Table S1. PLS-DA calibration results of models developed for pre-sliced MAP Iberian *chorizo* classification within the official commercial categories of the raw material (*Black, Red* and *White*) according to various spectral pre-treatments and spectra ranges.

				Cross-validation											
				Black				*Red*				*White*			
Pre-treatment	Range	LVs	n	1-VR	RMESECV	SE	SP	1-VR	RMESECV	SE	SP	1-VR	RMESECV	SE	SP
Absorbance	1000-2300	12	64	0.700	0.251	90.48	98.03	0.662	0.286	84.00	76.60	0.666	0.279	73.08	97.83
	1000-1800	12	65	0.653	0.272	76.19	92.16	0.557	0.323	80.00	74.47	0.671	0.279	88.46	95.65
SNV-DE	1000-2300	12	69	**0.815**	**0.198**	**100.00**	**100.00**	0.781	0.224	92.00	97.87	0.686	0.276	96.15	89.13
	1000-1800	11	65	0.766	0.220	90.48	94.12	0.724	0.255	80.00	85.11	0.723	0.258	84.62	82.61
SG 1,4,4,1	1000-2300	8	67	0.423	0.438	71.43	90.20	0.566	0.321	96.00	85.11	0.686	0.273	84.62	95.65
	1000-1800	8	69	0.622	0.251	80.95	94.12	0.749	0.231	96.00	93.62	0.701	0.292	76.69	80.43
SG 1,4,4,1 SNV-DE	1000-2300	10	70	0.751	0.209	100.00	100.00	**0.838**	**0.181**	**96.00**	**97.87**	**0.790**	**0.245**	**100.00**	**95.65**
	1000-1800	8	72	0.733	0.238	100.00	100.00	0.738	0.247	100.00	91.49	0.723	0.256	92.31	95.65
SG 2,5,5,2	1000-2300	2	63	0.371	0.351	9.52	64.71	0.239	0.427	24.00	17.02	0.393	0.384	23.08	56.52
	1000-1800	3	67	0.213	0.384	14.29	72.55	0.452	0.363	52.00	63.83	0.442	0.37	34.62	58.70
SG 2,5,5,2 SNV-DE	1000-2300	2	65	0.280	0.379	9.52	58.82	0.342	0.397	36.00	61.70	0.359	0.392	23.08	41.30
	1000-1800	6	68	0.578	0.267	42.86	74.51	0.698	0.256	72.00	68.09	0.724	0.281	76.92	58.70

Black, Red and *White* = commercial categories of raw material according to the current Spanish Iberian Quality Standard used for manufacturing Iberian *chorizo*; SNV = Standard normal variate; DE = detrending; SG = Savitzky-Golay derivates, with the first number corresponding to order derivate, second and third one indicating the smoothing pints on the left and right sides and the last number corresponding to the polynomial order; LVs = latent variables; n = number of samples used for cross-validation sample sets; 1-VR = coefficient of determination in cross-validation; RMSECV = root mean square error of cross validation; SE = sensitivity (%); SP = specificity (%).

Table S2. SIMCA calibration results of models developed for pre-sliced MAP Iberian *chorizo* classification within the official commercial categories of the raw material (*Black, Red* and *White*) according to various spectral pre-treatments and spectra ranges.

			Calibration								
			Black			*Red*			*White*		
Pre-treatment	Range	n	PCs	SE	SP	PCs	SE	SP	PCs	S	SP
Absorbance	1000-2300	72	**1**	**100.00**	**21.57**	2	96.00	38.30	1	100.00	15.22
	1000-1800	72	1	100.00	19.61	2	96.00	36.17	1	100.00	13.04
SNV-DE	1000-2300	72	6	100.00	5.88	9	100.00	34.04	8	100.00	54.35
	1000-1800	72	6	100.00	3.92	8	100.00	44.68	**7**	**100.00**	**63.04**
SG 1,4,4,1	1000-2300	72	3	95.24	19.61	4	100.00	36.17	1	100.00	15.21
	1000-1800	72	2	95.24	19.61	**2**	**100.00**	**46.81**	1	100.00	13.04
SG 1,4,4,1 SNV-DE	1000-2300	72	6	100.00	0.00	7	100.00	4.26	6	100.00	41.3
	1000-1800	72	4	100.00	0.00	5	100.00	10.64	8	100.00	45.65
SG 2,5,5,2	1000-2300	72	12	100.00	21.57	5	100.00	12.77	2	100.00	6.52
	1000-1800	72	12	100.00	9.80	2	96.00	29.79	1	100.00	2.17
SG 2,5,5,2 SNV-DE	1000-2300	72	11	100.00	0.00	4	92.00	0.00	2	96.15	32.61
	1000-1800	72	12	100.00	0.00	12	100.00	0.00	4	100.00	28.26

