

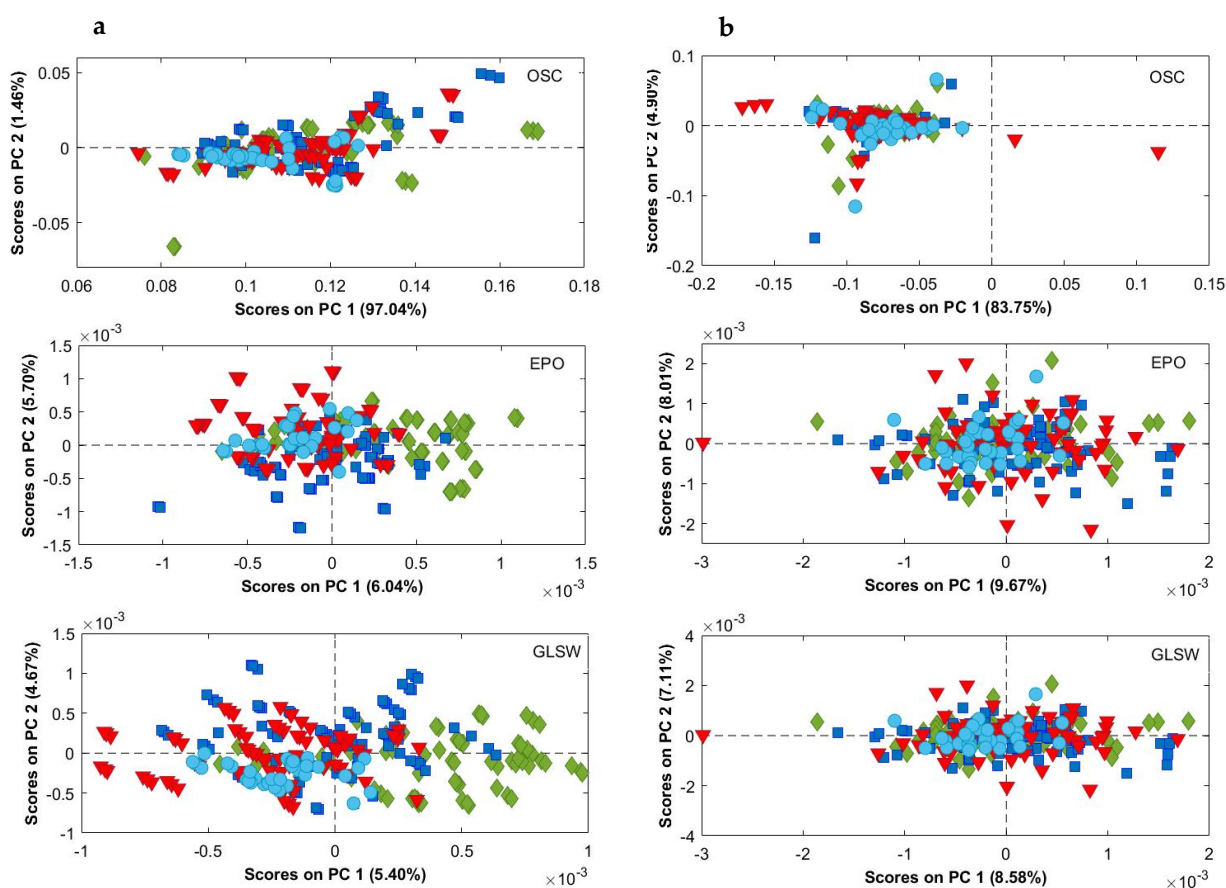
## Supplementary Materials

**Table S1.** The geographical origins, codes and number of samples used for the discrimination.

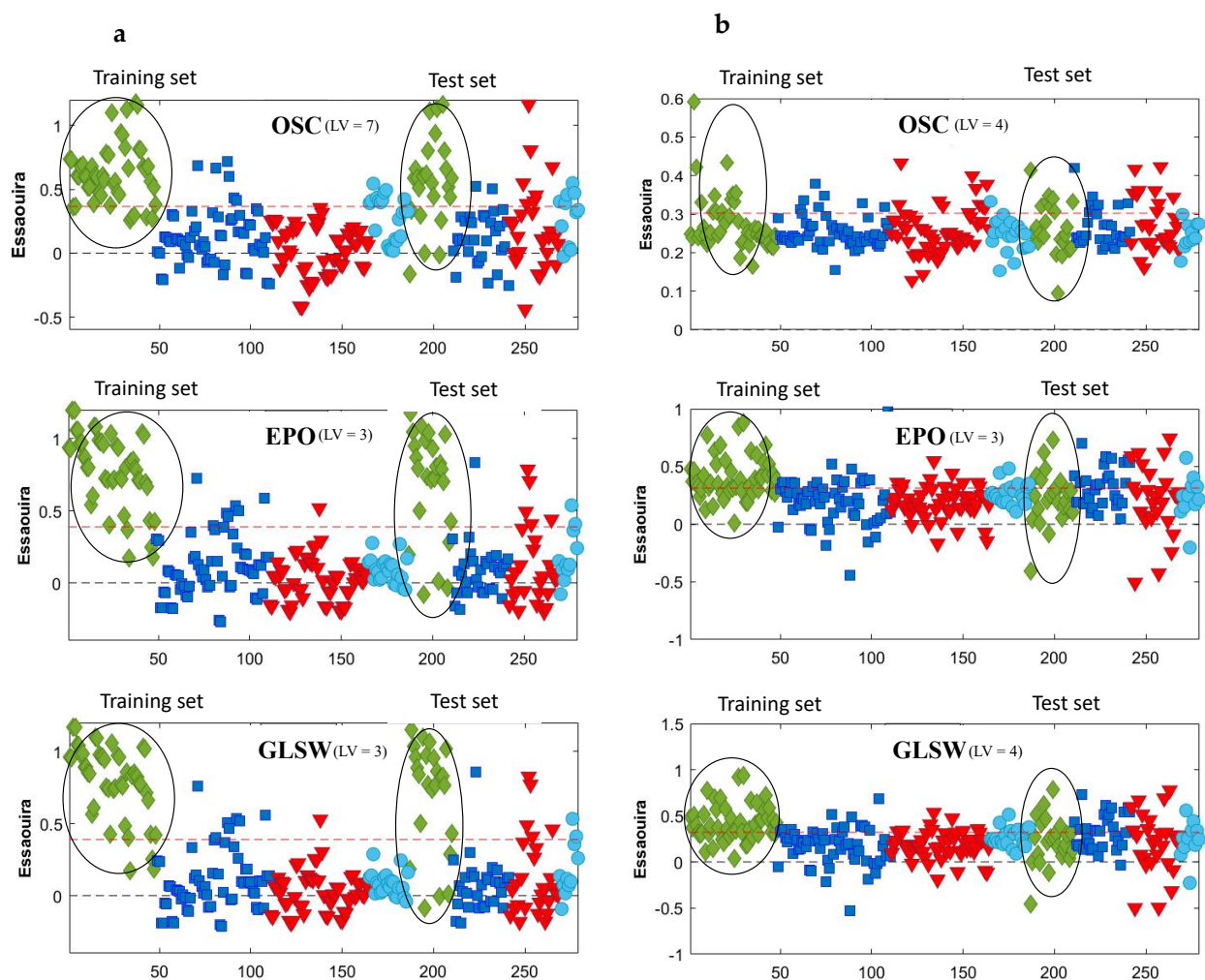
Geographical origin	Code	Number of samples	Number of spectra in sub-sets	
			Training set	Test set
Agadir	AG	27	54	27
Essaouira	ES	31	62	31
Taroudant	TA	24	48	24
Tiznit	TZ	11	22	11
Total		93	186	93

**Table S2.** Geographical parameters [46] and tocopherol contents [47] of the four provenances of Argan trees.

Provenance	Altitude (m)	Temperature min-max (°C)	Rainfall (mm/year)	Distance from the coast (km)	$\alpha$ -tocopherol (mg/kg)	$\beta$ -tocopherol (mg/kg)	$\delta$ -tocopherol (mg/kg)
Taroudant	597	11.4–31.2	210	107	57.19	4.56	80.2
Tiznit	497	12.7–26.3	205	63	41.51	3.02	104.4
Essaouira	138	13.5–26.4	292	20	25.01	1.21	58.6
Agadir	103	12.9–24.5	264	22	34.98	1.61	71.0



**Figure S1.** PCA score plots (PC1 vs PC2) of the MIR (a) and NIR (b) after random labelling and applying a filter method. Taroudant (▼); Essaouira (■); Agadir (◆); Tiznit (●).



**Figure S2.** The prediction results for the Essaouira group from the randomly assigned classes data set applying a filter method and PLS-DA. (a) MIR and (b) NIR data. Agadir (■); Essaouira (◆); Taroudant (▼); Tiznit (●). The red dotted lines represent the classification threshold (or threshold value).