

## Curriculum vitae: Zubov V.P.

### Address

Shemyakin–Ovchinnikov Institute of bioorganic chemistry RAS, Moscow, Russia

### Contacts

<https://www.ibch.ru/en/users/6>

### IBCh positions

2019–to date Principal research fellow

### IBCh memberships

Dissertation council

### Awards

1970 [Медаль «За доблестный труд. В ознаменование 100-летия со дня рождения В.И. Ленина»](#)

1998 Премия АН СССР и РАН имени М.М. Шемякина

### Scientific interests

His scientific interests include the synthesis and chemical conversions of polymers, the kinetics and mechanisms of radical polymerization.

### Titles

Professor

Doctor of Science (Chemistry)

### Grants and projects

2018– [Comprehensive research of the physico-chemical and sorption properties of thin films and composites of phenyl/phenyl end-capped tetramer of aniline as a structural analog of polyaniline](#)

### Publications

1. Kononov N, Yagudaeva E, Voronov V, Dorofeev S, Malakhova Y, Cerven V, **Zubov V** (2023). Phase Transition in a Tetraaniline/Nanosilicon Composite Film Detected by Impedance Spectroscopy. *J Phys Chem C Nanomater Interfaces* 127 (34), 17063–17077, [10.1021/acs.jpcc.3c02466](https://doi.org/10.1021/acs.jpcc.3c02466)
2. Sochilina AV, Akasov RA, Arkharova NA, Klechkovskaya VV, Mironov AV, Prostyakova AI, Sholina NV, **Zubov VP**, Generalova AN, Vikhrov AA (2022). Fabrication of moldable chitosan gels via thermally induced phase separation in aqueous alcohol solutions. *Int J Biol Macromol* 215, 501–511, [10.1016/j.ijbiomac.2022.06.094](https://doi.org/10.1016/j.ijbiomac.2022.06.094)
3. **(conference)** Malakhova YN, Iskandryarova YG, Malakhov SN, Stupnikov AA, Korovin AN, Yagudaeva EY, **Zubov VP** (2022). Langmuir and Langmuir-Schaefer films of tetraaniline for the development of organic electrochemical devices. *AIP Conf Proc* 2390, 020047–1–5, [10.1063/5.0068950](https://doi.org/10.1063/5.0068950)
4. Rozhkov KI, Yagudaeva EY, Sizova SV, Lazov MA, Smirnova EV, **Zubov VP**, Ischenko AA (2021). Characterization of iron-doped crystalline silicon nanoparticles and their modification with citrate anions for in vivo applications. *FCT* 16 (5), 414–425, [10.32362/2410-6593-2021-16-5-414-425](https://doi.org/10.32362/2410-6593-2021-16-5-414-425)
5. Sochilina AV, Savelyev AG, Akasov RA, **Zubov VP**, Khaydukov EV, Generalova AN (2021). Preparing Modified Hyaluronic Acid with Tunable Content of Vinyl Groups for Use in Fabrication of Scaffolds by Photoinduced Crosslinking. *Russ. J. Bioorganic Chem.* 47 (4), 828–836, [10.1134/S1068162021040191](https://doi.org/10.1134/S1068162021040191)

