

	<p>MURAVEV, Anton A. Candidate of Chemical Sciences (Arbuzov Institute of Organic and Physical Chemistry)</p>
<p>Research interests</p>	<ul style="list-style-type: none"> ✓ Organic synthesis of small organic molecules and macrocycles (calixarenes, crown-ethers, melamines, barbituric and cyanuric acids, terpyridines, pyrazoles) using click reactions ✓ Supramolecular interactions between organic compounds and metal ions, as well as biomolecules in solution, gas and solid phases, as well as liquid–liquid and liquid–gas interfaces ✓ Programmable functional characteristics of organic compounds and their supramolecular complexes – luminescence, piezoelectric effect, catalysis of organic reactions, biological activity
<p>Features of the PhD program</p>	<p>A wide access to the equipment of Infochemistry Center and Center of Collective Use of ITMO University will be provided. There is a close collaboration with the colleagues from Weizmann University (Israel) and National University of Singapore. The PhD student will be financially supported.</p>
<p>List of the supervisor's research projects (participation/supervision)</p>	<ul style="list-style-type: none"> ✓ RSF 21-73-10185 Study of interactions between polyelectrolyte complexes and protein structures for highly efficient sensing of viral diseases, 2021–2024 (supervision) ✓ Gazpromneft–Lubricating grant No. A220003100, QSAR modeling for prediction of lubricating oil characteristics, 06/2023–08/2023 (supervision)
<p>List of potential thesis topics</p>	<ul style="list-style-type: none"> ✓ Automation and robotization of organic reactions in coacervate phase ✓ Multivalent scaffolds for antitumor therapy ✓ Programmable surfaces based on hierarchically organized melamine-cyanurates ✓ Prediction of antioxidant activity of base oil additives based on their structure and content in base oil ✓ Prediction of nanoscale organization of macrocycles ✓ Flexible self-healing organic materials with piezoelectric response ✓ Macrocyclic sensors on metal ions and gas molecules ✓ Biosensors in crowded surrounding of polyelectrolyte coacervates ✓ Synthesis of organic MolBytes
<p>Publications in the last five years</p>	<p>13 (Scopus / Web of Science / RSCI)</p>
<p>Key publications</p>	<p>1. A.A.Muravev, A.D.Voloshina, A.S.Sapunova, F.B.Gabdrakhmanova, O.A.Lenina, K.A.Petrov, S.Shityakov,</p>

	<p>E.V.Skorb, S.E.Solovieva, I.S.Antipin, Calix[4]arene–pyrazole conjugates as potential cancer therapeutics, <i>Bioorg. Chem.</i>, 2023, 139, 106742. https://doi.org/10.1016/j.bioorg.2023.106742, DOI: 10.1016/j.bioorg.2023.106742, Impact factor 5.1</p> <p>2. A.A.Muravev, A.S.Ovsiannikov, G.V.Konorov, D.R.Islamov, K.S.Usachev, A.S.Novikov, S.E.Solovieva, I.S.Antipin, Thermodynamic vs. kinetic control in synthesis of O-donor 2,5-substituted furan and 3,5-substituted pyrazole from heteropropargyl precursor, <i>Molecules</i>, 2022, 27, 5178. https://doi.org/10.3390/molecules27165178, DOI: 10.3390/molecules27165178, Impact factor 4.6</p> <p>3. A. Muravev, A. Yakupov, T. Gerasimova, D. Islamov, V. Lazarenko, A. Shokurov, A. Ovsiannikov, P. Dorovatovskii, Y. Zubavichus, A. Naumkin, S. Selektor, S. Solovieva, I. Antipin, Thiocalixarenes with sulfur functionalities at lower rim: heavy metal ion binding in solution and 2D-confined space <i>Int. J. Mol. Sci.</i>, 2022, 23, 2341. https://doi.org/10.3390/ijms23042341, DOI: 10.3390/ijms23042341, Impact factor 6.208</p> <p>4. A. Muravev, A. Yakupov, T. Gerasimova, R. Nugmanov, E. Trushina, O. Babaeva, G. Nizameeva, V. Syakaev, S. Katsyuba, S. Selektor, S. Solovieva, I. Antipin, Switching ion binding selectivity of thiocalix[4]arene monocrowns at liquid–liquid and 2D-confined interfaces <i>Int. J. Mol. Sci.</i>, 2021, 22, 3535. https://doi.org/10.3390/ijms22073535, DOI: 10.3390/ijms22073535, Impact factor 6.208</p> <p>5. A. Muravev, T. Gerasimova, R. Fayzullin, O. Babaeva, I. Rizvanov, A. Khamatgalimov, M. Kadirov, S. Katsyuba, I. Litvinov, S. Latypov, S. Solovieva, I. Antipin, Thermally stable nitrothiocalixarene chromophores: conformational study and aggregation behavior <i>Int. J. Mol. Sci.</i>, 2020, 21, 6916. https://www.mdpi.com/1422-0067/21/18/6916, DOI: 10.3390/ijms21186916, Impact factor 6.208</p>
Supervisor’s specific requirements	<ul style="list-style-type: none"> ✓ Educational experience in organic and physical chemistry ✓ Work with special software (MS Office, ChemOffice, Origin) ✓ Working skills on spectrometer ✓ working skills in laboratory of organic synthesis
Code of the subject area of the PhD program	1.4.4 Physical Chemistry