

Table 1S. Compositions of phosphate and silicate in calibration set and test set.

Mixture	Calibration set ^a (mg L ⁻¹)		Mixture	Test set ^b (mg L ⁻¹)	
No.	Phosphate	Silicate	No.	Phosphate	Silicate
C1	1.0	5	T1	0.5	20
C2	1.0	100	T2	0.5	50
C3	0.1	55	T3	1.5	30
C4	2.0	55	T4	0.3	70
C5	0.3	20	T5	1.0	50
C6	0.3	85	T6	1.5	60
C7	1.7	85			
C8	1.7	20			
C9	1.0	55			
C10	1.0	55			
C11	1.0	55			
C12	1.0	55			

^a Calibration set obtained by central composite design.^b Test set (validation set) obtained by random design.

Table 2S. Predicted concentration of phosphate and silicate in calibration set

Mixture No.	Phosphate (mgP L ⁻¹)		Silicate (mgSi L ⁻¹)	
	Calibration concentration	Predicted concentration	Calibration concentration	Predicted concentration
C1	1.00	0.99	5	4.5
C2	1.00	0.96	100	92.2
C3	0.10	0.12	55	52.7
C4	2.00	2.03	55	57.0
C5	0.30	0.24	20	21.6
C6	0.30	0.35	85	84.7
C7	1.70	1.72	85	78.8
C8	1.70	1.60	20	22.6
C9	1.00	1.05	55	57.2
C10	1.00	0.96	55	53.8
C11	1.00	0.96	55	55.8
C12	1.00	1.03	55	57.4

Table 3S. Analytical recovery from simultaneous determination of phosphate and silicate in water samples obtained from the proposed system.

Sample	Concentration of phosphate \pm SD ^a				Concentration of silicate \pm SD ^a			
	(mgP L ⁻¹)				(mgSi L ⁻¹)			
	Initial	Added	Found	Recovery (%)	Initial	Added	Found	Recovery (%)
X1	0.21 \pm 0.03	0.2	0.40 \pm 0.02	96.0	5.90 \pm 0.95	10	15.57 \pm 0.95	101.8
X2	0.17 \pm 0.02	0.2	0.37 \pm 0.03	98.5	6.05 \pm 1.63	10	15.15 \pm 1.37	95.8
Y1	0.37 \pm 0.02	0.2	0.55 \pm 0.01	90.9	5.55 \pm 1.02	10	16.10 \pm 3.06	107.7
Y2	0.41 \pm 0.02	0.2	0.59 \pm 0.01	90.9	5.59 \pm 1.24	10	16.07 \pm 1.87	106.9
Y3	0.34 \pm 0.01	0.2	0.55 \pm 0.01	106.0	5.65 \pm 2.02	10	14.80 \pm 0.98	93.4
Y4	0.37 \pm 0.01	0.2	0.57 \pm 0.02	101.0	6.00 \pm 0.42	10	14.60 \pm 1.39	90.5
Z1	1.08 \pm 0.01	0.2	1.29 \pm 0.02	106.1	9.12 \pm 0.01	10	19.53 \pm 1.10	106.2
Z2	1.08 \pm 0.01	0.2	1.29 \pm 0.02	106.1	9.41 \pm 0.51	10	19.10 \pm 1.61	98.9
Z3	1.38 \pm 0.03	0.2	1.59 \pm 0.01	103.5	10.60 \pm 1.04	10	20.38 \pm 1.20	102.9

^a Standard deviation (SD) obtained from 3 replicated injections.