6. Kapustin DV, Prostyakova AI, Zybin DI, **Zubov VP** (2021). Nanostructured Polymer-Containing Composites as an Efficient Tool for Molecular Diagnostic. *Nanobiotech Rep* 16, 19–41, [10.1134/S2635167621010067](https://doi.org/10.1134/S2635167621010067)
7. Yagudaeva EY, Vikhrov AA, Malakhova Y, Iskandiyarova Y, Firsova M, Prostyakova A, Korovin A, Malakhov S, Nichugovskiy A, **Zubov V**, Kapustin D (2021). Tetramer of aniline as a structural analog of polyaniline – Promising material for biomedical application. *Synth Met* 274 (2), 116712, [10.1016/j.synthmet.2021.116712](https://doi.org/10.1016/j.synthmet.2021.116712)
8. Karimov DN, Demina PA, Koshelev AV, Rocheva VV, Sokovikov AV, Generalova AN, **Zubov VP**, Khaydukov EV, Kovalchuk MV, Panchenko VY (2020). Upconversion Nanoparticles: Synthesis, Photoluminescence Properties, and Applications. *Nanotechnol Russ* 15 (11-12), 655–678, [10.1134/S1995078020060117](https://doi.org/10.1134/S1995078020060117)
9. Вихров АА, **Зубов ВП**, Зайцев СЮ (2020). Получение медьсодержащих полимерных комплексов на основе хитозана, перспективных для сельскохозяйственных применений. *ВЗБ* (8), 60–70, [10.26155/vet.zoo.bio.202008008](https://doi.org/10.26155/vet.zoo.bio.202008008)
10. Sochilina AV, Budylin NY, Gamisonia AM, Chalykh AE, **Zubov VP**, Vikhrov AA (2019). Multichannel hydrogel based on a chitosan–poly(vinyl alcohol) composition for directed growth of animal cells. *Colloids Surf B Biointerfaces* 184, 110495, [10.1016/j.colsurfb.2019.110495](https://doi.org/10.1016/j.colsurfb.2019.110495)
11. Sharonova NV, Ischenko AA, Yagudaeva EY, Sizova SV, Smirnova EV, Ermakova AY, Sviridov AP, **Zubov VP** (2019). Modification of nanocrystalline silicon by polymers for biomedical applications. *Izvestiya Vysshikh Uchebnykh Zavedenii - Khimiya i Khimicheskaya Tekhnologiya* 62 (9), 86–96, [10.6060/ivkkt.20196209.5929](https://doi.org/10.6060/ivkkt.20196209.5929)
12. Konovalova MV, Shagdarova BTs, **Zubov VP**, Svirshchevskaya EV (2019). Express analysis of chitosan and its derivatives by gel electrophoresis. *Prog Chem Appl Chitin Deriv XXIV*, 84–95, [10.15259/PCACD.24.007](https://doi.org/10.15259/PCACD.24.007)
13. Sochilina AV, Savelyev AG, Demina PA, Sizova SV, **Zubov VP**, Khaydukov EV, Generalova AN (2019). Quantitative detection of double bonds in hyaluronic acid derivative via permanganate ions reduction. *Meas Sci Technol* 30 (7), , [10.1088/1361-6501/ab0fb4](https://doi.org/10.1088/1361-6501/ab0fb4)
14. Generalova AN, Asharchuk IM, **Zubov VP** (2018). Multifunctional polymer dispersions for biomedical assays obtained by heterophase radical polymerization. *Russ Chem Bull* 67 (10), 1759–1780, [10.1007/s11172-018-2289-y](https://doi.org/10.1007/s11172-018-2289-y)
15. Генералова АН, Ашарчук ИМ, **Зубов ВП** (2018). Мультифункциональные полимерные дисперсии для биомедицинских исследований, полученные в процессе гетерофазной радикальной полимеризации. *Известия Академии наук. Серия химическая* (10), 1759–1780.
16. **(conference)** Generalova A, Mironova K, Sholina N, Rocheva V, Nechaev A, Grebenik E, Guller A, Zvyagin A, Deyev S, **Zubov V**, Khaydukov E (2018). Upconversion nanoparticles: On the way from diagnostics to theranostics. *EPJ Web of Conference* 190, 03001, [10.1051/epjconf/201819003001](https://doi.org/10.1051/epjconf/201819003001)
17. Generalova AN, **Zubov VP** (2018). Design of polymer particle dispersions (latexes) in the course of radical heterophase polymerization for biomedical applications. *Colloids Surf B Biointerfaces* 166, 303–322, [10.1016/j.colsurfb.2018.03.036](https://doi.org/10.1016/j.colsurfb.2018.03.036)
18. Yagudaeva E, Zybin D, Vikhrov A, Prostyakova A, Ischenko A, **Zubov V**, Kapustin D (2018). Sorption of nucleic acids and proteins on polyaniline and polyaramide nano-coatings as studied by spectral-correlation interferometry in a real time mode. *Colloids Surf B Biointerfaces* 163, 83–90, [10.1016/j.colsurfb.2017.12.025](https://doi.org/10.1016/j.colsurfb.2017.12.025)
19. Liaw DJ, Zybin DI, Prostyakova AI, Yagudaeva EY, Vikhrov AA, Ishchenko AA, **Zubov VP**, Kapustin DV (2017). Static and dynamic sorption of nucleic acids and proteins on surface of sorbents modified with nanolayers of polymers. *Izvestiya Vysshikh Uchebnykh Zavedenii - Khimiya i Khimicheskaya Tekhnologiya* 61 (1), 4–22, [10.6060/tcct.20186101.5694](https://doi.org/10.6060/tcct.20186101.5694)
20. Liaw DJ, Yagudaeva E, Prostyakova A, Lazov M, Zybin D, Ischenko A, **Zubov V**, Chang CH, Huang YC, Kapustin D (2016). Sorption behavior of polyaramides in relation to isolation of nucleic acids and proteins. *Colloids Surf B Biointerfaces* 145, 912–921, [10.1016/j.colsurfb.2016.05.068](https://doi.org/10.1016/j.colsurfb.2016.05.068)
21. Generalova AN, **Zubov VP** (2016). Dispersions of polyacrolein-based multifunctional microspheres for the creation of bioanalytical and visualizing reagents. *Polymer science USSR* 58 (4), 385–410, [10.1134/S1560090416040023](https://doi.org/10.1134/S1560090416040023)
22. Generalova AN, Rocheva VV, Nechaev AV, Khochenkov DA, Sholina NV, Semchishen VA, **Zubov VP**, Koroleva AV, Chichkov BN, Khaydukov EV (2016). PEG-modified upconversion nanoparticles for in vivo optical imaging of tumors. *RSC Adv* 36 (6), 30089–30097, [10.1039/C5RA25304G](https://doi.org/10.1039/C5RA25304G)
23. Ivanov AE, **Zubov VP** (2016). Smart polymers as surface modifiers for bioanalytical devices and biomaterials: Theory and practice. *RUSS CHEM REV* 85 (6), 565–584, [10.1070/RCR4567](https://doi.org/10.1070/RCR4567)

