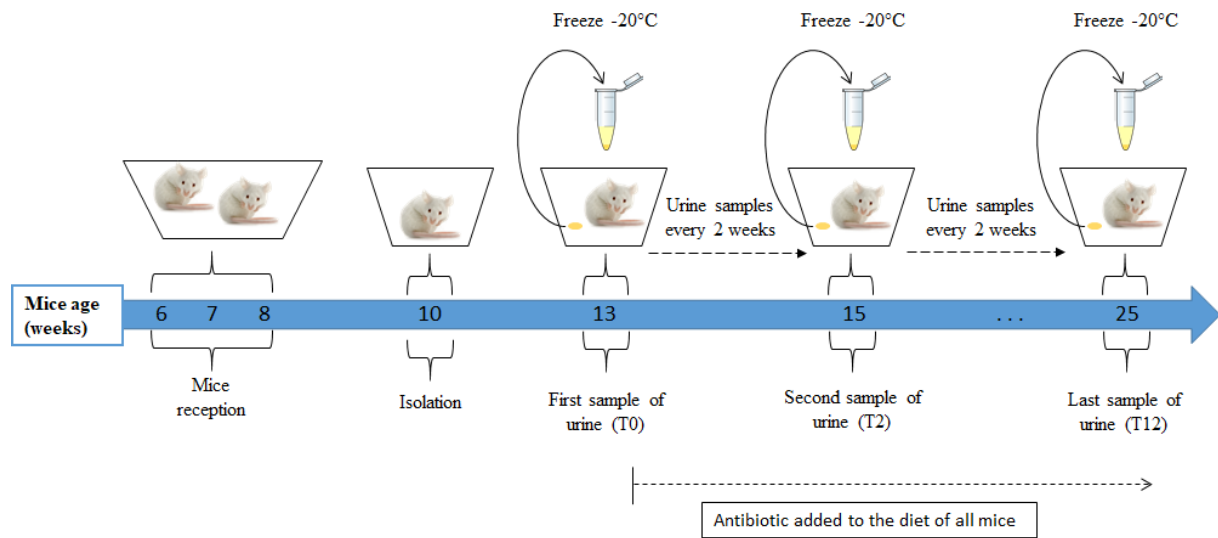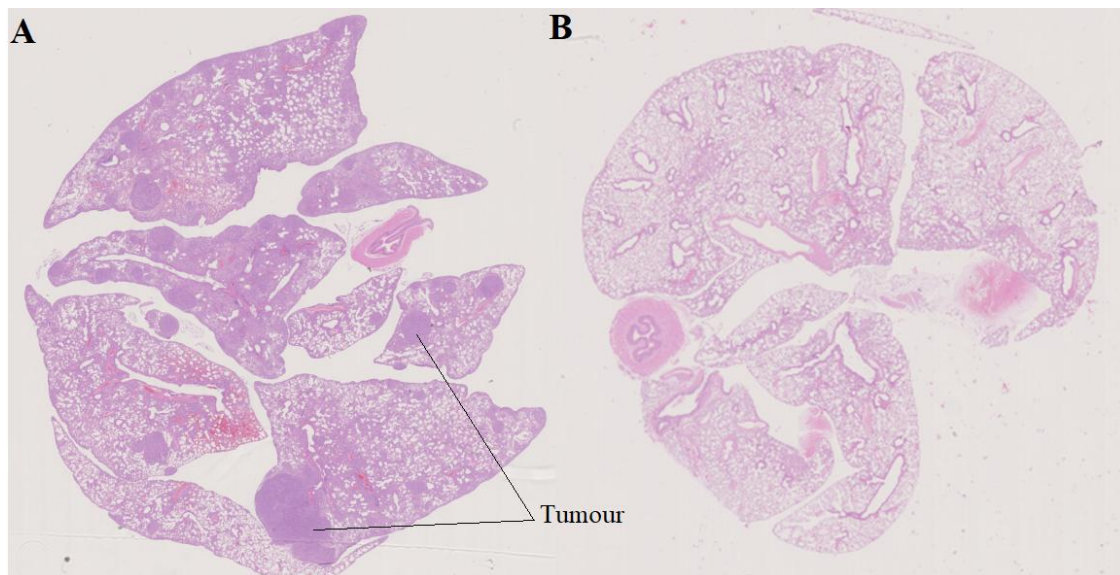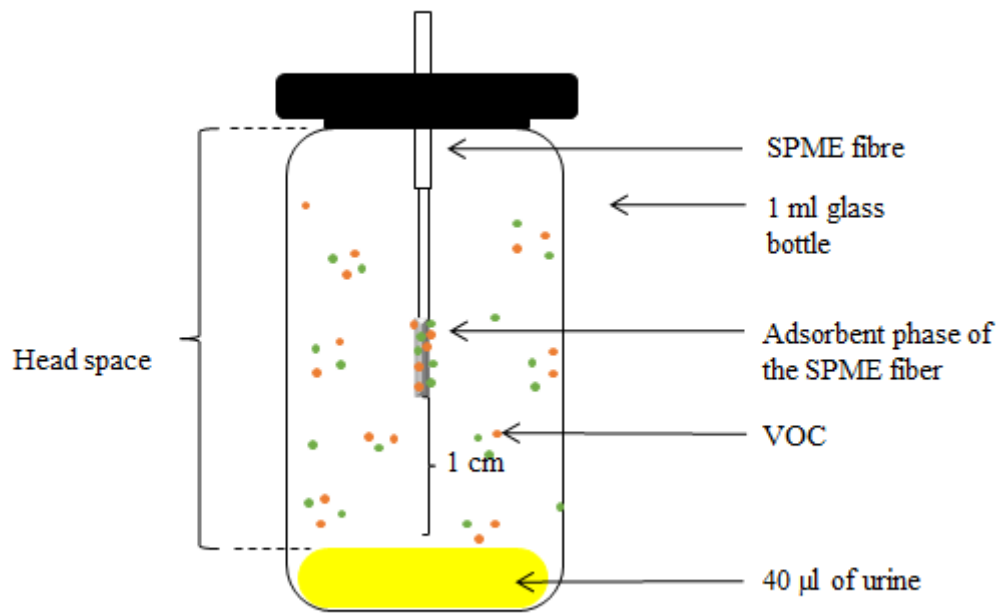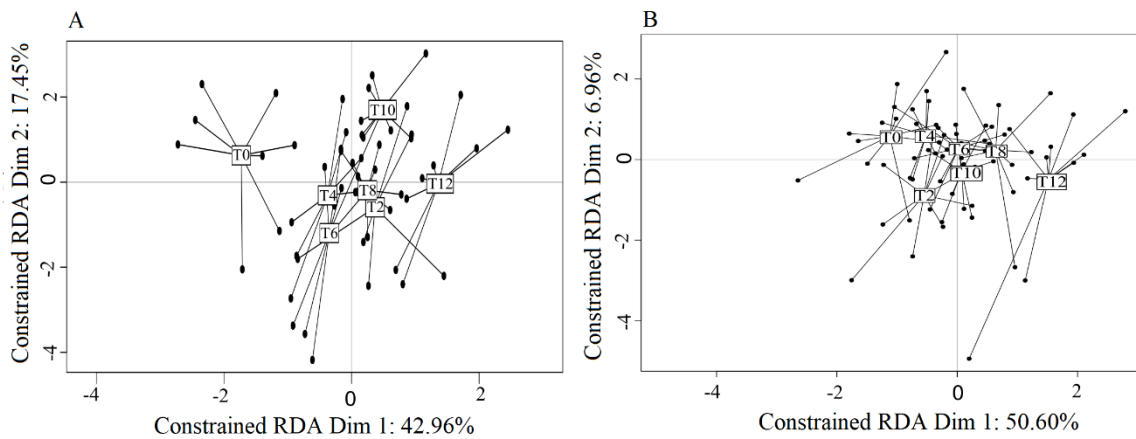# FIGURES

Figure 1: *Urine collection protocol. Mice were fed a diet containing doxycycline for 12 weeks starting from age 13 weeks; urine samples were collected every two weeks in Eppendorf tubes and kept at -20°C. All mice were euthanized at age 25 weeks for tumour screening. .*


Figure 2: *Formalin-fixed paraffin embedded lung sections with hematoxylin-eosin staining after 12 weeks of doxycycline treatment. A) cancerous mouse (CC); B) healthy mouse (NC).*

