Appendix: Supplementary material
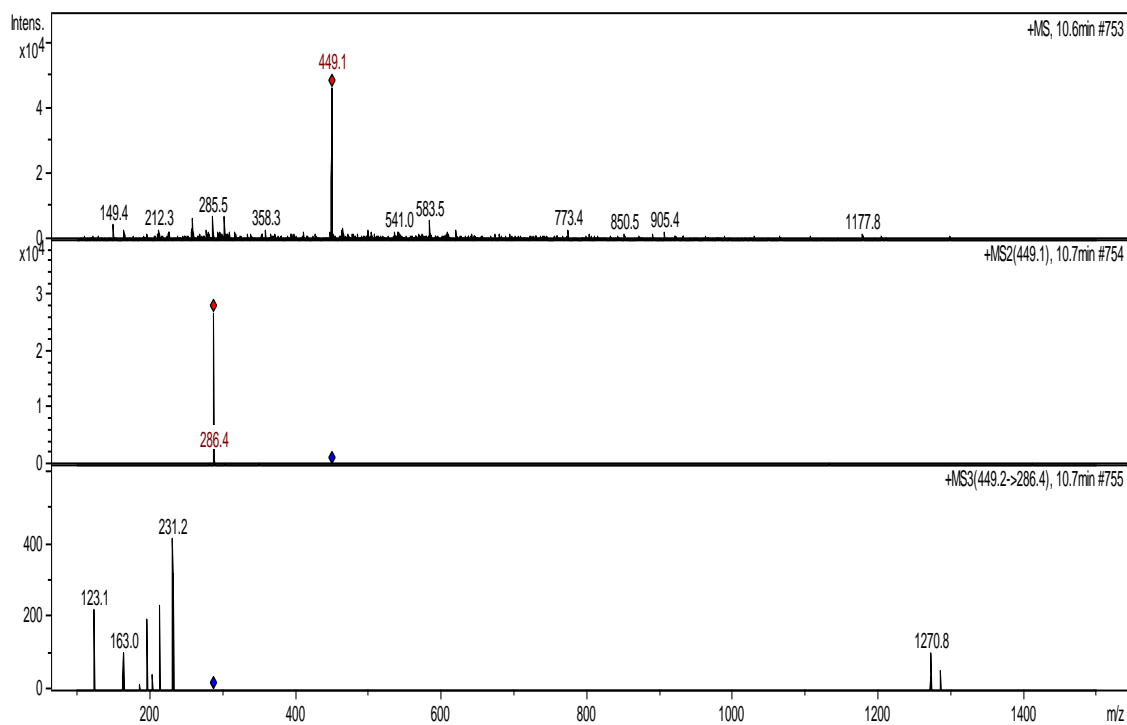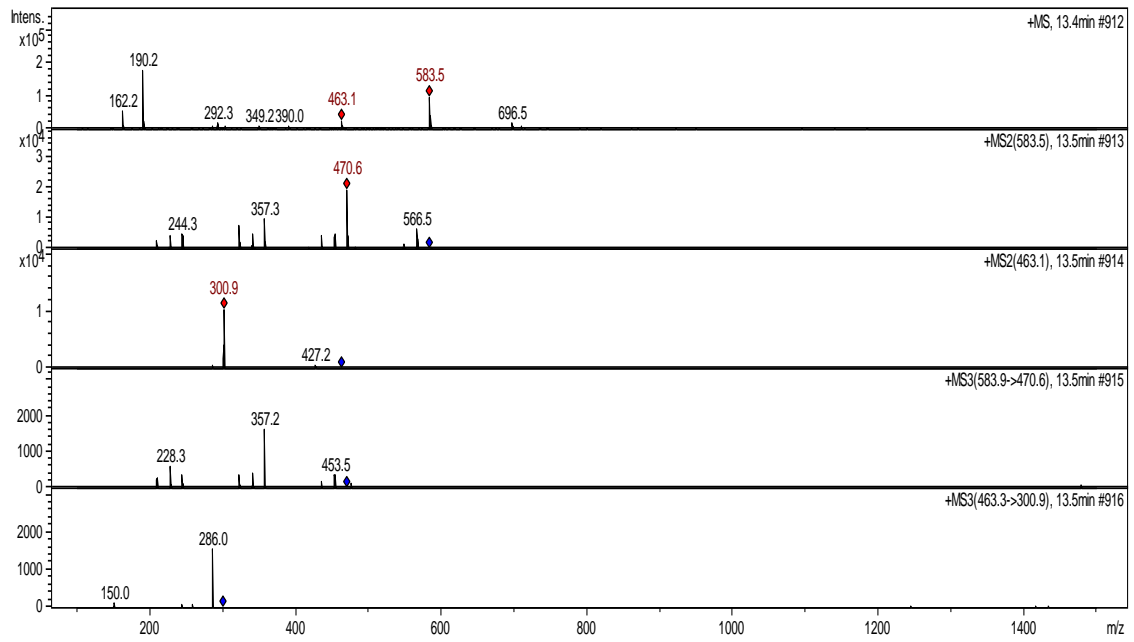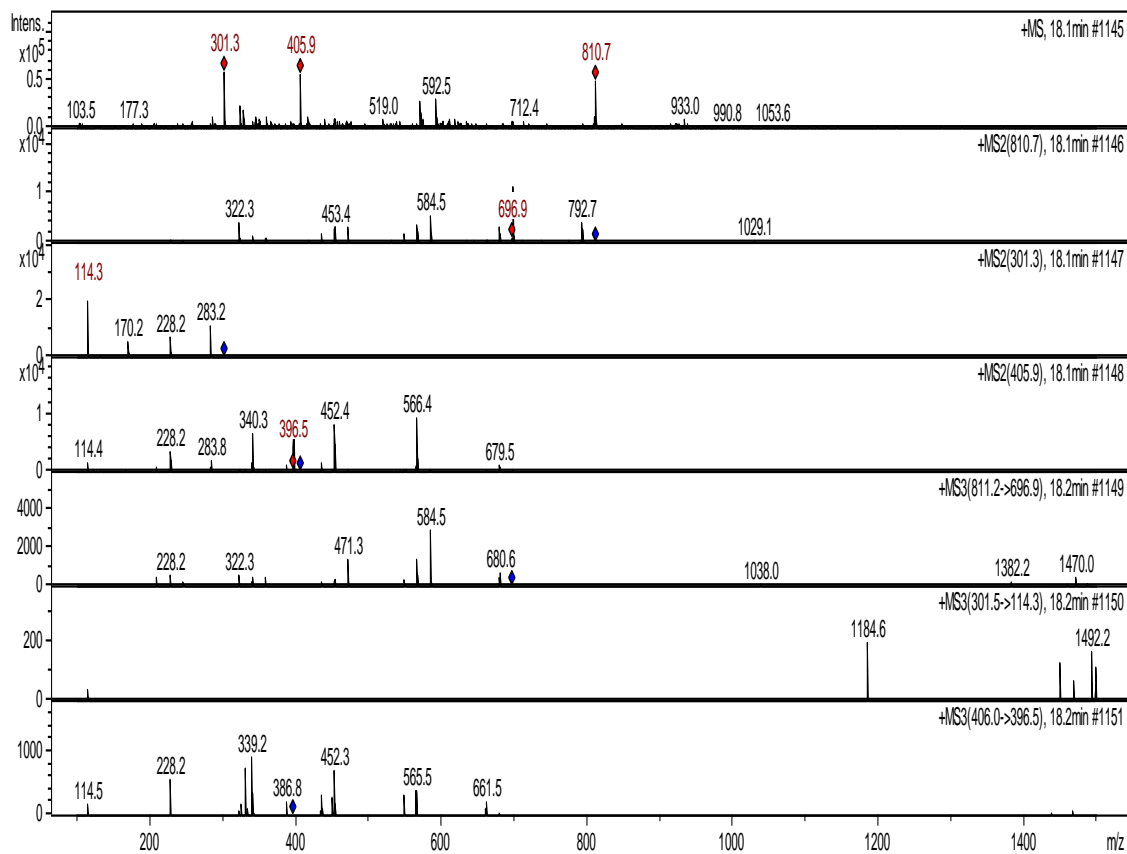
Identifications by LC-ESI – MS and LC Q-TOF

Figure 1 - Ion fragmentation profile of Cyanidin 3-*O*-glucoside (m/z 449) in positive mode obtained from urine samples by LC-ESI – MS.

