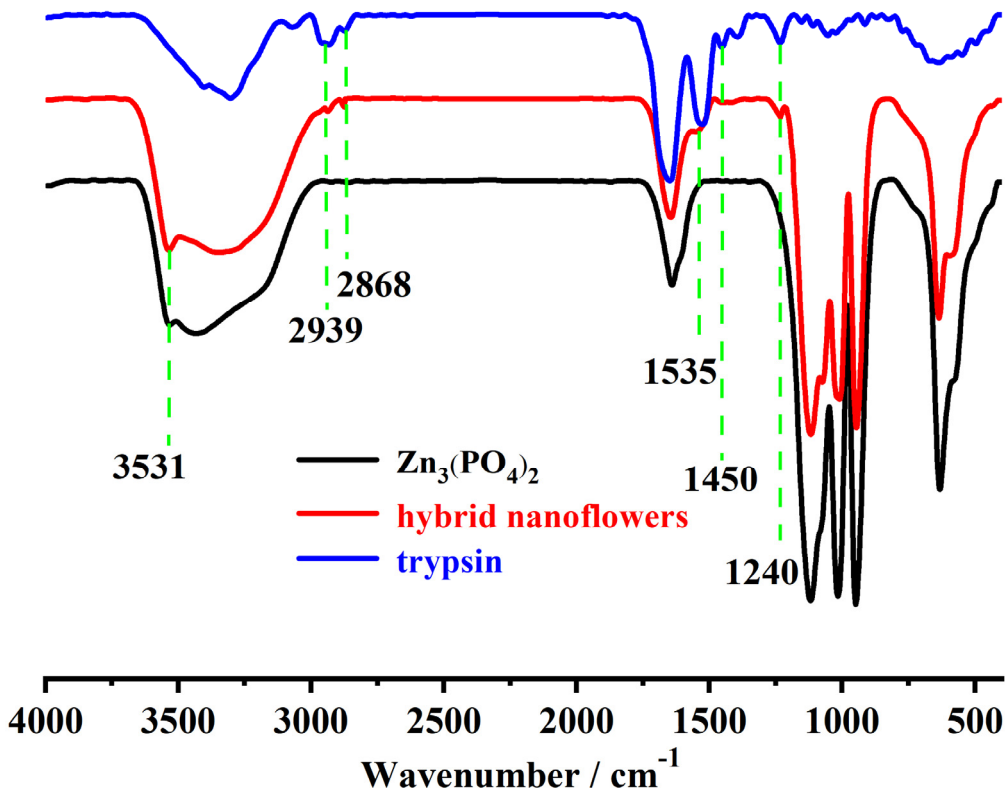

Figure S2. FTIR spectra of the trypsin, $Zn_3(PO_4)_2$ and trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers.