Figure 3: *Schematic representation of the device used for sampling VOCs present in 40 µl of mouse urine and in water (control) using the solid phase microextraction (SPME) method.*


Figure 4: *Graphical representations of the RDA results testing the impact of experimental conditions (doxycycline treatment through time, T0–T12) on VOC profiles of A) cancerous mice (Table 1, model 2) and B) non-cancerous mice (Table 1, model 1). Each dot represents a urine sample.*
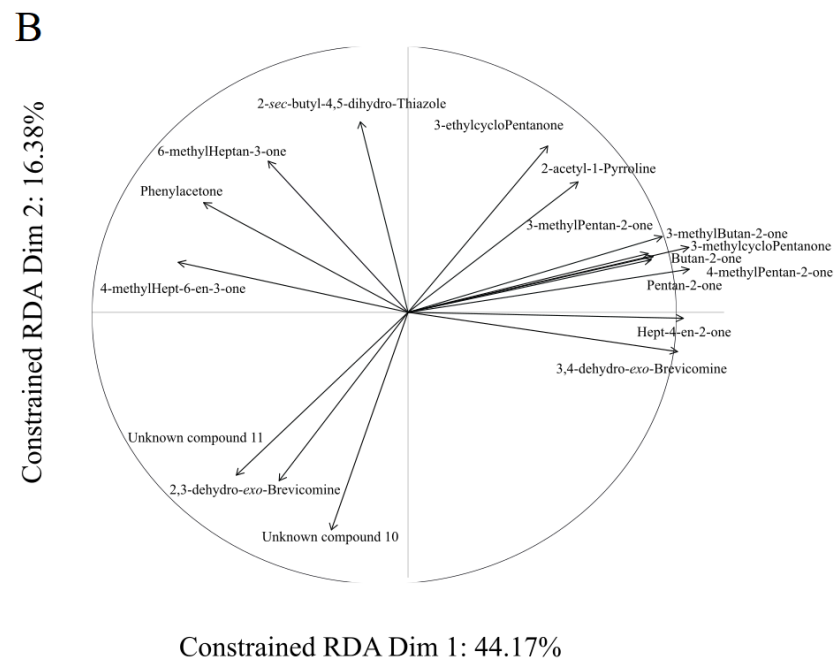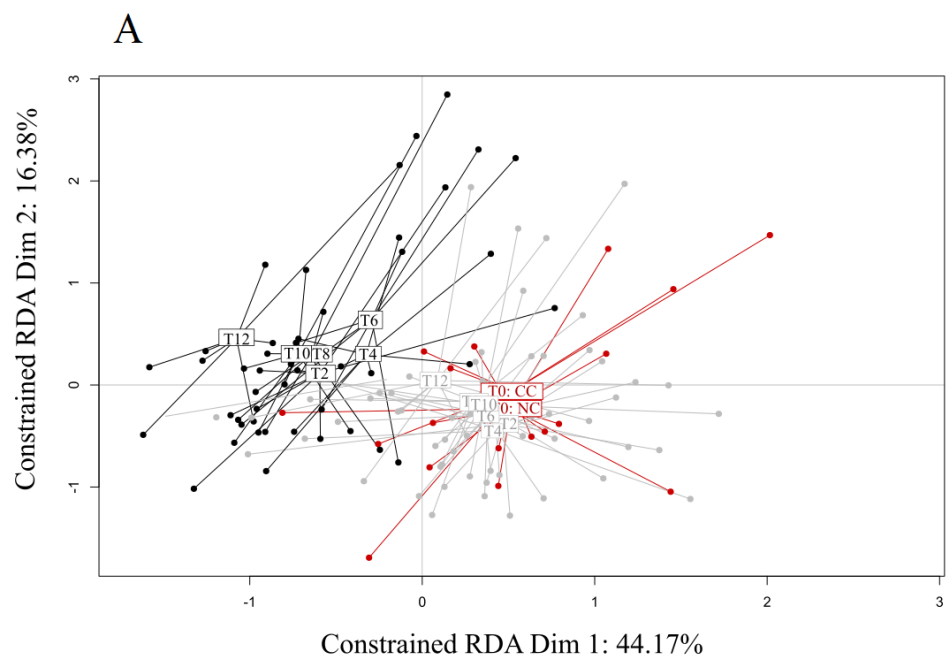