Figure 2 - Ion fragmentation profile of Methylated cyanidin 3-glucoside (m/z 463) in positive mode obtained from urine samples by LC-ESI – MS.
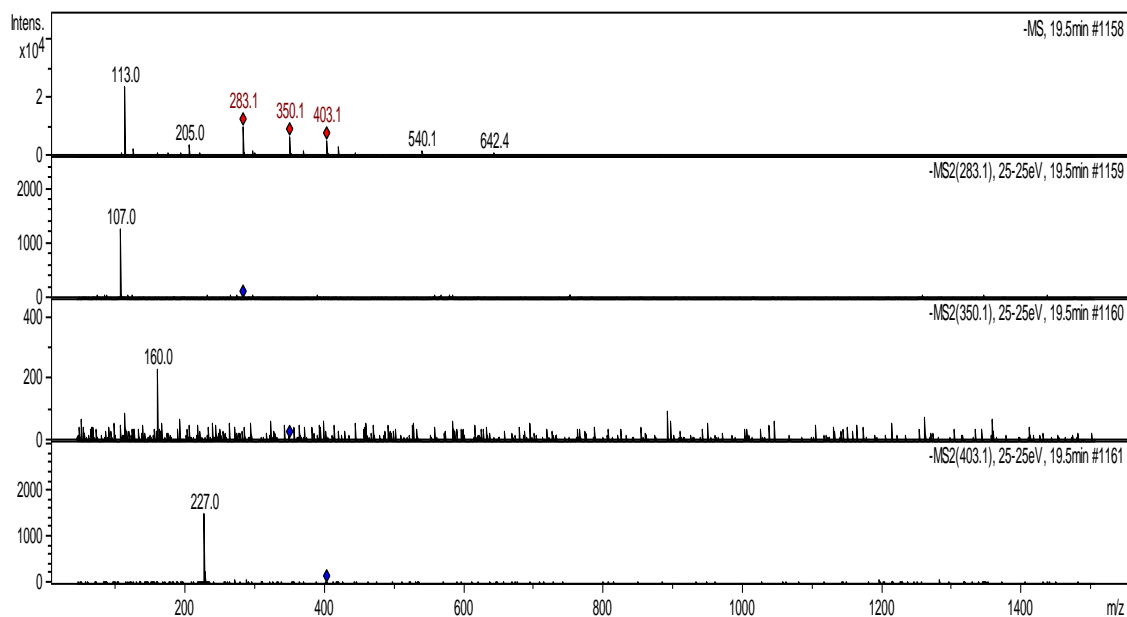
Figure 3 - Ion fragmentation profile of Methylated cyanidin (m/z 301) in positive mode obtained from urine samples by LC-ESI – MS.
