Үлгі

Рафикова Хадичахан Сабиржанқызы
Химиялық және биохимиялық инженерия кафедрасының профессоры
Байланыс телефондары: +7-747-9448583
Email. пошта: kh.rafikova@satbayev.university; hadichahan@mail.ru;
Author ID в Scopus 56050765000
Researcher ID Web of Science AAF-5319-2019
ORCID ID 0000-0001-8028-2244

Білімі, ғылыми дәрежесі және атағы:
2006 жылы әл-Фараби атындағы Қазақ ұлттық университетінің химия факультетін бітірген. «510730 – Химия» мамандығы, «Химия бакалавры» академиялық дәрежесі. 2008 жылы магистратураны Л.Н. Гумилев атындағы Еуразия ұлттық университеті. «6N0112 – Химия» мамандығы, «Химия магистрі» академиялық дәрежесі. 2014 жылы «6D073900 – Мұнай химиясы» мамандығы бойынша философия докторы (PhD) ғылыми дәрежесін алу үшін диссертация қорғады. 2023 жылы «Химия» мамандығы бойынша доцент ғылыми атағын алды.

Ғылыми қызығушылықтары: Иондық сұйықтықтар, металл комплекстік катализ, терең эвтектикалық еріткіштер.

Негізгі ғылыми бағдарламаларға арналған ғылыми гранттар:
1) BR 05236800, «Ұсақ және өнеркәсіптік органикалық синтез процестері үшін иондық сұйықтықтар негізіндегі катализаторлар» бөлімінде. (2018-2020)
2) Жаңа жасыл технологиялар үшін иондық сұйықтық негізіндегі катализаторларды әзірлеу мұнай-химия синтезі (2015-2018)
3) Жаңа екі функционалды иондық сұйықтықтарды синтездеу әдістерін әзірлеу (2015-2018 ж.)
4) AP05132833 «Мотор отындарын экстрактивтік күкіртсіздендіру және денитрогенизацияға арналған құрамында металы бар ионды сұйықтықтар» (2018-2020 ж.)
5) AP08857516 Агрохимиядағы құрамында металлы бар иондық сұйықтықтар (2020-2022)
6) AP13068542 Құрамында иондық сұйықтары бар металдар кешені катализаторларының әсерінен сутегінің тасымалдануы гидрогенизация реакциялары (2022-2024 ж.)
7) AP19676664 Отынды күкіртсіздендіруге арналған терең эвтектикалық еріткіштер (2023-2025).

Кәсіби қызмет:
2014-2017 жылдар аралығында Қазақ-Британ техникалық университетінің Химия инженериясы ғылыми-білім беру орталығында оқытушы болып жұмыс істеді. 2016 жылдың шілде айынан бастап Қ.И. Сәтбаев. 2017 жылы Х.С. Рафикова «Қазақстанның 100 жаңа тұлғасы» ұлттық жобасының жеңімпазы атанды. Сол жылы ол «2017 жылғы ЖОО үздік оқытушысы» атағын алды. 2019-2020 жылдар аралығында Х.С. Рафикова доцент қызметін атқарды, ал 2020 жылдан 2021 жылға дейін «Химиялық және биохимиялық инженерия» кафедрасын басқарды. Кафедра меңгерушісі

Оқытатын курстары:
1. Мұнай-химия өндірісінің экологиялық аспектілері (орыс);
2. Полимерлерді өндіру және өңдеу технологиясы (орыс);
3. Металл органикалық химия (орыс);
4. Мономерлер химиясы мен технологиясының негіздері (орыс тілі);
5. Мұнай өнеркәсібінің болашағы мен дамуы (ағылшын тілі)
6. Органикалық синтездегі каталитикалық әдістер (ағылшын тілі)
7. Мұнай өнімдерінің хеммотологиясы (ағылшын тілі) 8. Мұнай өнімдерінің химиялық анализі (қазақша)