Figure 5: *A) Graphical representation of the RDA results testing the influence of health status (cancerous: CC; non-cancerous: NC) and experimental condition (doxycycline treatment through time, T0–T12) on VOC profiles. The initial experimental condition (T0=control) is shown in red for both CC and NC. All further measurements are in grey for NC and black for CC mice. .B) Identification of the 17 VOCs that show an absolute correlation coefficient greater than 0.8 with the main axes.*
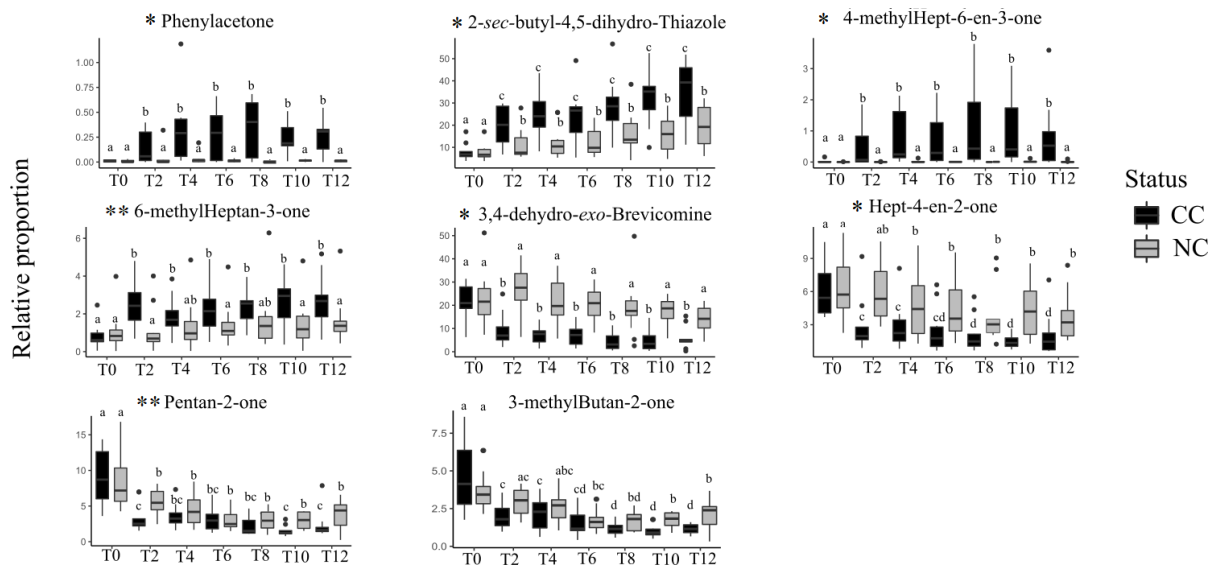
Figure 6: Variations in the relative proportions (%) of eight VOCs showing a significant difference