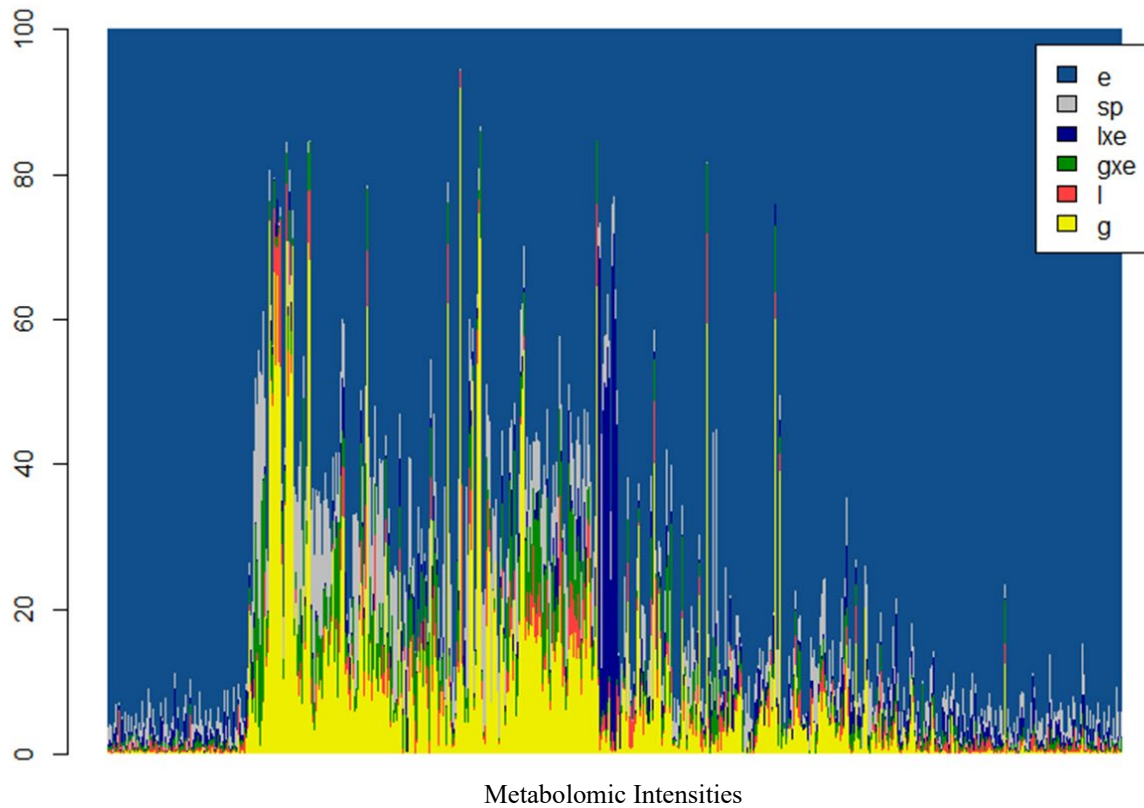
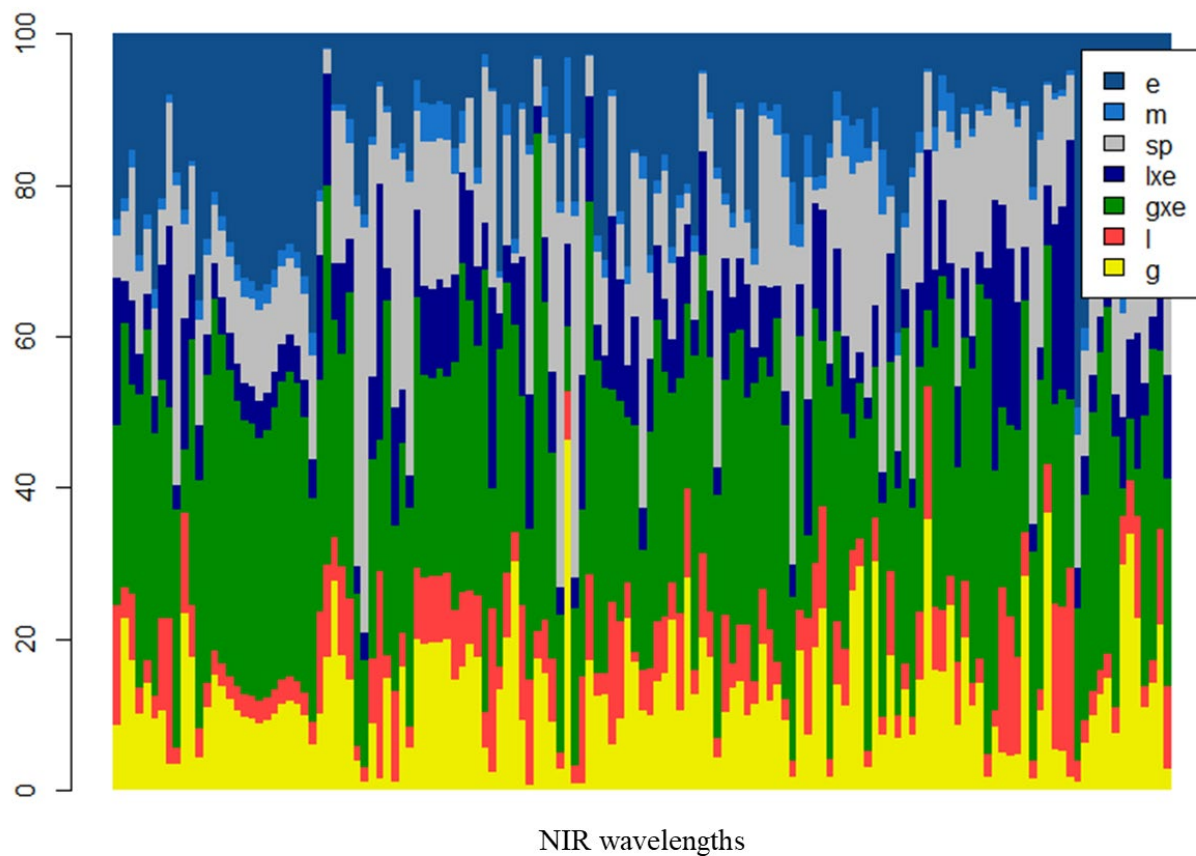


## Supplementary material 2



**Figure S3.** Relative proportion (%) of variance components for metabolomics intensities (MIs); g: additive genomic variance; l: line variance; gxe: genomic additive-by-environment interaction variance; lxe: line-by-environment interaction variance; sp: spatial variance; e: residual variance.



**Figure S4.** Relative proportion (%) of variance components for NIR wavelengths; g: additive genomic variance; l: line variance; gxe: genomic additive-by-environment interaction variance; lxe: line-by-environment interaction variance; sp: spatial variance; m: malting group variance; e: residual variance.