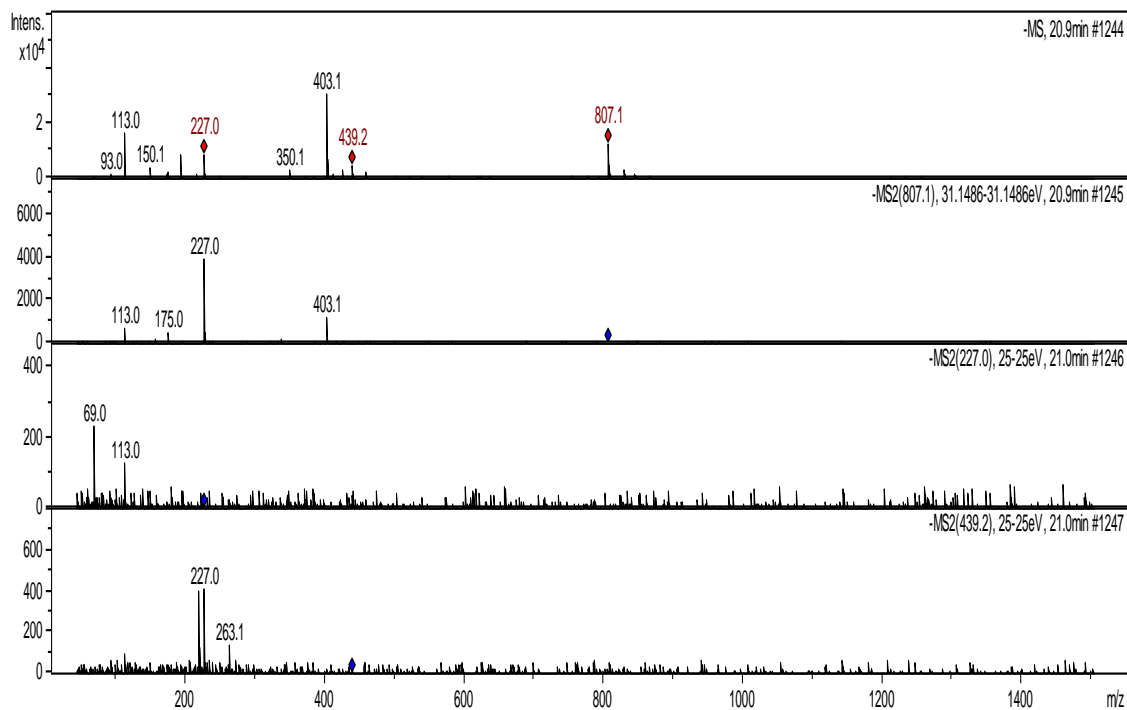
Urolithins Identified in Urine

Negative mode

Identification of urolithins was done by comparing mass fragmentation profile from literature data.
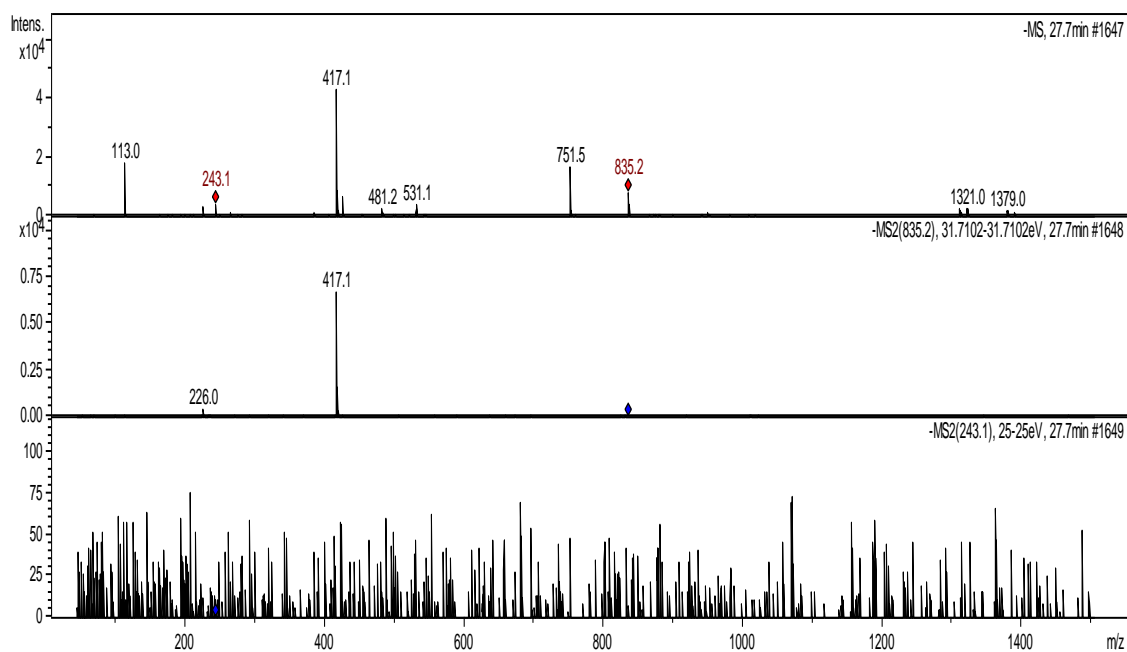

Figure 4 - Ion fragmentation profile of Urolithin A glucuronide isomer (m/z 403) in negative mode obtained from urine samples by LC Q-TOF.