қызметін атқарған кезде органикалық заттардың химиялық технологиясы және химиялық және биохимиялық инженерия салаларындағы бакалавриат пен магистратураға арналған білім беру бағдарламалары сәтті аккредитациядан өтті.	**Басылымдар** 1. Rafikova K.S.,Zazybin A.G., Bigaliyeva F.B., Meric N., Aydemir M., Pasa S., Temel H., Yu V.K.Towards the application of new ionic liquids based Ru (II) catalysts in transfer hydrogenation reactions. 12th European Congress on Catalysis – EuropaCat-XII, Kazan, Russia, 30 August – 4 September, 2015. 2. Rafikova K.S. Ionic liquids in petroleum and hydrocarbon industry. Химический журнал Казахстана, 2015, 3, С. 361-365. 3. Рафикова Х.С., Зазыбин А.Г., Кыстаубаева Н.У., Ю В.К.Сопряженное гидрирование карбонильных соединений без использования молекулярного водорода. Химический журнал Казахстана, 1, 2016, СС. 4. D. ElmaKarakaş, F. Burap, A.Baysal, Y.S. Ocak,K. Rafikova, E. Çavuş Kaya, A.Zazybin, H.Temel, C.Kayan, N.Meriç, M.Aydemir.Synthesis and Characterization Of Novel Ionic Liquid Based Rh(I), Ir(III) – Phosphinite Complexes. European Conference on Molten Salts. 2016, Vienna,Austria, 3-8 July, 2016. 5. Rafikova K.S., Aydemir M., Zazybin A.G., Cavus E., Temel H. Transfer Hydrogenation Reaction Catalyzed by Homogeneous and Polymer Supported Ruthenium Complexes. Kaliningrad, Russia, 2016, 2-6 October. 6. Rafikova K.S., Meric N., Aydemir M., Zazybin A.G. Use of Transition Metal Complexes of An Ionic Liquid based Phosphinite as Catalyst in Transfer Hydrogenation of Aromatic Ketones. Kaliningrad, Russia, 2016, 2-6 October. 7. Karakaş, D. E., Durap, F., Baysal, A., Ocak, Y. S., Rafikova, K., Kaya, E. Ç., Aydemir, M. Transfer hydrogenation reaction using novel ionic liquid based Rh (I) and Ir (III)-phosphinite complexes as catalyst. Journal of Organometallic Chemistry, 2016, 824, 25-32. (Входит в базы данных Scopus и Thomson Reuters). (Impact Factor: 2.0) 8. Pasa, S., Gürler, N., Temel, H., Rafikova, K.,& Aydemir, M. Developments in transfer hydrogenations of aromatic ketones catalyzed by boron compounds. Journal of Coordination Chemistry, 2017, 70(8), 1357-1367. (IF=1.78) Входит в базы данных Scopus и Thomson Reuters).http://dx.doi.org/10.1080/00958972.2017.1300659. 9. A. Zazybin, Rafikova K.S., V.Yu, D.Zolotareva, V.M.Dembitsky, T.Sasaki. Metal-containing ionic liquids: current paradigm and applications. Russian Chemical Review, 2017, 86(12) 1254 -1270 (IF=4.085). 10. D. Zolotareva, A. Zazybin, K. Rafikova, V. M. Dembitsky, A. Dauletbakov, V. Yu. Ionic liquids assisted desulfurization and denitrogenation of fuels. Vietnam J. Chem., 2019, 57(2), 133¬163. 11. N. Meriç, C. Kayan, K. Rafikova, A. Zazybin, V. Okumuş, M. Aydemir, F. Durap. Synthesis of ionic liquid-based Ru(II)–phosphinite complexes and evaluation of their antioxidant, antibacterial, DNA-binding, and DNA cleavage activities Chemical papers2019, Volume 73, Issue 5, pp 1199–1208. (IF=0.9) 12. N. Meriç, N. Arslan, C. Kayan, K. Rafikova, A. Zazybin, A. Kerimkulova, M. Aydemir. Catalysts for the Asymmetric Transfer Hydrogenation of Various Ketones from [3-[(2S)-2-[(diphenylphosphanyl)oxy]-3-phenoxypropyl]-1-methyl-1H-imidazol-3-ium chloride] and

	[Ru(η6 -arene)(μ-Cl)Cl]2 , Ir(η5 -C5Me5)(μ-Cl)Cl]2 or [Rh(μ-Cl)(cod)]2Inorganica Chimica Acta, 2019 (IF=2.4). 13. Rafikova K.S., Zazybin A.G., M. Aydemi, N. Meric, Kerimkulova A.Zh., Islam Sh.S. Asymmetric transfer hydrogenation of various ketones by complex of imidazolium with [Rh(μ-Cl)(cod)]2 6th International Caucasian Symposium on Polymers and Advanced Materials, 17-19 July, 2019 r 14. Rafikova K.S., Zazybin A.G, Kerimkulova A.Zh., Aimbekova A.. Desulfurization of Fuels by Metal-containing Ionic Liquids. 6th International Caucasian Symposium on Polymers and Advanced Materials, 17-19 July, 2019 15. Рафикова Х.С,, Зазыбин А.Г., Керимкулова А.Ж., Турсынбекова М.М,, Ислам Ш.. Синтез металлосодержащих ионных жидкостей для очистки моторных топлив. Успехи современной науки, №2,2019, Р. 18 (Журнал входит в международную базу данных Chemical abstract.) 16. Rafikova, K., Binbay, N.E., Meriç, N., Kerimkulova, A., Zazybin, A., Binbay, V., Okumuş, V., Kayan, C., Işik, U., Arslan, N. and Aydemir, M., 2020. Biological assays and theoretical density functional theory calculations of Rh (I), Ir (III), and Ru (II) complexes of chiral phosphinite ligand. Applied Organometallic Chemistry, Q2 34(7), p.e5658. 17. Akimbek A.O., Jamalova G.A. Rafikova, Kh S.Islam S., Nauryzova S.Kerimkulova A., Selenova B., Yernazarova A.K., Kaiyrmanova G.K., Yelikbayev, B.K., Pagano, M.C.,Biodesulfurization of high-sulfur oil from the Karazhanbas field by Deep Eutectic Solvents. 2 nd International Symposium on Emerging Materials and Devices June 21-25 2024, Astana, Nazarbayev University. 18. Rafikova, K., Meriç, N., Güzel, R., Arslan, N., Binbay, N.E., Kayan, C., Okumuş, V., Zazybin, A., Seilkhanov, T., Binbay, V. and Aydemir, M., 2022. Transition metals of arene derivatives with functionalized ionic liquid: DFT investigation, biological applications and electrochemical behavior of complexes. Inorganica Chimica Acta, Q2 542, p.121142. 19. Dauletbakov, A., Zazybin, A., Yu, V., Belyankova, Y., Ten, A., Rafikova, K., Zolotareva, D., Anapiyayev, B., Seilkhanov, T. and Aydemir, M., 2022. Ultrasound-and Microwave-promoted Synthesis, Growth-regulating Activity and Antimicrobial Behavior of Trimecaine-based Ionic Compounds. ChemistrySelect, Q2 7(22), p.e202104363. 20. Karakaş, D.E., Rafikova, K., Baysal, A., Meriç, N., Zazybin, A., Kayan, C., Işik, U., Saparbaykyzy, I.S., Durap, F. and Aydemir, M., 2022. Ketone transfer hydrogenation reactions catalyzed by catalysts based on a phosphinite ligand. Journal of Coordination Chemistry, Q2 75(3-4), pp.493-506. Meriç, N., Rafikova, K., Zazybin, A., Güzel, R., Kayan, C., Elma Karakaş, D., Dündar, A., Islam, S., Okumuş, V. and Aydemir, M., 2023. Application of Half-Sandwich Metal-Phosphinite Compounds to Biological Activities: Determine the energies of the HOMO and LUMO levels. Zeitschrift für anorganische und allgemeine Chemie, 649(2), p.e202200126. Q4 21. Rafikova, K., Meriç, N., Binbay, N.E., Okumuş, V., Erdem, K., Belyankova, Y., Tursynbek, S., Dauletbakov, A., Bayazit, S., Zolotareva, D. and Yerassyl,

