Supporting Information

Monitoring the presence of pigments in aqueous extracts using silica materials functionalized with ionic liquids

Gabriela Kovaleski,[1] Márcia C. Neves,[1] Sónia P.M. Ventura[1]

[1]Department of Chemistry, CICECO − Aveiro Institute of Materials, University of Aveiro
Campus Universitário de Santiago, 3810-193 Aveiro, Portugal

*Corresponding author

E-mail: spventura@ua.pt

Figures

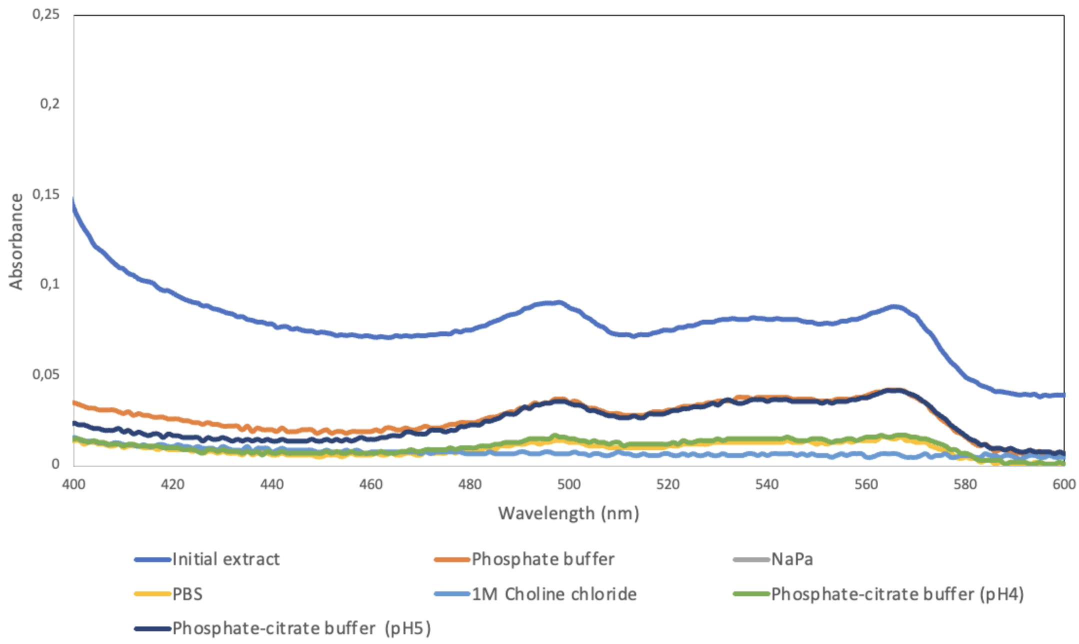

Figure S1. UV-Vis spectra of R-phycoerythrin after desorption from the silica/[Si][C_3C_1Im]Cl-based material, after using different solvents to promote the desorption.

