

RESEARCH INTERESTS:

Synthesis and reactivity of organic and inorganic peroxides. Selective oxyfunctionalization of hydrocarbons, olefins, alkynes, non-natural (adamantane, binor-S, cubane), and natural target compounds (peptides).

Direct oxy-functionalization and spectroscopic characterization of macrocycles from natural sources for the development of new targeted anticancer drugs.

Oxy-functionalizations of SWCNT and MWCNT for smart materials.

Synthesis and application of heterogeneous organocatalysts for selective oxidation reactions and for reduction of pollutants in air and water.

Application of photocatalytic methods in the reduction of carbon dioxide.

Application of catalysis for Energy and Hydrogen

Synthesis of bio-plastics, Circular Economy.