Supplementary Information

Rapid Quality Control of Medicine and Food Dual Purposes Plant Polysaccharides by Matrix Assisted Laser Desorption/Ionization Mass Spectrometry

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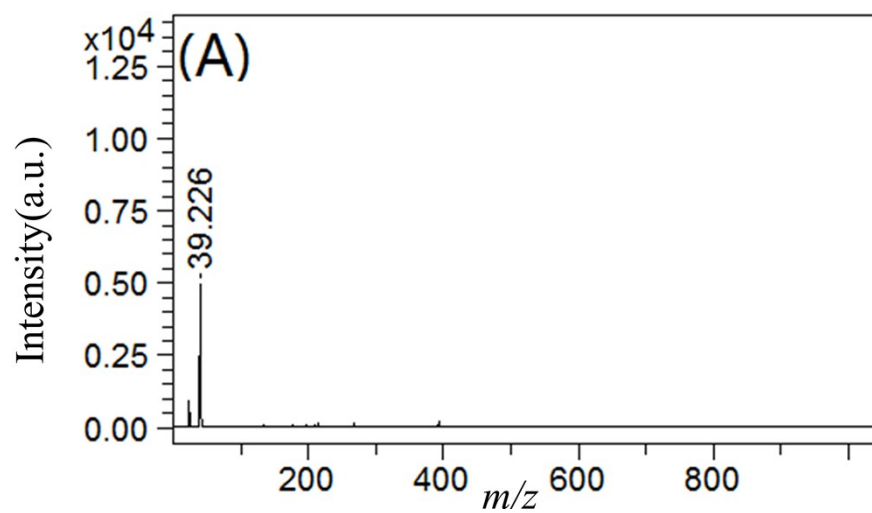**Table of contents**

