Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Materials

For

Fabrication of phospho-phytase/heteroatomic hierarchical Fe-ZSM-5 zeolite (HHFeZ) bio-conjugates for eco-sustainable utilization of phytate-phosphorus

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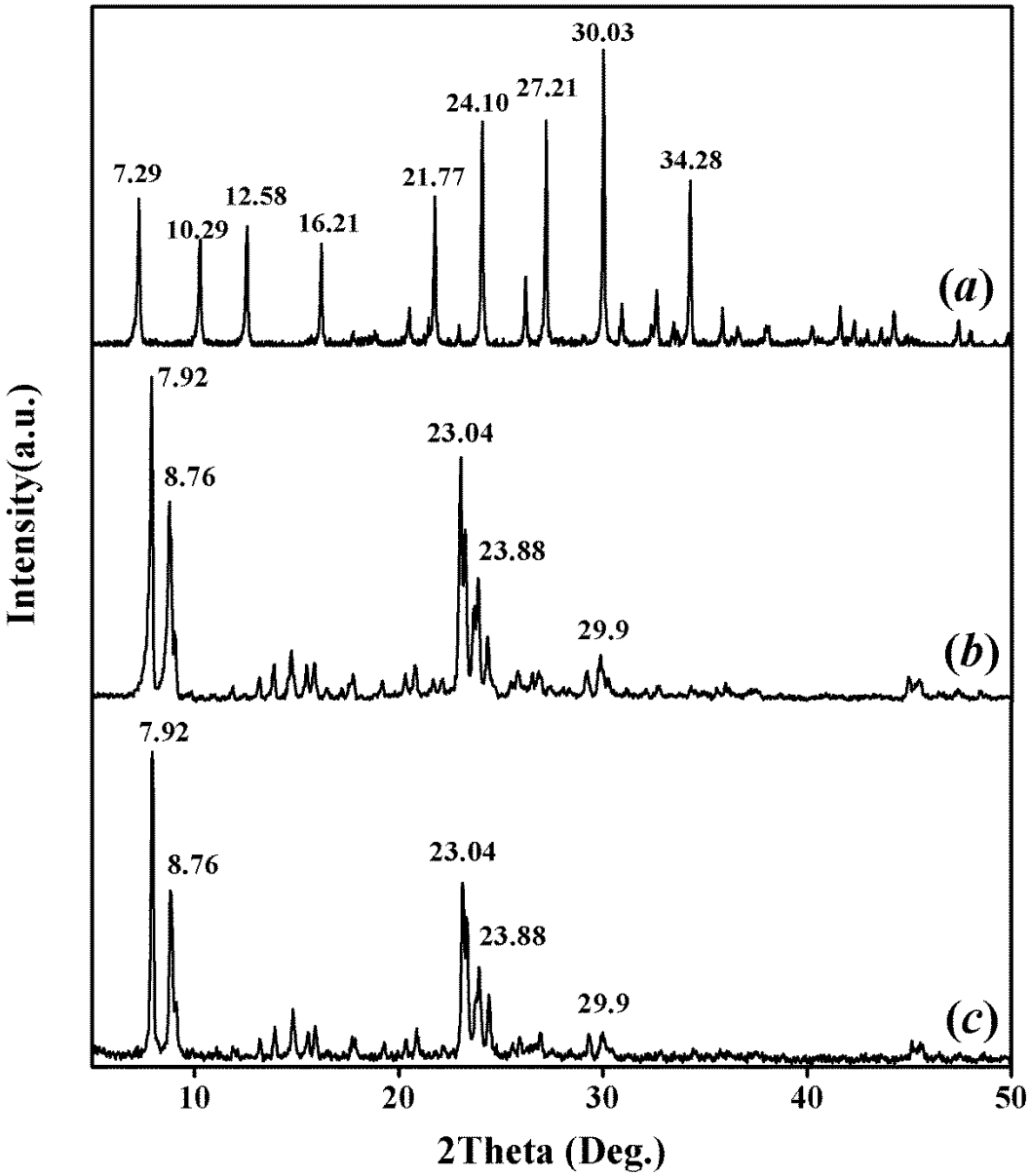
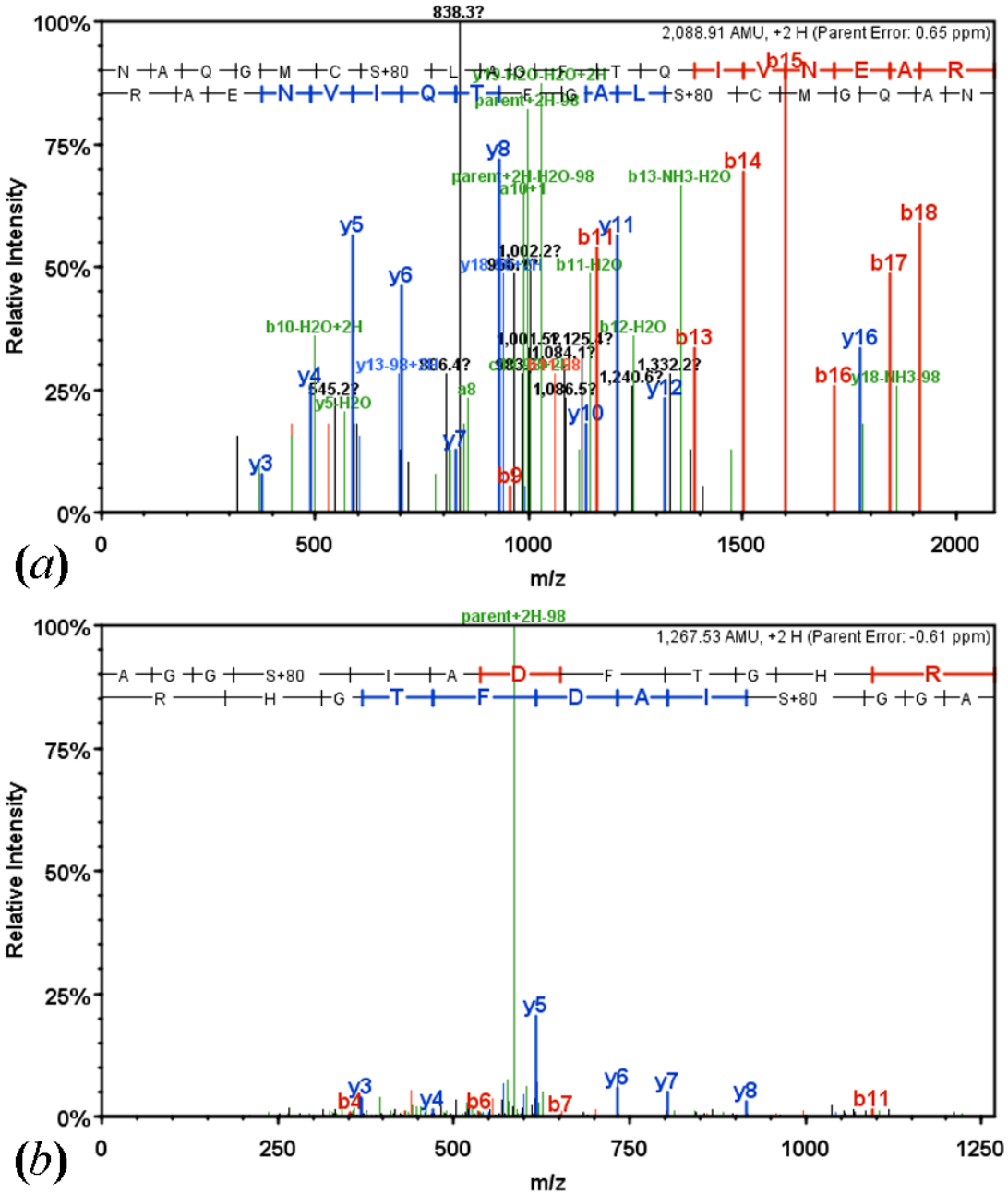
Fig. S1