	K., 2024. Well designed iridium-phosphinite complexes: Biological assays, electrochemical behavior and density functional theory calculations. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 318, p.124448. Q2 22. Rafikova, K., Meriç, N., Binbay, N.E., Okumuş, V., Sever, M.Ş., Belyankova, Y., Tursynbek, S., Dauletbakov, A., Sarah, B., Zolotareva, D. and Yerassyl, K., 2024. Biological assays, electrochemical behavior, and theoretical DFT calculations of Ru (II) complexes of chiral phosphinite based based on β-amino alcohols: Transfer hyrogenation of ketones using a HCOOH/Et3N mixture. Journal of Molecular Structure, 1303, p.137556.Q2 23. Işik, U., Rafikova, K., Meriç, N., Güzel, R., Kerimkulova, A., Akimbek, A., Okumuş, V., Durap, F., Kayan, C. and Aydemir, M., 2024. Half-sandwich ruthenium (II) and iridium (III) complexes of imidazole based phosphinite ligands: antioxidant and antibacterial activities as well as electrochemical properties. ChemistrySelect, 9(6), p.e202304785. Q2 24. Ryspaeva, S., Kerimkulova, A., Rafikova, K., Nauryzova, S., Islam, S., Aydemir, M. and Kozhaisakova, M., 2024. Deep Eutectic Solvents for Sustainable Management of Asphaltene Deposition in Oil Production. Engineered Science, 29, p.es1102. Q1 25. Serikov, T.A., Jamalova, G.A., Rafikova, K.S., K Yelikbayev, B., Yernazarova, A.K., Serikovna, K.L., Zazybin, A.G., Sakhanin, V.S. and Egutkin, V.Y., 2024. Ecological, biological and biotechnological aspects of Saccharomyces Cerevisiae biomass production. Caspian Journal of Environmental Sciences, 22(2), pp.499-512. Q2 26. Sholpan Islam, Camille Rubio, Khadichakhan Rafikova, and Fabrice Mutelet. Desulfurization and Denitrogenation Using Betaine-Based Deep Eutectic Solvents. Journal of Chemical & Engineering Data Article ASAP. Q2, 76 2024 DOI:https://dx.doi.org/10.1021/acs.jced.4c00052

Рафикова Хадичахан Сабиржановна
Профессор кафедры Химической и биохимической инженерии
Контактные телефоны:
Эл. почта: kh.rafikova@satbayev.university;
hadichahan@mail.ru;
Моб.тел.: +7-747-9448583
Author ID в Scopus 56050765000
Researcher ID Web of Science AAF-5319-2019
ORCID ID 0000-0001-8028-2244

Образование, ученая степень и звание:
В 2006 году окончила химический факультет Казахский национальный университет им. аль- Фараби. Специальность «510730 - Химия», академическая степень «Бакалавр химии». В 2008 году окончила магистратуру в Евразийском национальном университете им. Л.Н. Гумилева. Специальность «6N0112 - Химия», академическая степень «Магистр химии». В 2014 году защитила диссертацию на соискание степени доктора философии (PhD) по специальности «6D073900 - Нефтехимия». В 2023 г. получила звание доцента по специальности «Химия».

Научные интересы: Ионные жидкости, металл комплексный катализ, глубокие эвтектические растворители.

