

Supporting Information

**Zaluzanin-D enriched *Vernonia arborea* extract mediated copper oxide nanoparticles synthesis and their anti-oxidant, anti-inflammatory and DNA methylation altering properties**

Muhammad Sadiq<sup>a,b</sup>, Arvind Sivasubramanian<sup>c</sup>, Aswathy Karanath-Anilkumar<sup>b, d</sup>,  
Shazia Anjum-Musthafa<sup>b</sup>, Chinnaperumal Kamaraj<sup>b</sup>, Ganesh Munuswamy-  
Ramanujam<sup>\*a, b</sup>

<sup>a</sup> *Department of Chemistry, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur - 603 203, Chengalpattu, Tamil Nadu, India*

<sup>b</sup> *Interdisciplinary Institute of Indian System of Medicine (IIISM), Directorate of Research, SRM Institute of Science and Technology, Kattankulathur - 603 203, Chengalpattu, Tamil Nadu, India*

<sup>c</sup> *Natural Products and Organic Synthesis Laboratory, Department of Chemistry, School of Chemical and Biotechnology, SASTRA Deemed to be University, Thanjavur, 613401- Tamil Nadu, India*

<sup>d</sup> *Department of Biotechnology, College of Engineering and Technology, SRM Institute of Science and Technology, Chengalpattu-603203, Tamil Nadu, India*

*\* Corresponding author:*

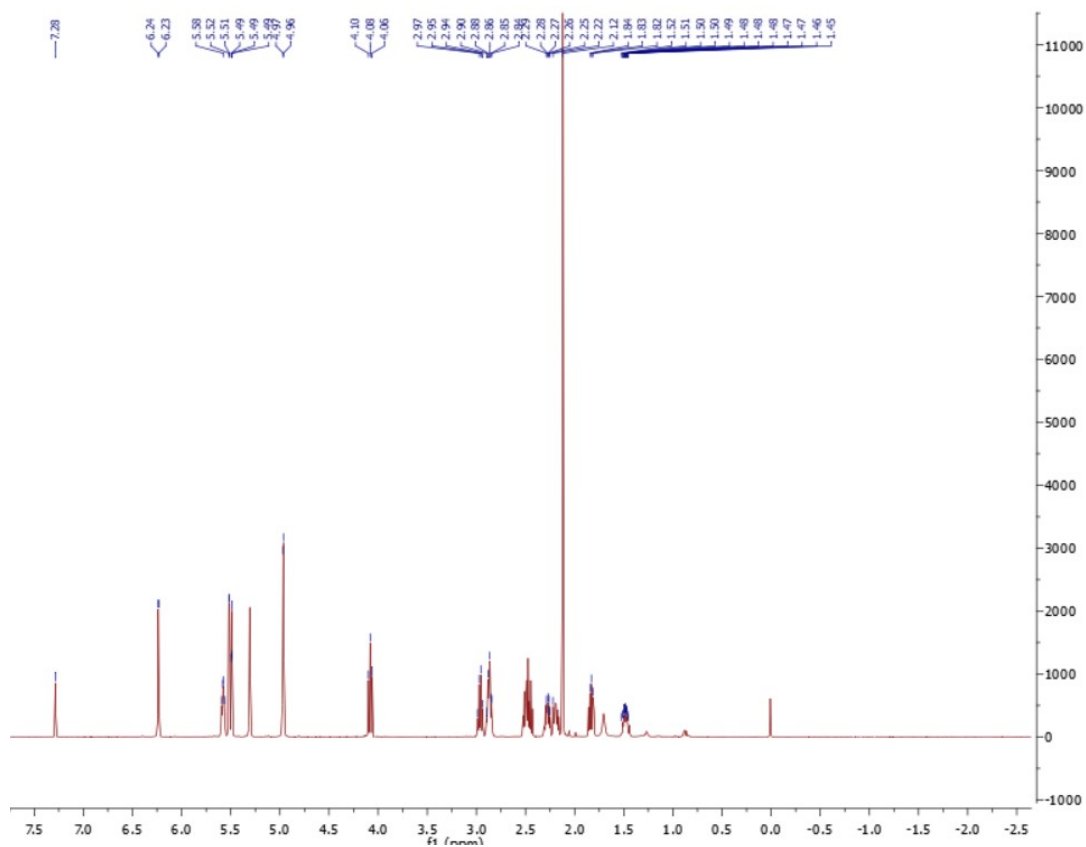
**Dr. M. R. Ganesh** ([mrganesh2000@hotmail.com](mailto:mrganesh2000@hotmail.com))