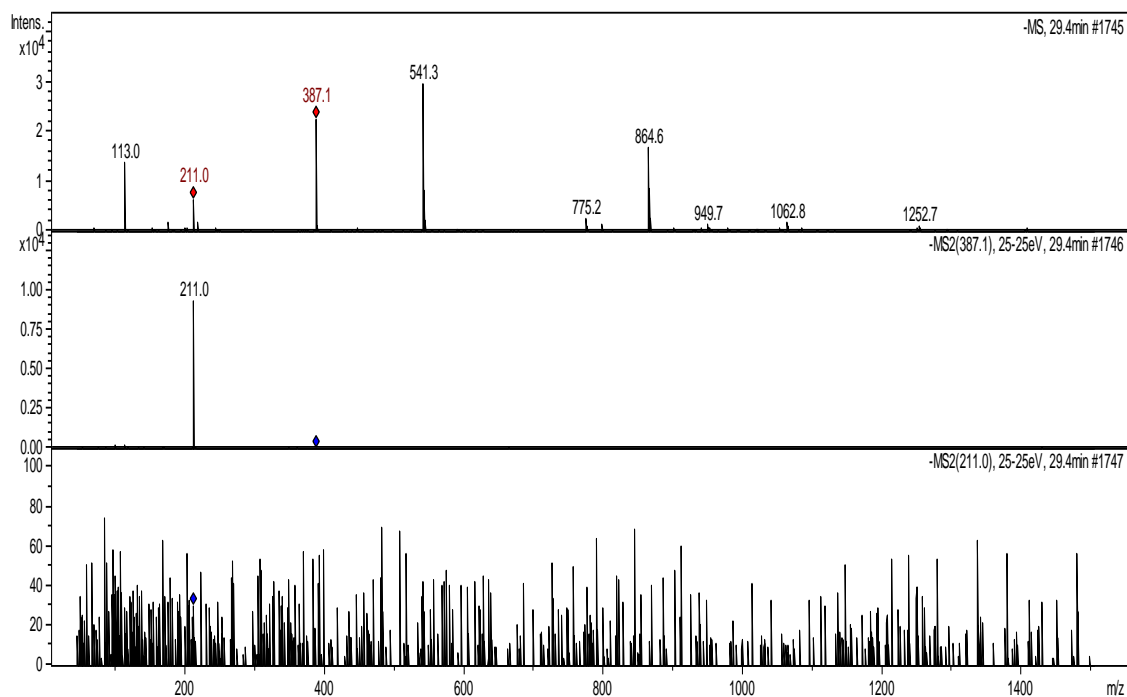
Figure 5 - Ion fragmentation profile of Urolithin A glucuronide isomer (m/z 403) in negative mode obtained from urine samples by LC Q-TOF.