Научные гранты по программам прикладных исследований:
1) ПЦФ NoBR 05236800, по разделу «Катализаторы на основе ионных жидкостей для процессов тонкого и промышленного органического синтеза». (2018-2020)
2)Разработка катализаторов на основе ионных жидкостей для новых зеленых технологий нефтехимического синтеза (2015-2018)
3)Разработка методов синтеза новых бифункциональных ионных жидкостей (2015-2018)

4)AP05132833 «Металл-содержащие ионные жидкости для экстрактивной десульфуризации и денитрогенизации моторных топлив» (2018-2020)
5)AP08857516 Металлсодержащие ионные жидкости в агрохимии (2020-2022)
6) AP13068542 Реакции гидрирования с переносом водорода под действием содержащих ионные жидкости металлокомплексных катализаторов (2022-2024)
7) AP19676664 Глубокие эвтектические растворители для десульфуризации топлив (2023-2025)

Профессиональная деятельность:
С 2014 по 2017 год, работала лектором Научно-Образовательного Центра Химической Инженерии при Казахстанско - Британском техническом университете. С июля 2016 года была принята сениор-лектором в Институт Химической инженерии на кафедру химических технологий КазНИТУ им. К.И. Сатпаева.
В 2017 году Рафикова Х.С. стала победителем республиканского проекта «100 Новых лиц Казахстана». В этом же году стала обладателем звания «Лучший преподаватель вуза 2017».
С 2019 по 2020 г. Рафикова Х.С. работала в должности ассоциированного профессора, с 2020 по 2021 заведовала кафедрой «Химическая и биохимическая инженерия». В период заведования кафедрой успешно прошла аккредитация образовательных программ как по бакалавриату так и по магистратуре и докторантуре по специальностям «Химическая технология органических веществ», «Химическая и биохимическая инженерия».

Читаемые курсы:
1. Экологические аспекты нефетехимического производства (рус);
2. Технология производства и переработки полимеров (р);
3. Металлоорганическая химия (р);
4. Основы химии и технологии мономеров (р);
5. Prospects and development of oil industry (англ.)
6. Catalytic methods in organic synthesis (англ.)
7. Chemmotology of oil products (англ.)
8. Заманауи мұнайхимиялық өндіріс (каз.)

Публикации:
Список трудов насчитывает более 30 публикаций.
1. 1. Rafikova K.S.,Zazybin A.G., Bigaliyeva F.B., Meric N., Aydemir M., Pasa S., Temel H., Yu V.K.Towards the application of new ionic liquids based Ru (II) catalysts in transfer hydrogenation reactions. 12th European Congress on Catalysis – EuropaCat-XII, Kazan, Russia, 30 August – 4 September, 2015.
2. Rafikova K.S. Ionic liquids in petroleum and hydrocarbon industry. Химический журнал Казахстана, 2015, 3, С. 361-365.

С октября 2020 г. по ноябрь 2023 г. Рафикова Х.С. являлась членом Национального Научного Совета по приоритету: Научные исследования в области естественных наук. В июле 2022 года с целью повышения квалификации, обмена опытом Рафикова Х.С. стажировалась в Университете Сапиенса в рамках программы Академической мобильности ППС, Erasmus +. С сентября 2022 года по август 2023 года Рафикова Х.С. прошла стажировку в Школе Образования Бирмингемского Унивеситета по программе «Лидерство в управлении высшим образованием». С сентября 2024 года по настоящее время является профессором кафедры «Химическая и биохимическая инженерия».	3. Рафикова Х.С., Зазыбин А.Г., Кыстаубаева Н.У., Ю В.К.Сопряженное гидрирование карбонильных соединений без использования молекулярного водорода. Химический журнал Казахстана, 1, 2016, СС. 4. D. ElmaKarakaş, F. Burap, A.Baysal, Y.S. Ocak,K. Rafikova, E. Çavuş Kaya, A.Zazybin, H.Temel, C.Kayan, N.Meriç, M.Aydemir.Synthesis and Characterization Of Novel Ionic Liquid Based Rh(I), Ir(III) – Phosphinite Complexes. European Conference on Molten Salts. 2016, Vienna,Austria, 3-8 July, 2016. 5. Rafikova K.S., Aydemir M., Zazybin A.G., Cavus E., Temel H. Transfer Hydrogenation Reaction Catalyzed by Homogeneous and Polymer Supported Ruthenium Complexes. Kaliningrad, Russia, 2016, 2-6 October. 6. Rafikova K.S., Meric N., Aydemir M., Zazybin A.G. Use of Transition Metal Complexes of An Ionic Liquid based Phosphinite as Catalyst in Transfer Hydrogenation of Aromatic Ketones. Kaliningrad, Russia, 2016, 2-6 October. 7. Karakaş, D. E., Durap, F., Baysal, A., Ocak, Y. S., Rafikova, K., Kaya, E. Ç., Aydemir, M. Transfer hydrogenation reaction using novel ionic liquid based Rh (I) and Ir (III)-phosphinite complexes as catalyst. Journal of Organometallic Chemistry, 2016, 824, 25-32. (Входит в базы данных Scopus и Thomson Reuters). (Impact Factor: 2.0) 8. Pasa, S., Gürler, N., Temel, H., Rafikova, K.,& Aydemir, M. Developments in transfer hydrogenations of aromatic ketones catalyzed by boron compounds. Journal of Coordination Chemistry, 2017, 70(8), 1357-1367. (IF=1.78) Входит в базы данных Scopus и Thomson Reuters).http://dx.doi.org/10.1080/00958972.2017.1300659. 9. A. Zazybin, Rafikova K.S., V.Yu, D.Zolotareva, V.M.Dembitsky, T.Sasaki. Metal-containing ionic liquids: current paradigm and applications. Russian Chemical Review, 2017, 86(12) 1254 -1270 (IF=4.085). 10. D. Zolotareva, A. Zazybin, K. Rafikova, V. M. Dembitsky, A. Dauletbakov, V. Yu. Ionic liquids assisted desulfurization and denitrogenation of fuels. Vietnam J. Chem., 2019, 57(2), 133¬163. 11. N. Meriç, C. Kayan, K. Rafikova, A. Zazybin, V. Okumuş, M. Aydemir, F. Durap. Synthesis of ionic liquid-based Ru(II)–phosphinite complexes and evaluation of their antioxidant, antibacterial, DNA-binding, and DNA cleavage activities Chemical papers2019, Volume 73, Issue 5, pp 1199–1208. (IF=0.9) 12. N. Meriç, N. Arslan, C. Kayan, K. Rafikova, A. Zazybin, A. Kerimkulova, M. Aydemir. Catalysts for the Asymmetric Transfer Hydrogenation of Various Ketones from [3-[(2S)-2-[(diphenylphosphanyl)oxy]-3-phenoxypropyl]-1-methyl-1H-imidazol-3-ium chloride] and [Ru(η6 -arene)(μ-Cl)Cl]2 , Ir(η5 -C5Me5)(μ-Cl)Cl]2 or [Rh(μ-Cl)(cod)]2Inorganica Chimica Acta, 2019 (IF=2.4). 13. Rafikova K.S., Zazybin A.G., M. Aydemi, N. Meric, Kerimkulova A.Zh., Islam Sh.S. Asymmetric transfer hydrogenation of various ketones by complex of imidazolium with [Rh(μ-Cl)(cod)]□2 6th International Caucasian Symposium on Polymers and Advanced Materials, 17-19 July, 2019 r 14. Rafikova K.S., Zazybin A.G, Kerimkulova A.Zh., Aimbekova A.. Desulfurization of Fuels by Metal-containing Ionic Liquids. 6th International Caucasian Symposium on Polymers and Advanced Materials, 17-19 July, 2019