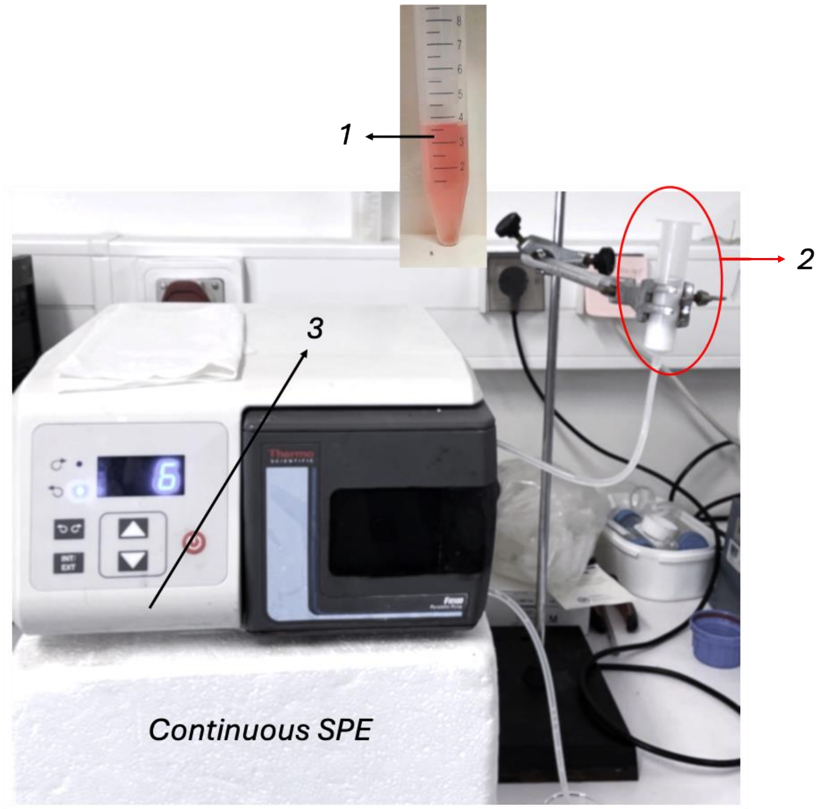

Figure S2. Experimental apparatus applied in the present work: (1) Extract rich on phycobiliproteins (and particularly on R-phycoerythrin), (2) cartridge with the silica/[Si][C_3C_1Im]Cl-based materials packed, and (3) peristaltic pump.

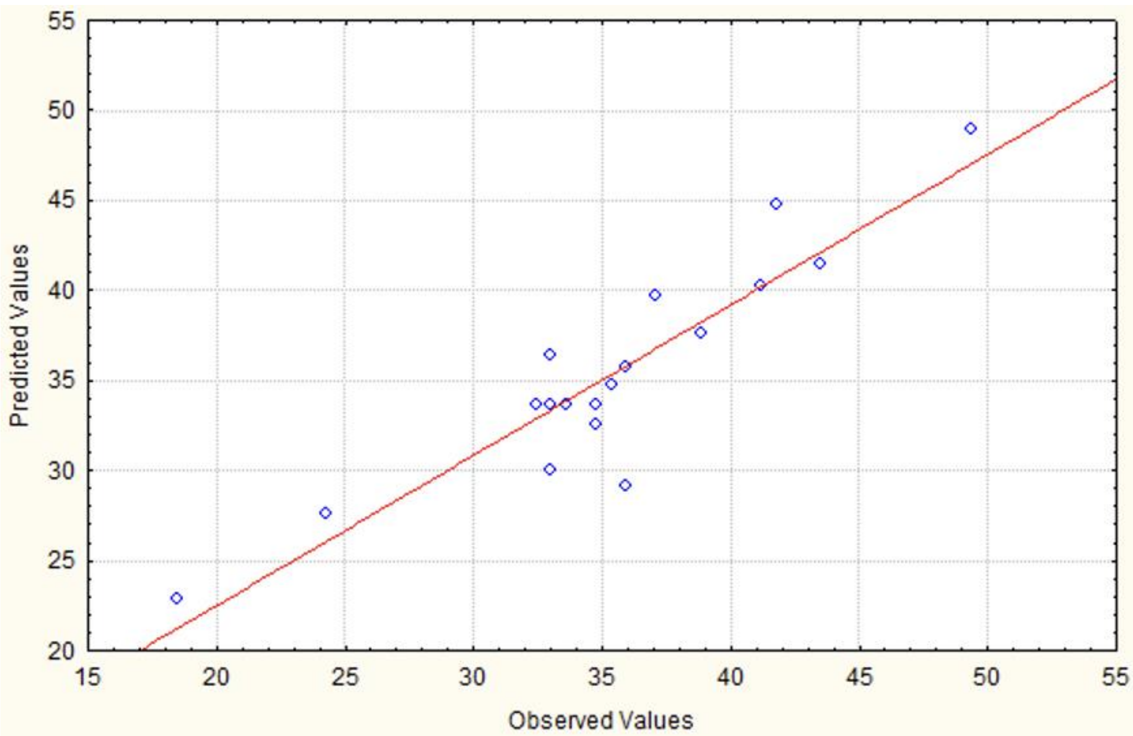

Figure S3. Predicted *vs.* experimental values of the CCRD (2^3) regarding the adsorption efficiency of R-phycoerythrin in the silica/[Si][C_3C_1Im]Cl-based material.