24. Каширина ЕВ, Решетов ПД, Алексеева ЛГ, Хлгатын СВ, Рязанцев ДЮ, Гурьянова СВ, **Зубов ВП**, Свищевская ЕВ (2015). Капсулирование аллергенов клещей домашней пыли в наночастицы на основе хитозана и альгината. 10 (7), 98–104.
25. Kashirina EI, Reshetov PD, Alekseeva LG, Khlgatyan SV, Ryazantsev DY, **Zubov VP**, Guryanova SV, Svirshchevskaya EV (2015). Capsulation of house-dust-mite allergens into nanoparticles developed from chitosan and alginate. *Nanotechnol Russ* 10 (78), 627–635, [10.1134/S1995078015040084](https://doi.org/10.1134/S1995078015040084)
26. Generalova AN, Kochneva IK, Khaydukov EV, Semchishen VA, Guller AE, Nechaev AV, Shekhter AB, **Zubov VP**, Zvyagin AV, Deyev SM (2015). Submicron polyacrolein particles in situ embedded with upconversion nanoparticles for bioassay. *Nanoscale* 7 (5), 1709–1717, [10.1039/c4nr05908e](https://doi.org/10.1039/c4nr05908e)
27. Yagudaeva EY, Liaw DJ, Ischenko AA, Bagratashvili VN, **Zubov VP**, Prostyakova AI, Ryazantsev DY, Sviridov AP, Kapustin DV (2014). New polyamide-containing sorbents for one-step isolation of DNA. *J Mater Sci* 49 (9), 3491–3496, [10.1007/s10853-014-8062-1](https://doi.org/10.1007/s10853-014-8062-1)
28. Kapustin DV, Prostyakova AI, Alexeev YI, Varlamov DA, **Zubov VP**, Zavriev SK (2014). High-throughput Method of One-Step DNA Isolation for PCR Diagnostics of Mycobacterium tuberculosis. *Acta Naturae* 6 (2), 48–52.
29. Kapustin DV, Prostyakova AI, Alexeev YI, Varlamov DA, **Zubov V**, Zavriev SK (2014). High-throughput method of one-step DNA isolation for PCR diagnostics of Mycobacterium tuberculosis. *Acta Naturae* 6 (21), 48–52, [10.32607/20758251-2014-6-2-48-52](https://doi.org/10.32607/20758251-2014-6-2-48-52)
30. Каширина ЕИ, Решетов ПД, Алексеева ЛГ, **Зубов ВП**, Свищевская ЕВ (2014). Иммуногенность белков, капсулированных в полимерные наночастицы на основе хитозана-альгината. том 8, , 901– 904.
31. Kapustin DV, Prostyakova AI, **Zubov VP** (2014). Fluoroplast-polyaniline-coated adsorbent for one-step isolation of DNA for PCR detection of viral hepatitides (HBV and TTV). *Bioanalysis* 6 (7), 957–966, [10.4155/bio.13.332](https://doi.org/10.4155/bio.13.332)
32. Chikhacheva IP, **Zubov VP**, Gomzyak VI, Rumsh LD, Kubrakova IV (2013). Influence of the microwave irradiation on the enzymatic activity of trypsin in the presence of poly(N-vinyl amides). *RUSS J GEN CHEM* 83 (7), 1448–1452, [10.1134/S1070363213070244](https://doi.org/10.1134/S1070363213070244)
33. Grebenik EA, Nadort A, Generalova AN, Nechaev AV, Sreenivasan VKA, Khaydukov EV, Semchishen VA, Popov AP, Sokolov VI, Akhmanov AS, **Zubov VP**, Klinov DV, Panchenko VY, Deyev SM, Zvyagin AV (2013). Feasibility study of the optical imaging of a breast cancer lesion labeled with upconversion nanoparticle biocomplexes. *J Biomed Opt* 18 (7), 76004, [10.1117/1.JBO.18.7.076004](https://doi.org/10.1117/1.JBO.18.7.076004)
34. Generalova AN, Oleinikov VA, Sukhanova A, Artemyev MV, **Zubov VP**, Nabiev I (2013). Quantum dot-containing polymer particles with thermosensitive fluorescence. *Biosens Bioelectron* 39 (1), 187–193, [10.1016/j.bios.2012.07.030](https://doi.org/10.1016/j.bios.2012.07.030)
35. Generalova AN, Oleinikov VA, Sukhanova A, Artemyev MV, **Zubov VP**, Nabiev I (2012). Biosensing with thermosensitive fluorescent quantum dot-containing polymer particles. *Proc SPIE Int Soc Opt Eng* 8460, , [10.1117/12.931427](https://doi.org/10.1117/12.931427)
36. Ivanov AE, Solodukhina NM, Nilsson L, Nikitin MP, Nikitin PI, **Zubov VP**, Vikhrov AA (2012). Binding of mucin to water-soluble and surface-grafted boronate-containing polymers. *Polym Sci Ser A Chem Phys* 54 (1), 1–10, [10.1134/S0965545X12010026](https://doi.org/10.1134/S0965545X12010026)
37. Свищевская ЕВ, Гриневич РС, Решетов ПД, **Зубов ВП**, Зубарева АА, Ильина АВ, Варламов ВП (2012). Наноносители на основе хитозана. 19 (1), 13–23.
38. Generalova AN, **Zubov VP**, Mochalov KE, Zdobnova TA, Sizova SV, Deev SM, Petrov RV (2011). Bioanalytical fluorescent reagents based on polyacrolein-containing particles labeled with semiconductor CdSe/ZnS nanocrystals. *Dokl Biochem Biophys* 439 (1), 151–154, [10.1134/S1607672911040016](https://doi.org/10.1134/S1607672911040016)
39. Generalova AN, Oleinikov VA, Zarifullina MM, Lankina EV, Sizova SV, Artemyev MV, **Zubov VP** (2011). Optical sensing quantum dot-labeled polyacrolein particles prepared by layer-by-layer deposition technique. *J Colloid Interface Sci* 357 (2), 265–272, [10.1016/j.jcis.2011.02.002](https://doi.org/10.1016/j.jcis.2011.02.002)
40. Kapustin DV, Prostyakova AI, Ryazantsev DY, **Zubov VP** (2011). Novel composite matrices modified with nanolayers of polymers as perspective materials for separation of biomolecules and bioanalysis. *Nanomedicine (Lond)* 6 (2), 241–255, [10.2217/nnm.11.6](https://doi.org/10.2217/nnm.11.6)
41. Generalova AN, Sizova SV, Zdobnova TA, Zarifullina MM, Artemyev MV, Baranov AV, Oleinikov VA, **Zubov VP**, Deyev SM (2011). Submicron polymer particles containing fluorescent semiconductor nanocrystals