Black, Red and *White* = commercial categories of raw material according to the current Spanish Iberian Quality Standard used for manufacturing Iberian *chorizo*; SNV = Standard normal variate; DE = detrending; SG = Savitzky-Golay derivates, with the first number corresponding to order derivate, second and third one indicating the smoothing pints on the left and right sides and the last number corresponding to the polynomial order; PCs = number of principal components; n = number of samples used for calibration sample sets; SE = sensitivity (%); SP = specificity (%).

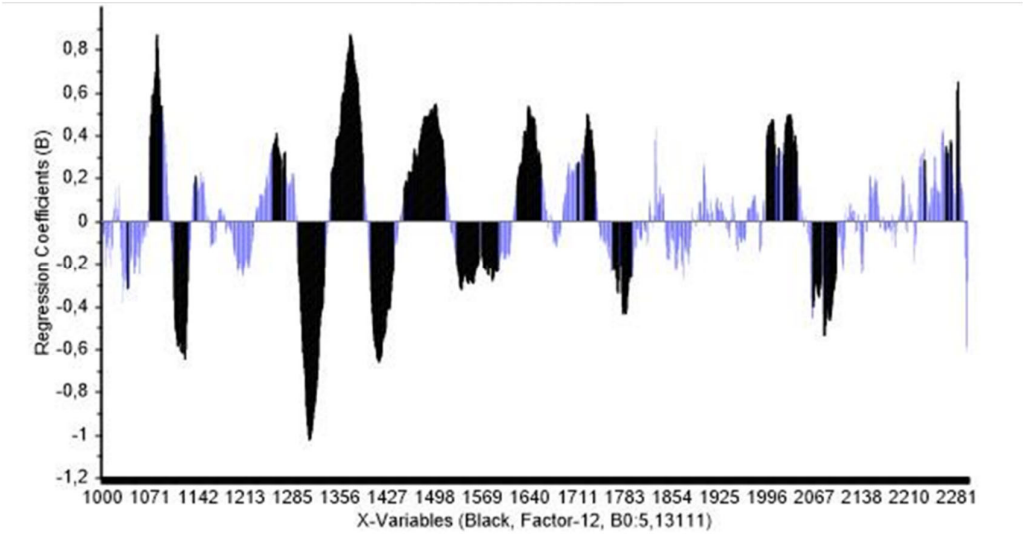
Table S3. LDA calibration results of models developed for pre-sliced MAP Iberian *chorizo* classification within the official commercial categories of the raw material (*Black, Red* and *White*) according to various spectral pre-treatments and spectra ranges.

		Calibration						
			Black		*Red*		*White*	
Pre-treatment	Range	n	SE	SP	SE	SP	SE	SP
Absorbance	1000-2300	72	80.95	78.43	60.00	93.62	88.46	93.48
	1000-1800	72	90.48	80.39	60.00	95.74	**88.46**	**93.48**
SNV-DE	1000-2300	72	76.19	84.31	76.00	89.36	73.08	89.13
	1000-1800	72	80.95	68.63	68.00	91.49	53.85	91.30
SG 1,4,4,1	1000-2300	72	**90.48**	**86.27**	76.00	95.74	80.77	91.30
	1000-1800	72	85.71	66.67	44.00	97.87	80.77	91.30
SG 1,4,4,1 SNV-DE	1000-2300	72	90.48	72.55	72.00	97.87	69.23	95.65
	1000-1800	72	90.48	78.43	**84.00**	**97.87**	73.08	97.83
SG 2,5,5,2	1000-2300	72	57.14	74.51	48.00	65.96	53.85	89.13
	1000-1800	72	95.24	68.63	52.00	91.49	61.54	93.48
SG 2,5,5,2 SNV-DE	1000-2300	72	61.90	66.67	60.00	57.45	15.38	93.48
	1000-1800	72	85.71	39.22	76.00	95.74	3.85	97.83

Black, Red and *White* = commercial categories of raw material according to the current Spanish Iberian Quality Standard used for manufacturing Iberian *chorizo*; SNV = Standard normal variate; DE = detrending; SG = Savitzky-Golay derivates, with the first number corresponding to order derivate, second and third one indicating the smoothing pints on the left and right sides and the last number corresponding to the polynomial order; n = number of samples used for calibration sample sets; SE = sensitivity (%); SP = specificity (%).

