Electronic Supplementary Material (ESI) for Analytical Methods.

SUPLEMENTARY DATA

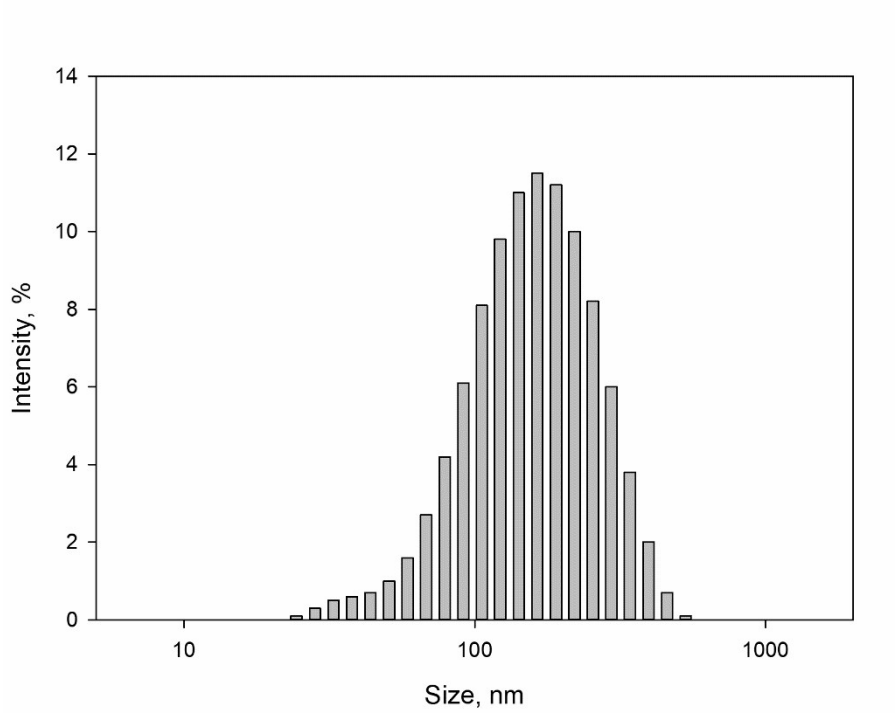


Figure S1. Particle size distribution obtained from a 0.1 mg/mL Ag@rGO suspension

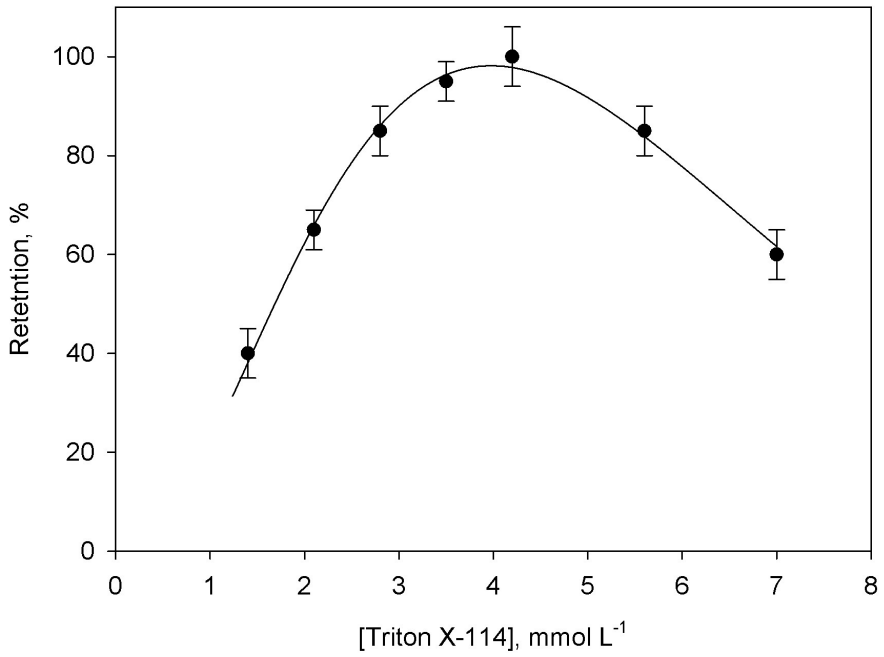


Figure S2. Effect of the Triton X-114 concentration on the retention of 50 ng Cd(II)

