

**Список основных публикаций официального оппонента по теме  
диссертации за последние 5 лет**

1. Akhil Nazim M. K., Kuzminova A., Dubovenko R., Dmitrenko M., Aravind U. K., Aravindakumar C. T., Shalygin M, Gasanova L., **Penkova A.** Mixed Matrix Membrane Based on Polyether-Block-Amide Modified With Cu-Based Metal–Organic-Framework for Pervaporation and Gas Separation Applications // Journal of Applied Polymer Science. – 2026. – Vol. 143, № 31. – № art. e70878.
2. Dubovenko R., Dmitrenko M., Mikulan A., Mikhailovskaya O., Kuzminova A., Koroleva A., Mazur A., Mazur A., **Penkova A.** Pervaporation Mixed Matrix Membranes from Sodium Alginate/ZnO for Isopropanol Dehydration // Molecules. – 2026. – Vol. 31, № 8 – № art. 1300.
3. Kuzminova A., Dmitrenko M., Stepanova A., Mikulan A., Puzikova M., Selyutin A., Mukhanova E., **Penkova A.** Sustainable pervaporation membranes based on carboxymethyl cellulose modified with metal organic frameworks for water/isopropanol separation // Journal of Materials Science. – 2026. – Vol. 61, № 1. – P. 201-222.
4. Dmitrenko M., Mikhailovskaya O., Dubovenko R., Mazur A., Kuzminova A., Semenov K., Ermakov S., **Penkova A.** Membranes from polyelectrolyte complex of PSS/PDADMAC modified with graphene oxide for enhanced nanofiltration water treatment // Separation and Purification Technology. – 2025. – Vol. 377. – № art. 134425.
5. Mukhanova E. A., Shevchenko V. O., Kalmakhelidze M. V., Fisli I. L., **Penkova A. V.**, Soldatov A. V. Modeling porous channels in Ga-MOFs for hydrogen storage applications in membranes // Journal of Solid State Chemistry. – 2025. – Vol. 344. – № art. 125179.
6. Polyakov V., Dmitrenko M., Kalmakhelidze M., Kuzminova A., Dubovenko R., Mukhanova E., Soldatov A., **Penkova A.** Development and characterization of PVA membranes modified with in (BTC) metal–organic Framework for sustainable pervaporation separation of Isopropanol/Water // Sustainability. – 2024. – Vol. 16, № 23. – № art. 10257.
7. Dubovenko R., Kuzminova A., Dmitrenko M., Stepanova A., Selyutin A., Su R., **Penkova A.** Enhanced Sodium Alginate Membranes Modified with Metal–Organic Frameworks Based on Zirconium for Energy-Efficient Isopropanol Dehydration by Pervaporation // ACS Applied Polymer Materials. – 2024. – Vol. 6, № 20. – P. 12675-12690.
8. Burts K., Plisko T., Makarava M., Krasnova M., **Penkova A.**, Ermakov S., Grigoryev E., Komolkin A., Bildyukevich A. The effect of PEG-content and molecular weight of PEG-PPG-PEG block copolymers on the structure and performance of polyphenylsulfone ultra-and nanofiltration membranes // Journal of Membrane Science. – 2024. – Vol. 704. – № art. 122869.

9. Kuzminova A., Dmitrenko M., Zolotarev A., Markelov D., Komolkin A., Dubovenko R., Selyutin A., Wu J., Su R., **Penkova A.** Novel mixed matrix membranes based on poly (vinylidene fluoride): development, characterization, modeling // Polymers. – 2023. – Vol. 15, № 5. – № art. 1222.
10. Dmitrenko M., Kuzminova A., Zolotarev A., Markelov D., Komolkin A., Loginova E., Plisko T., Burts K., Bildyukevich A., **Penkova A.** Modification strategies of polyacrylonitrile ultrafiltration membrane using TiO<sub>2</sub> for enhanced antifouling performance in water treatment // Separation and Purification Technology. – 2022. – Vol. 286. – № art. 120500.