



Supplementary Information

## Removal of Lead by Oxidized Graphite

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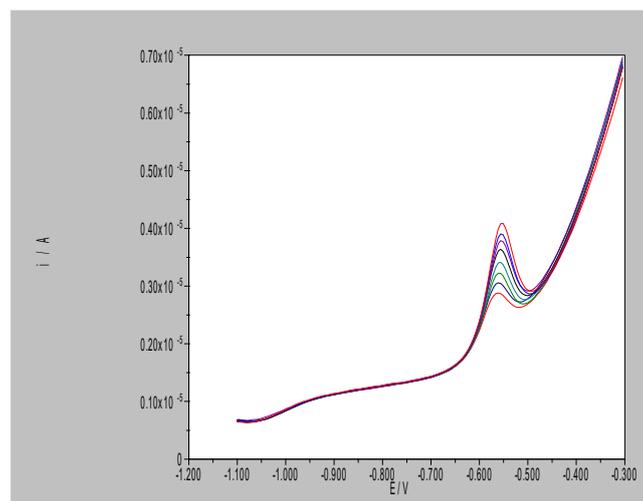
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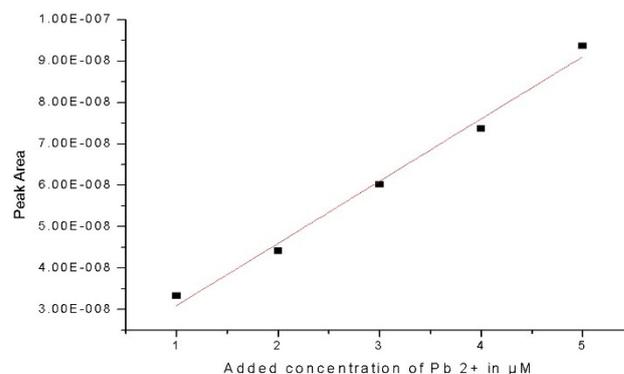
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### 1. Potential (V) versus current (A) graph for standard addition of Pb<sup>2+</sup> for graphite powder

Figure S1 shows current versus potential graph of SWASV with standard addition of Pb<sup>2+</sup> (1-8 μM). Figure S2 shows standard addition plot of peak area from Figure S1 against added lead ion concentration (1-8 μM).



**Figure S1.** Potential versus current graph for standard addition of Pb<sup>2+</sup> for graphite powder.

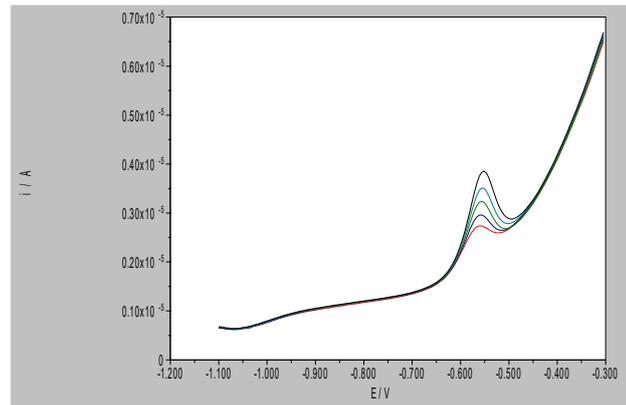


**Figure S2.** Standard addition plot of peak area from Figure S1 against added Pb<sup>2+</sup> concentration (1-5 μM).

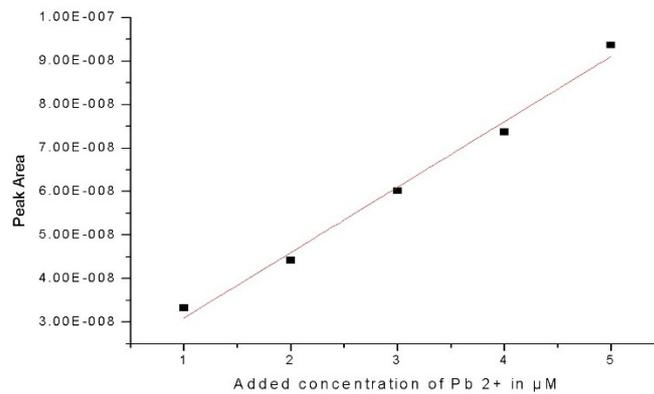
A 10.0 ml of 100  $\mu\text{M}$  of  $\text{Pb}^{2+}$  solution was exposed to 100.0 mg of graphite carbon powder. Bare graphite exhibits an adsorption capacity of 41.18%.

2. Potential (V) versus current (A) graph for standard addition of  $\text{Pb}^{2+}$  solution for oxidized graphite powder.

Figure S3 shows the current versus potential graph of SWASV with standard addition of  $\text{Pb}^{2+}$  (1-5  $\mu\text{M}$ ). Figure S4 shows the standard addition plot of peak area from Figure S3 against added  $\text{Pb}^{2+}$  concentration (1-5  $\mu\text{M}$ ).



**Figure S3.** Potential (V) versus current (A) graph for standard addition of  $\text{Pb}^{2+}$  solution for oxidized graphite powder.



**Figure S4.** Standard addition plot of peak area from Figure S3 against added  $\text{Pb}^{2+}$  concentration (1-5  $\mu\text{M}$ ).

A 10.0 ml of 100  $\mu\text{M}$  of  $\text{Pb}^{2+}$  solution was exposed to 100 mg of oxidized graphite carbon powder. Adsorption capacity of oxidized graphite powder for  $\text{Pb}^{2+}$  was found to be 73.3%. Oxidized graphite powder has greater adsorption capacity of  $\text{Pb}^{2+}$  than graphite because of the presence of COOH or OH groups upon oxidation.