

Supplementary Information

Figure S1: Overfitting curve of the PCA

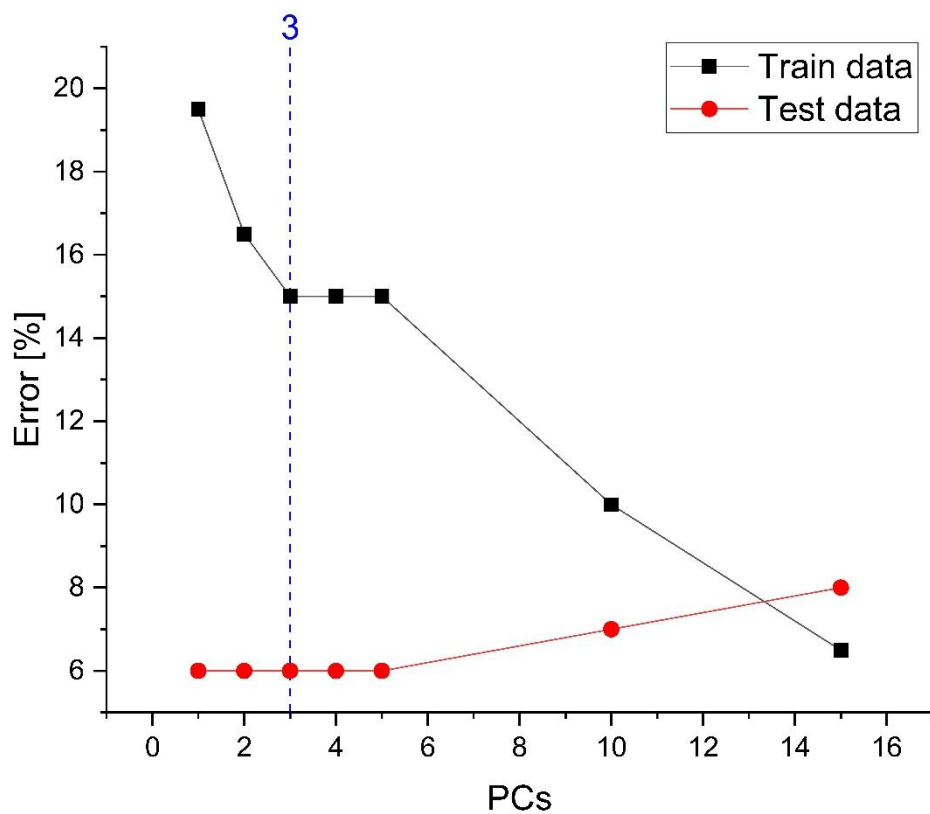


Figure S1: Overfitting curve of the PCA. It can be seen that the best error train/error test-ratio is achieved at three PCs.

Figure S2: Principal Component (PCA) - 2D - Score plots of the comparison of *Synchytrium endobioticum* infected potato tubers (Syn) vs. Healthy tubers (HP)

