Electronic Supplementary Material (ESI) for Analytical Methods.

Application of multivariate analysis to the turbidimetric determination of sulphate in seawater

Leire Kortazar *[a], Janire Sáez [a], Josu Agirre [a], Jon Kepa Izaguirre [a], Luis Angel Fernández [a]

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[a] Department of Analytical Chemistry, University of the Basque Country, P.O. Box 644, 48080 Bilbao, Spain

* Corresponding author.

Tel: +34 94 6012723

E-mail address: kortazar.leire@gmail.com

1. **Table 1.** Sulphate concentration obtained in each wavelength segment for the synthetic sample together with their extended uncertainties (U), Relative Standard Deviation (RSD) and errors with respect to the real and the reference method's values.

Segment	$[SO_4^{2-}]$ /mg L^{-1}	U /mg L^{-1}	RSD	Error (real value)	Error (vs. volumetry)
420 nm (univar.)	4767	315	3%	72%	78%
full spectra	2666	344	6%	4%	0%
250-350 nm	5228	1431	14%	89%	96%
350-450 nm	4604	245	3%	66%	72%
450-550 nm	2965	92	2%	7%	11%
550-650 nm	2442	155	3%	12%	9%
600-700 nm	2582	156	3%	7%	3%
600-800 nm	2789	211	4%	1%	4%
650-750 nm	2740	226	4%	1%	2%
700-800 nm	3553	206	3%	28%	33%

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2. **Table 2.** Sulphate concentration in each segment of the real samples (L1 and L2) together with their extended uncertainties (U), Relative Standard Deviation (RSD) and error with respect to the reference method's value.

L 1	$[SO_4^{2-}]$ /mg L^{-1}	U /mg L^{-1}	RSD	Error
420 nm (univar.)	2162	619	14%	78%
full spectra	884	326	18%	27%
250-350 nm	2416	1652	34%	99%
350-450 nm	1127	496	22%	7%
450-550 nm	584	408	32%	52%
550-650 nm	1296	304	12%	7%
600-700 nm	1077	419	19%	12%
600-800 nm	1261	504	20%	4%
650-750 nm	944	557	29%	22%
700-800 nm	1709	418	12%	40%
L2	$[SO_4^{2-}]$ /mg L^{-1}	U /mg L^{-1}	RSD	Error
420 nm (univar.)	4240	116	1%	60%
full spectra	3857	200	3%	45%
250-350 nm	5176	477	5%	95%
350-450 nm	4363	188	2%	64%
450-550 nm	3754	208	3%	41%
550-650 nm	3335	287	4%	25%
600-700 nm	3181	286	4%	20%
600-800 nm	3079	261	4%	16%
650-750 nm	3064	277	5%	15%
700-800 nm	2981	235	4%	12%