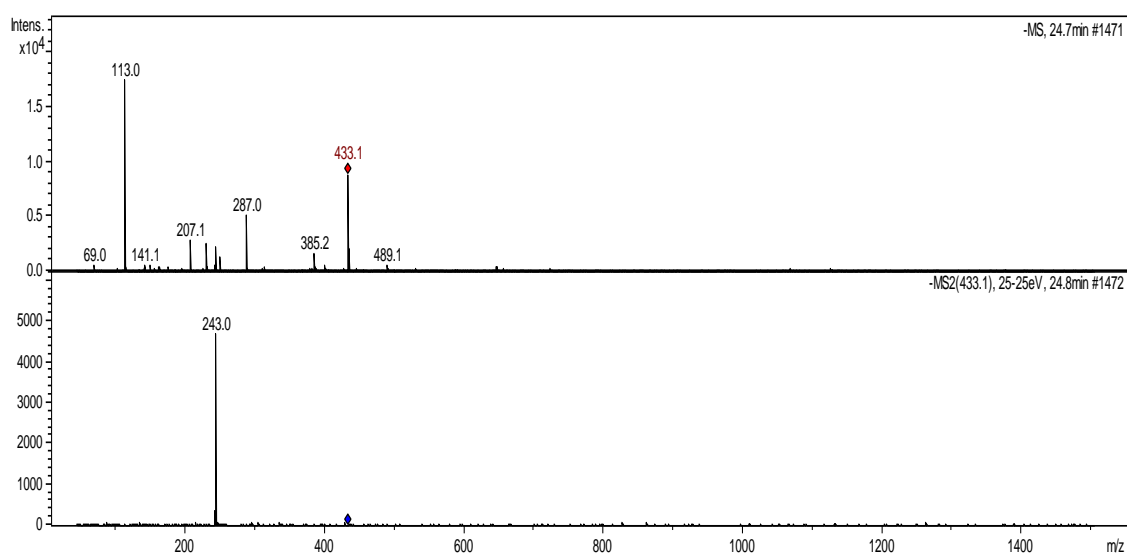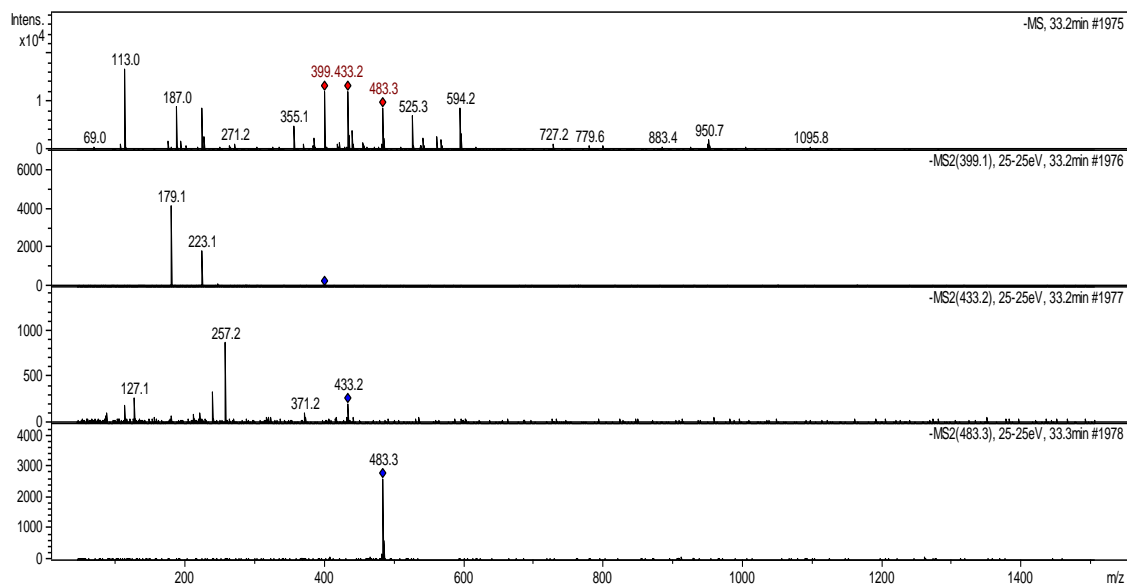
Figure 6 - Ion fragmentation profile of Urolithin C methyl ether glucuronide (m/z 433) in negative mode obtained from urine samples by LC Q-TOF.