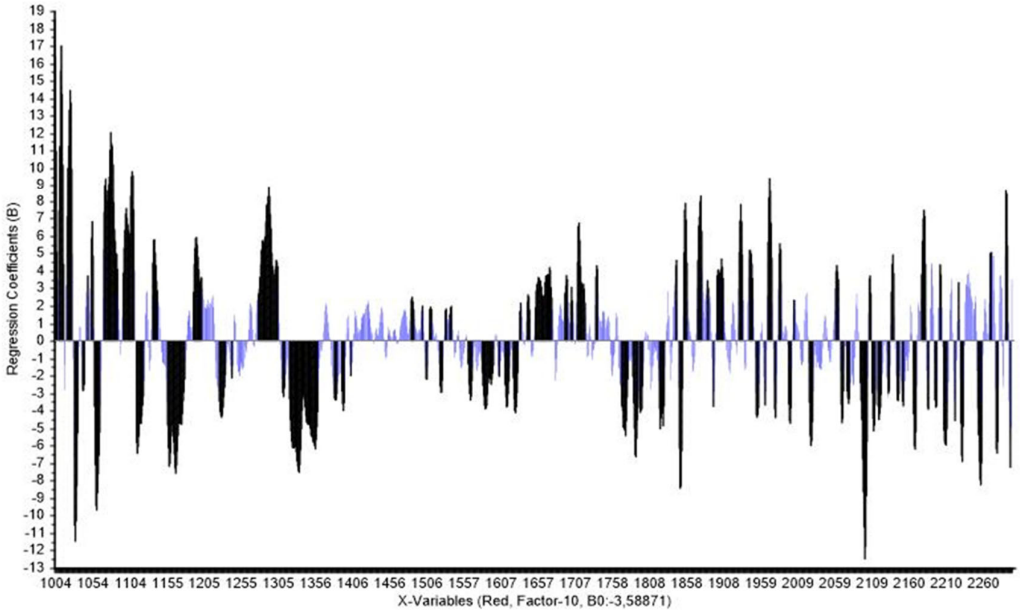
Figure S1. Spectral sampling (reflectance) of a sample of Iberian *chorizo* under modified atmosphere packaging with a LabSpec 2500 (ASD Inc., USA) NIRS spectrometer equipped with an ASD fibre-optic contact Probe® (21-mm window diameter).

A



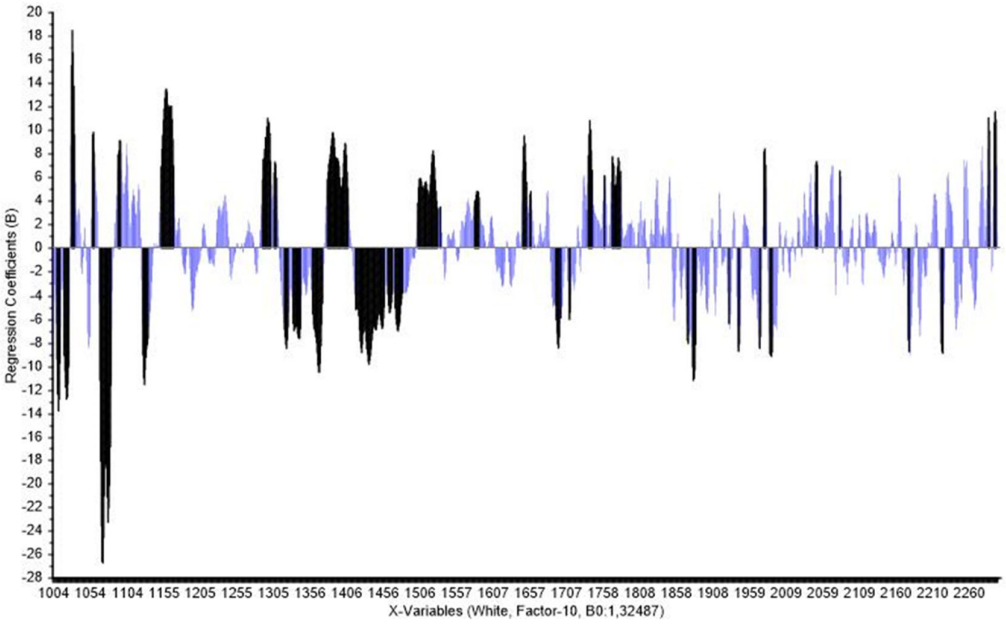
Wavelength (nm)

