

Article

Au Nanoparticles Decorated Graphene based Hybrid Nanocomposite for As(III) Electroanalytical Detection

V. Pifferi^{1*}, A. Testolin¹, C. Ingrosso^{2*}, M. L. Curri^{2,3}, I. Palchetti⁴, L. Falciola¹¹ Dept. of Chemistry, Università degli Studi di Milano, via Golgi 19, 20133, Milano, Italy.² CNR-IPCF Sez. Bari, c/o Dept. of Chemistry, Università degli Studi di Bari, via Orabona 4, I-70126 Bari, Italy.³ Dept. of Chemistry, Università degli Studi di Bari, via Orabona 4, I-70126 Bari, Italy.⁴ Dept. of Chemistry Ugo Schiff, Università degli Studi di Firenze, via della Lastruccia 3-13, 50019 Sesto Fiorentino (Fi), Italy.

*corresponding authors: valentina.pifferi@unimi.it, c.ingrosso@ba.ipcf.cnr.it

Table S1: Examples of LODs and dynamic ranges of some nanocomposite-modified electrodes for As(III) determination.

Modified electrode	LOD (ppb)	Dynamic range (ppb)	Ref
GO-(GO-Co (DIP)) decorated GCE	3	--	[1]
AuNPs/rGO decorated CPE	0,13	1-20	[2]
TiO ₂ NPs decorated Au electrode	10	10-80	[3]
L-cysteine/Lipoic Acid decorated Au NPs/SPCE	3	3-25	[4]
AuNPs/rGO/SPCE	26	1-100	this work

Co (DIP) bis(2-(4,5-diphenyl-1H-imidazol-2-yl)phenoxy)cobalt; GO graphene oxide; rGO reduced graphene oxide; Au NPs: gold nanoparticles; GCE glassy carbon electrode; CPE Carbon Paste Electrode.

References

- Subramanian, S.; Elaiyappillai, E.; Asir, O.; Arulappan, D.; Palanisamy, S.; Princy, M. J.; Subramanian, R.; Samuel, V. *J. Electron. Mater.* **2019**, *48*, 4498-4506
- Srikant, S.; Kumar, S. P.; Kumar, S. A. *Electroanalysis* **2017**, *29*, 1400-1409
- Zhang, X.; Zeng, T.; Hu, C.; Hu, S.; Tian, Q. *Anal. Methods* **2016**, *8*, 1162-1169
- Jijana, A. N.; Mphuthi, N.; Shumbula, P.; Vilakazi, S.; Sikhwivhilu, L. *Electrocatalysis* **2021**, *12*, 310-325