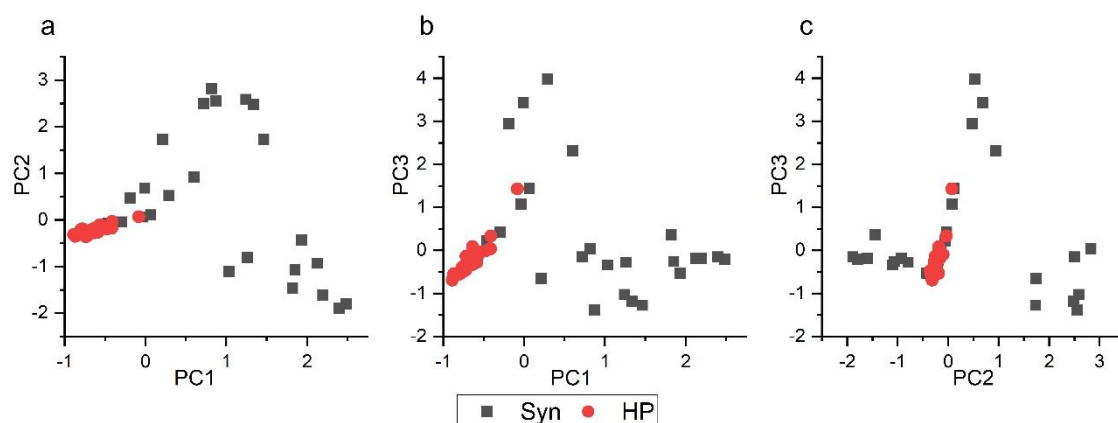


Figure S2. PCA 2D-Score-Plots Syn -HP. a: PC1 vs. PC2, b: PC1 vs. PC3, c: PC2 vs. PC3, black: Syn, red: HP.

Figure S3: GC-MS chromatogram of the n-alkane standard mixture (C₇–C₁₂)

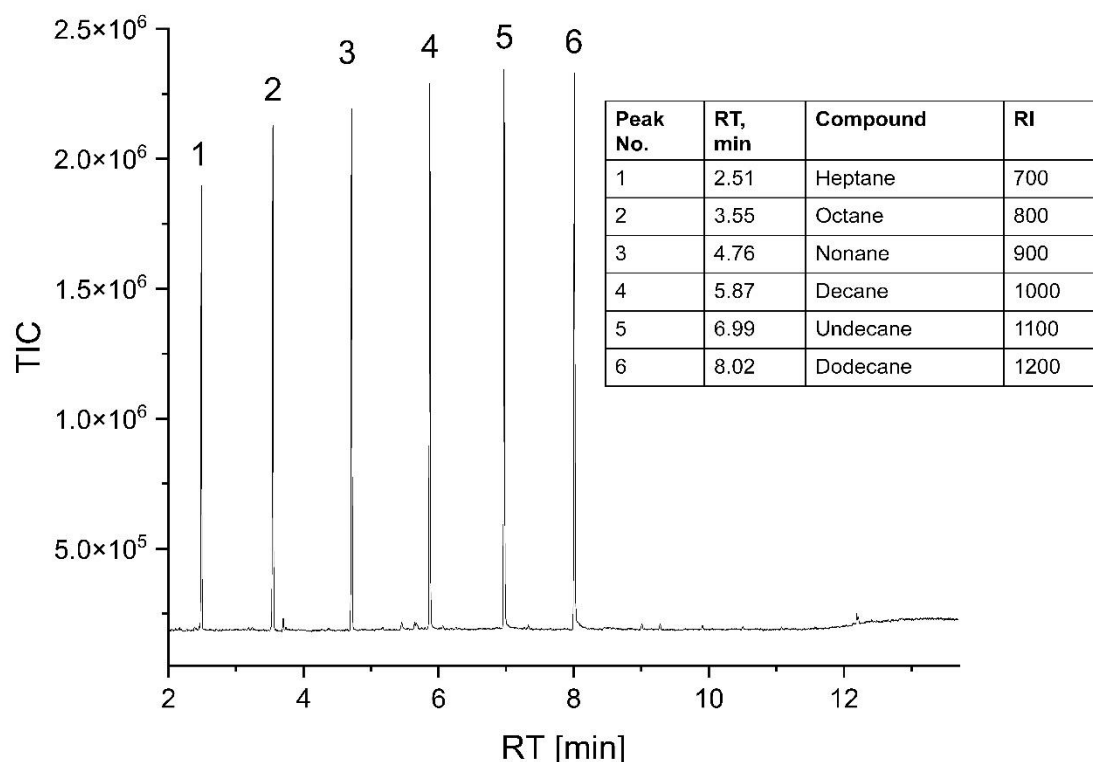


Figure S3: GC-MS chromatogram of the n-alkane standard mixture (C₈–C₂₀) used for retention index (RI) calculation. Retention times (RT) and corresponding compound names are indicated. The measured RI values were used to support the tentative identification of VOCs detected in infected potato samples by comparison with literature RI data. No inconsistencies in elution order were observed, confirming the reliability of the RI-based identification despite the absence of authentic standards for the VOCs.