- CdSe/ZnS for bioassays. *Nanomedicine (Lond)* 6 (2), 195–209, [10.2217/nnm.10.162](https://doi.org/10.2217/nnm.10.162)
42. Ivanov AE, Solodukhina N, Wahlgren M, Nilsson L, Vikhrov AA, Nikitin MP, Orlov AV, Nikitin PI, Kuzimenkova MV, **Zubov VP** (2011). Reversible Conformational Transitions of a Polymer Brush Containing Boronic Acid and its Interaction with Mucin Glycoprotein. *Macromol Biosci* 11 (2), 275–284, [10.1002/mabi.201000295](https://doi.org/10.1002/mabi.201000295)
  43. VaccineShlosser , Ribbing , Bachman K, **Zubov P**, Kapustin V (2011). Surface coating for laser desorption ionization mass spectrometry of molecules. , .
  44. Kapustin D, Prostyakova A, Bryk Y, Yagudaeva E, **Zubov V** (2011). Materials Modified with Nano-Layers of Functionalized Polymers for Bioanalysis and Medical Diagnostics. , 83–106.
  45. VaccineShlosser G, Ribbing C, Bachman PK, **Zubov VP**, Kapustin DV (2011). Surface coating for laser desorption ionization mass spectrometry of molecules. , .
  46. Yagudaeva EY, Zhigis LS, Razgulyaeva OA, Zueva VS, Melnikov EE, **Zubov VP**, Kozlov LV, Bichucher AM, Kotelnikova OV, Aliluev AP, Avakov AE, Rumsh LD (2010). Isolation and determination of the activity of IgA1 protease from *Neisseria meningitidis*. *Russ. J. Bioorganic Chem.* 36 (1), 81–89, [10.1134/S1068162010010085](https://doi.org/10.1134/S1068162010010085)
  47. Ягудаева ЕЮ, Жигис ЛС, Разгуляева ОА, Зуева ВС, Мельников ЭЭ, **Зубов ВП**, Козлов ЛВ, Бичучер АМ, Котельникова ОВ, Аллилуев АП, Аваков АЭ, Румш ЛД (2010). Выделение и определение активности IGA1-протеиназы из культуры *Neisseria meningitidis*. 36 (1), 96–105.
  48. Ягудаева ЕЮ, Букина ЯА, Простякова АИ, **Зубов ВП**, Тверской ВА, Капустин ДВ (2009). Окислительная полимеризация анилина на поверхности кремнезема в присутствии полисульфокислот как способ получения эффективных биосорбентов. 51 (6), 1000–1007.
  49. Generalova AN, Sizova SV, Oleinikov VA, **Zubov VP**, Artemyev MV, Spornath L, Kamysny A, Magdassi S (2009). Highly fluorescent ethyl cellulose nanoparticles containing embedded semiconductor nanocrystals. *Colloids Surf A Physicochem Eng Asp* 342 (13), 59–64, [10.1016/j.colsurfa.2009.04.007](https://doi.org/10.1016/j.colsurfa.2009.04.007)
  50. Yagudaeva EY, Bukina YA, Prostyakova AI, **Zubov VP**, Tverskoy VA, Kapustin DV (2009). Oxidative polymerization of aniline on the surface of silica in the presence of poly(sulfonic acids) as a method of preparing efficient biosorbents. *Polym Sci Ser A Chem Phys* 51 (6), 675–682, [10.1134/S0965545X09060121](https://doi.org/10.1134/S0965545X09060121)
  51. **Zubov VP**, Chikhacheva IP, Nikolaeva EI, Kapustin DV, Yagudaeva EY, Kubrakova IV (2009). Microwave-assisted synthesis of composite sorbents on the basis of silica modified by polyvinyl alcohol. *RUSS J GEN CHEM* 79 (2), 191–194, [10.1134/S1070363209020042](https://doi.org/10.1134/S1070363209020042)
  52. Yagudaeva EYu, Bukina YaA, Prostyakova AI, **Zubov VI**, Tverskoy VA, Kapustin DV (2009). Oxidative Polymerization of Aniline on the Surface of Silica in the Presence of Poly(sulfonic acids) as a Method of Preparing Efficient Biosorbents. 51 (6), 675–682.
  53. **Зубов ВП**, Чихачева ИП, Николаева ЕИ, Капустин ДВ, Ягудаева ЕЮ, Кубракова ИВ (2009). Применение микроволнового излучения для синтеза композиционных сорбентов на основе кремнезема, модифицированного поливиниловым спиртом. 79 (2), 203–206.
  54. Leiser RM, Kapustin DV, **Zubov VP**, Balayan H, Plobner L, Brem G (2008). A composite polymer-coated sorbent with a bidisperse pore size distribution for the simultaneous separation and desalting of biopolymers. , .
  55. Kapustin DV, Zavada LL, Barsamjan GB, Ponomarev NN, **Zubov VP**, Leiser RM, Plobner L, Yaroshevskaya EM (2008). New hydrophobic polymer comprising fluorine moieties. , .
  56. **Zubov VP**, Kapustin DV, Generalova AN, Yagudaeva EY, Vikhrov AA, Sizova SV, Muidinov MR (2007). Modification of solids with polymer nanolayers as a process for manufacture of novel biomaterials. *Polym Sci Ser A Chem Phys* 49 (12), 1247–1264, [10.1134/S0965545X07120036](https://doi.org/10.1134/S0965545X07120036)
  57. Ягудаева ЕЮ, Муйдинов МР, Капустин ДВ, **Зубов ВП** (2007). Окислительная полимеризация анилина на поверхности гетерогенных поликислот как способ получения эффективных биосорбентов. (6), 1123–1130.
  58. Yagudaeva EY, Muidinov MR, Kapustin DV, **Zubov VP** (2007). Oxidative polymerization of aniline on the surface of insoluble solid poly(sulfo acids) as a method for the preparation of efficient biosorbents. *Russ Chem Bull* 56 (6), 1166–1173, [10.1007/s11172-007-0177-y](https://doi.org/10.1007/s11172-007-0177-y)
  59. Stashevskaya K, Markvicheva E, Strukova S, Prudchenko I, **Zubov V**, Grandfils Ch (2007). Thrombin receptor agonist peptide etrapped in poly(d,l,-lactide-co-glycolide) microcapsules:preparation and characterization. 24 (2), 129–142.



60. Stashevskaya K, Markvicheva E, Strukova S, Prudchenko I, **Zubov V**, Grandfils C (2007). Thrombin receptor agonist peptide entrapped in poly(D,L)-lactide-co-glycolide microparticles: Preparation and characterization. *J Microencapsul* 24 (2), 129–142, [10.1080/02652040601058343](https://doi.org/10.1080/02652040601058343)
61. Yagudaeva EYu, Muydinov MR, Kapustin DV, **Zubov VP** (2007). Oxidative polymerization of aniline on the surface of insoluble solid poly (sulfonic acids) as a method for the preparation of efficient bioadsorbents. 56 (6), 1166–1173.
62. Kapustin DV, Yagudaeva EY, **Zubov VP**, Muydinov MR, Yaroshevskaja EM, Plobner L, Leiser R-M, Brem G (2006). New Polymer-Coated Materials for One-Step Separation of Nucleic Acids. , 113–136.
63. Leiser RM, Plobner L, Yaroshevskaya EM, **Zubov VP**, Kapustin DV, Yagudaeva EYu (2006). Use of a composite polymer-coated sorbent for separation, purification, desalting and concentration of biopolymers. , .
64. Stashevskaya KS, Markvicheva EA, Strukova SM, Rusanova AK, Makarova AM, Gorbacheva LR, Prudchenko IA, **Zubov VP**, Grandfis K (2006). Biodegradable microparticles with immobilized peptide for wound healing. *Biomed Khim* 52 (1), 83–94.
65. Éfendiyeu EH, Ali-Zade RA, **Zubov VP** (2005). Synthesis of polymer magnetic microspheres and study of their magnetic properties. *Cryst. Rep* 50 (1), , [10.1134/1.2133995](https://doi.org/10.1134/1.2133995)
66. Marc A, Markvicheva E, Jourdain C, Bezdetnaya L, Merlin JL, Guillemin F, **Zubov V**, Goergen JL (2005). Spheroids formation by encapsulation of cancer cells to mimic small size tumors, In : Animal Cell Technology meets Genomics. , 261–263.
67. Kapustin DV, Vikhrov AA, Gorokhova IV, Generalova AN, Kalyazina OV, Murzabekova TG, **Zubov VP** (2005). Multicomponent thermosensitive systems for biocatalysts. *Russ Chem Bull* 54 (2), 452–457, [10.1007/s11172-005-0273-9](https://doi.org/10.1007/s11172-005-0273-9)
68. Markvicheva E, Lozinsky V, Plieva F, Kochetkov K, Rumsh L, **Zubov V**, Kumar R, Parmar V, Belokon Yu (2005). Gel-immobilized enzymes as promising biocatalysts for enantioselective hydrolysis in water/organic media. *Pure Appl Chem* 77 (1), 227–236.
69. Markvicheva EA, Lozinsky VI, Plieva FM, Kochetkov KA, Rumsh LD, **Zubov VP**, Maity J, Kumar R, Parmar VS, Belokon YN (2005). Gel-immobilized enzymes as promising biocatalysts: Results from Indo-Russian collaborative studies. *Pure Appl Chem* 77 (1), 227–236, [10.1351/pac200577010227](https://doi.org/10.1351/pac200577010227)
70. Капустин ДВ, Ягудаева ЕЮ, Завада ЛЛ, Жигис ЛС, **Зубов ВП**, Ярошевская ЕМ, Плобнер Л, Лайзер Р-М, Брем Г (2003). Композиционный полианилинсодержащий кремнеземный сорбент для выделения ДНК. , 310–315.
71. Kapustin DV, Yagudaeva EI, Zavada LL, Zhigis LS, **Zubov VP**, Yaroshevskaja EM, Plobner L, Leiser RM, Brem G (2003). A composite polyaniline-containing silica sorbent for DNA isolation. *Bioorg Khim* 29 (3), 310–315.
72. Kapustin DV, Yagudaeva EY, Zavada LL, Zhigis LS, **Zubov VP**, Yaroshevskaya EM, Plobner L, Leiser RM, Brem G (2003). A Composite Polyaniline-Containing Silica Sorbent for DNA Isolation. *Russ. J. Bioorganic Chem.* 29 (3), 281–285, [10.1023/A:1023992701568](https://doi.org/10.1023/A:1023992701568)
73. Gorokhova IV, Ivanov AE, **Zubov VP** (2002). Coprecipitation of the Pseudomonas fluorescens lipase with hydrophobic compounds as an approach to its immobilization for catalysis in nonaqueous media. *Bioorg Khim* 28 (1), 49.
74. Gorokhova IV, Ivanov AE, **Zubov VP** (2002). Coprecipitation of Pseudomonas fluorescens lipase with hydrophobic compounds as an approach to its immobilization for catalysis in nonaqueous media. *Russ. J. Bioorganic Chem.* 28 (1), 38–43, [10.1023/A:1013902202789](https://doi.org/10.1023/A:1013902202789)
75. Markvicheva EA, Kuptsova SV, Rumsh LD, Dugina TN, Lange MA, Chistov IV, Strukova SM, **Zubov VP** (2002). Polymer dressings with encapsulated thrombin or peptides : Preparation and use for wound healing. *Biomed Khim* 48 (6), 575–576.
76. **Zubov VP**, Ivanov AE, Zhigis LS, Rapoport EM, Markvicheva EA, Lukin YV, Zaitsev SY (2001). Molecular construction of polymer materials for biotechnology and medicine. *Bioorg Khim* 25 (11), 868–880.
77. Fedorova OA, Gromov SP, Eshcheulova OV, Zeiss V, Moebius D, Baryshnikova EA, Vereshchetin VP, Sergeeva TI, **Zubov VP**, Zaitsev SY, Alfimov MV (2001). Synthesis of amphiphilic photochromic benzo-15(18)-crown-5(6) ethers and their study in monolayers. *Bioorg Khim* 26 (9), 716–717.
78. Volchenkova TA, Kalabina NA, Schaefer C, **Zubov VP**, Zaitsev SY (2001). A study of moss (Marchantia polymorpha) thylakoid membrane lipids in monolayers. *Cancer Biol Med* 14 (5), 579–585.
79. Gorokhova IV, Ivanov AE, **Zubov VP** (2001). Increase in catalytic activity of Pseudomonas fluorescens lipase

