SUPPORTING INFORMATION

Pb-Bearing Ferrihydrite Bioreduction and Secondary-Mineral Precipitation During Fe Redox Cycling

Fatima Meite [1], Mustapha Abdelmoula [2,*], Patrick Billard [1], Thomas Hauet [3] and Asfaw Zegeye [1,*]

[1] Université de Lorraine, CNRS, LIEC, F-54000 Nancy, France; fatimameite@live.fr (F.M.); patrick.billard@univ-lorraine.fr (P.B.)
[2] Université de Lorraine, CNRS, LCPME, F-54000 Nancy, France
[3] Université de Lorraine, CNRS, IJL, F-54000 Nancy, France; thomas.hauet@univ-lorraine.fr
* Correspondence: mustapha.abdelmoula@univ-lorraine.fr (M.A.); asfaw.zegeye@univ-lorraine.fr (A.Z.)

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Table S1. Composition of the poor metal-complexing medium (GGM) used for the preparation of the biosensors.

Composition of the GGM medium		
D-glucose	**0.5**	%
MOPS	40	mM
$MgCl_2$	1	mM
NH_4Cl	12.5	mM
KCl	10	mM
K_2SO_4	5	mM
$CaCl_2$	0.068	mM
Dissodium β-glycerophosphate	5	mM

1. Standard curve for the determination of bioavailable Pb measured with luminescent biosensors

The standard curve was obtained by pipetting 20 µL Pb standard solutions (Table S2) and 180 µL of biosensor cell suspensions into 96 well microplates. Following incubation with orbital shaking (1.8 mm of amplitude and 10 Hz of frequency), luminescence (relative light unit measured as a 10-sec integral) and DO_{600nm} were recorded every 20 min for 2 h using a monochromator spectrofluorometer FLX-Xenius (SAFAS, Monaco). Induction coefficients (IC, normalized by the DO_{600nm}) were calculated (Eq. 2), and IC at 80 min were plot against the standard solution concentrations (Figure S1). All measurements were made in triplicates.

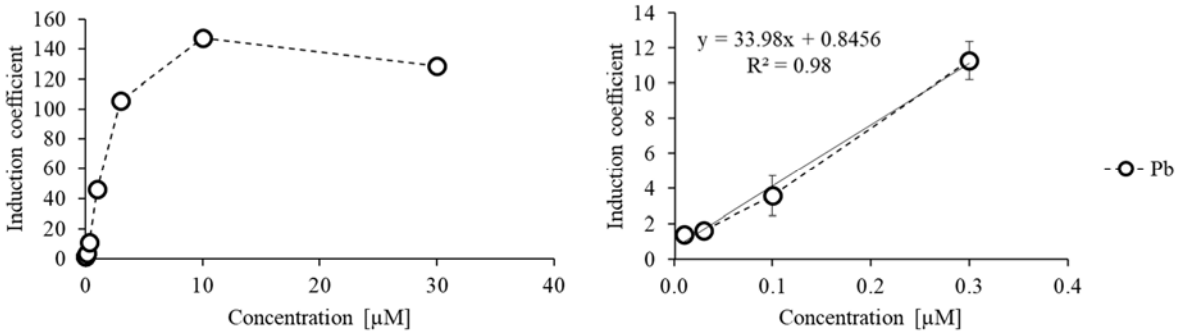

Figure S1. Standard curves obtained by plotting the induction coefficients against (A) all the standard solution concentrations and (B) only the lowest concentrations.

The limit of quantification (LOQ) obtained was 85 nM Pb, and was calculated using the following equation (Eq. S1):

$$\mathrm{LOQ} = \frac{10 \times SD_{lowest\ \ concentration}}{a_{standard\ \ curve}} \qquad \text{(S1)}$$

where *SD* is the standard deviation and *a* is the slope of the lowest concentrations part of the standard curve.

Table S2: $Pb(NO_3)_2$ standard solutions used for the biosensor analysis.

Concentrations of Pb	
Point 1	3 nm
Point 2	10 nm
Point 3	30 nm
Point 4	100 nm
Point 5	300 nm
Point 6	1 µM
Point 7	3 µM
Point 8	10 µM
Point 9	30 µM