

**Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B**

**Enzyme Mimics Based on Self-Assembled Peptides for Di(2-ethylhexyl) Phthalate Degradation**

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Table S1 Amino acid sequences and isoelectric points of the peptide-based enzyme mimics

Peptides	Amino acid sequences	Isoelectric points
P1	Ac-KYFDHSG-NH <sub>2</sub>	8.02
P2	Ac-SFDFHIG-NH <sub>2</sub>	4.87
P3	Ac-FGISDFHI-NH <sub>2</sub>	4.87
P4	Ac-FHISDFGI-NH <sub>2</sub>	4.87
P5	Ac-FGISFEFHI-NH <sub>2</sub>	5.1
P6	Ac-IGISIDIHI-NH <sub>2</sub>	4.87

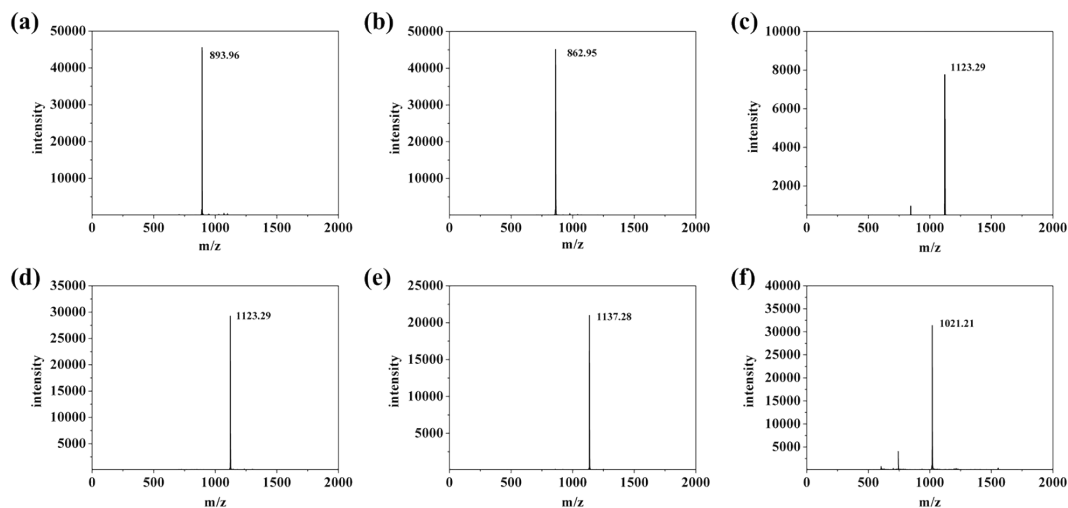


Fig. S1. MALDI-TOF-MS of the six peptides. The MS from (a) to (f) were represented from P1 to P6.

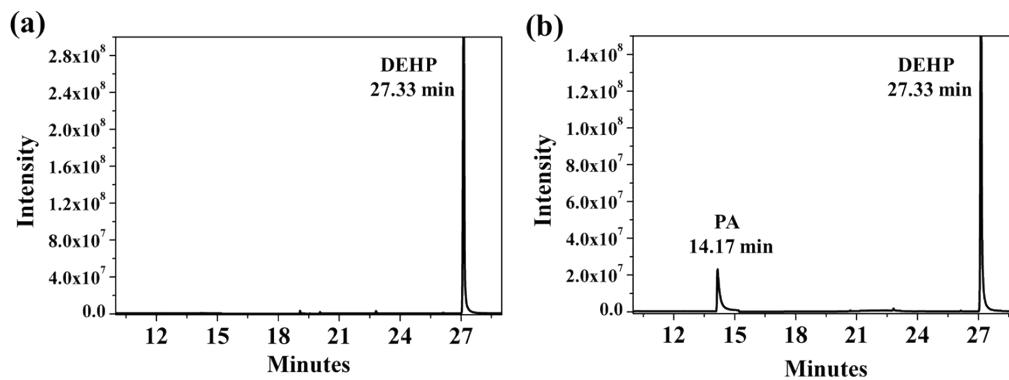


Fig. S2 GC-MS chromatograms of DEHP and its degradation intermediates. (a) Control, (b) DEHP degradation intermediates by P3

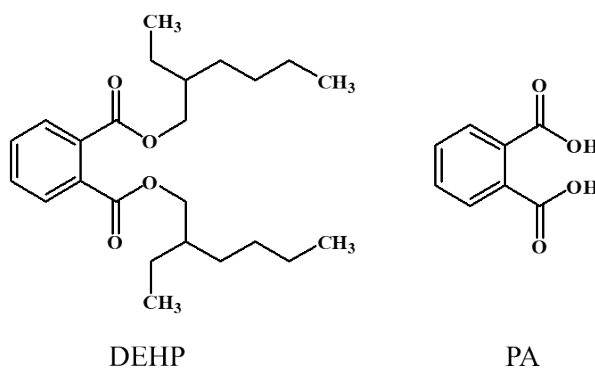


Fig. S3. Structure of DEHP and its degradation intermediates.

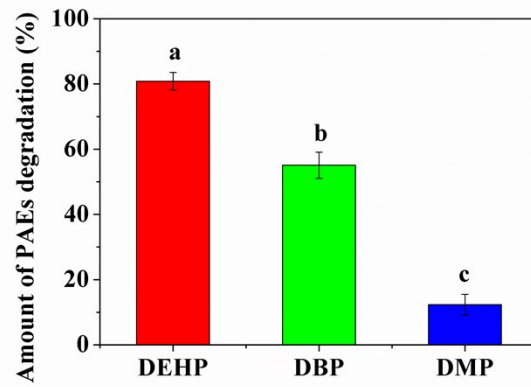


Fig. S4. The DEHP, DBP and DMP degradation by P3 at pH 8.0 and 50 °C for 48 h. Values with different letters indicate significant differences ( $p < 0.05$ ).

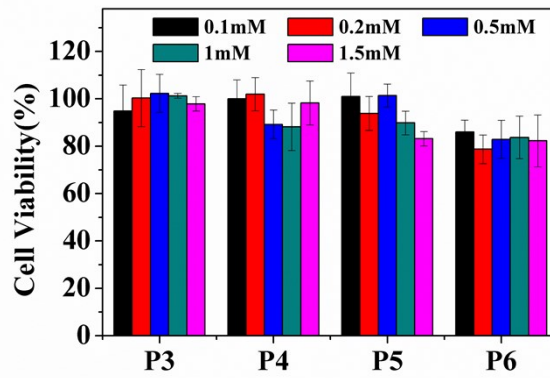


Fig. S5 HeLa cell viability assay with different concentrations of self-assembled peptides for 24h.