Сведения об официальных оппонентах
по диссертации *Пичугова Романа Дмитриевича*
«Электрохромные нанокомпозиты на основе поли(пиридиния) трифлата»

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Список основных научных публикаций по специальности 02.00.06 – Высокомолекулярные соединения за последние 5 лет:

1. V. Lyutov, V. Kabanova, O. Gribkova, **A. Nekrasov**, V. Tsakova, Electrochemically-obtained Polysulfonic-Acids Doped Polyaniline Films — A Comparative Study by Electrochemical, Microgravimetric and XPS Methods // Polymers. – 2020. –Vol. 12, no. 5. –P. 1050-1063.
2. O. L. Gribkova, A.S. Dmitrieva A.S., V.A. Tverskoy, **A.A. Nekrasov**, Aging of water-soluble formulations for inkjet printing of functional layers based on polyaniline // Protection of Metals and Physical Chemistry of Surfaces. – 2019. –Vol. 55, – P. 491-494.
3. **A.A. Nekrasov**, O.D. Yakobson, O.L. Gribkova, V.F. Ivanov, V. Tsakova, Angular dependence of raman spectra for electroactive polymer films on a platinum electrode // Russian Journal of Electrochemistry. – 2019. – Vol. 55, no. 3, – P. 175-183.
4. O.L. Gribkova, V.A. Kabanova, **A.A. Nekrasov**, Electrochemical polymerization of pyrrole in the presence of sulfoacid polyelectrolytes // Russian Journal of Electrochemistry. – 2019. – Vol. 55, no. 11, – P. 1110-1117.
5. X. Lv, C. Huang, A. Tameev, R. Zhu, K. Katin, M. Maslov, **A. Nekrasov**, C. Zhang, Electrochemical polymerization process and excellent electrochromic properties of ferrocene-functionalized polytriphenylamine derivative// Dyes and Pigments. – 2019, – Vol. 163. – P. 433-440.
6. O.L. Gribkova, V.A. Kabanova, A.R. Tameev, **A.A. Nekrasov**, Ink-jet printing of polyaniline layers for perovskite solar cells // Technical Physical Letters. – 2019. – Vol. 45, no. 9. – P. 858-861.
7. **A.A. Nekrasov**, O.D. Iakobson, O.L. Gribkova, Some Specific Features in the Applying the Method of Raman Spectroelectrochemistry while Studying Polyaniline Electrosynthesis in Polymeric-Acid Medium // Russian Journal of Electrochemistry. – 2019. – Vol. 55, no. 11, – P. 1077-1085.
8. O.L. Gribkova, L.V. Saf'yanova, A.R. Tameev, D.A. Lypenko, V.A. Tverskoi, **A.A. Nekrasov**, A water-soluble polyaniline complex for ink-jet printing of optoelectronic devices// Technical Physics Letters. – 2018. – Vol. 44, no. 3. – P. 239-242.
9. O.D. Iakobson, O.L. Gribkova, A.R. Tameev, **A.A. Nekrasov**, D.S. Saranin, C.A. Di, Graphene nanosheet/polyaniline composite for transparent hole transporting layer // Journal of Industrial and Engineering Chemistry. – 2018. – Vol. 65. – P 309-317.
10. O.L. Gribkova, **A.A. Nekrasov**, V.A. Cabanova, T.V. Krivenko, N.V. Nekrasova, S.A. Yakovlev, E.I. Terukov, A.R. Tameev. Water-processable nanocomposite based on polyaniline and 2D molybdenum disulfide for NIR-transparent ambipolar transport layers // Chemical Papers. – 2018. – Vol. 72, no. 7. – P. 1741-1752.
11. **A.A. Nekrasov**, O.L. Gribkova, O.D. Iakobson, I.N. Ardabievskii, V.F. Ivanov, A.V. Vannikov, Raman spectroelectrochemical study of electrodeposited polyaniline doped with polymeric sulfonic acids of different structures // Chemical Papers. – 2017. – Vol. 71, no. 2. – P. 449-458.
12. O.D. Iakobson, O.L. Gribkova, **A.A. Nekrasov**, V.A. Tverskoi, V.F. Ivanov, P.V. Mel'nikov, E.A. Polenov E.A., A.V. Vannikov, A Stable Aqueous Dispersion of Polyaniline and Polymeric Acid // Protection of Metals and Physical Chemistry of Surfaces. – 2016. – Vol. 52, no. 6. – P. 1005-1011.

13. O.D. Iakobson, O.L. Gribkova, **A.A. Nekrasov**, A.V. Vannikov, The Effect of Counterion in Polymer Sulfonates on the Synthesis and Properties of Poly-3,4-ethylenedioxythiophene // Russian Journal of Electrochemistry. – 2016. – Vol. 52, no. 12, – P. 1191-1201.
14. O.L. Gribkova, O.D. Omelchenko, A.R. Tameev, D.A. Lypenko, **A.A. Nekrasov**, O.Y. Posudievskii, V.G. Koshechko, A.V. Vannikov, The Specific Effect of Graphene Additivesin Polyaniline-Based Nanocomposite Layers on Performance Characteristics of Electroluminescent and Photovoltaic Devices // High Energy Chemistry. – 2016. – Vol. 50, no. 2. – P. 134-138.
15. O.L. Gribkova, O.D. Iakobson, **A.A. Nekrasov**, V.A. Cabanova, V.A. Tverskoy, A.V. Vannikov, The influence of polyacid nature on poly(3,4-ethylenedioxythiophene) electrosynthesis and its spectroelectrochemical properties // Journal of Solid State Electrochemistry. – 2016. – Vol. 20. – P. 2991-3001.