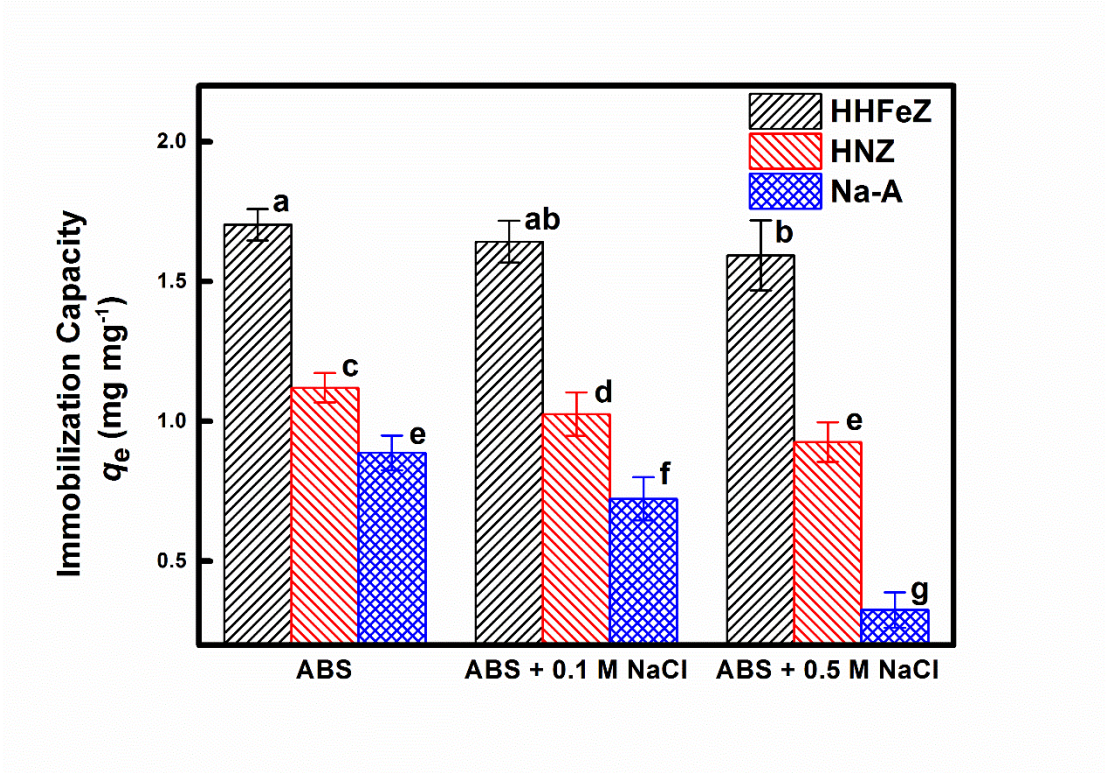
S-Fig. 1 XRD patterns of self-synthesized zeolites Na-A (*a*), HHFeZ (*b*), and HNaZ (*c*) used in the present study.

