



Dr. CS. III. Gabriela SACARESCU

Inorganic Polymers Department

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CURRENT POSITION Scientist

EDUCATION

B.S., “Gh. Asachi” Tech. Univ., Fizico-Chemistry **1990**

Ph.D. in Chemistry and Technology of Polymers, **2002**
“Petru Poni” Institute of Macromolecular Chemistry Iasi,
Romanian Academy

AWARDS

Romanian Academy Award “Nicolae Teclu” 2005:
“Organosilicon Polymers with Unconventional Architectures. Methods and Applications”

PROFESSIONAL DEVELOPMENT

Polymer synthesis and properties

Reactive polyhydrosilanes synthesis **1999**
Polish Academy of Sciences
Centre of Carbon and Polymer Materials, Poland

Structural characterization of polymers

QCM analysis. Theory and method **2012**
University of Maribor, Slovenia

Research interests

- Synthesis of macromolecular precursors for preparation of silicon-carbide ceramics at low temperature
- Synthesis of metal nanoparticles and quantum dots using reactive polysilanes
- Porous polysilane nanoparticles
- Interactions between polysilanes and metal complexes
- Reactive organosilicon polymers and polysilane copolymers
- Polysilane-based materials with applications in molecular electronics
- Polysilane-metal nanoparticles for biological applications

- Optical properties of polysilanes in confined space
- Nano-aggregates of hyperconjugated structures

Representative publications

- Si-H functional polysilanes via homogeneous reductive coupling reaction, G. Săcărescu, L. Săcărescu, R. Ardeleanu, P. Kurcok, Z. Jedlinski, *Macromol. Rapid Commun.*, 2001.
- Synthesis of polysilane–bis(salicyliden)ethylenediamine Ni(II) complex, G. Săcărescu, R. Ardeleanu, L. Săcărescu, M. Simionescu, *J. Organomet. Chem.*, 2003.
- Polysilane-cycloimmonium salt, a new material for organic semiconductors, R. Ardeleanu, I. Mangalagiu, G. Săcărescu, M. Simionescu, L. Săcărescu, *Macromol. Rapid Commun.*, 2004.
- Polydiphenylsilanes bearing photosensitive azocrown groups, L. Săcărescu, R. Ardeleanu, G. Săcărescu, M. Simionescu, N. Hurduc, *Chem. Commun.*, 2006.
- Polyhydrosilane mediated synthesis of one-dimensional gold nanostructures, L. Săcărescu, M. Simionescu, G. Săcărescu, V. Harabagiu, *J. Inorg. Organomet. Polym. Mater.*, 2013.
- Nanostructuring of polysilane-SiQDs composite by pulsed electrical discharges in water, L. Săcărescu, M. Simionescu, G. Săcărescu, A. Quade, J. F. Kolb, C. Miron, *React. Funct. Polym.*, 2017.
- Bichromophoric pyrazoline derivative with solvent-selective photoluminescence quenching, A. L. Chibac, G. Roman, C. Cojocar, S. Shova, G. Săcărescu, M. Simionescu, L. Săcărescu, *J. Mol. Liq.*, 2019.