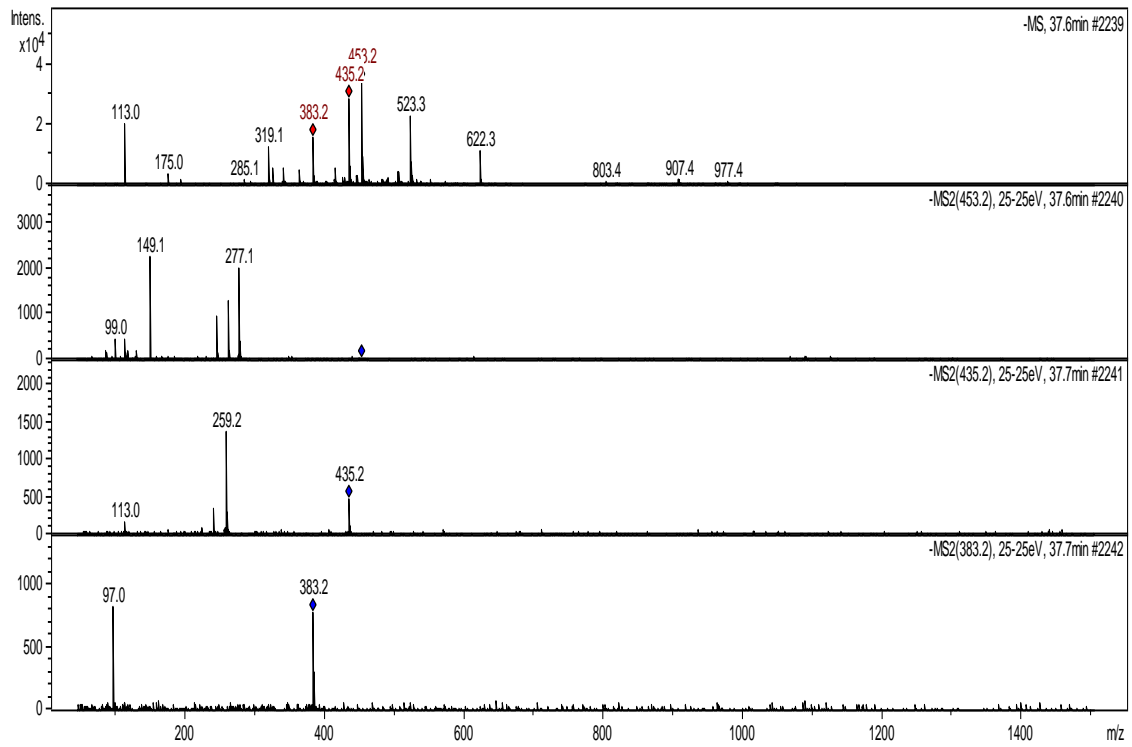

Figure 7 - Ion fragmentation profile of Urolithin C (m/z 243) in negative mode obtained from urine samples by LC Q-TOF.

Figure 8 - Ion fragmentation profile of Urolithin B glucuronide (m/z 387) in negative mode obtained from urine samples by LC Q-TOF.
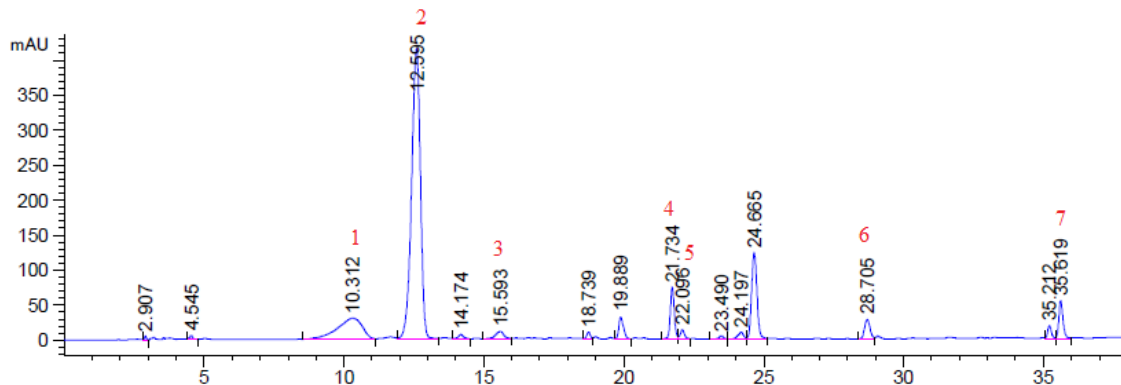

Figure 9 - Ion fragmentation profile of Urolithin C methyl ether glucuronide isomer (m/z 433) in negative mode obtained from urine samples by LC Q-TOF.

Figure 10 - Ion fragmentation profile of Urolithin D glucuronide (m/z 435) in negative mode obtained from urine samples by LC Q-TOF.

