

List of main publications (last 15 years) of Olga B. Akopova

1. **STAR-SHAPED COMPOUNDS WITH OXADIAZOLE FRAGMENTS. III. INFORMATIVITY OF MOLECULAR PARAMETERS DEVELOPED FOR COLUMNAR MESOMORPHISM PREDICTION OF STAR-SHAPED COMPOUNDS TOWARDS POLYCATENAR MOLECULES.**

*Akopova O.B., Smirnova A.I., Bumbina N.V., Zharnikova N.V., Usoltseva N.V.* Liq. Cryst. and their Appl., 2020, **20**(2), 45–54. DOI: 10.18083/LCAppl.2020.2.45.

2. **SYNTHESIS AND PROPERTIES OF TETRA[4,5](2,4,5-TRI-CHLOROPHE-NOXY)-PHTHALOCYANINE METAL COMPLEXES.**

*Gogin K. K., Znoyko S. A., Nakonechnay A. N., Kustova T. V., Akopova O.B., Bumbina N.V., Usol'tseva N.V.* Liq. Cryst. and their Appl., 2020, **20** (4), 49–58. DOI: 10.18083/LCAppl.2020.4.49.

3. **INFLUENCE OF MOLECULAR STRUCTURE OF STAR-SHAPED COMPOUNDS WITH OXADIAZOLE AND TETRAZOLE SYNTHONS ON MANIFESTATION OF COLUMNAR MESOMORPHISM.**

*Akopova O.B., Smirnova A.I., Zharnikova N.V., Bumbina N.V., Usoltseva N.V.* Proceed. of Intern. scientific conference.: Global science and education in the modern realities 2020. 26-27 August 2020., CID: US03-054. 2020. N1, P. 98 – 101. Published by: «ISE&E» & SWorld in conjunction with KindleDP, Seattle, Washington, USA. DOI: 10.30888/2709-2267.2020-3.

4. **SYNTHESIS AND PROPERTIES OF COBALT AND NICKEL COMPLEXES OF TETRAKIS-[4,5]DINAPHTO([1,2-b:2,1-d][1,6]BENZODIOXOCYNE)-PHTHALOCYANINE.**

*Pavlova E. I., Znoyko S. A., Maizlish V. E., Bumbina N. V., Akopova O. B., Usol'tseva N. V.* Liq. Cryst. and their Appl., 2020, **20** (3), 65–71. DOI: 10.18083/LCAppl.2020.3.65

5. **CREATION OF NEW STAR-SHAPED AND POLYCATHENARY COMPOUNDS WITH FORECAST TYPE OF MESOMORPHISM AND SENSITIVITY TO LIGHT.**

*Akopova O.B., Smirnova A.I., Zharnikova N.V., Bumbina N.V., Usoltseva N.V.* In Monograph ORGANIC AND HYBRID NANOMATERIALS: PREPARATION, RESEARCH, APPLICATION. Edited by V.F. Razumov, M.V. Klyuev. Ivanovo, 2019. P.112-151.

6. **SINTONES FOR SYNTHESIS OF STAR-SHAPED DERIVATIVES OF OXADIAZOL AND POLYBASIC ACIDS.**

*Akopova O.B., Bumbina N.V., Zharnikova N.V., Smirnova A.I., Usoltseva N.V.* In the collection: Russian University in an Unstable World: Global Challenges and National Responses. Proceed. of the national scientific and practical conference. 2 parts. 2019. P. 3 – 9.

