

Accepted Manuscript

Graphene-like carbon nitride nanosheet as a novel sensing platform for electrochemical determination of tryptophan

Xiaopeng Liu, Junlin Zhang, Junwei Di, Yumei Long, Weifeng Li, Yifeng Tu

PII: S0021-9797(17)30654-9
DOI: <http://dx.doi.org/10.1016/j.jcis.2017.05.119>
Reference: YJCIS 22426

To appear in: *Journal of Colloid and Interface Science*

Received Date: 19 April 2017
Revised Date: 29 May 2017
Accepted Date: 31 May 2017

Please cite this article as: X. Liu, J. Zhang, J. Di, Y. Long, W. Li, Y. Tu, Graphene-like carbon nitride nanosheet as a novel sensing platform for electrochemical determination of tryptophan, *Journal of Colloid and Interface Science* (2017), doi: <http://dx.doi.org/10.1016/j.jcis.2017.05.119>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Graphene-like carbon nitride nanosheet as a novel sensing platform for electrochemical determination of tryptophan

Xiaopeng Liu^a, Junlin Zhang^a, Junwei Di^{a,b}, Yumei Long^{a,b,c*}, Weifeng Li^{a*}, Yifeng Tu^{a,b}

^a *College of Chemistry, Chemical engineering and Materials Science, Soochow University, Suzhou, Jiangsu 215123, P.R. China*

^b *The Key Lab of Health Chemistry and Molecular Diagnosis of Suzhou*

^c *State Key Laboratory of Chemo/Biosensing and Chemometrics, Hunan University, Changsha 410082, P.R. China*

ABSTRACT

In this paper, a new and facile strategy has been demonstrated for the electrochemical determination of tryptophan (Trp), based on graphite-like carbon nitride (g-C₃N₄) nanosheets modified glassy carbon (CNNS/GC) electrode. The g-C₃N₄ nanosheets were obtained via exfoliating bulk graphitic carbon nitride (bg-C₃N₄), which was synthesized using a thermal poly-condensation process. The obtained g-C₃N₄ nanosheets were characterized by x-ray diffraction (XRD), transmission electron microscopy (TEM), Fourier transform infrared (FTIR) spectroscopy and atomic force microscopy (AFM). The results confirmed graphite-like structure with thickness of about 6-8 nm. The as-synthesized g-C₃N₄ nanosheets were closely attached to the surface of GC

* Corresponding author. Tel.: +86 512 65880089; fax: +86 512 65880089
E-mail addresses: yumeilong@suda.edu.cn (Y. Long); liweifeng@suda.edu.cn (W. Li)

Download English Version:

<https://daneshyari.com/en/article/4984523>

Download Persian Version:

<https://daneshyari.com/article/4984523>

[Daneshyari.com](https://daneshyari.com)