

# SYNTHESIS AND EVALUATION OF ANALGESIC, ANTI-INFLAMMATORY AND ANTI-BACTERIAL ACTIVITY OF BETA AND MESO 5, 10, 15,20-TETRAPHENYLPORPHYRINS SCHIFF BASES AND THEIR METAL COMPLEXES

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**S**eries of novel  $\beta$  and meso 5,10,15,20-tetraphenylporphyrins Schiff bases were synthesized via Schiff base condensation reaction, the  $\beta$ -linked 5,10,15,20-tetraphenylporphyrins Schiff bases were synthesized starting from  $\beta$ -formyl 5,10,15,20-tetraphenylporphyrin and amino alkanes in moderate yields. While meso-linked 5,10,15,20-tetraphenylporphyrins Schiff bases were synthesized via refluxing 5-(4-aminophenyl)-10,15,20-triphenylporphyrin and different aromatic benzaldehyde. The two newly synthesized series of porphyrin Schiff bases were compared and characterized on the basis of their chemical properties, stability and spectral data. The properties of these new  $\beta$ -linked 5,10,15,20-tetraphenylporphyrin Schiff bases and meso-linked 5,10,15,20-tetraphenylporphyrin were investigated and were observed with different stability. The rotational stability of these  $\beta$ -linked and meso-linked 5,10,15,20-tetraphenylporphyrin Schiff bases deduced by <sup>1</sup>HNMR, was calculated and all newly synthesized compounds were further characterized by UV-VIS spectroscopy and high resolution mass spectroscopy. They were further tested for their potential analgesic and anti-inflammatory activities in acetic acid induced writhing test in mice and carrageenan induced paw edema in rats. The compounds were also evaluated for antibacterial activity in disc diffusion method. Compounds 1a 1b 1c 1d showed significant analgesic and anti-inflammatory activity at 10 and 30 mg/kg (b.w), comparable to the standard reference drugs. Furthermore, all the tested compounds possessed significant anti-bacterial activity against both gram positive and gram negative bacteria. The analgesic, anti-inflammatory and anti-bacterial activities of the tested compounds were found comparable to reference drugs. These compounds can serve as precursors for the development of clinically useful analgesics, anti-inflammatory and anti-bacterial agents.

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