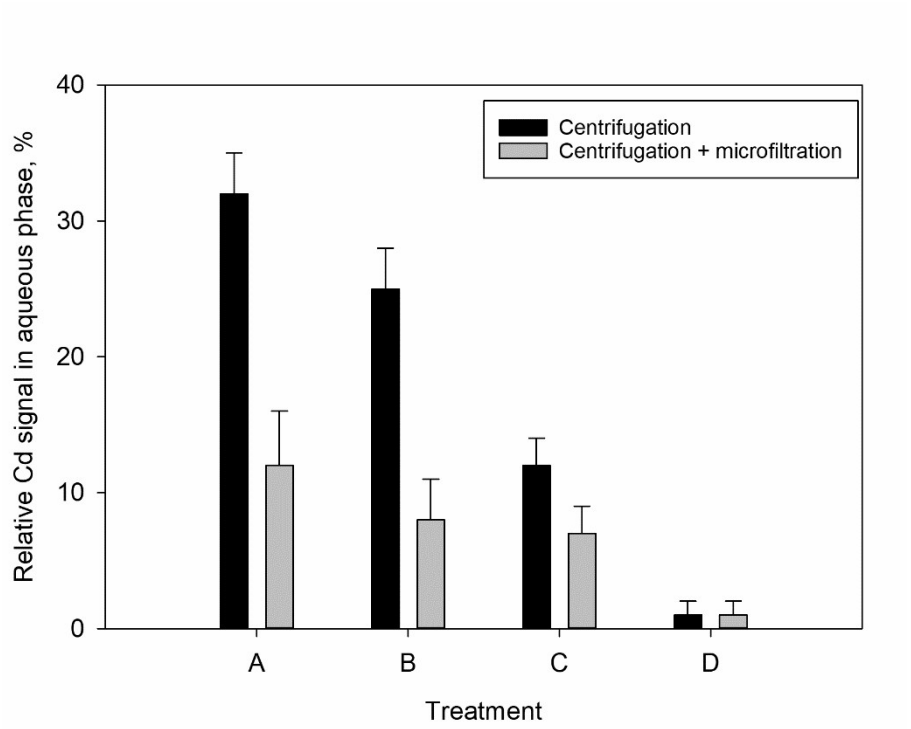
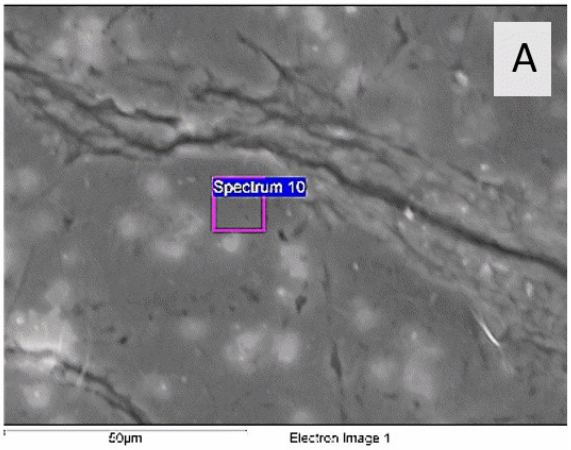


Figure S3. Analytical signals obtained from the supernatants after centrifugation and filtration. Cadmium was used as the analyte. Vertical bars indicate the standard deviation for five measurements Similar data were obtained for lead.
Graph A, no additional chemicals; graphs B and C, in the presence of sodium chloride and potassium bromide, respectively; graph D, after obtaining the coacervate with Triton X-114 in the presence of potassium bromide

Spectrum processing :
Processing option : All elements analyzed (Normalised)
Number of iterations = 4

Standard :
C CaCO3 1-Jun-2017 12:00 AM
O SiO2 1-Jun-2017 12:00 AM
Ag Ag 1-Jun-2017 12:00 AM

Element	Weight%	Atomic%
C K	43.32	50.78
O K	55.80	49.11
Ag L	0.88	0.11
Totals	100.00	



Spectrum processing :
Processing option : All elements analyzed (Normalised)
Number of iterations = 3

Standard :
C CaCO3 1-Jun-2017 12:00 AM
O SiO2 1-Jun-2017 12:00 AM
Ag Ag 1-Jun-2017 12:00 AM

Element	Weight%	Atomic%
C K	4.84	27.31
O K	3.58	15.15
Ag L	91.58	57.54
Totals	100.00	

