Supporting Information

High Throughput Detection of Human Neutrophil Peptides from Serum, Saliva and Tear by Anthrax Lethal Factor-Modified Nanoparticles

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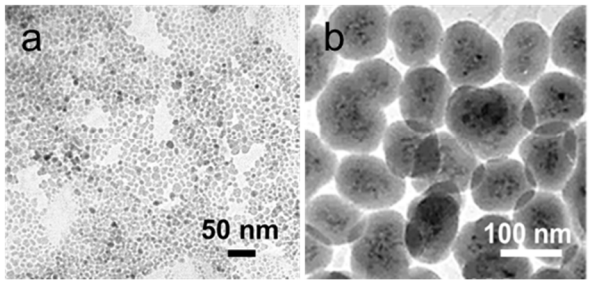

Figure. S1. TEM image of (a) Fe_3O_4 nanoparticles and (b) Fe_3O_4@SiO_2 nanoparticles.

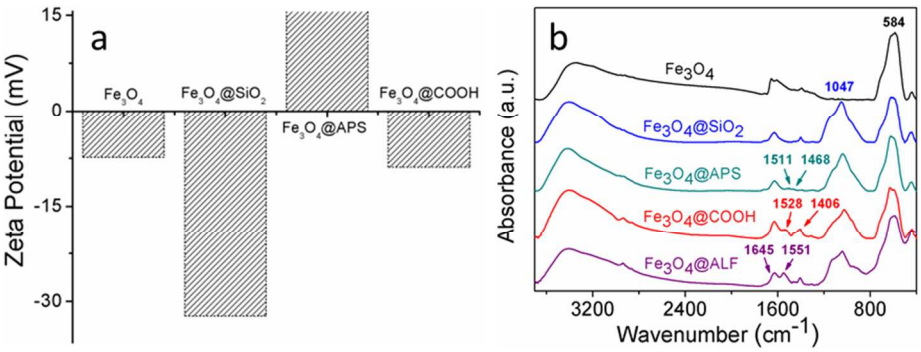

Figure. S2. (a) Zeta Potentials of Fe_3O_4, Fe_3O_4@SiO_2, Fe_3O_4@APS, and Fe_3O_4@COOH nanoparticles; (b) IR spectra of Fe_3O_4, Fe_3O_4@SiO_2, Fe_3O_4@APS, Fe_3O_4@COOH and Fe_3O_4@ALF nanomaterials.

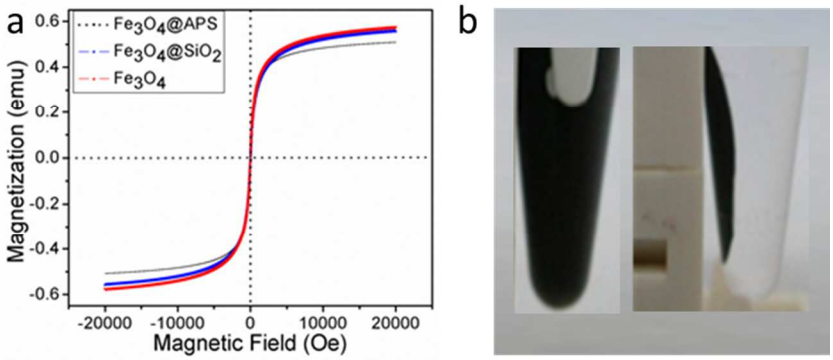

Figure. S3. (a) Magnetic hysteresis curves of Fe_3O_4 (red), Fe_3O_4@SiO_2 (blue) and Fe_3O_4@APS (light gray) at 300 K; (b) photo of AMNPs solution located onto magnetic holder (left), and in the magnetic holder under magnetic force after 5 s.

