



Dr. Silvia VASILIU

Scientific researcher degree III

Affiliation: *Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania*

Email: silvia.vasiliu@icmpp.ro

Tel. +40746855184

Research topics

Preparation of polymeric materials with sorption/release capacities of hydrophilic and hydrophobic drugs for biomedical applications: 1) linear and crosslinked zwitterionic polymers obtained by polymer-analogous reactions or by suspension polymerization technique followed by betainization reaction; 2) surface modification of porous microparticles by grafting polysaccharides (xanthan, gellan, chitosan, sodium hyaluronan) and protein (zein) onto crosslinked network based on methacrylic/vinyl monomers; 3) microparticles with complex architectures based on the polyelectrolyte complexes between acrylic ion exchange resins and polysaccharides. The characterization of the polymeric materials was carried out by: FT-IR spectroscopy, scanning electron microscopy (SEM), dynamic water vapor sorption (DVS), mercury porosimetry (Hg), atomic force microscopy (AFM), thermogravimetric analysis (TGA), elemental analysis and swelling capacities.

Scientific research

Author and co-author of 36 ISI articles (14 in Q1 zone and 3 in Q2 zone), two books, 10 book chapters, 4 articles in proceedings, 30 posters, 30 oral communications, member in 14 research national/international grants and **DIRECTOR** for 1 national grant (**Polymers with antimicrobial activity**, period 2001-2002), 536 citations (HI = 11).

Visibility

<https://www.brainmap.ro/silvia-vasiliu>; <https://orcid.org/0000-0002-8092-6967>

<https://www.scopus.com/authid/detail.uri?authorId=9841699800>

Relevant publications

1. M.-A. Lungan, M. Popa, S. Racovita, G. Hitruc, F. Doroftei, J. Desbrieres, **S. Vasiliu**, **Surface characterization and drug release from porous microparticles based on methacrylic monomers and xanthan**, *Carbohydr. Polym.* 125 (2015) 323-333. **Q1** (IF₂₀₂₁ = **10.723**) DOI: 10.1016/j.carbpol.2015.02.058
2. T. A. Cigu, **S. Vasiliu**, S. Racovita, C. Lionte, V. Sunel, M. Popa, C. Cheptea, **Adsorption and release of new cephalosporin from chitosan-g-poly(glycidyl methacrylate) microparticles**, *Eur. Polym. J.* 82 (2016) 132-152. **Q1** (IF₂₀₂₁ = **5.546**) DOI: 10.1016/j.eurpolymj.2016.07.011
3. **S. Vasiliu**, M. Lungan, S. Racovita, M. Popa, **Porous microparticles based on methacrylic copolymers and gellan as drug delivery systems**, *Polym. Internat.* 69 (2020) 1066-1080. **Q2** (IF₂₀₂₁ = **3.213**) DOI: 10.1002/pi.5917
4. **S. Vasiliu**, S. Racovita, I.-A. Gugoasa, M.-A. Lungan, M. Popa, J. Desbrieres, **The benefits of smart nanoparticles in dental applications**, *Internat. J. Mol. Sci.* 22 (2021) 2585. **Q1** (IF₂₀₂₁ = **6.208**) DOI: 10.3390/ijms22052585
5. S. Racovita, M.-A. Trofin, D. F. Loghin, M.-M. Zaharia, F. Bucatariu, M. Mihai, **S. Vasiliu**, **Polybetaines in biomedical applications**, *Internat. J. Mol. Sci.* 22 (2021). **Q1** (IF₂₀₂₁ = **6.208**) DOI: 10.3390/ijms22179321