

Table 1

PLS calibration and validation results for C.I. Disperse Blue 183 using the whole spectral region of original spectra (PLS), CSMWPLS, SCMWPLS and NAS pretreated spectra

	Spectral region (nm)	PLS component	RMSE (mg L ⁻¹)		
			Calibration	Validation	Validation
			set	set 1	set 2
PLS	320-680	6	0.347	0.325	0.330
CSMWPLS	455-468	4	0.469	1.287	1.212
	470-481	4	0.646	1.813	1.726
	546-567	3	0.948	0.982	0.907
SCMWPLS	320-567	6	0.095	0.601	0.567
NAS	455-468	4	0.419	1.319	1.318
	470-481	4	0.603	1.945	1.951
	546-567	3	0.790	1.420	1.420
	Combination	6	0.034	0.229	0.229

Table 2

PLS calibration and validation results for C.I. Disperse Blue 79 using the whole spectral region of original spectra (PLS), CSMWPLS, SCMWPLS and NAS pretreated spectra

	Spectral region (nm)	PLS component	RMSE (mg L ⁻¹)		
			Calibration set	Validation set 1	Validation set 2
PLS	320-680	6	1.280	1.356	1.271
CSMWPLS	425-445	3	1.152	1.374	1.275
	542-557	3	0.882	1.182	1.208
	576-589	3	0.742	2.101	2.012
	618-648	3	1.280	1.279	1.283
SCMWPLS	320-648	6	0.118	1.342	1.262
NAS	425-445	3	0.965	1.557	1.559
	542-557	3	0.719	0.929	0.929
	576-589	3	0.667	1.413	1.414
	618-648	3	0.953	1.257	1.258
	Combination		6	0.039	0.259

Table 3

PLS calibration and validation results for C.I. Disperse Red 82 using the whole spectral region of original spectra (PLS), CSMWPLS, SCMWPLS and NAS pretreated spectra

	Spectral region (nm)	PLS component	RMSE (mg L ⁻¹)		
			Calibration	Validation	Validation
			set	set 1	set 2
PLS	320-680	6	0.997	1.036	0.979
SCMWPLS	539-582	7	0.058	0.155	0.195
NAS	539-582	7	0.019	0.108	0.108

Table 4

PLS calibration and validation results for C.I. Disperse Red 65 using the whole spectral region of original spectra (PLS), CSMWPLS, SCMWPLS and NAS pretreated spectra

	Spectral region (nm)	PLS component	RMSE (mg L ⁻¹)		
			Calibration	Validation	Validation
			set	set 1	set 2
PLS	320-680	6	0.150	0.148	0.162
CSMWPLS	491-498	3	1.038	1.040	1.028
	534-546	4	0.970	0.961	0.981
	573-585	3	0.836	0.829	0.861
SCMWPLS	320-585	5	0.458	0.462	0.459
NAS	491-498	3	0.984	1.000	1.000
	534-546	4	0.908	0.919	0.918
	573-585	3	0.748	0.811	0.811
	Combination	5	0.131	0.436	0.436

Table 5

PLS calibration and validation results for C.I. Disperse Orange 25 using the whole spectral region of original spectra (PLS), CSMWPLS, SCMWPLS and NAS pretreated spectra

	Spectral region (nm)	PLS component	RMSE (mg L ⁻¹)		
			Calibration set	Validation set 1	Validation set 2
PLS	320-680	6	1.119	1.210	1.107
SCMWPLS	320-390	5	0.201	0.473	0.430
NAS	320-390	5	0.020	0.205	0.246

Table 6

PLS calibration and validation results for C.I. Disperse Yellow 211 using the whole spectral region of original spectra (PLS), CSMWPLS, SCMWPLS and NAS pretreated spectra

	Spectral region (nm)	PLS component	RMSE (mg L ⁻¹)		
			Calibration	Validation	Validation
			set	set 1	set 2
PLS	320-680	6	0.171	0.161	0.162
SCMWPLS	494-514	5	0.060	0.429	0.414
NAS	494-514	5	0.058	0.177	0.177

Table 7

Determination of dyes in waste water using NAS-PLS and univariate calibration

Dyes	Spectral region (nm)	Added (mg L ⁻¹)	NAS-PLS found (mg L ⁻¹)	Univariate calibration found (mg L ⁻¹)
Disperse Blue 183	combination	1.50	1.52	1.55
Disperse Blue 79	combination	2.00	1.95	2.06
Disperse Red 82	539-582	3.00	3.60	2.55
Disperse Red 65	combination	1.50	1.50	1.56
Disperse Orange 25	320-390	4.00	3.92	2.56
Disperse Yellow 211	494-514	2.50	2.45	2.63