Figure S1. MALDI-TOF spectrum for Fe_3O_4 NPs in positive mode.
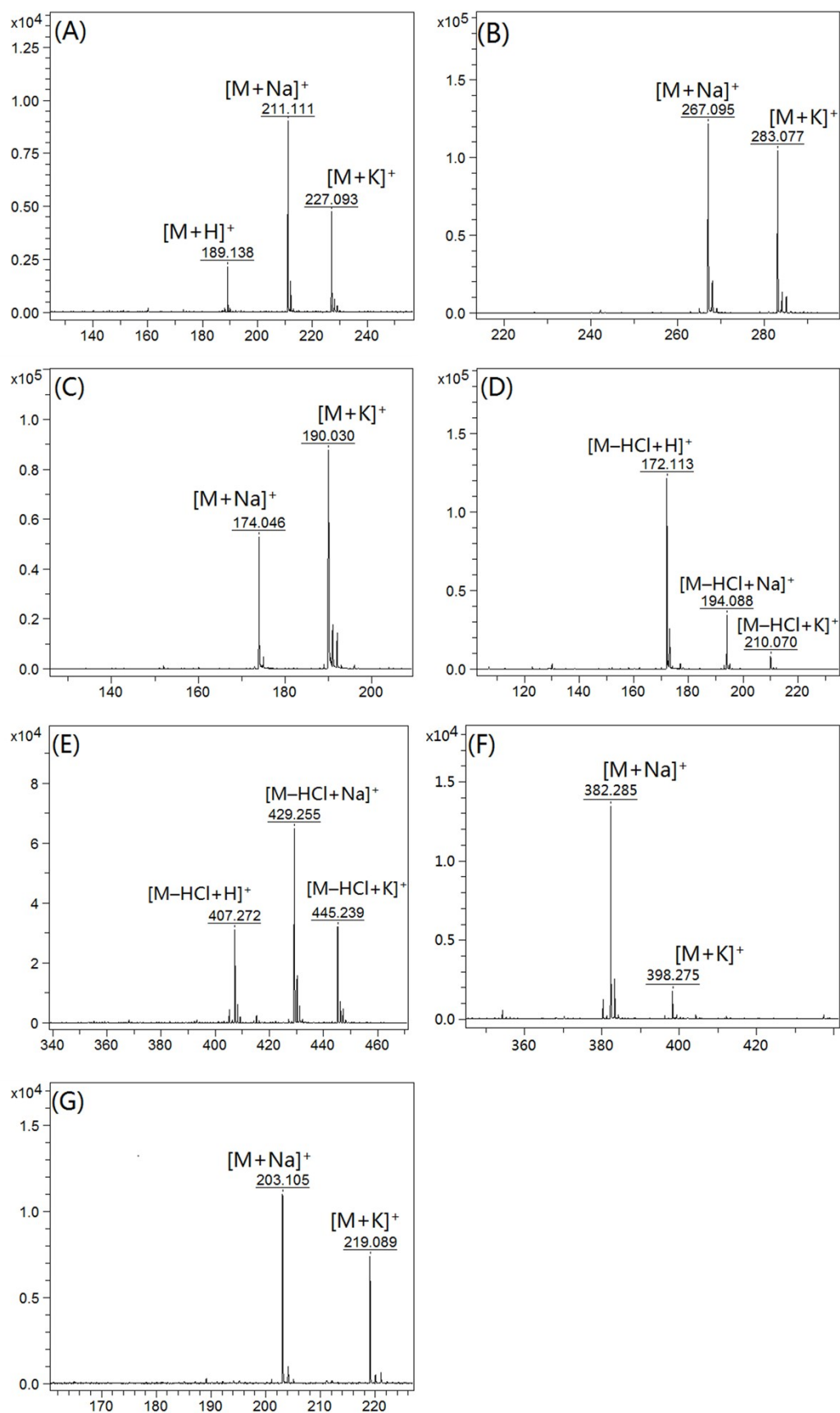
Figure S2. MALDI-TOF spectrums detected by Fe_3O_4 NPs matrix in positive and reflectron mode of. (A) ATPR; (B) RTCA; (C) APAP; (D) ABOB; (E) LCM; (F) ENR; (G) Glu.
