TOR VERGATA
UNIVERSITÀ DEGLI STUDI DI ROMA

Dipartimento di Scienze e Tecnologie Chimiche

AVVISO DI SEMINARIO

Il giorno 23 Aprile alle ore 12.00

nell'aula Seminari

Il Prof. Zeev Gross

terrà un seminario dal titolo

"**SilverAnniversary of the Renaissance in Metallocorrole Chemistry**"

Proponente: Prof. Roberto Paolesse

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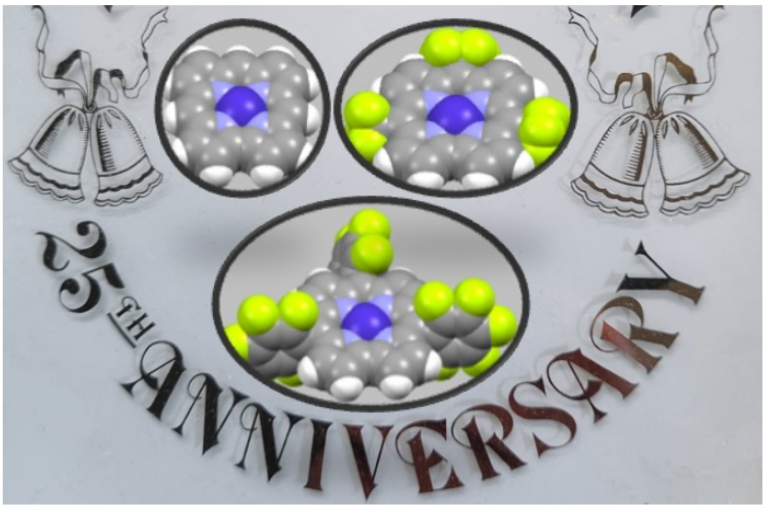
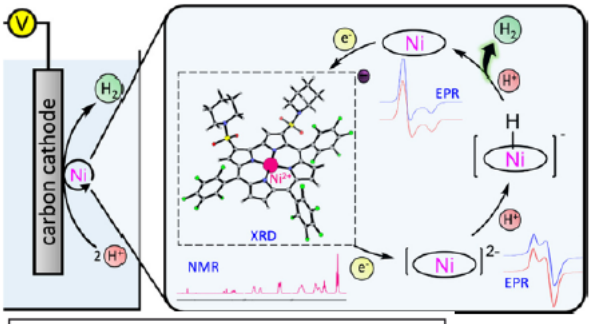
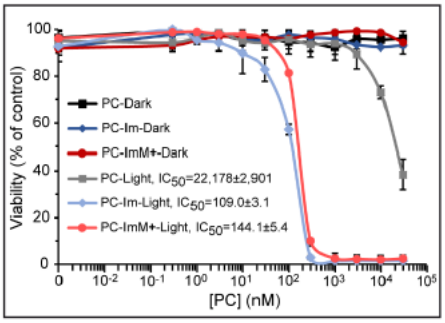


Silver Anniversary of the Renaissance in Metallocorrole Chemistry

Professor Zeev Gross, Schulich Faculty of Chemistry, Technion - Israel Institute of Technology, Haifa 32,000, Israel

One-pot corrole syntheses discovered almost exactly 25 years ago by two research groups, located in Rome and Haifa, opened the floodgates for research on these unique macrocyclic metal chelating agents. The enormous impact of this discovery has been documented in numerous reviews, including the one published in honor of the Jubilee Year celebrating the original reports. Based on the unique properties of corrole-chelated metal complexes elucidated during these years, they have been introduced as the molecular components of choice in a plethora of applications: sensing gases, anions and bio-relevant processes, rescue of vital biomolecules from oxidative damage, selective destruction of cancerous cells, and catalysis of reactions of importance to clean energy processes.Selected examples that will be presented are that





a) electron-richness of the corroles affects the reaction mechanism by which the nickel and cobalt complexes catalyze the hydrogen evolution reaction (HER);

b) some post-transition metal complexes catalyze HER by relying on redox processes that are ligand- rather than metal-based; and

c) nanoparticular phosphorous corroles with a basic moiety selectively accumulate within lysosomes, upon which they become molecular and induce nanomolar cytotoxic effects upon illumination.