	15. Рафикова Х.С,, Зазыбин А.Г., Керимкулова А.Ж., Турсынбекова М.М,, Ислам Ш.. Синтез металлосодержащих ионных жидкостей для очистки моторных топлив. Успехи современной науки, №2,2019, Р. 18 (Журнал входит в международную базу данных Chemical abstract.) 16. Rafikova, K., Binbay, N.E., Meriç, N., Kerimkulova, A., Zazybin, A., Binbay, V., Okumuş, V., Kayan, C., Işik, U., Arslan, N. and Aydemir, M., 2020. Biological assays and theoretical density functional theory calculations of Rh (I), Ir (III), and Ru (II) complexes of chiral phosphinite ligand. Applied Organometallic Chemistry, Q2 34(7), p.e5658. 17. Akimbek A.O., Jamalova G.A. Rafikova, Kh S.Islam S., Nauryzova S.Kerimkulova A., Selenova B., Yernazarova A.K., Kaiyrmanova G.K., Yelikbayev, B.K., Pagano, M.C.,Biodesulfurization of high-sulfur oil from the Karazhanbas field by Deep Eutectic Solvents. 2 nd International Symposium on Emerging Materials and Devices June 21-25 2024, Astana, Nazarbayev University. 18. Rafikova, K., Meriç, N., Güzel, R., Arslan, N., Binbay, N.E., Kayan, C., Okumuş, V., Zazybin, A., Seilkhanov, T., Binbay, V. and Aydemir, M., 2022. Transition metals of arene derivatives with functionalized ionic liquid: DFT investigation, biological applications and electrochemical behavior of complexes. Inorganica Chimica Acta, Q2 542, p.121142. 19. Dauletbakov, A., Zazybin, A., Yu, V., Belyankova, Y., Ten, A., Rafikova, K., Zolotareva, D., Anapiyayev, B., Seilkhanov, T. and Aydemir, M., 2022. Ultrasound-and Microwave-promoted Synthesis, Growth-regulating Activity and Antimicrobial Behavior of Trimecaine-based Ionic Compounds. ChemistrySelect, Q2 7(22), p.e202104363. 20. Karakaş, D.E., Rafikova, K., Baysal, A., Meriç, N., Zazybin, A., Kayan, C., Işik, U., Saparbaykyzy, I.S., Durap, F. and Aydemir, M., 2022. Ketone transfer hydrogenation reactions catalyzed by catalysts based on a phosphinite ligand. Journal of Coordination Chemistry, Q2 75(3-4), pp.493-506. Meriç, N., Rafikova, K., Zazybin, A., Güzel, R., Kayan, C., Elma Karakaş, D., Dündar, A., Islam, S., Okumuş, V. and Aydemir, M., 2023. Application of Half-Sandwich Metal-Phosphinite Compounds to Biological Activities: Determine the energies of the HOMO and LUMO levels. Zeitschrift für anorganische und allgemeine Chemie, 649(2), p.e202200126. Q4 21. Rafikova, K., Meriç, N., Binbay, N.E., Okumuş, V., Erdem, K., Belyankova, Y., Tursynbek, S., Dauletbakov, A., Bayazit, S., Zolotareva, D. and Yerassyl, K., 2024. Well designed iridium-phosphinite complexes: Biological assays, electrochemical behavior and density functional theory calculations. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 318, p.124448. Q2 22. Rafikova, K., Meriç, N., Binbay, N.E., Okumuş, V., Sever, M.Ş., Belyankova, Y., Tursynbek, S., Dauletbakov, A., Sarah, B., Zolotareva, D. and Yerassyl, K., 2024. Biological assays, electrochemical behavior, and theoretical DFT calculations of Ru (II) complexes of chiral phosphinite based based on β-amino alcohols: Transfer hyrogenation of ketones using a HCOOH/Et3N mixture. Journal of Molecular Structure, 1303, p.137556.Q2 23. Işik, U., Rafikova, K., Meriç, N., Güzel, R., Kerimkulova, A., Akimbek, A., Okumuş, V., Durap, F.,