- upon its coprecipitation with hexadecane-1,2-diol suspension. *Russ Chem Bull* 50 (1), 152–154, [10.1023/A:1009553908131](https://doi.org/10.1023/A:1009553908131)
80. Strukova SM, Dugina TN, Chistov IV, Lange M, Markvicheva EA, Kuptsova S, **Zubov VP**, Glusa E (2001). Immobilized thrombin receptor agonist peptide accelerates wound healing in mice. *Clin Appl Thromb Hemost* 7 (4), 325–329, [10.1177/107602960100700414](https://doi.org/10.1177/107602960100700414)
  81. Рапопорт ЕМ, Некрасов МВ, Хайдуков СВ, Свирщевская ЕВ, Жигис ЛС, Козлов ЛВ, Баталова ТН, **Зубов ВП**, Бовин НВ (2000). Изучение клеточной локализации галактозосвязывающего лектина из сыворотки крови человека. 65 (11), 1558–1563.
  82. Chistov L, Strukova S, Dugina T, Lange M, Markvicheva E, Kuptsova S, **Zubov V**, Gwsa E (2000). Thrombin promotes the angiogenesis and wound healing acceleration. *Fibrinolysis* 14 (1), 43.
  83. Generalova AN, Buryakov AN, Lukin YV, **Zubov VP** (2000). The turbidimetric study of latex particle agglutination: assay of 2,4-dichlorophenoxyacetic acid. *Bioorg Khim* 26 (7), 548–553.
  84. Fedorova OA, Gromov SP, Eshcheulova OV, Zeiss V, Moebius D, Baryshnikova EA, Vereshchetin VP, Sergeeva TI, **Zubov VP**, Yu Zaitsev S, Alfimov MV (2000). Synthesis of amphiphilic photochromic benzo-15(18)-crown-5(6) ethers and their study in monolayers. *Bioorg Khim* 26 (9), 707–717.
  85. Egorov VV, Suprun NV, Klyamkin AA, **Zubov VP** (2000). The features of the behavior of the two-tail cationic surface-active monomer in a monolayer at water-gas interface. *BIOL MEMBRANY* 17 (3), 307–311.
  86. Rapoport EM, Nekrasov MV, Khaidukov SV, Svirshchevskaya EV, Zhigis LS, Kozlov LV, Batalova TN, **Zubov VP**, Bovin NV (2000). Cellular Localization of the Galactose-Binding Lectin from Human Serum. *Biochemistry (Moscow)* 65 (11), 1316–1320.
  87. Fedorova OA, Gromov SP, Eshcheulova OV, Zeiss V, Moebius D, Baryshnikova EA, Vereshchetin VP, Sergeeva TI, **Zubov VP**, Zaitsev SY, Alfimov MV (2000). Synthesis of amphiphilic photochromic benzo-15(18)-crown-5(6) ethers and their study in monolayers. *Russ. J. Bioorganic Chem.* 26 (9), 637–646.
  88. Belov SV, Ivanov AE, **Zubov VP** (2000). Interaction of serum albumin with various anionites. *RUSS J PHYS CH* 74 (4), 656–661.
  89. Generalova AN, Buryakov AN, Lukin YV, **Zubov VP** (2000). The turbidimetric study of latex particle agglutination: Assay of 2,4-dichlorophenoxyacetic acid. *Russ. J. Bioorganic Chem.* 26 (7), 490–495, [10.1007/BF02758620](https://doi.org/10.1007/BF02758620)
  90. Markvicheva EA, Kuptsova SV, Mareeva TY, Vikhrov AA, Dugina TN, Strukova SM, Belokon YN, Kochetkov KA, Baranova EN, **Zubov VP**, Poncelet D, Parmar VS, Kumar R, Rumsh LD (2000). Immobilized enzymes and cells in poly(N-vinyl caprolactam)-based hydrogels: Preparation, properties, and applications in biotechnology and medicine. *Appl Biochem Biotechnol* 88 (13), 145–157, [10.1385/abab:88:1-3:145](https://doi.org/10.1385/abab:88:1-3:145)
  91. Kuptsova S, Markvicheva E, Kochetkov K, Belokon Y, Rumsh L, **Zubov V** (2000). Proteases entrapped in hydrogels based on poly(N-vinyl caprolactam) as promising biocatalysts in water/organic systems. *Biocatal Biotransformation* 18 (2), 133–149, [10.3109/10242420009015242](https://doi.org/10.3109/10242420009015242)
  92. Zaitsev SY, Kalabina NA, Herrmann B, Schaefer C, **Zubov VP** (1999). A comparative study of the photosystem II membrane proteins with natural lipids in monolayers. *Mater Sci Eng C Mater Biol Appl* 89, 519–522, [10.1016/S0928-4931\(99\)00085-5](https://doi.org/10.1016/S0928-4931(99)00085-5)
  93. **Zubov VP**, Ivanov AE, Zhigis LS, Rapoport EM, Markvicheva EA, Lukin YV, Zaitsev SY (1999). Molecular construction of polymer materials for biotechnology and medicine. *Russ. J. Bioorganic Chem.* 25 (11), 772–783.
  94. Davletshin AI, Egorov VV, **Zubov VP** (1998). Effect of Surfactants on Peroxidase Activity. I. Effect of Anionic Surfactants. *Bioorg Khim* 24 (6), 428–429.
  95. Kapustin DV, Saburov VV, Zavada LL, Evstratov AV, Barsamyan GB, **Zubov VP** (1998). Composite Fluoropolymer-containing Sorbents for Isolation and Purification of Biopolymers. *Bioorg Khim* 24 (11), 875–876.
  96. Davletshin AI, Egorov VV, **Zubov VP** (1998). Effect of surfactants on peroxidase activity: I. Effect of anionic surfactants. *Russ. J. Bioorganic Chem.* 24 (6), 373–375.
  97. Kapustin DV, Saburov VV, Zavada LL, Evstratov AV, Barsamyan GB, **Zubov VP** (1998). Composite fluoropolymer-containing sorbents for the isolation and purification of biopolymers. *Russ. J. Bioorganic Chem.* 24 (11), 770–777.
  98. Strukova SM, Dugina TN, Chistov IV, Markvicheva EA, Kuptsova SV, Kolokolchikova EG, Rumsh LD, **Zubov**