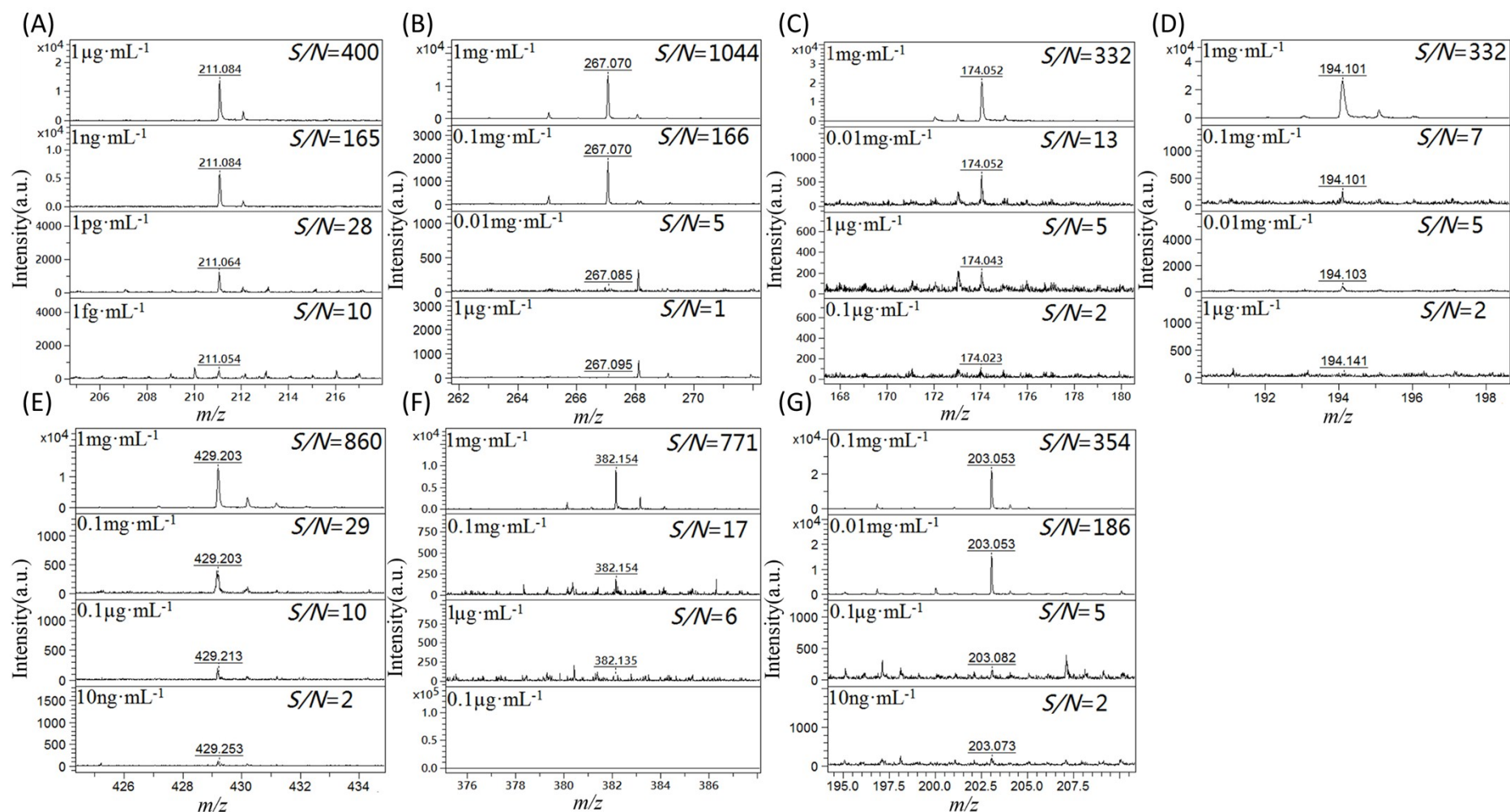
Figure S3. MALDI-TOF spectrums detected by Fe_3O_4 NPs matrix in positive and reflectron mode with different concentrations of (A) ATPR; (B) RTCA; (C) APAP; (D) ABOB; (E) LCM; (F) ENR; (G) Glu.
