

Supplementary Figure 1: LC-MS/MS structural elucidation of urinary PhIP metabolites. Conditions for LC-MS/MS were described in the *Experimental Procedures*. MS² fragmentation was conducted with collision energy ramping from 15 to 35 eV. **A.** MS² fragmentation of PhIP (**I**). **B.** MS² fragmentation of 4'-OH-PhIP (**III**). **C.** MS² fragmentation of N²-OH-PhIP (**IV**). **D.** MS² fragmentation of 5-OH-PhIP (**V**). **E.** MS² fragmentation of 4'-OH-PhIP sulfate (**VII**). **F.** MS² fragmentation of 5-OH-PhIP sulfate (**VIII**). **G.** MS² fragmentation of PhIP-N³-glucuronide (**XI**). **H.** MS² fragmentation of PhIP-N²-glucuronide (**XII**). **I.** MS² fragmentation of 4'-OH-PhIP glucuronide (**XIII**). **J.** MS² fragmentation of N²-OH-PhIP-N²-glucuronide (**XVI**). **K.** MS² fragmentation of N²-OH-PhIP-N³-glucuronide (**XVII**). **L.** MS² fragmentation of N²,4'-diOH-PhIP glucuronide (**XVIII**). Major daughter ions from fragmentation were interpreted in the inlaid structural diagrams.