- VP**, Gluza E (1998). Thrombin, a regulator of reparation processes in wound healing. *Russ. J. Bioorganic Chem.* 24 (4), 256–259.
99. Vikhrov AA, Markvicheva EA, Mareeva TY, Khaidukov SV, Nesmeyanov VA, Manakov MN, Goergen JL, Marc A, **Zubov VP** (1998). Preparation of pure monoclonal antibody to interleukin-2 by cultivation of hybridoma cells entrapped in novel composite hydrogel beads. *Biotechnol Lett* 12 (1), 11–14, [10.1023/A:1008839122591](https://doi.org/10.1023/A:1008839122591)
100. Baryshnikova EA, Sergeeva TI, Novikova OS, **Zubov VP**, Zaitsev SY (1998). Synthesis and Polymerization of the 16-(Methacryloyloxy)-Hexadecanoic Acid and Phospholipid in Monolayers. *Macromol Symp* 136, 109–118, [10.1002/masy.19981360116](https://doi.org/10.1002/masy.19981360116)
101. Lukin YV, Pavlova IS, Generalova AN, **Zubov VP**, Zhorov OV, Martsev SP (1998). Immunoreagents based on polymer dispersions for immunochemical assays. *J Mol Recognit* 11 (16), 185–187, [10.1002/\(SICI\)1099-1352\(199812\)11:1/6<185::AID-JMR419>3.0.CO;2-7](https://doi.org/10.1002/(SICI)1099-1352(199812)11:1/6<185::AID-JMR419>3.0.CO;2-7)
102. Капустин ДВ, **Зубов ВП**, Завада ЛЛ, Быков ВА, Грузинова НЕ, Евстратов АВ, Трифонова ОА (1998). Разработка и применение новых композиционных полимерсодержащих сорбентов для выделения и очистки ДНК. , 53–61.
103. Zaitsev SY, Volchenkova TA, Kalabina NA, Schaefer C, **Zubov VP** (1998). Purification and Monolayer Study of the Thylacoid Lipids of Moss *Marchantia polymorpha*. *Macromol Symp* 136, 119–129, [10.1002/masy.19981360117](https://doi.org/10.1002/masy.19981360117)
104. Strukova SM, Dugina TN, Chistov IV, Markvicheva EA, Kuptsova SV, Kolokolchikova EG, Rumsh LD, **Zubov VP**, Gluza E (1998). Thrombin, a Regulator of Reparation Processes in Wound Healing. *Bioorg Khim* 24 (4), 291–292.
105. Zaitsev SY, Egorov VV, **Zubov VP** (1997). Functional polymeric membranes based on monolayer films of surface-active monomers. *Vysokomolekularnye Soedineniya. Seriya A* 39 (1), 102–103.
106. Baryshnikova EA, Zaitsev SY, **Zubov VP** (1997). Synthesis and monolayer polymerization of lipid-like monomers with terminal methacrylic groups. *Vysokomolekularnye Soedineniya. Seriya A* 39 (6), 927–932.
107. Ivanov AE, Zhigis LS, Kurganova EV, **Zubov VP** (1997). Effect of temperature upon the chromatography of proteins on porous glass, chemically coated with N-isopropylacrylamide copolymer. *J Chromatogr A* 776 (1), 75–80, [10.1016/S0021-9673\(97\)00441-X](https://doi.org/10.1016/S0021-9673(97)00441-X)
108. Baryshnikova EA, Zaitsev SY, **Zubov VP** (1997). Synthesis and monolayer polymerization of lipid-like monomers with terminal methacrylic groups. *Polym Sci Ser A Chem Phys* 39 (6), 598–603.
109. Zaitsev SY, Vereschetin VP, **Zubov VP**, Zeiss W, Möbius D (1997). Comparative study of the mixed monolayers of valinomycin with dioctadecyldimethylammonium bromide and dipalmitoylphosphatidylethanolamine. *Colloids Surf A Physicochem Eng Asp* 121 (1), 37–46, [10.1016/S0927-7757\(97\)03772-2](https://doi.org/10.1016/S0927-7757(97)03772-2)
110. Zaitsev SY, Baryshnikova EA, Vereschetin VP, **Zubov VP** (1997). Polymerization of the 12-methacryloyloxydodecanoic acid and a corresponding phospholipid in monolayers at the liquid/gas interfaces. *Macromol Symp* 113, 197–206, [10.1002/masy.19971130117](https://doi.org/10.1002/masy.19971130117)
111. Rapoport EM, Zhigis LS, Ivanov AE, Korchagina EJ, Ovchinnikova TV, **Zubov VP**, Bovin NV (1997). Isolation and characterization of galactose-binding lectins from human serum. *Int. J. Bio-Chromatogr.* 3 (1), 57–67.
112. Zaitsev SY, Egorov VV, **Zubov VP** (1997). Functional polymeric membranes based on monolayer films of surface-active monomers. *Polym Sci Ser A Chem Phys* 39 (1), 81–93.
113. Yu Kryukov E, Feofanov AV, Oleinikov VA, Vereshchetin VP, Yu Zaitsev S, Gromov SP, Fedorova A, Maskevichf SA, Kivach LN, **Zubov VP**, Nablev IR, Alifimov MV (1996). Aggregation and photoisomerization of amphiphilic crown-ether styryl dye in monolayers at the interface. *Russ Chem Bull* 45 (10), 2362–2368, [10.1007/bf01435383](https://doi.org/10.1007/bf01435383)
114. Kalabina NA, Zaitsev SY, Lukashev EP, Kononenko AA, Zacharova NI, **Zubov VP** (1996). Mixed lipid-protein films of bacterial photosynthetic reaction centers. 1. Investigation of mixed monolayers at air-water interfaces. *Cancer Biol Med* 10 (4), 445–458.
115. Kalabina NA, Zaitsev SY, **Zubov VP**, Lukashev EP, Kononenko AA (1996). Polymer ultrathin films with immobilized photosynthetic reaction center proteins. *BIOCHIM BIOPHYS ACTA* 1284 (2), 138–142, [10.1016/S0005-2736\(96\)00089-2](https://doi.org/10.1016/S0005-2736(96)00089-2)
116. Ivanov AE, **Zubov VP** (1996). The Kinetics of Diffusion and Sorption of Proteins in Porous Silicas with Bonded Anion-Exchange Phase. *RUSS J PHYS CH* 70 (10), 1740–1744.