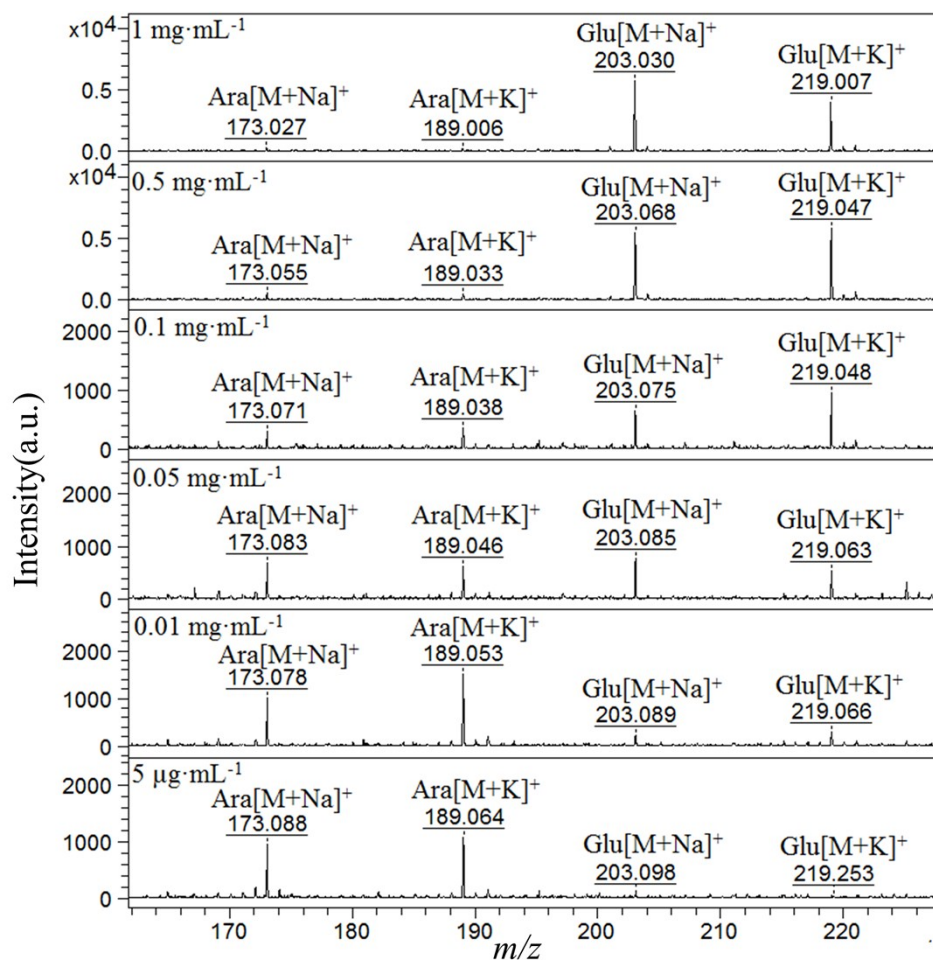
Figure S4. MALDI-TOF spectrum detected by Fe_3O_4 NPs matrix in positive and reflectron mode for 0.05 mg·mL^{-1} Ara with different concentrations of Glu, (A) 1 mg·mL^{-1}; (B) 0.5 mg·mL^{-1}; (C) 0.1 