B



Wavelength (nm)

C



Wavelength (nm)

Figure S2. Graphical representation of the regression coefficients of the spectral data of Iberian *Chorizo* from PLS-DA analysis after SNV-DE (1000-2300 nm) for *Black* (A) and SG 1,4,4,1 SNV-DE (1000-2300 nm) for *Red* and *White* (B and C, respectively). Significant variables are highlighted in black.

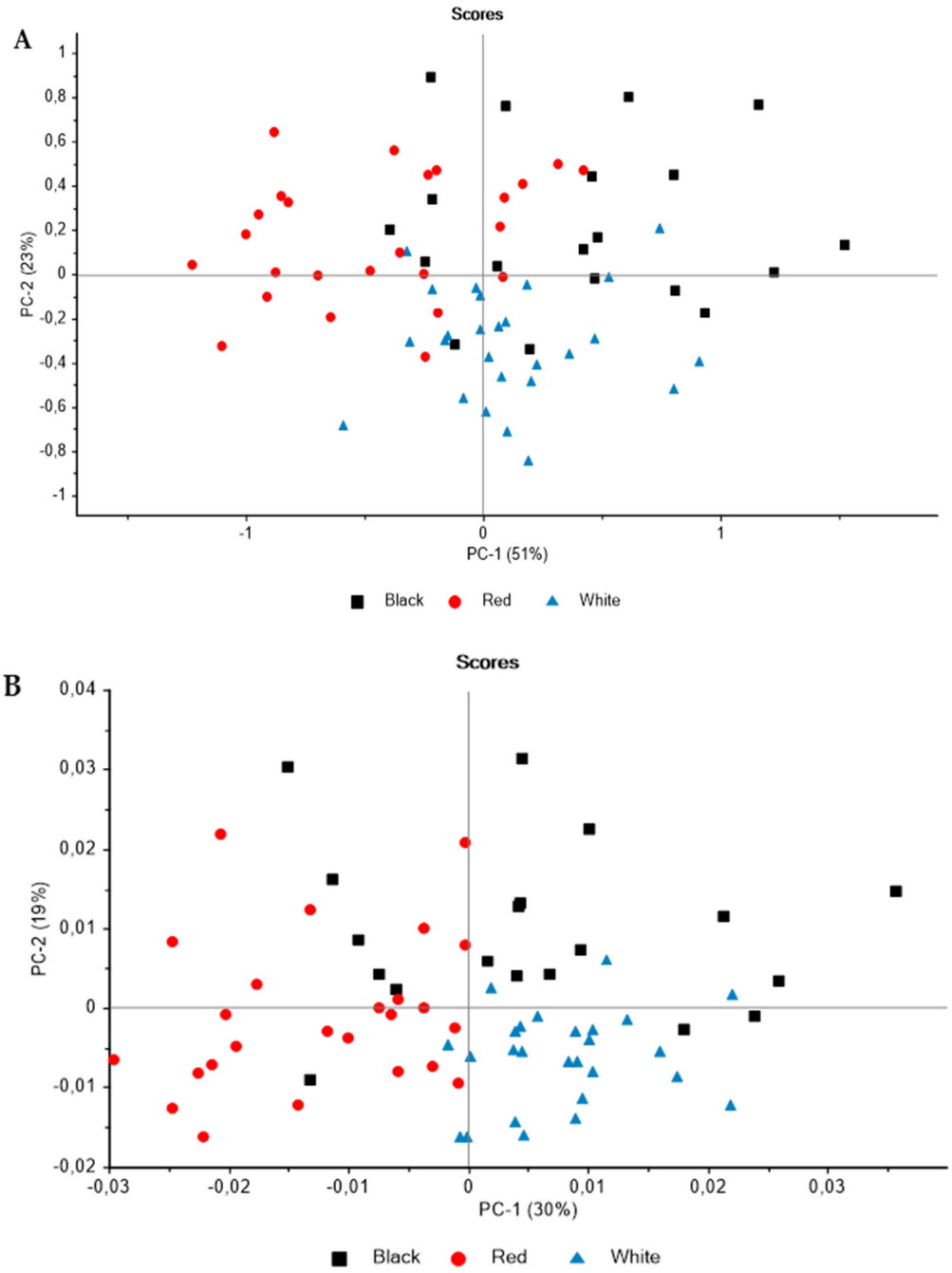


Figure S3. 2-D scatter PCA analysis plot of calibration sample set (n = 72) after SNV-DE (reflectance) at 1000-2300 nm (**A**), and after SG 1,4,4,1 SNV-DE (reflectance) at 1000-2300 nm (**B**). Samples were grouped by official commercial categories (*Black*, *Red* and *White*) of raw material used for manufacturing Iberian *chorizo*. Graphical representation of PC1 (51%, 30%, respectively) vs PC2 (23%, 19%, respectively).

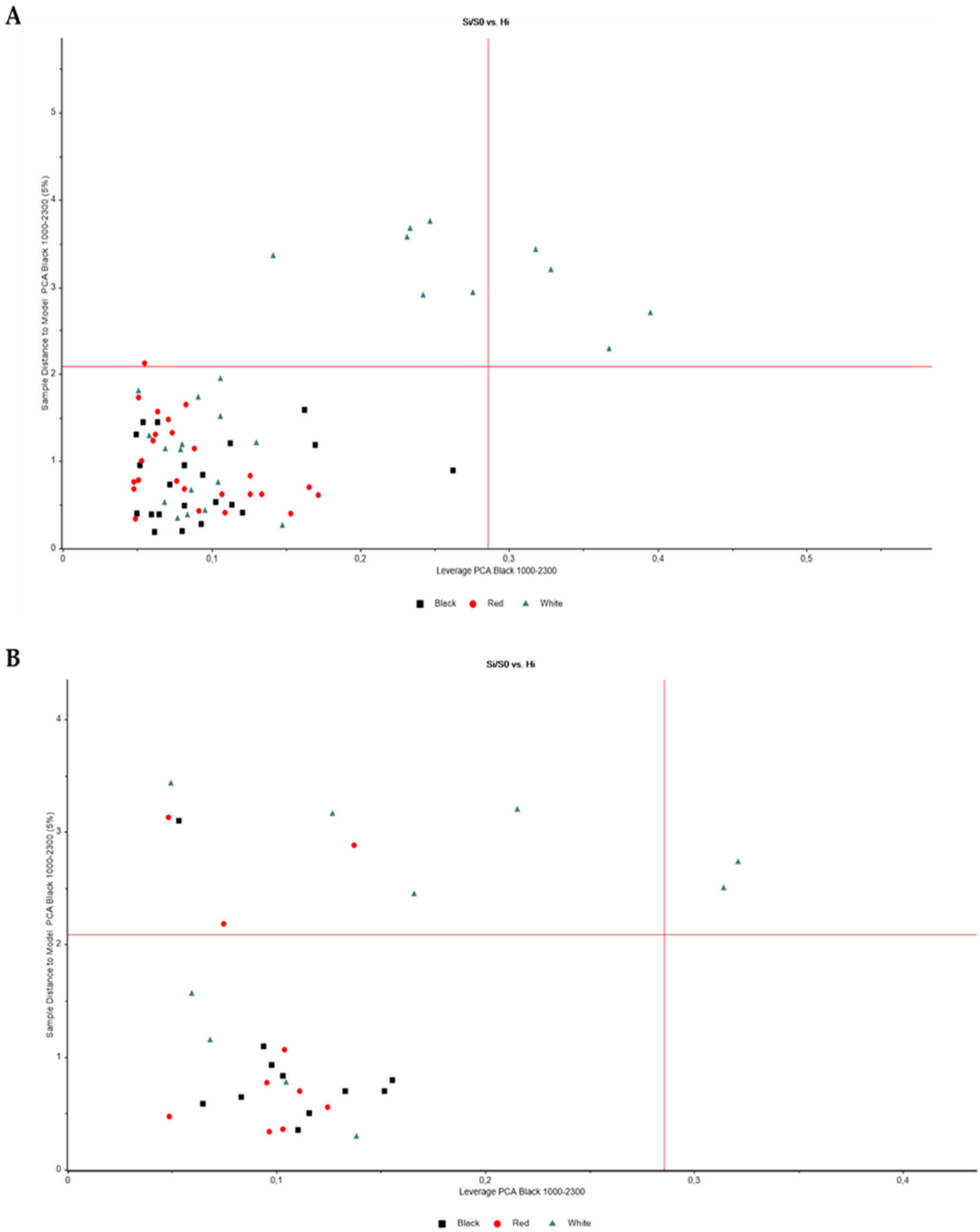


Figure S4. SIMCA plot from spectra data showing both the sample-to-model distance (Si) and the sample leverage (Hi), including the class membership limits for projection of samples to *Black* PCA (reflectance) 1000-2300 nm model in calibration (**A**) and external validation (**B**) sample sets.