117. Zaitsev SY, Vereschetin VP, **Zubov VP**, Zeiss W, Möbius D (1996). Ionic selectivity of valinomycin in the dipalmitoylphosphatidylcholine monolayers. *Thin Solid Films* 284285, 667–670, [10.1016/S0040-6090\(95\)08417-7](#)
118. Rapoport EM, Zhigis LS, Korchagina EY, Ovchinnikova TV, **Zubov VP**, Bovin NV (1996). Isolation and characterization of galactose-binding lectins from human serum. *Russ. J. Bioorganic Chem.* 22 (5), 303–307.
119. Kuzkina IF, Pashkin II, Bakeeva IV, **Zubov VP**, Markvicheva EA, Kirsh YE (1996). Hydrogel poly(N-vinylcaprolactam) beads: Preparation, properties, and applications. *PHARM CHEM J* 30 (1), 41–44, [10.1007/BF02218927](#)
120. Rapoport EM, Zhigis LS, Korchagina EY, Ovchinnikova TV, **Zubov VP**, Bovin NV (1996). Isolation and Characterization of Galactose-Binding Lectins from Human Serum. *Bioorg Khim* 22 (5), 357.
121. Kalabina NA, Zaitsev SY, **Zubov VP**, Lukashev EP, Kononenko AA (1996). Polymer ultrathin films with immobilized photosynthetic reaction center proteins. *Macromol Symp* 106, 193–203, [10.1002/masy.19961060118](#)
122. Ivanov AE, **Zubov VP**, Petkov L, Turková J (1996). Immobilization of glucose oxidase via carbohydrate moiety onto hydrazide derivative of polyacrylate-coated porous glass. *Biotechnol Lett* 10 (5), 323–328, [10.1007/BF00173247](#)
123. Markvicheva EA, Tkachuk NE, Kuptsova SV, Dugina TN, Strukova SM, Kirsh YE, **Zubov VP**, Rumsh LD (1996). Stabilization of proteases by entrapment in a new composite hydrogel. *Appl Biochem Biotechnol* 61 (12), 75–84, [10.1007/BF02785690](#)
124. Rapoport EM, Ivanov AE, Zhigis LS, Kovalenko EA, Getman EI, **Zubov VP** (1996). Purification of lectin from *Misgurnus fossilis* by hydrophobic-interaction and size-exclusion chromatography. *Int. J. Bio-Chromatogr.* 2 (1), 17–24.
125. Zaitsev SY, Vereschetin VP, **Zubov VP** (1996). Polymerization and molecular recognition in the monolayers of the surface-active derivatives of crown-ethers. *Macromol Symp* 106, 379–386, [10.1002/masy.19961060135](#)
126. Rapoport EM, Zhigis LS, Vlasova EV, Piskarev VE, Bovin NV, **Zubov VP** (1995). Purification of monoclonal antibodies to Ley and Led carbohydrate antigens by ion-exchange and thiophilic-adsorption chromatography. *Bioseparation* 5 (3), 141–146.
127. Klyamkin AA, Topchieva IN, **Zubov VP** (1995). Monomolecular films of pluronic-cyclodextrin inclusion complexes at the water-gas interface. *Colloid Polym Sci* 273 (6), 520–523, [10.1007/BF00658680](#)
128. Ivanov AE, Zhigis LS, Rapoport EM, Lisyutina OE, **Zubov VP** (1995). Characterization of weak hydrophobic composite sorbents and their application to the isolation of bacterial lectin. *Journal of Chromatography - Biomedical Applications* 664 (1), 219–223, [10.1016/0378-4347\(94\)00467-J](#)
129. Kudryavtseva NE, Zhigis LS, **Zubov VP**, Vulfson AN, Maltsev KV, Ruh LD (1995). Immobilization of trypsin and carboxypeptidase B on modified silicas and their use in converting human recombinant proinsulin into insulin. *PHARM CHEM J* 29 (1), 70–73, [10.1007/BF02219471](#)
130. Zaitsev SY, **Zubov VP**, Möbius D (1995). Mixed monolayers of valinomycin and dipalmitoylphosphatidic acid. *Colloids Surf A Physicochem Eng Asp* 94 (1), 75–83, [10.1016/0927-7757\(94\)02944-N](#)
131. Ivanov AE, **Zubov VP** (1994). Adsorption and separation of proteins on composite anion exchangers with poly(N-diethylaminoethylacrylamide) bonded phases. *J Chromatogr A* 673 (2), 159–165, [10.1016/0021-9673\(94\)85034-8](#)
132. Markvicheva EA, Bronin AS, Kudryavtseva NE, Rumsh LD, Kirsh YE, **Zubov VP** (1994). Immobilization of proteases in composite hydrogel based on poly(N-vinyl caprolactam). *Biotechnol Lett* 8 (3), 143–148, [10.1007/BF00161578](#)
133. Kataev AD, Saburov VV, Reznikova OA, Kapustin DV, **Zubov VP** (1994). Polytrifluorostyrene-coated silica as a packing for column liquid chromatography. *J Chromatogr A* 660 (12), 131–136, [10.1016/0021-9673\(94\)85106-9](#)
134. Kataev AD, Reznikova OA, Kapustin DV, **Zubov VP** (1994). Polytrifluorostyrene-coated silica as a packing for column liquid chromatography. *J Chromatogr A* 660, 131–136.
135. Zaitsev SY, Kalabina NA, **Zubov VP**, Chumanov G, Gaul D, Cotton TM (1993). Monolayer characteristics of bacterial photosynthetic reaction centers. *Colloids Surf A Physicochem Eng Asp* 78 (C), 211–219, [10.1016/0927-7757\(93\)80326-A](#)