mg·mL^{-1}; (D) 0.05 mg·mL^{-1}; (E) 0.01 mg·mL^{-1}; (F) 0.005 mg·mL^{-1}.
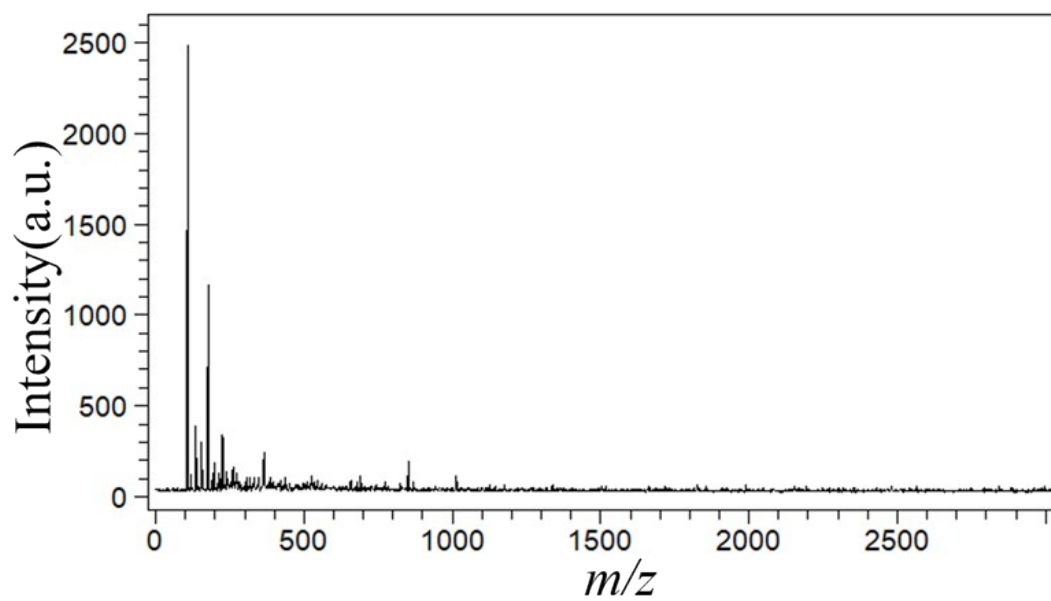
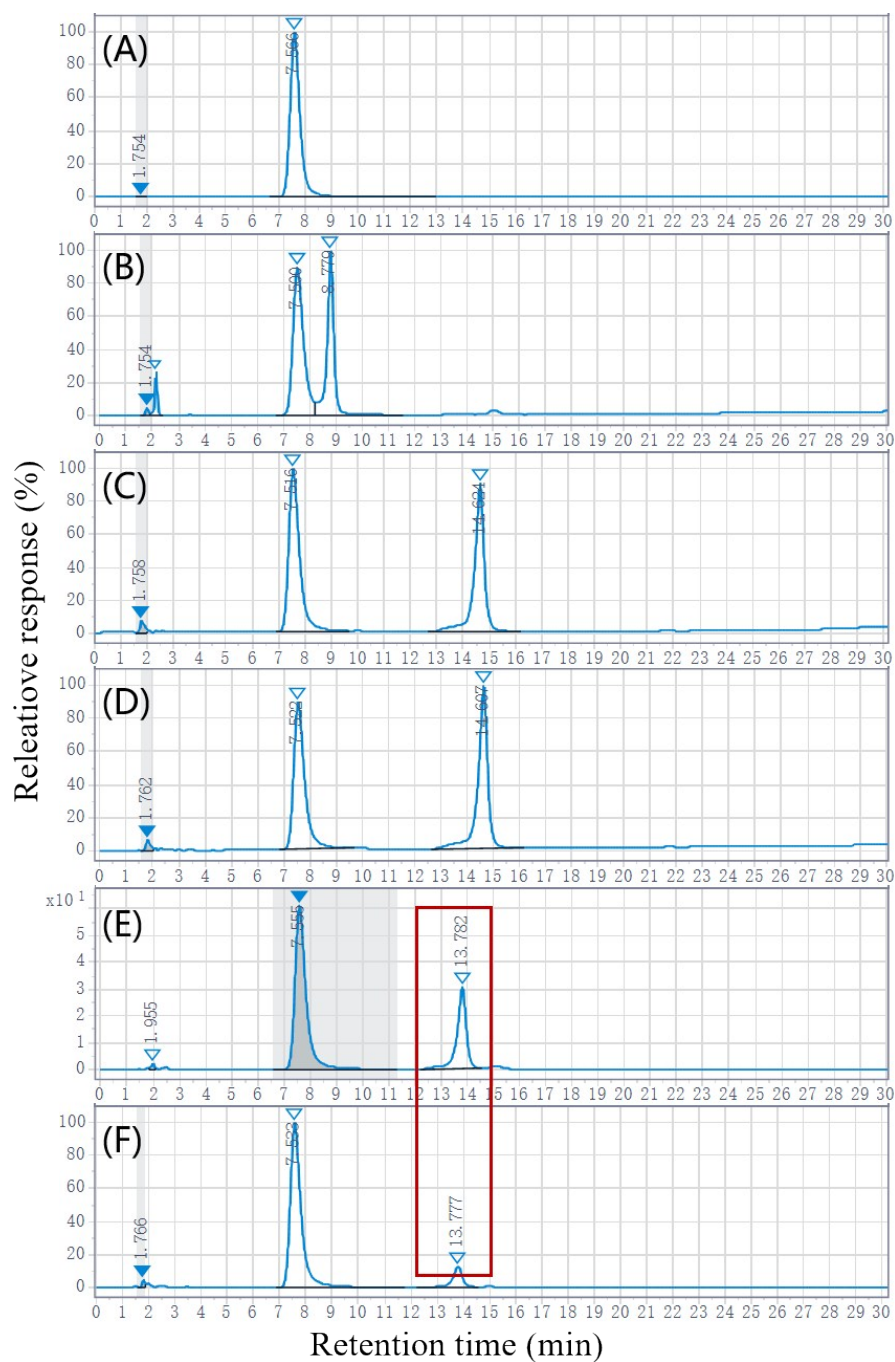**Figure S5.** MALDI-TOF spectrum for DHB/*N*-MA without secondary matrix in positive and reflectron mode.