Figure 11 – Grumixama juice chromatogram of flavonoids SPE extraction (270 nm) (1: delphinidin 3-glucoside; 2: cyanidin 3-O-glucoside; 3: delphidin aglycone (traces); 4: ellagic acid; 5: quercetin 3-glucoside; 6: myrecetin aglycone; 7: quercetin aglycone).
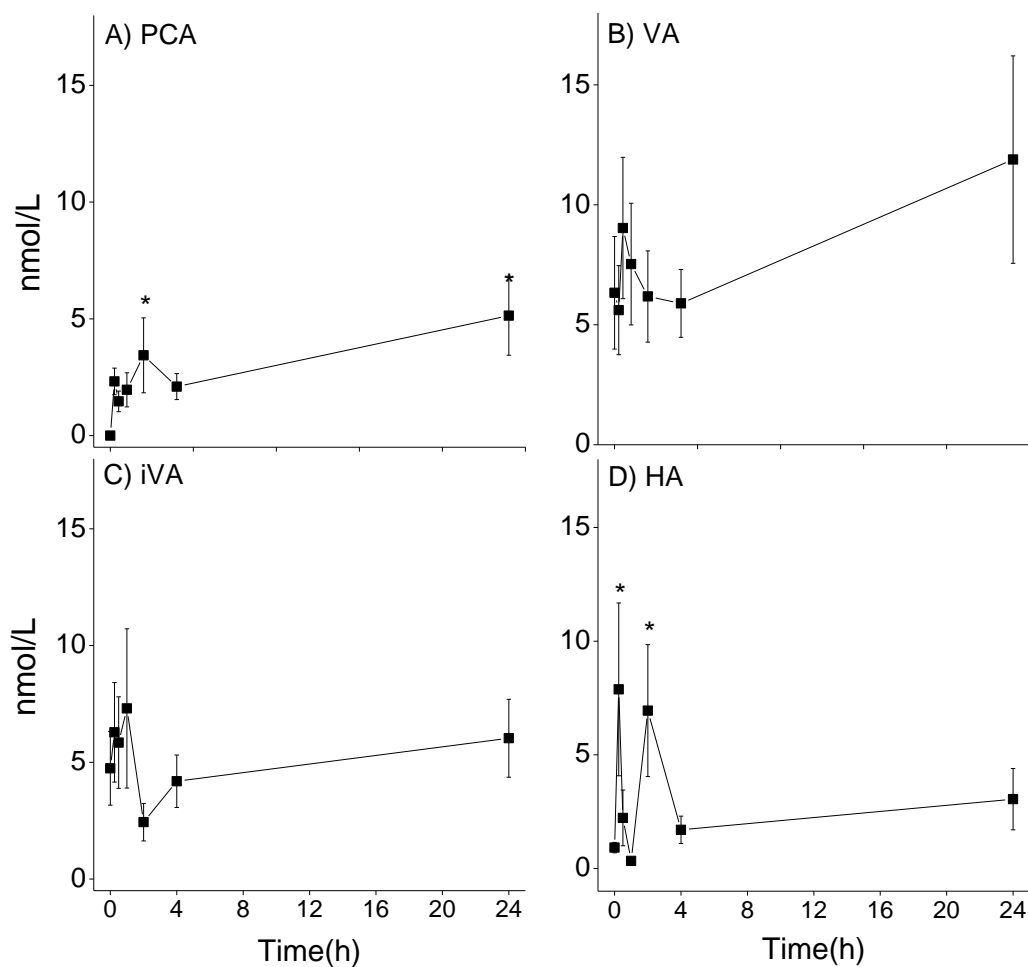
Figure 12 – Time course concentration of phenolic acids identified in plasma samples after intake of a single dose of grumixama juice. (A) APC, protocatechuic acid, (B) VA, vanillic acid, (C) iVA, isovanillic acid and (D) HA, hippuric acid. The results were expressed as the mean ± SEM of 10 healthy subjects. The results were analyzed with a one-way ANOVA followed by a t-test. $*p < 0.05$ compare to time zero.