Fig. S2



S-Fig. 3 LTQ-MS/MS spectra of two identified phosphorylated peptides: (*a*) NAQGMC[pS]LAGFTQIVNEAR and (*b*) AGG[pS]IADFTGHR (Generated by Scaffold v 4.2.1).

Fig. S3



S-Fig. 5 Effect of competing cations on the immobilization of phytase onto HHFeZ, HNaZ, and Na-A. (Bars marked with different lower-case letters indicate statistical differences $p<0.05$.)

Table S1

S-Table 1. Elemental composition of HHFeZ by XRF quantitative analysis.

Element	**Weight %**
Si	38.91
Fe	6.27
Na	1.69
O	52.85
others	0.28

Table S2

S-Table 2. Fragmentation table for peptide NAQGMC[pS]LAGFTQIVNEAR.

B	B Ions	B+2H	B-NH3	B-H2O	AA	Y Ions	Y+2H	Y-NH3	Y-H2O	Y
1	115.1		98.0		N	2,089.9	1,045.5	2,072.9	2,071.9	19
2	186.1		169.1		A	1,975.9	988.4	1,958.9	1,957.9	18
3	314.1		297.1		Q	1,904.8	952.9	1,887.8	1,886.8	17
4	371.2		354.1		G	1,776.8	888.9	1,759.8	1,758.8	16
5	502.2		485.2		M	1,719.8	860.4	1,702.7	1,701.7	15
6	605.2	303.1	588.2		C	1,588.7	794.9	1,571.7	1,570.7	14
7	772.2	386.6	755.2	754.2	S+80	1,485.7	743.4	1,468.7	1,467.7	13
8	885.3	443.2	868.3	867.3	L	1,318.7	659.9	1,301.7	1,300.7	12
9	956.3	478.7	939.3	938.3	A	1,205.6	603.3	1,188.6	1,187.6	11
10	1,013.4	507.2	996.3	995.3	G	1,134.6	567.8	1,117.6	1,116.6	10
11	1,160.4	580.7	1,143.4	1,142.4	F	1,077.6	539.3	1,060.5	1,059.6	9
12	1,261.5	631.2	1,244.4	1,243.5	T	930.5	465.8	913.5	912.5	8
13	1,389.5	695.3	1,372.5	1,371.5	Q	829.5	415.2	812.4	811.4	7
14	1,502.6	751.8	1,485.6	1,484.6	I	701.4	351.2	684.4	683.4	6
15	1,601.7	801.3	1,584.7	1,583.7	V	588.3		571.3	570.3	5
16	1,715.7	858.4	1,698.7	1,697.7	N	489.2		472.2	471.2	4
17	1,844.8	922.9	1,827.7	1,826.8	E	375.2		358.2	357.2	3
18	1,915.8	958.4	1,898.8	1,897.8	A	246.2		229.1		2
19	2,089.9	1,045.5	2,072.9	2,071.9	R	175.1		158.1		1

Table S3

S-Table 3. Fragmentation table for peptide AGG[pS]IADFTGHR.

B	B Ions	B+2H	B-NH3	B-H2O	AA	Y Ions	Y+2H	Y-NH3	Y-H2O	Y
1	72.0				A	1,268.5	634.8	1,251.5	1,250.5	12
2	129.1				G	1,197.5	599.3	1,180.5	1,179.5	11
3	186.1				G	1,140.5	570.7	1,123.5	1,122.5	10
4	353.1			335.1	S+80	1,083.5	542.2	1,066.4	1,065.5	9
5	466.2			448.2	I	916.5	458.7	899.4	898.5	8
6	537.2	269.1		519.2	A	803.4	402.2	786.4	785.4	7
7	652.2	326.6		634.2	D	732.3	366.7	715.3	714.3	6
8	799.3	400.2		781.3	F	617.3	309.2	600.3	599.3	5
9	900.3	450.7		882.3	T	470.2	235.6	453.2	452.2	4
10	957.4	479.2		939.4	G	369.2	185.1	352.2		3
11	1,094.4	547.7		1,076.4	H	312.2	156.6	295.2		2
12	1,268.5	634.8	1,251.5	1,250.5	R	175.1		158.1		1