Figure S6. HPLC chromatograms of monosaccharide analysis for different compounds. (A) PMP standard; (B) Man standard; (C) Gal standard; (D) Fru standard; (E) Glu standard; (F) APS-1 real sample.
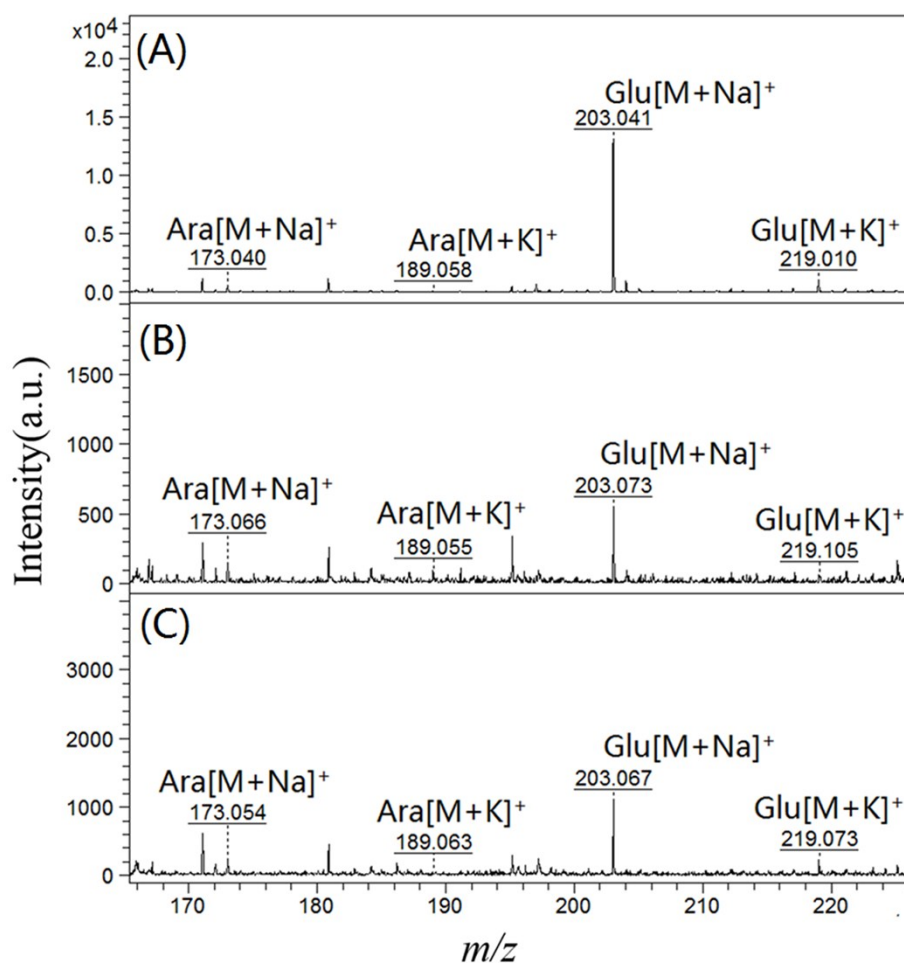
Figure S7. MALDI-TOF spectrums for Glu in APS samples with 0.05 mg·mL^{-1} Ara detected by Fe$_3$O$_4$ NPs matrix in positive and reflectron mode. (A) APS-1; (B) APS-4; (C) APS-5.