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1. **A.G. Krivenko**, R.A. Manzhos, V.K. Kochergin, G.V. Malkov, A.E. Tarasov, N.P. Piven, Plasma Electrochemical Synthesis of Few-Layer Graphene Structures for Modification of Epoxy Binder // High Energy Chemistry. – 2019. – Vol. 53, no. 3. – P. 254-260.
2. V.P. Vasiliev, A.S. Kotkin, V.K. Kochergin, R.A. Manzhos, **A.G. Krivenko**, Oxygen reduction reaction at few-layer graphene structures obtained via plasma-assisted electrochemical exfoliation of graphite // Journal of Electroanalytical Chemistry. – 2019. – Vol. 851. – P. 113440- 113445.
3. V.P. Vasiliev, R.A. Manzhos, **A.G. Krivenko**, Electrical conductivity of films formed by few-layer graphene structures obtained by plasma-assisted electrochemical exfoliation of graphite // International Journal of Electrochemistry. – 2019. – Vol. 2019. – P. 1-6.
4. N.S. Komarova, **A.G. Krivenko**, E.V. Stenina, L.N. Sviridova, Redox reactions of [Ru(NH3)6]2+/3+, [Fe(CN)6]3−/4− and Fe2+/3+ on pristine and electrochemically modified carbon nanowalls under physical adsorption of compounds with the skeletal and macrocyclic structure // Journal of Electroanalytical Chemistry. – 2017. – Vol. 788, – P. 1-6.
5. **A.G. Krivenko**, N. S. Komarova, A.G. Ryabenko, Y.M. Shulga, N.P. Piven, Spectroscopic study of electrochemically modified fluorinated single-wall carbon nanotubes // Journal of Electroanalytical Chemistry. – 2016. – Vol. 775. – P. 77-82.
6. **A.G. Krivenko**, N.S. Komarova, E.V. Stenina, L.N. Sviridova, K.V. Mironovich, Yu M. Shul'ga, R.A. Manzhos, S.V. Doronin, V.A. Krivchenko, Electrochemical Modification of Electrodes Based on Highly Oriented Carbon Nanowalls // Russian Journal of Electrochemistry. – 2015. – Vol. 51, no. 10. – P. 1090-1103.
7. N.S. Komarova, **A.G. Krivenko**, E. Y. Stenina, L. N. Sviridova, K.V. Mironovich, Y.M. Shulga, V.A. Krivchenko, Enhancement of the Carbon Nanowall Film Capacitance. Electron Transfer Kinetics on Functionalized Surfaces // Langmuir : the ACS journal of surfaces and colloids. – 2015. – Vol. 31. – P. 7129-7137.
8. N.S. Komarova, **A.G. Krivenko**, A.G. Ryabenko, A.V. Naumkin, K.I. Maslakov, S.V. Savilov, Functionalization and defunctionalization of single walled carbon nanotubes: Electrochemical and morphologic consequences // Journal of Electroanalytical Chemistry. – 2015. – Vol. 738. – P. 27-34.

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1. O.V. Lebedev, A.N. Ozerin, A.S. Kechek'yan, V.G. Shevchenko, T.S. Kurkin et al., A study of oriented conductive composites with segregated network structure obtained via solid-state processing of UHMWPE reactor powder and carbon nanofillers // Polymer Composites. – 2019. – Vol. 40, no. S1, P. E146-E155.
2. A.V. Kubarkov, O.A. Drozhzhin, **E.A. Karpushkin** et al., Poly(3,4-ethyleпedioxythiophene):poly(styrenesulfonic acid)-polymer composites as functional cathode binders for high power LiFePO4 batteries // Colloid aпd Polymer Science. – 2019. –Vol. 297, no. 3. – P. 475-484.
3. A.V. Kubarkov, S.A. Lipovskikh, O.A. Pyshkina et al., Preparation and morphology characterization of core-shell Water-dispersible polystyreпe/poly(3,4- ethylenedioxythiophene) microparticles // Colloid and Polymer Science. –2018. –Vol. 296, no. 4. –P. 737-744.
4. J.A. Zakharova, O.A. Novoskoltseva, O.A. Pyshkina, **E.A. Karpushkin** et al., Controlled modification of nafion membrane with cationic surfactant // Colloid and Polymer Science. – 2018. – Vol. 296, no. 5. – P. 835-846.
5. **E. Karpushkin**, E. Kharochkina, M. Klimenko et al., Synthesis of carbon quantum dots in a nafion matrix: precursor effect on the ion transport properties // Mendeleev Communications. – 2018. – Vol. 28, no. 3. – P. 251-253.
6. A.V. Kubarkov, O.A. Pyshkina, **E.A. Karpushkin** et al., Electrically coпducting polymeric microspheres comprised of sulfoпated polystyrene cores coated with poly(3,4-ethylenedioxythiophene)// Colloid and Polymer Science. –2017. –Vol. 295, no. 6. – P. 1049-1058.
7. М.С. Кондратенко, **Е.А. Карпушкин**, Н.А. Гвоздик и др, " Influence of aminosilane precursor concentration on physicochemical properties of composite nafion membranes for vanadium redox flow battery applications // Journal of Power Sources. – 2017. – Vol. 340. – P. 32-39.
8. E.G. Rukhlya, **E.A. Karpushkin**, L.M. Yarysheva, A.L. Volynskii, Special features of crazing of glassy poly(ethylene terephthalate) in poly(ethylene oxide) solutions // Macromolecules. – 2017. – Vol. 50, no. 14. – P. 5459-5465.

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