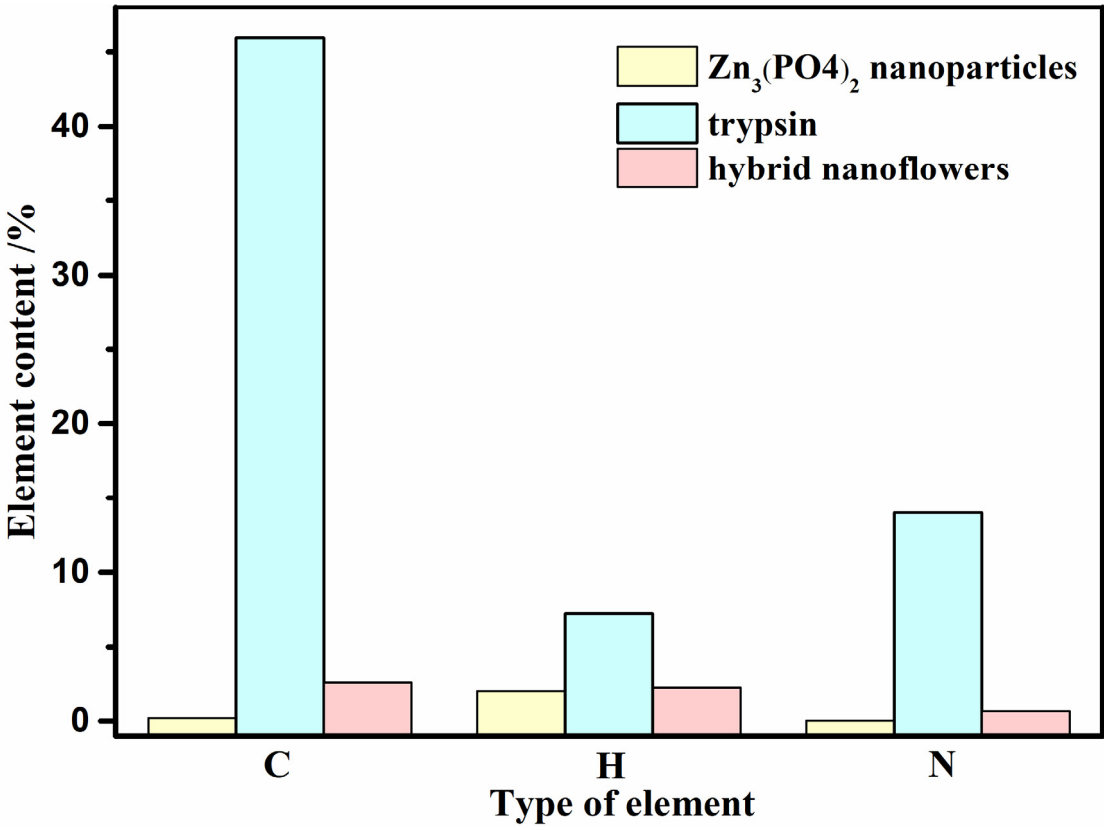

Figure S3. Elemental analysis of the trypsin, $Zn_3(PO_4)_2$ and trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers.

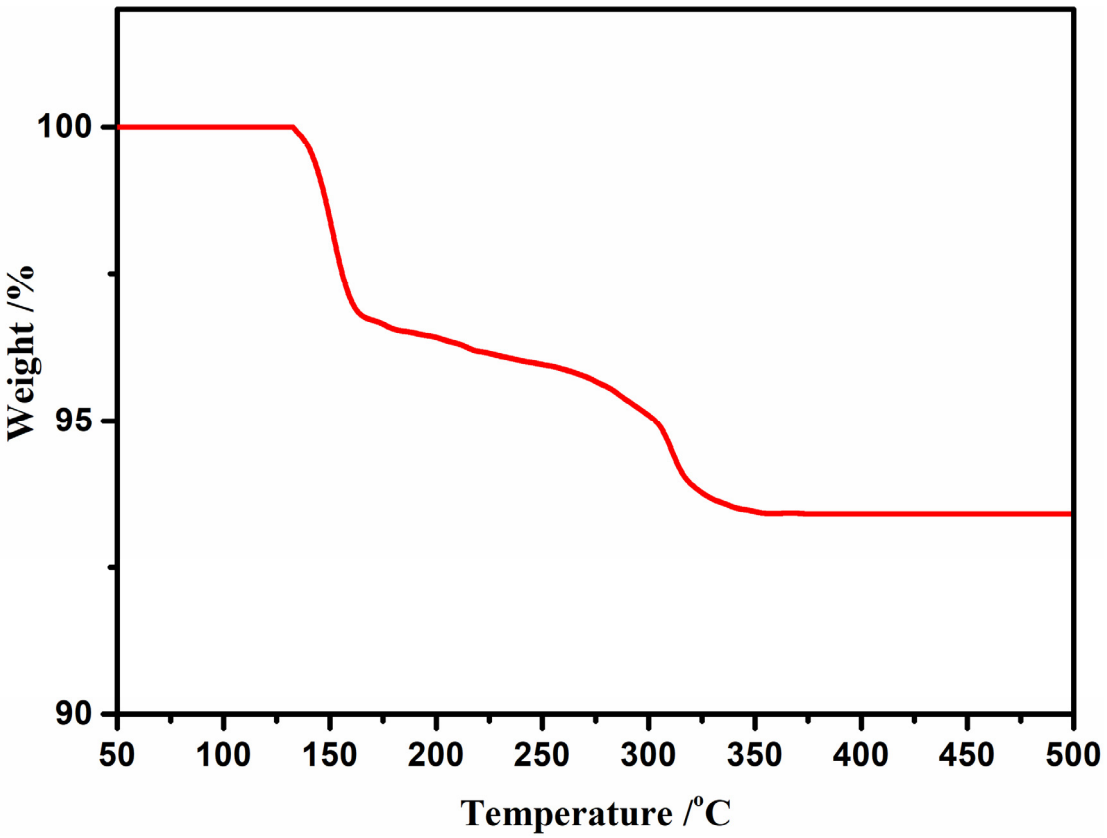

Figure S4. TGA curve of trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers.

Table S2. Date for specific surface area and average pore diameter of trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers with different amount of trypsin.