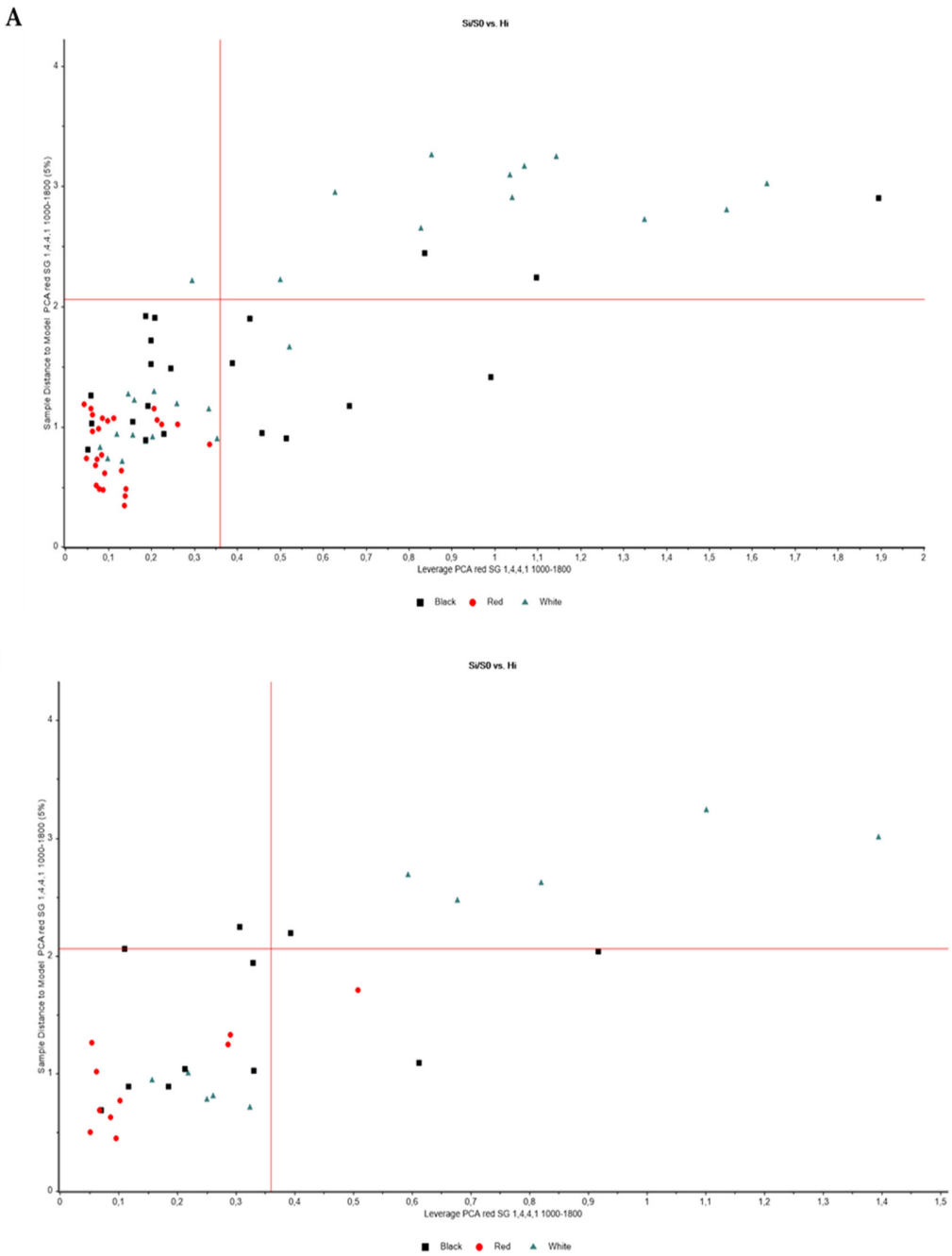


Figure S5. SIMCA plot from spectra data showing both the sample-to-model distance (Si) and the sample leverage (Hi), including the class membership limits for projection of samples to *Red* PCA SG 1,4,4,1 (reflectance) 1000-1800 nm model in calibration (**A**) and external validation (**B**) sample sets.

