Synthesis and Design of Corroles Endowed with Electron Withdrawing Groups: Examples of Applications

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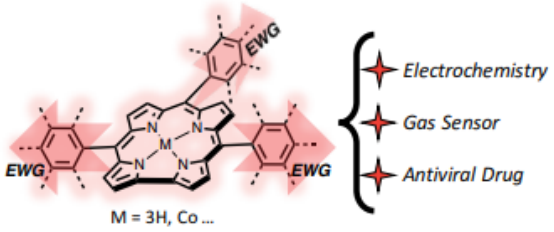
Among porphyrinoids, corroles display unique structural, spectroscopic and photophysical properties, as well as distinctive coordination chemistry and chemical reactivity. All of these features can result in molecular performances, which can be advantageously exploited in many applications ranging from material science to medicinal chemistry. In the present paper, we will focus on the synthesis and design of free-base and metallocorroles bearing electron withdrawing groups (EWG) at the *meso* positions of the macrocycle. From the physical-chemical point of view, the interesting electrochemical features of these derivatives[1] were characterized in order to correlate the redox reactivity and potentials with the number and positions of the EWG substituents. One main goal of the syntheses involves the preparation of cobalt complexes which have applications as sensors, for example, as devices for carbon monoxide detection.[2] We have also examined the *in vivo* activity and cytotoxicity of the newly synthesized corroles as antiviral agents against Human Cytomegalovirus (hCMV) infection,[3] paying particular attention on the relation between the position of the functional groups and their efficiency as virus inhibitors.



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