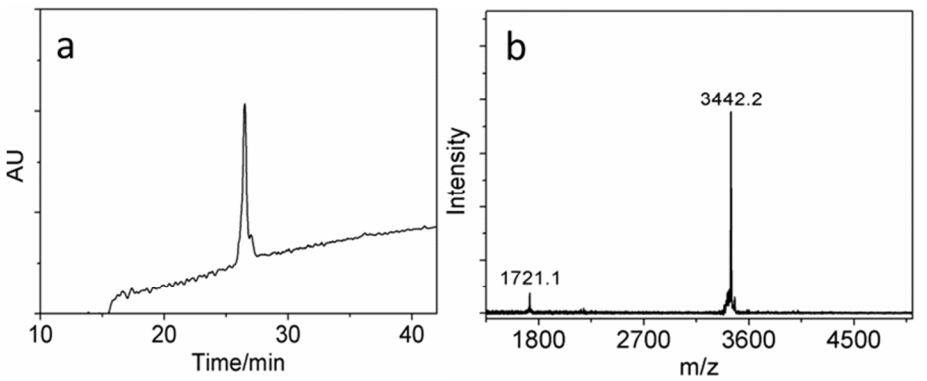

Figure. S4. (a) HPLC chromatogram of HNP 1. For the analytical HPLC, the solvent A was acetonitrile (0.1% TFA), solvent B was water (0.1% TFA). The gradient was set from 5% A to 65% A for 60 min with 1 mL/min flow rate, and UV absorption was monitored at 214 nm. The pump was Waters 626 model, UV/Vis monitor was Waters 2487 model, and the column was Waters Xbridge 300A (150mm*4.6mm, 5 µm). (b) MALDI-TOF-MS spectrum of HNP 1. Briefly, 1 µL sample solution was added onto the surface of Bruker steel sample plate and dried in room temperature, then 1 µL CHCA was added on the tried sample spot, again dried in room temperature. The mass spectra were collected by Bruker Microflex and data were analyzed by FlexAnalysis provided by manufacture.

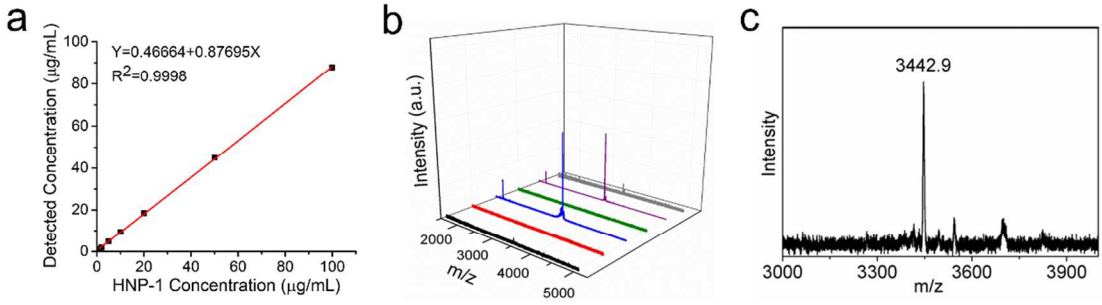

Figure. S5. (a) The calibration curve of released HNP 1 from AMNPs after treating HNP-1 solutions ranging from 0 to 100 µg/mL. (b) The reactivated AMNPs with associated HNP 1 were deactivated again by EDTA treatment, and the previously bound HNP 1 was released into supernatant (black), and no detectable HNP 1 was found on the deactivated AMNPs (red); with the addition of Zn^{2+}, the deactivated AMNPs was reactivated for the third time and were used to enrich HNP 1 for the third time (blue), and these enriched HNP 1 was released again into supernatant and no detectable HNP 1 was found on the deactivated AMNPs (olive); again, with another addition of Zn^{2+}, deactivated AMNPs was reactivated for the fourth time and were used to capture HNP 1 for the fourth time (purple), however, this time HNP 1 was not completely released from the deactivated AMNPs (grey). (c) AMNPs enriched

HNP 1 from 650 μL HS solution with 0.8 μg/mL post added HNP 1. For all these assays, the sample volume used in MALDI-TOF was 1 μL.