	Kayan, C. and Aydemir, M., 2024. Half-sandwich ruthenium (II) and iridium (III) complexes of imidazole based phosphinite ligands: antioxidant and antibacterial activities as well as electrochemical properties. ChemistrySelect, 9(6), p.e202304785. Q2 24. Ryspaeva, S., Kerimkulova, A., Rafikova, K., Nauryzova, S., Islam, S., Aydemir, M. and Kozhaisakova, M., 2024. Deep Eutectic Solvents for Sustainable Management of Asphaltene Deposition in Oil Production. Engineered Science, 29, p.es1102. Q1 25. Serikov, T.A., Jamalova, G.A., Rafikova, K.S., K Yelikbayev, B., Yernazarova, A.K., Serikovna, K.L., Zazybin, A.G., Sakhanin, V.S. and Egutkin, V.Y., 2024. Ecological, biological and biotechnological aspects of Saccharomyces Cerevisiae biomass production. Caspian Journal of Environmental Sciences, 22(2), pp.499-512. Q2 26. Sholpan Islam, Camille Rubio, Khadichakhan Rafikova, and Fabrice Mutelet. Desulfurization and Denitrogenation Using Betaine-Based Deep Eutectic Solvents. Journal of Chemical & Engineering Data Article ASAP. Q2, 76 2024 DOI:https://dx.doi.org/10.1021/acs.jced.4c00052

Rafikova Khadichakhan Sabirzhanovna
Professor of the Department of Chemical and Biochemical Engineering
Contact: E-mail:
kh.rafikova@satbayev.university;
hadichahan@mail.ru;
Mobile phone: +7-747-9448583
Author ID в Scopus 56050765000
Researcher ID Web of Science AAF-5319-2019
ORCID ID 0000-0001-8028-2244

Education, academic degree and title: In 2006, she graduated from the Chemistry Department of Al-Farabi Kazakh National University. Specialization "510730 - Chemistry", academic degree "Bachelor of Chemistry". In 2008, she completed her master's program at the L.N. Gumilyov Eurasian National University. Specialization "6N0112 - Chemistry", academic degree "Master of Chemistry". In 2014, she defended her dissertation for the degree of Doctor of Philosophy (PhD) in the specialty "6D073900 - Petrochemistry". In 2023, she received the title of Associate Professor in the specialty "Chemistry".

Scientific interests: Ionic liquids, metal complex catalysis, deep eutectic solvents.

Scientific grants for applied research programs:

1) BR 05236800, in the section "Catalysts based on ionic liquids for fine and industrial organic synthesis processes." (2018-2020)
2) Development of Ionic Liquid-Based Catalysts for New Green Technologies
of Petrochemical Synthesis (2015-2018)
3) Development of Methods for Synthesizing New Bifunctional Ionic Liquids (2015-2018)

4) AP05132833 "Metal-Containing Ionic Liquids for Extractive Desulfurization and Denitrogenation of Motor Fuels" (2018-2020)
5) AP08857516 Metal-Containing Ionic Liquids in Agrochemistry (2020-2022)
6) AP13068542 Hydrogen Transfer Hydrogenation Reactions under the Action of Ionic Liquid-Containing Metal Complex Catalysts (2022-2024)
7) AP19676664 Deep Eutectic Solvents for Fuel Desulfurization (2023-2025)

Professional activity: From 2014 to 2017, she worked as a lecturer at the Scientific and Educational Center for Chemical Engineering at the Kazakh-British Technical University. In July 2016, she was hired as a senior lecturer at the Institute of Chemical Engineering, Department of Chemical Engineering, KazNTU named after K.I. Satpayev.

In 2017, Kh.S. Rafikova won the national project "100 New Faces of Kazakhstan." That same year, she received the title of "Best University Teacher 2017."

From 2019 to 2020, Kh.S. Rafikova served as an associate professor, and from 2020 to 2021, she headed the Department of Chemical and Biochemical Engineering. During her tenure as head of the department, she successfully accredited undergraduate, graduate, and doctoral programs in the specialties "Chemical Technology of Organic Substances" and "Chemical and Biochemical Engineering."

From October 2020 to November 2023, Kh.S. Rafikova was a member of the National Scientific Council for the priority: Scientific Research in the Natural Sciences.

Courses taught:

1. Environmental Aspects of Petrochemical Production (Russian);
2. Polymer Production and Processing Technology (Russian);
3. Organometallic Chemistry (Russian);
4. Fundamentals of Monomer Chemistry and Technology (Russian);
5. Prospects and Development of the Oil Industry (English)
6. Catalytic Methods in Organic Synthesis (English)
7. Chemmotology of Oil Products (English)
8. Chemical Analysis of Oil Products (Kazakh)

Publications

The list of works includes more than 30 publications.