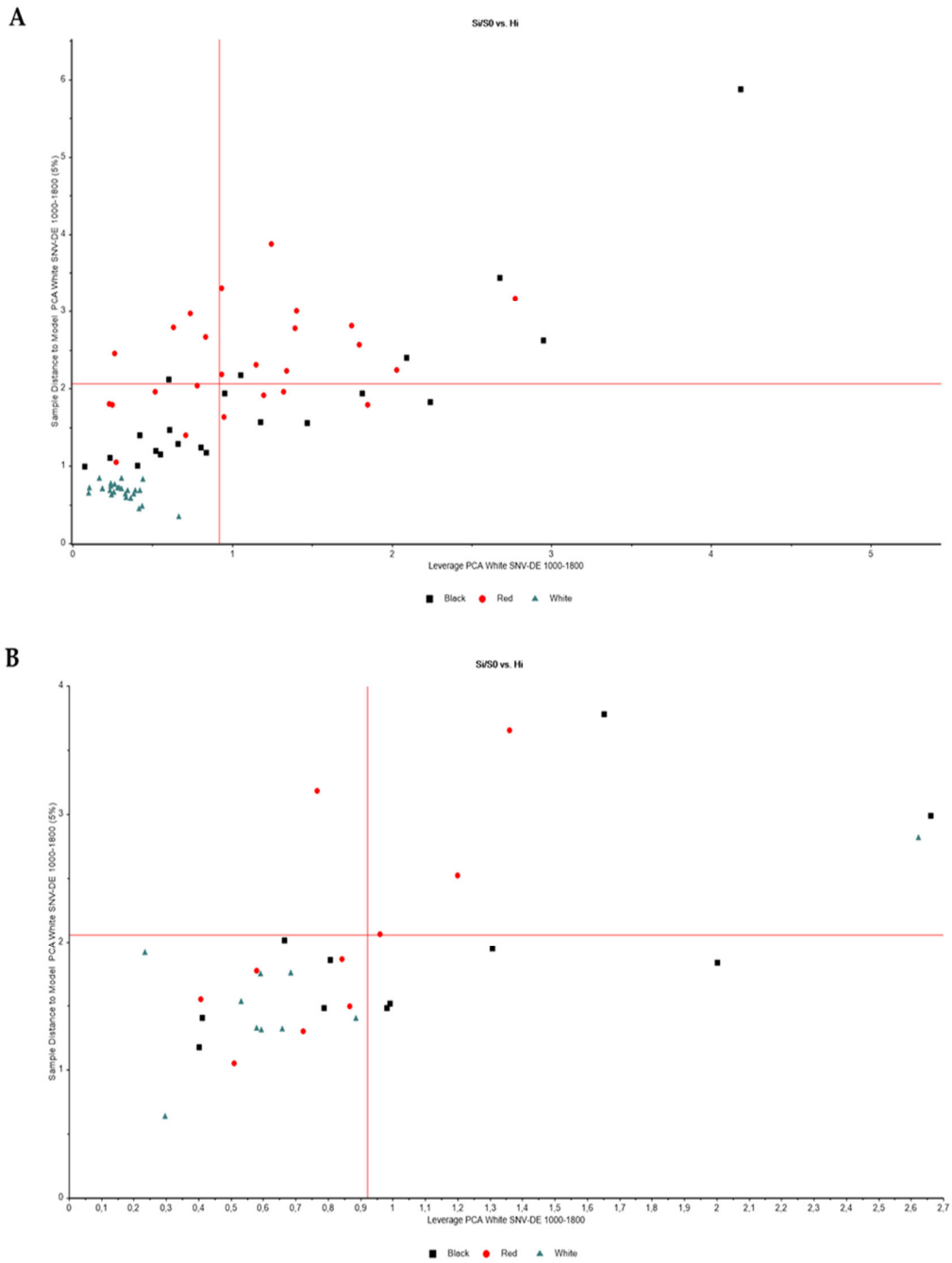


Figure S6. SIMCA plot from spectra data showing both the sample-to-model distance (Si) and the sample leverage (Hi), including the class membership limits for projection of samples to *White* PCA SNV-DE (reflectance) 1000-1800 nm model in calibration (**A**) and external validation (**B**) sample sets.