## Table Of Contents

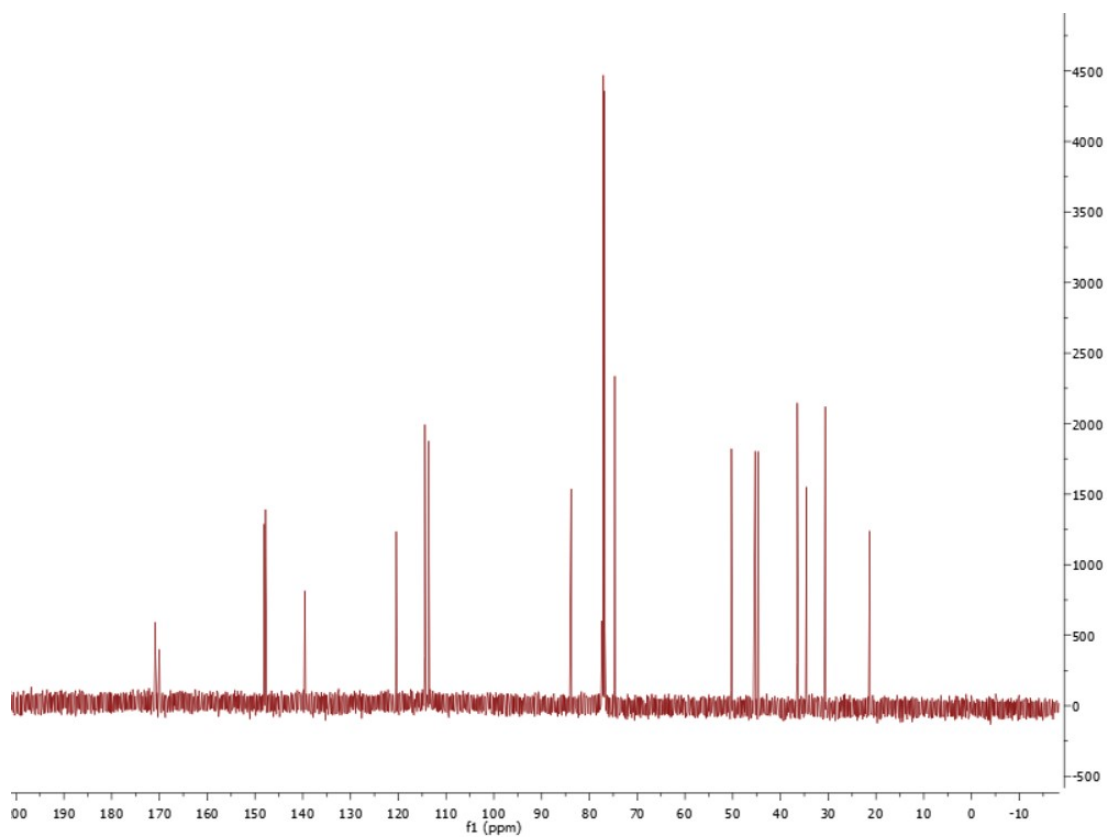
- Spectral data of Zaluzanin D.
- Demethylation Data.

## Supplementary Figures

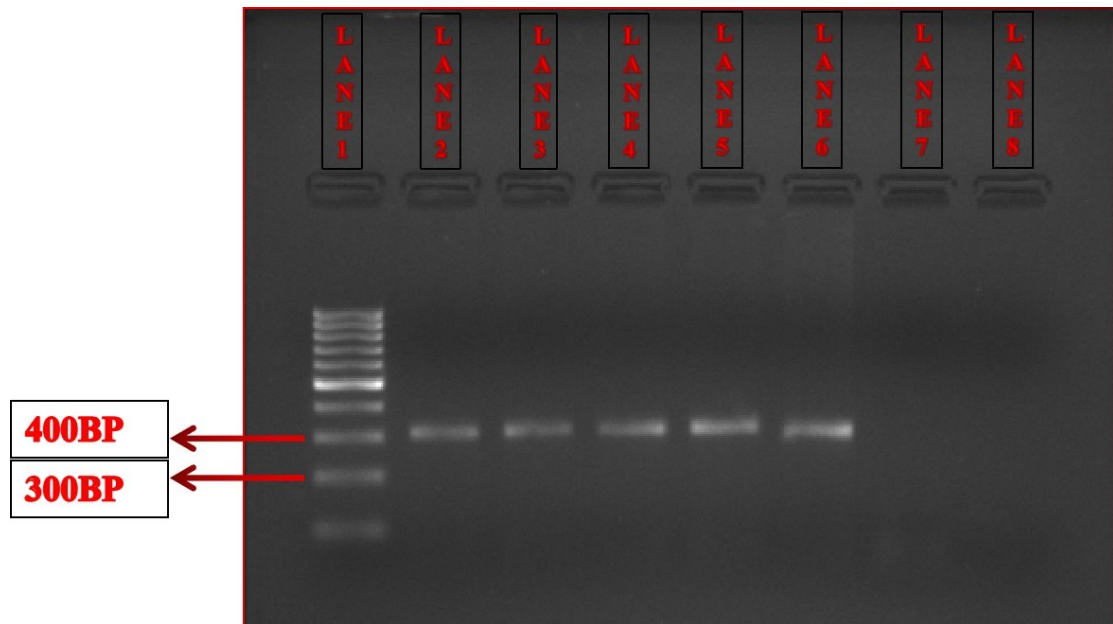
- Figure 1: <sup>1</sup>H NMR spectra of Zaluzanin D in CDCl<sub>3</sub>, 500MHz NMR.
- Figure 2: <sup>13</sup>C NMR spectra of Zaluzanin D in CDCl<sub>3</sub>, 500MHz NMR.
- Figure 3: The PCR products of the AciI treated DNA samples isolated from PMA activated THP-1 cells



**Figure 1:**  $^1\text{H}$  NMR spectra of Zaluzanin D in  $\text{CDCl}_3$ , 500MHz NMR.



**Figure 2:**  $^{13}\text{C}$  NMR spectra of Zaluzanin D in  $\text{CDCl}_3$ , 500MHz NMR



Lane 1 – 100bp ladder

Lane 2 & 3 – THP-1 cells treated with bCuO-NPs and PMA

Lane 4 – THP-1 cells + H<sub>2</sub>O (solvent control)

Lane 5 & 6 – THP-1 cells

Lane 7 & 8 – THP-1 cells treated with PMA

**Figure 3: DNA Methylation studies – bCuO-NPs treatment attenuates hypomethylation at MMP-9 gene promoter region in PMA-activated THP-1 cells**