Addition amount of trypsin (g)	specific surface area (m^2/g)	average pore diameter (nm)
0	38.68	13.28
0.01	32.55	19.26
0.025	35.33	16.28
0.05	42.96	13.04
0.1	56.67	11.95
0.25	68.35	11.20

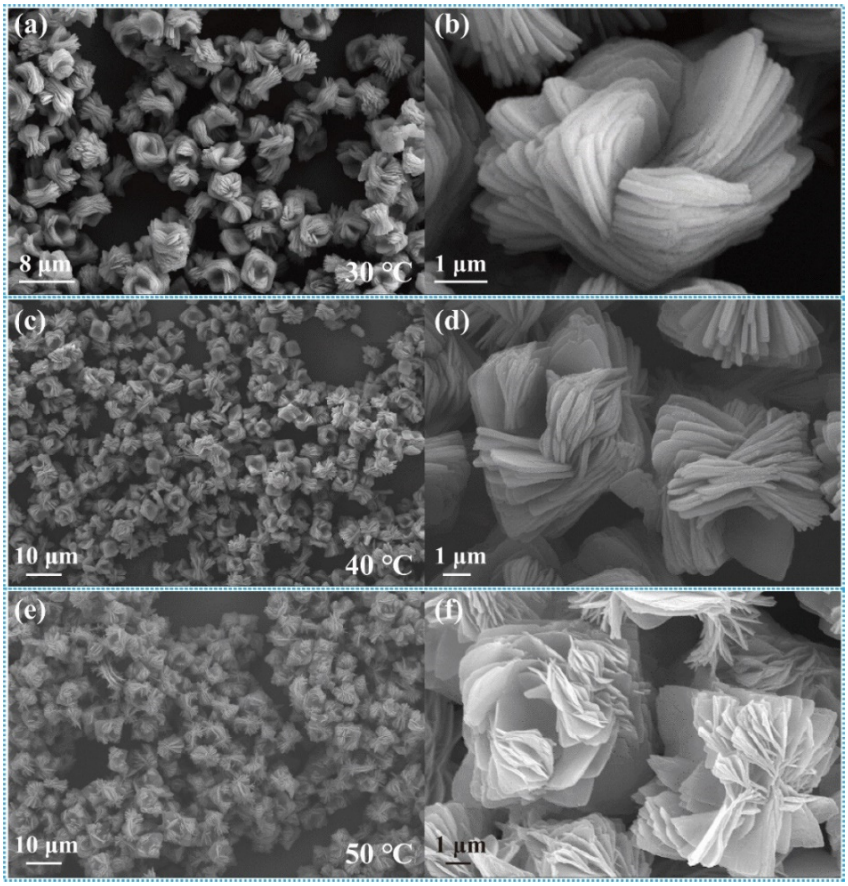

Figure S5. The SEM images morphology of trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers prepared at (a, b) 30 °C, (c, d) 40 °C, (e, f) 50 °C.

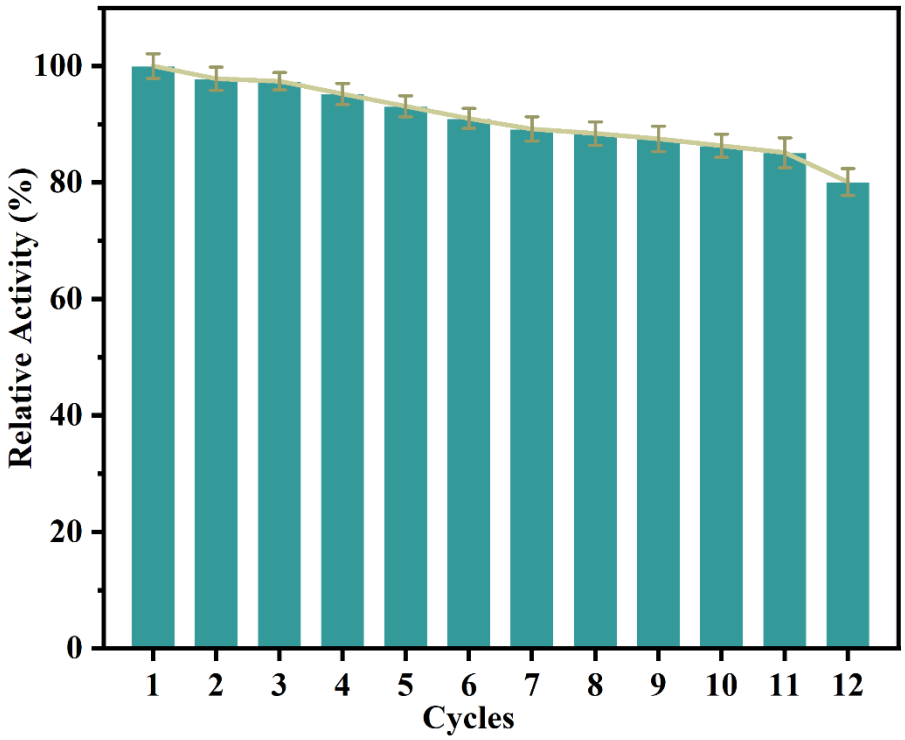

Figure S6. Reusability of trypsin/$Zn_3(PO_4)_2$ hybrid nanoflowers.