

Supplementary material

Nanoremediation of As and metals polluted soils by means of graphene oxide nanoparticles

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Supplementary Table S1. Mean values and error of pH and electrical conductivity of soil samples treated with nGO and nZVI nanoparticles. For each type of nanoparticles, data with the same letter do not differ significantly ($p < 0.05$).

	Treatment	Dose	pH	EC (dS.m⁻¹)	
Soil AM	Control	0%	8.46±0.04a	0.36±0.01c	
	nGO	0.20%	8.23±0.05a	0.39±0.01c	
		1%	7.75±0.04b	0.56±0.02b	
		5%	7.18±0.03c	1.00±0.01a	
	nZVI	0.20%	8.34±0.05a	0.40±0.01c	
		1%	8.27±0.04a	0.45±0.01b	
		5%	8.40±0.04a	0.62±0.01a	
	Soil A	Control	0%	8.54±0.03a	0.17±0.01c
		nGO	0.20%	8.32±0.03b	0.28±0.01b
1%			8.14±0.01c	0.34±0.01b	
5%			7.84±0.04d	1.12±0.05a	
nZVI		0.20%	8.52±0.03a	0.20±0.01c	
		1%	8.52±0.03a	0.19±0.01c	
		5%	8.51±0.01a	0.28±0.01a	

Supplementary Table S2. Soil AM (polluted by As + heavy metal) and soil A (polluted by As).

Parameters	Units	Soils		
		AM	A	
General	pH		8.31	8.91
	OM	%	1.54	0.2
	TN	g·kg ⁻¹	0.6	0.2
	Available-P		22	27
	K		1.6	3.8
	Mg	mg·kg ⁻¹	7.1	20.6
	Ca		18.2	14
	Na		3.5	1.1
	Silt		6.91	3.81
	Sand	%	87.9	80.7
	Clay		5.21	15.5
Pseudototal Concentration	Ni		8.41	23.1
	Cu		79.0	19.1
	Zn	mg·kg ⁻¹	4,900	47.1
	As		37.2	1100
	Cd		17.1	<DL
	Pb		390	14.1
Available Concentration	Ni		0.30	<DL
	Cu		2.77	<DL
	Zn	mg·kg ⁻¹	1,635	0.32
	As		0.91	21.0
	Cd		6.77	<DL
	Pb		21.0	<DL

Values (n = 3). <DL: Below detection limit; OM: organic matter; TN: total nitrogen; Bioavailable-P= available phosphorus (Olsen Phosphorus).