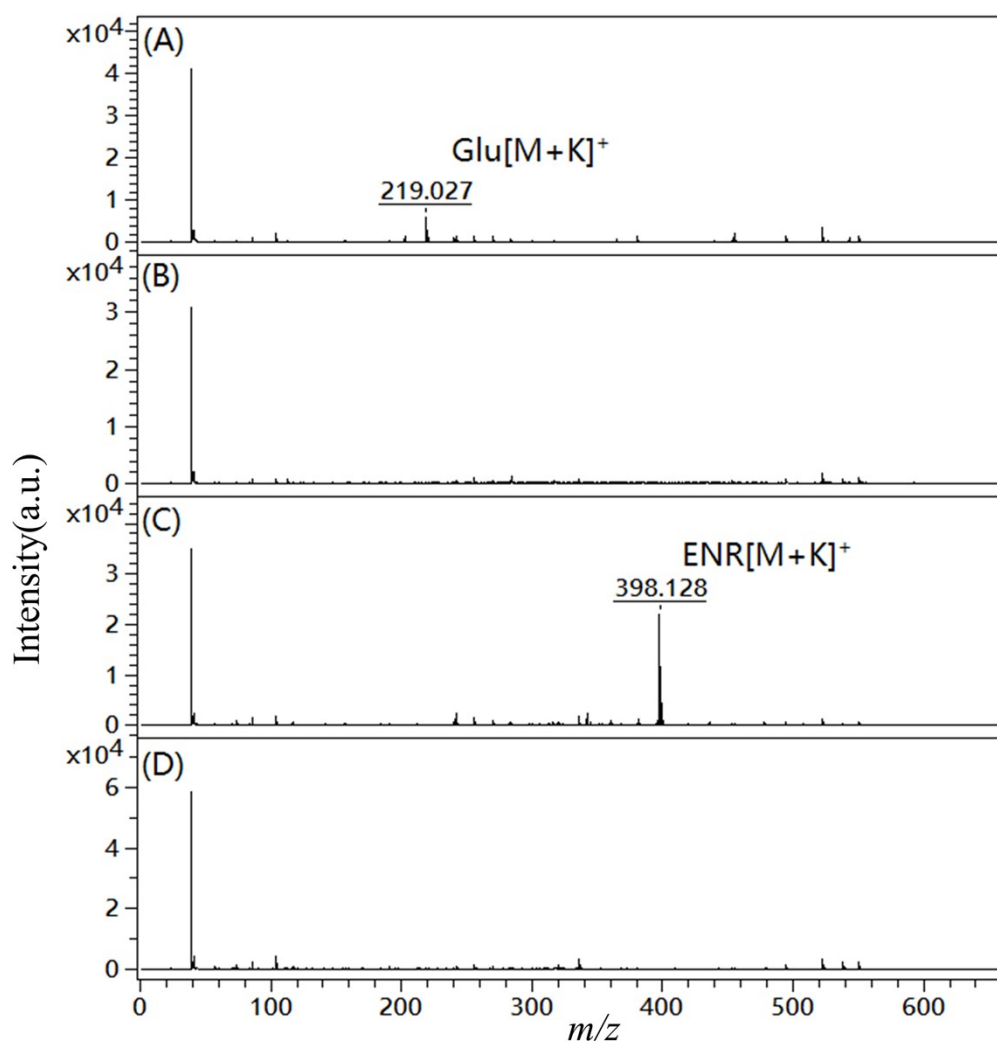
Figure S8. MALDI-TOF spectrums detected by Fe_3O_4 NPs matrix in positive and reflectron mode for four kinds of LNT samples. (A) LNT-1; (B) LNT-2; (C) LNT-3; (D) LNT-4.