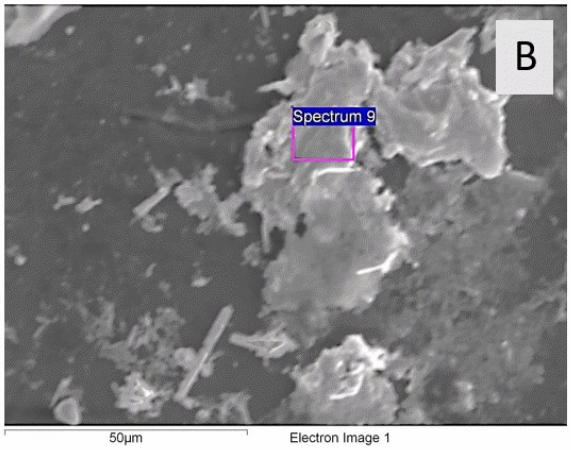


Figure S4. SEM images and EDX analysis of A) graphene oxide and B) Ag@rGO composite

Spectrum processing :
Processing option : All elements analyzed (Normalised)
Number of iterations = 3

Standard :
C CaCO3 1-Jun-2017 12:00 AM
O SiO2 1-Jun-2017 12:00 AM
Ag Ag 1-Jun-2017 12:00 AM

Element	Weight%	Atomic%
C K	15.34	45.65
O K	13.84	30.90
Ag L	70.82	23.46
Totals	100.00	

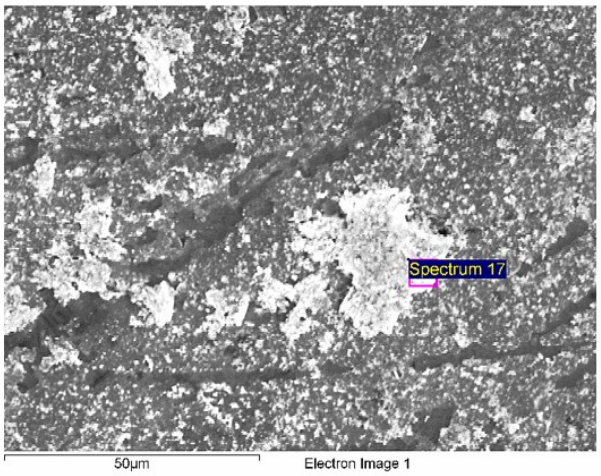


Figure S5. SEM images and EDX analysis of a 1-year-old Ag@rGO composite preserved as an aqueous suspension at 6 °C and in the dark.

Table S1. Results for cadmium and lead in water samples

Sample	Added µg L^{-1}		Found[a] µg L^{-1}		Recovery %	
	Cd(II)	Pb(II)	Cd(II)	Pb(II)	Cd(II)	Pb(II)
BMW 1	0	0	<LOD	1.20 ± 0.03	-	-
	0.010	0.25	0.009 ± 0.001	1.44 ± 0.05	90 ± 5	96 ± 4
	0.050	0.50	0.051 ± 0.002	1.72 ± 0.06	102 ± 4	104 ± 3
BMW 2	0	0	<LOD	1.03 ± 0.03	-	-
	0.010	0.25	0.011 ± 0.001	1.29 ± 0.05	104 ± 3	104 ± 4
	0.050	0.50	0.052 ± 0.002	1.51 ± 0.06	96 ± 3	96 ± 4
TW	0	0	<LOD	0.09 ± 0.03	-	-
	0.010	0.25	0.010 ± 0.001	0.34 ± 0.06	110 ± 5	100 ± 3
	0.050	0.50	0.049 ± 0.002	0.60 ± 0.07	98 ± 3	102 ± 3
SW1	0	0	<LOD	0.44 ± 0.03	-	-
	0.010	0.25	0.011 ± 0.001	0.71 ± 0.06	104 ± 5	108 ± 4
	0.050	0.50	0.048 ± 0.003	0.93 ± 0.06	96 ± 4	98 ± 3
SW2	0	0	<LOD	<LOD	-	-
	0.010	0.25	0.011 ± 0.001	0.25 ± 0.07	104 ± 5	100 ± 3
	0.050	0.50	0.050 ± 0.002	0.52 ± 0.08	100 ± 4	104 ± 4

[a] Mean ± sd (n=5)

BMW: bottled mineral water; TW: tap water; SW: sea water