136. Zhigis LS, Ivanov AE, Rapoport EM, Kovalenko EA, Getman EI, **Zubov VP** (1993). Purification of sialic acid binding protein from saprophytic bacteria by hydrophobic-interaction chromatography on butyl-toyopearl and polymer-coated porous glass. *Biotechnol Lett* 7 (9), 667–670, [10.1007/BF00151867](https://doi.org/10.1007/BF00151867)
137. Ivanov AE, Belov SV, **Zubov VP** (1993). Chemical adsorption of poly(p-nitrophenyl acrylate) on aminopropylsilyl derivatives of silica gel and porous glass. *Vysokomolekularnye Soedineniya. Seriya A* 35 (8), 1320–1325.
138. Zaitsev SY, **Zubov VP**, Möbius D (1993). Monolayer characteristics of valinomycin in the presence of various salts in aqueous subphase. *BIOCHIM BIOPHYS ACTA* 1148 (2), 191–196, [10.1016/0005-2736\(93\)90129-N](https://doi.org/10.1016/0005-2736(93)90129-N)
139. Donova MV, Kuzkina IF, Arinbasarova AY, Pashkin II, Markvicheva EA, Baklashova TG, Sukhodolskaya GV, Fokina VV, Kirsh YE, Koshcheyenko KA, **Zubov VP** (1993). Poly-N-vinylcaprolactam gel: A novel matrix for entrapment of microorganisms. *Biotechnol Lett* 7 (6), 415–422, [10.1007/BF00155473](https://doi.org/10.1007/BF00155473)
140. Bovin NV, Korchagina EY, Zemlyanukhina TV, Byramova NE, Galanina OE, Zemlyakov AE, Ivanov AE, **Zubov VP**, Mochalova LV (1993). Synthesis of polymeric neoglycoconjugates based on N-substituted polyacrylamides. *Glycoconj J* 10 (2), 142–151, [10.1007/BF00737711](https://doi.org/10.1007/BF00737711)
141. Ivanov AE, Saburov VV, **Zubov VP** (1992). Polymer-coated adsorbents for the separation of biopolymers and particles. *Adv Polym Sci* 104, 134–175, [10.1007/3-540-55109-3\\_4](https://doi.org/10.1007/3-540-55109-3_4)
142. Zaitsev SY, Kalabina NA, **Zubov VP**, Lukashev EP, Kononenko AA, Uphaus RA (1992). Monolayers of photosynthetic reaction centers of green and purple bacteria. *Thin Solid Films* 210211 (2), 723–725, [10.1016/0040-6090\(92\)90385-O](https://doi.org/10.1016/0040-6090(92)90385-O)
143. Ivanov AE, Bovin NV, Korchagina EY, **Zubov VP** (1992). Favourable biospecific reactivity of blood group B antigenic trisaccharide chemically attached to poly-N-(2-hydroxyethyl)acrylamide-coated porous glass. *Biomed Chromatogr* 6 (1), 39–42, [10.1002/bmc.1130060111](https://doi.org/10.1002/bmc.1130060111)
144. Vener TI, Turchinsky MF, Knorre VD, Lukin YV, Shcherbo SN, **Zubov VP**, Sverdlov ED (1991). A novel approach to nonradioactive hybridization assay of nucleic acids using stained latex particles. *Anal Biochem* 198 (2), 308–311, [10.1016/0003-2697\(91\)90430-2](https://doi.org/10.1016/0003-2697(91)90430-2)
145. Markvicheva EA, Kuzkina IF, Pashkin II, Plechko TN, Kirsh YE, **Zubov VP** (1991). A novel technique for entrapment of hybridoma cells in synthetic thermally reversible polymers. *Biotechnol Lett* 5 (3), 223–226, [10.1007/BF00152786](https://doi.org/10.1007/BF00152786)
146. Krauch T, Zaitsev SY, **Zubov VP** (1991). Synthesis and behaviour of nucleoside surface-active derivatives in monolayers. 57 (2), 383–391, [10.1016/0166-6622\(91\)80171-J](https://doi.org/10.1016/0166-6622(91)80171-J)
147. Yegorov VV, Zaitsev SY, Klyamkin AA, **Zubov VP** (1990). Radical polymerization of cationic surfactant monomers in monolayers at the water-nitrogen boundary. *Polymer science USSR* 32 (5), 884–889, [10.1016/0032-3950\(90\)90220-Z](https://doi.org/10.1016/0032-3950(90)90220-Z)
148. Ivanov AE, Turková J, Čapka M, **Zubov VP** (1990). Immobilization of pepsin onto wide-porous and nonporous aminoalkylderivatized inorganic supports. *Biocatal Biotransformation* 3 (3), 235–241, [10.3109/10242429008992066](https://doi.org/10.3109/10242429008992066)
149. Lukashev EP, Zaitsev Yu S, Kononeko AA, **Zubov VP** (1989). Photoelectrical properties of monomolecular films of bacteriorhodopsin. *Dokl Biochem Biophys* 307309, 129–133.
150. Gorkovenko AA, Berman EL, **Zubov VP**, Ponomarenko VA (1987). Graft polymerization of carbohydrates on the surface of a macroporous silica. *B ACAD SCI USSR CH+* 36 (9), 1943–1946, [10.1007/BF00958352](https://doi.org/10.1007/BF00958352)
151. Kozlov LV, Sizoi MN, Zinchenko AA, Ivanov AE, **Zubov VP** (1984). Binding and activation of the first component of human complement on artificial matrices. *Bioorg Khim* 10 (12), 1629–1638.