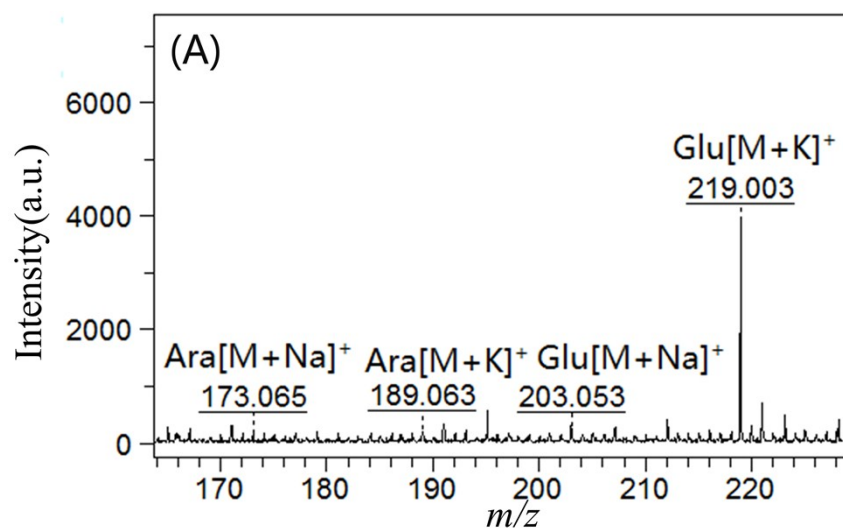
Figure S9. MALDI-TOF spectrum for Glu in sample LNT-1 with 0.05 mg·mL^{-1} Ara detected by Fe$_3$O$_4$ NPs matrix in positive and reflectron mode.
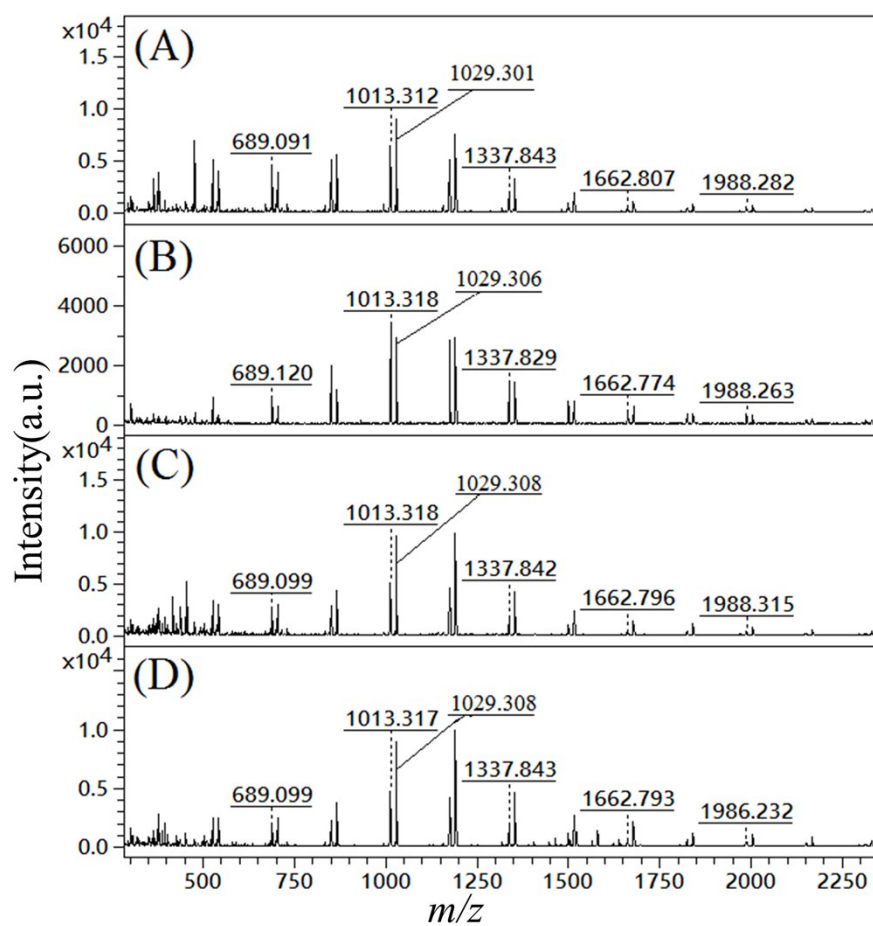
Figure S10. MALDI-TOF spectrums detected by DHB/*N*-MA matrix in positive and reflectron mode for four kinds of LNT samples. (A) LNT-1; (B) LNT-2; (C) LNT-3; (D) LNT-4.