

## RETRACTION

[View Article Online](#)  
[View Journal](#) | [View Issue](#)


Cite this: *Mol. Syst. Des. Eng.*, 2025, 10, 167

# Retraction: Heteroatoms chemical tailoring of aluminum nitrite nanotubes as biosensors for 5-hydroxyindole acetic acid (a biomarker for carcinoid tumors): insights from a computational study

Chioma B. Ubah,<sup>a</sup> Martilda U. Akem,<sup>b</sup> Innocent Benjamin,<sup>a</sup> Henry O. Edet,<sup>\*c</sup> Adedapo S. Adeyinka<sup>d</sup> and Hitler Louis<sup>\*eb</sup>

DOI: 10.1039/d5me90004b

[rsc.li/molecular-engineering](https://rsc.li/molecular-engineering)

Retraction of 'Heteroatoms chemical tailoring of aluminum nitrite nanotubes as biosensors for 5-hydroxyindole acetic acid (a biomarker for carcinoid tumors): insights from a computational study' by Chioma B. Ubah et al., *Mol. Syst. Des. Eng.*, 2024, 9, 832–846, <https://doi.org/10.1039/D4ME00019F>.

We the authors hereby wholly retract this *Molecular Systems Design & Engineering* article due to concerns that the conclusions are fundamentally undermined by technical errors in the conduct of the calculations and misunderstandings in the reporting of the results.

The computational details are extremely abbreviated and omit the information necessary to enable readers to rely upon, or reproduce, the methodology reported. There are errors in the conduct of the simulations, which therefore provide no meaningful results. The interpretation of the outcomes as reported is not supported by the findings in this article and includes statements which cannot be supported by understood scientific principles.

We are therefore retracting this article to protect the integrity and accuracy of the scientific record.

Signed: Henry O. Edet (on behalf of all authors)

Date: 3rd January 2025

Retraction endorsed by Maria Southall, Executive Editor, *Molecular Systems Design & Engineering*

<sup>a</sup> Department of Microbiology, University of Calabar, Calabar, Nigeria

<sup>b</sup> Department of Pure and Applied Chemistry, University of Calabar, Calabar, Nigeria. E-mail: [louismuzong@gmail.com](mailto:louismuzong@gmail.com)

<sup>c</sup> Department of Biochemistry, Cross River University of Technology, Calabar, Nigeria. E-mail: [henryokedet98@gmail.com](mailto:henryokedet98@gmail.com)

<sup>d</sup> Department of Chemical Sciences, University of Johannesburg, South Africa

<sup>e</sup> Department of Research Analytics, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, India