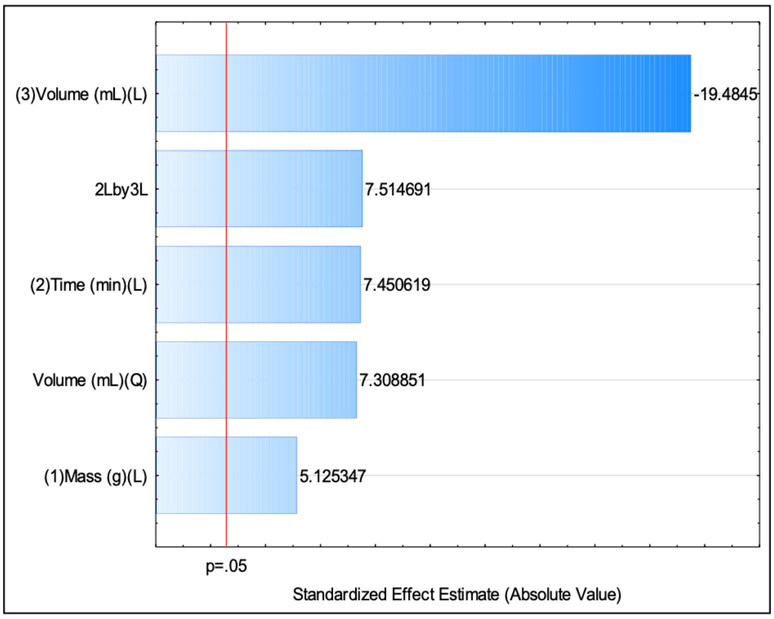

Figure S4. Pareto Chart of the CCRD (2^3) regarding the adsorption efficiency of phycoerythrin in SIL.

Table S1. Elemental analysis performed to the four silica/IL-based materials prepared.

Run	%C	%H	%N
[Si][C_3C_1Im]Cl	8,38	2,12	2,84
[Si][N_{3222}]Cl	7329	1,51	0,26
[Si][N_{3444}]Cl	5,74	1,34	0,15
[Si][N_{3888}]Cl	6,9	1,34	0,07

Table S2. Real values used in the optimization process by a CCRD (2^3) expressed as the adsorption efficiency (%) of R-phycoerythrin in silica/[Si][C_3C_1Im]Cl-based material.

Run	Mass of silica (mg)	Time of contact (min)	Volume of extract (mL)	AE (%)
1	50.00	19.9	7.8	37.11
2	70.00	19.9	7.8	41.77
3	50.00	40.1	7.8	41.18

4	70.00	40.1	7.8	43.51
5	50.00	19.9	16.2	18.47
6	70.00	19.9	16.2	24.30
7	50.00	40.1	16.2	35.36
8	70.00	40.1	16.2	35.94
9	43.20	30.0	12.0	34.78
10	76.80	30.0	12.0	38.85
11	60.00	13.0	12.0	35.94
12	60.00	47.0	12.0	33.03
13	60.00	30.0	5.0	49.34
14	60.00	30.0	19.0	33.03
15	60.00	30.0	12.0	32.45
16	60,00	30.0	12.0	34.78
17	60.00	30.0	12.0	32.45
18	60.00	30.0	12.0	34.78
19	60.00	30.0	12.0	33.61
20	60.00	30.0	12.0	33.03