between CC and NC (Table 2) at different times (T0 to T12). Cancerous mice (CC) are represented in black; non-cancerous mice (NC) are in grey. The box plots include minimum, lower quartile, median, upper quartile, and maximum values. Different letters on the boxplots indicate statistically significant differences ($p < 0.05$). Compounds with * indicate a difference between NC and CC from T2. Compounds with ** indicate a difference at T2 and T12 but not at other stages.
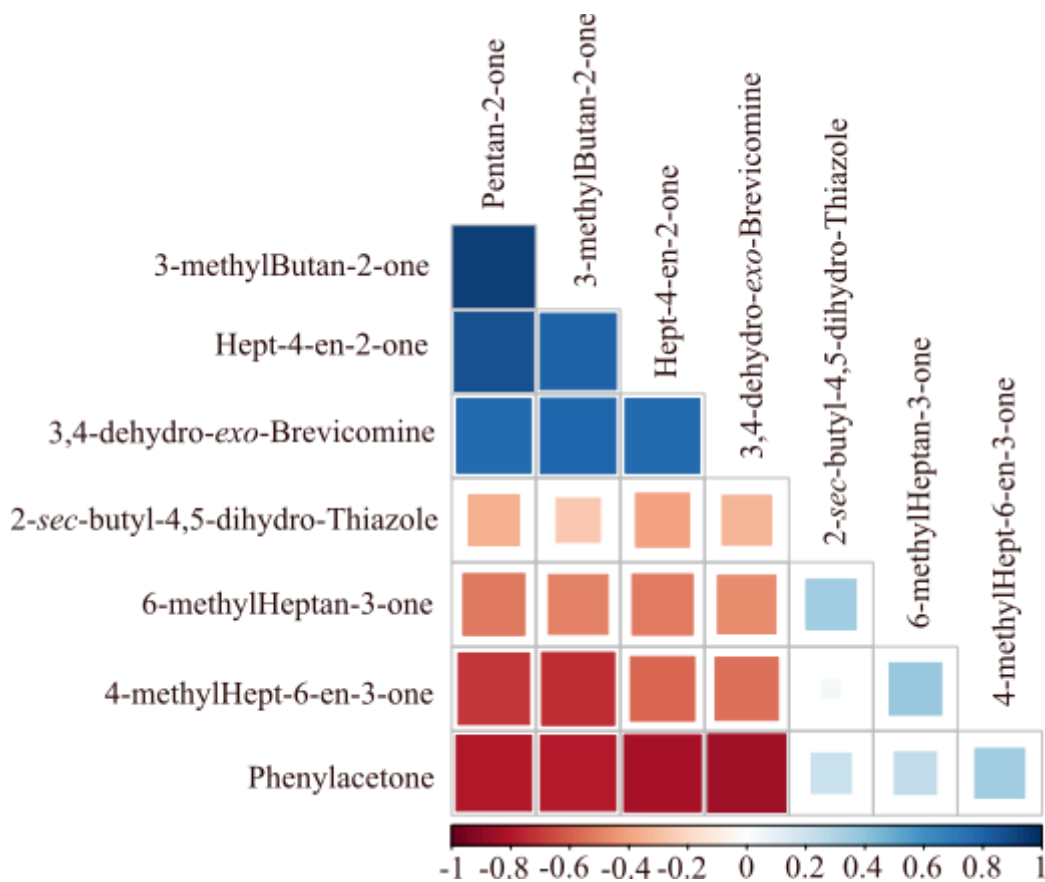
Figure 7 : Correlation between eight VOC showing a significant difference between CC and NC.