1. Rafikova K.S.,Zazybin A.G., Bigaliyeva F.B., Meric N., Aydemir M., Pasa S., Temel H., Yu V.K.Towards the application of new ionic liquids based Ru (II) catalysts in transfer hydrogenation reactions. 12th European Congress on Catalysis – EuropaCat-XII, Kazan, Russia, 30 August – 4 September, 2015.
2. Rafikova K.S. Ionic liquids in petroleum and hydrocarbon industry. Химический журнал Казахстана, 2015, 3, С. 361-365.
3. Рафикова Х.С., Зазыбин А.Г., Кыстаубаева Н.У., Ю В.К.Сопряженное гидрирование карбонильных

In July 2022, to improve her qualifications and exchange experience, Kh.S. Rafikova completed an internship at Sapiens University as part of the Erasmus+ Academic Mobility Program. From September 2022 to August 2023, Kh.S. Rafikova completed an internship at the School of Education at the University of Birmingham under the "Leadership in Higher Education Management" program. From September 2024 to the present, he is a professor at the Department of Chemical and Biochemical Engineering.	соединений без использования молекулярного водорода. Химический журнал Казахстана, 1, 2016, СС. 4. D. ElmaKarakaş, F. Burap, A.Baysal, Y.S. Ocak,K. Rafikova, E. Çavuş Kaya, A.Zazybin, H.Temel, C.Kayan, N.Meriç, M.Aydemir.Synthesis and Characterization Of Novel Ionic Liquid Based Rh(I), Ir(III) – Phosphinite Complexes. European Conference on Molten Salts. 2016, Vienna,Austria, 3-8 July, 2016. 5. Rafikova K.S., Aydemir M., Zazybin A.G., Cavus E., Temel H. Transfer Hydrogenation Reaction Catalyzed by Homogeneous and Polymer Supported Ruthenium Complexes. Kaliningrad, Russia, 2016, 2-6 October. 6. Rafikova K.S., Meric N., Aydemir M., Zazybin A.G. Use of Transition Metal Complexes of An Ionic Liquid based Phosphinite as Catalyst in Transfer Hydrogenation of Aromatic Ketones. Kaliningrad, Russia, 2016, 2-6 October. 7. Karakaş, D. E., Durap, F., Baysal, A., Ocak, Y. S., Rafikova, K., Kaya, E. Ç., Aydemir, M. Transfer hydrogenation reaction using novel ionic liquid based Rh (I) and Ir (III)-phosphinite complexes as catalyst. Journal of Organometallic Chemistry, 2016, 824, 25-32. (Входит в базы данных Scopus и Thomson Reuters). (Impact Factor: 2.0) 8. Pasa, S., Gürler, N., Temel, H., Rafikova, K.,& Aydemir, M. Developments in transfer hydrogenations of aromatic ketones catalyzed by boron compounds. Journal of Coordination Chemistry, 2017, 70(8), 1357-1367. (IF=1.78) Входит в базы данных Scopus и Thomson Reuters).http://dx.doi.org/10.1080/00958972.2017.1300659. 9. A. Zazybin, Rafikova K.S., V.Yu, D.Zolotareva, V.M.Dembitsky, T.Sasaki. Metal-containing ionic liquids: current paradigm and applications. Russian Chemical Review, 2017, 86(12) 1254 -1270 (IF=4.085). 10. D. Zolotareva, A. Zazybin, K. Rafikova, V. M. Dembitsky, A. Dauletbakov, V. Yu. Ionic liquids assisted desulfurization and denitrogenation of fuels. Vietnam J. Chem., 2019, 57(2), 133¬163. 11. N. Meriç, C. Kayan, K. Rafikova, A. Zazybin, V. Okumuş, M. Aydemir, F. Durap. Synthesis of ionic liquid-based Ru(II)–phosphinite complexes and evaluation of their antioxidant, antibacterial, DNA-binding, and DNA cleavage activities Chemical papers2019, Volume 73, Issue 5, pp 1199–1208. (IF=0.9) 12. N. Meriç, N. Arslan, C. Kayan, K. Rafikova, A. Zazybin, A. Kerimkulova, M. Aydemir. Catalysts for the Asymmetric Transfer Hydrogenation of Various Ketones from [3-[(2S)-2-[(diphenylphosphanyl)oxy]-3-phenoxypropyl]-1-methyl-1H-imidazol-3-ium chloride] and [Ru(η6 -arene)(μ-Cl)Cl]2 , Ir(η5 -C5Me5)(μ-Cl)Cl]2 or [Rh(μ-Cl)(cod)]2Inorganica Chimica Acta, 2019 (IF=2.4). 13. Rafikova K.S., Zazybin A.G., M. Aydemi, N. Meric, Kerimkulova A.Zh., Islam Sh.S. Asymmetric transfer hydrogenation of various ketones by complex of imidazolium with [Rh(μ-Cl)(cod)]2 6th International Caucasian Symposium on Polymers and Advanced Materials, 17-19 July, 2019 r 14. Rafikova K.S., Zazybin A.G, Kerimkulova A.Zh., Aimbekova A.. Desulfurization of Fuels by Metal-containing Ionic Liquids. 6th International Caucasian Symposium on Polymers and Advanced Materials, 17-19 July, 2019 15. Рафикова Х.С,, Зазыбин А.Г., Керимкулова А.Ж., Турсынбекова М.М,, Ислам Ш.. Синтез

