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Muhammad Asim Akhtar, Sara Riaz, Akhtar Hayat, Muhammad Nasir, Nawshad Muhammad, Abdur Rahim, Mian Hasnain Nawaz

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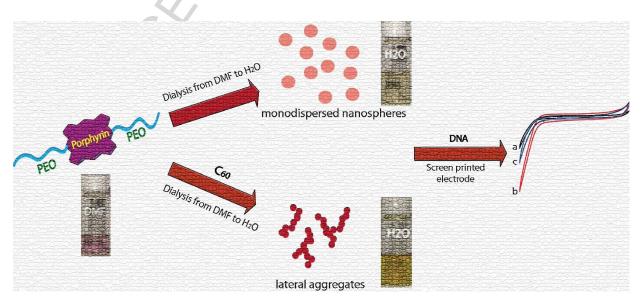
### **ACCEPTED MANUSCRIPT**

# Poly (ethylene oxide) Tethered trans-Porphyrin: Synthesis, Self-assembly with Fullerene ( $C_{60}$ ) and DNA Binding Studies

Muhammad Asim Akhtar, <sup>a</sup> Sara Riaz, <sup>b</sup> Akhtar Hayat, <sup>a</sup> Muhammad Nasir, <sup>a</sup> Nawshad Muhammad, <sup>a</sup> Abdur Rahim, <sup>a</sup> Mian Hasnain Nawaz \*<sup>a</sup>

#### **Graphical Abstract**

We report here, the synthesis and morphological investigation of ABA type PEGylated transporphyrin,  $P-(PEO)_2$ . These porphyrinic moieties self-assembled into spheres of uniform diameter when their DMF solution was dialyzed into water. Furthermore, the addition of  $C_{60}$  to  $P-(PEO)_2$  caused morphological change of *worm like* lateral aggregates. The aggregates were further studied for DNA attachment using change in their electrochemical properties.



<sup>&</sup>lt;sup>a</sup> Interdisciplinary Research Centre in Biomedical Materials, COMSATS Institute of Information Technology, Lahore

<sup>&</sup>lt;sup>b</sup> Department of Chemical Engineering, COMSATS Institute of Information Technology, Lahore

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