DIFFERENT PERIPHERAL SUBSTITUTED PHTHALOCYANINES: SYNTHESIS, CHARACTERIZATION, AGGREGATION BEHAVIOR, ANTIOXIDANT AND ANTIBACTERIAL ACTIVITY

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In this study, a novel phthalonitrile, 4-chloro-5-(2-((2-hydroxyethyl)(*p*-tolyl)amino)ethoxy)phthalonitrile (**3**), and its metallophthalocyanine derivatives (**4-6**) are prepared by cyclotetramerization with appropriate metal salts in dimethylformamide. The newly prepared compounds have been characterized by several spectroscopic techniques. All compounds are evaluated for their antioxidant and antibacterial potential. For the antioxidant studies, three tests are applied; DPPH (2,2-diphenyl-1-picrylhydrazylradical) scavenging, metal chelating and reducing power activity. Compound **4** exhibits the best DPPH scavenging activity as 35.2% at 100 mg/L concentration. The metal chelating activities of compounds **3** and **4** are 69.7% and 56.4%, respectively. Reducing power activities of compounds **3** and **4** are higher than α-tocopherol which is used as positive control. All compounds show moderate antibacterial activity when compared to the standard antibiotics, amikacin and tetracycline.

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