	металлосодержащих ионных жидкостей для очистки моторных топлив. Успехи современной науки, №2,2019, P. 18 (Журнал входит в международную базу данных Chemical abstract.) 16. Rafikova, K., Binbay, N.E., Meriç, N., Kerimkulova, A., Zazybin, A., Binbay, V., Okumuş, V., Kayan, C., Işik, U., Arslan, N. and Aydemir, M., 2020. Biological assays and theoretical density functional theory calculations of Rh (I), Ir (III), and Ru (II) complexes of chiral phosphinite ligand. Applied Organometallic Chemistry, Q2 34(7), p.e5658. 17. Akimbek A.O., Jamalova G.A. Rafikova, Kh S.Islam S., Nauryzova S.Kerimkulova A., Selenova B., Yernazarova A.K., Kaiyrmanova G.K., Yelikbayev, B.K., Pagano, M.C.,Biodesulfurization of high-sulfur oil from the Karazhanbas field by Deep Eutectic Solvents. 2 nd International Symposium on Emerging Materials and Devices June 21-25 2024, Astana, Nazarbayev University. 18. Rafikova, K., Meriç, N., Güzel, R., Arslan, N., Binbay, N.E., Kayan, C., Okumuş, V., Zazybin, A., Seilkhanov, T., Binbay, V. and Aydemir, M., 2022. Transition metals of arene derivatives with functionalized ionic liquid: DFT investigation, biological applications and electrochemical behavior of complexes. Inorganica Chimica Acta, Q2 542, p.121142. 19. Dauletbakov, A., Zazybin, A., Yu, V., Belyankova, Y., Ten, A., Rafikova, K., Zolotareva, D., Anapiyayev, B., Seilkhanov, T. and Aydemir, M., 2022. Ultrasound-and Microwave-promoted Synthesis, Growth-regulating Activity and Antimicrobial Behavior of Trimecaine-based Ionic Compounds. ChemistrySelect, Q2 7(22), p.e202104363. 20. Karakaş, D.E., Rafikova, K., Baysal, A., Meriç, N., Zazybin, A., Kayan, C., Işik, U., Saparbaykyzy, I.S., Durap, F. and Aydemir, M., 2022. Ketone transfer hydrogenation reactions catalyzed by catalysts based on a phosphinite ligand. Journal of Coordination Chemistry, Q2 75(3-4), pp.493-506. Meriç, N., Rafikova, K., Zazybin, A., Güzel, R., Kayan, C., Elma Karakaş, D., Dündar, A., Islam, S., Okumuş, V. and Aydemir, M., 2023. Application of Half-Sandwich Metal-Phosphinite Compounds to Biological Activities: Determine the energies of the HOMO and LUMO levels. Zeitschrift für anorganische und allgemeine Chemie, 649(2), p.e202200126. Q4 21. Rafikova, K., Meriç, N., Binbay, N.E., Okumuş, V., Erdem, K., Belyankova, Y., Tursynbek, S., Dauletbakov, A., Bayazit, S., Zolotareva, D. and Yerassyl, K., 2024. Well designed iridium-phosphinite complexes: Biological assays, electrochemical behavior and density functional theory calculations. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 318, p.124448. Q2 22. Rafikova, K., Meriç, N., Binbay, N.E., Okumuş, V., Sever, M.Ş., Belyankova, Y., Tursynbek, S., Dauletbakov, A., Sarah, B., Zolotareva, D. and Yerassyl, K., 2024. Biological assays, electrochemical behavior, and theoretical DFT calculations of Ru (II) complexes of chiral phosphinite based based on β-amino alcohols: Transfer hyrogenation of ketones using a HCOOH/Et3N mixture. Journal of Molecular Structure, 1303, p.137556.Q2 23. Işik, U., Rafikova, K., Meriç, N., Güzel, R., Kerimkulova, A., Akimbek, A., Okumuş, V., Durap, F., Kayan, C. and Aydemir, M., 2024. Half-sandwich ruthenium (II) and iridium (III) complexes of imidazole based

	phosphinite ligands: antioxidant and antibacterial activities as well as electrochemical properties. ChemistrySelect, 9(6), p.e202304785. Q2 24. Ryspaeva, S., Kerimkulova, A., Rafikova, K., Nauryzova, S., Islam, S., Aydemir, M. and Kozhaisakova, M., 2024. Deep Eutectic Solvents for Sustainable Management of Asphaltene Deposition in Oil Production. Engineered Science, 29, p.es1102. Q1 25. Serikov, T.A., Jamalova, G.A., Rafikova, K.S., K Yelikbayev, B., Yernazarova, A.K., Serikovna, K.L., Zazybin, A.G., Sakhanin, V.S. and Egutkin, V.Y., 2024. Ecological, biological and biotechnological aspects of Saccharomyces Cerevisiae biomass production. Caspian Journal of Environmental Sciences, 22(2), pp.499-512. Q2 26. Sholpan Islam, Camille Rubio, Khadichakhan Rafikova, and Fabrice Mutelet. Desulfurization and Denitrogenation Using Betaine-Based Deep Eutectic Solvents. Journal of Chemical & Engineering Data Article ASAP. Q2, 76 2024 DOI:https://dx.doi.org/10.1021/acs.jced.4c00052