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- 7. MODELING OF KNOWN AND NEW STAR-SHAPED DERIVATIVES OF TRISTRIZAZOLOTRIASINE AND PREDICTION OF THEIR COLUMNAR MESOMORPHISM.**  
*Akopova O.B., Bumbina N.V., Zharnikova N.V., Smirnova A.I., Usol'tseva N.V.* Liq. Cryst. and their Appl., 2019. **19** (1), 33 – 41. DOI: 10.18083/LCAppl.2019.1.33.
- 8. STAR-SHAPED COMPOUNDS WITH OXADIAZOLE FRAGMENTS. I. INFLUENCE OF MOLECULAR STRUCTURE VARIATION OF AZO-DIPHTHALIC ACIDS DERIVATIVES ON THEIR MESOMORPHISM ACCORDING TO PROGNOSIS DATA.**  
*Akopova O.B., Bumbina N.V., Zharnikova N.V., Smirnova A. I., Usol'tseva N.V.* Liq. Cryst. and their Appl., 2019. **19** (3) 83 – 91. DOI: 10.18083/LCAppl.2019.3.83.
- 9. STAR-SHAPED COMPOUNDS WITH OXADIAZOL FRAGMENTS. II. INFLUENCE OF POLYCATENAR COMPOUND STRUCTURE ON ABILITY OF COLUMNAR MESOMORPHISM FORMATION BY PREDICTION DATA.**  
*Akopova O.B., Smirnova A.I., Bumbina N.V., Zharnikova N.V., Usoltseva N.V.* Liq. Cryst. and their Appl., 2019. **19** (4), 5 – 15. DOI: 10.18083/LCAppl.2019.4.5.
- 10. SPECTRAL PROPERTIES OF COPPER CARBOXYLATES AND EXPERIENCE OF THEIR APPLICATION IN FRICTION UNITS OF AGRICULTURAL EQUIPMENT.**  
*Terentyev V.V., Akopova O.B., Telegin I.A., Elnikova L.V., Parunova Yu.M.* Agrarian Bulletin of the Verhnevolzh'e. 2019.№1(26). C. 79 – 84.
- 11. STAR SHAPED DISCOTIC COMPOUNDS.**  
*Usol'tseva N.V., Akopova O.B., Zharnikova N.V., Smirnova A.I., Bumbina N.V., Koval'eva M.I.* Certificate of state registration of database RU № 2017620388, 06.04.2017. Zayavka № 2016621622 from 07.12.2016.
- 12. SYNTHESIS AND PROPERTIES OF SULFO AND ALKYL-SULFAMOYL SUBSTITUTED PHTHALOCYANINES AND THEIR COPPER (II) COMPLEXES BEARING 1-BENZOTRIAZOLYL AND 4-CYCLOHEXYLPHENOXY GROUPS.**  
*Znoiko S.A., Bumbina N.V., Akopova O. B., Berezina G.R., Smirnova A.I., Usol'tseva N.V., Maizlish V.E., Shaposhnikov G.P.* Liq. Cryst. and their Appl. 2017. **17** (1), 56 – 68. DOI: 10.18083/Appl.2017.1.56.
- 13. STAR-SHAPED DISCOTIC COMPOUNDS WITH TETRAZOLE AND OXADIAZOLE FRAGMENTS** *Usol'tseva N.V., Akopova O.B., Smirnova A.I., Kovaleva M.I., Bumbina N.V., Zharnikova N.V.* Phase Transitions. 2017. **90** (8). 800 – 807. DOI: 10.1080/01411594.2017.1309405.

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- 14. INFLUENCE OF THE COPPER BEHENATE MESOGENIC ADDITIVE ON RHEOLOGICAL AND TRIBOTECHNICAL CHARACTERISTICS OF PLASTIC LUBRICANTS.**  
*Terent'ev V.V., Akopova O.B., Telegin I.A.* Liq. Cryst. and their Appl., 2017. **17** (1), 93 – 100. DOI: 10.18083/LCAppl.2017.1.93
- 15. STRUCTURE AND PHASE TRANSITIONS OF AZOMETHINE BILIGAND COMPLEXES OF IRON(III) BASED ON 3,4,5-TRI(TETRADECYLOXY)-BENZOYLOXY-4-SALICYLIDENE-N'-ETHYL-N-ETHYLENEDIAMINE.**  
*Chervonova U.V., Gruzdev M.S., Kolker A.M., Akopova O.B.* J. Struct. Chem. 2016. **57** (3). C. 478 – 490. DOI: 10.1134/S0022476616030094.
- 16. EFFECT OF THE NATURE OF SUBSTITUENTS AND METAL ATOM ON MESOMORPHIC PROPERTIES OF OCTASUBSTITUTED PHTHALO-CYANINES WITH 4-(1-METHYL-1-PHENYL-ETHYL)PHENOXY GROUPS.**  
*Znoiko S.A., Akopova O.B., Bumbina N.V., Smirnova A.I., Serova M.A., Savinova A.I., Usoltseva N.V., Maizlish V.E., Shaposhnikov G .P.* Liq. Cryst. and their Appl. 2016. **16** (4), 59 – 68. DOI: 10.18083/LCAppl.2016.4.59
- 17. USING MOLECULAR PARAMETERS IN FORECASTING THE MESOMORPHISM OF STAR-SHAPED DISCOTIC TRIPHENYLENE DERIVATIVES.**  
*Akopova O.B., Kovaleva M.I., Usoltseva N.V., Kapralova T.S., Onuchak L.A.* Liq. Cryst. and their Appl., 2016. **16** (4), 91 – 98. DOI: 10.18083/LCAppl.2016.4.91.
- 18. SYNTHESIS AND PHASE BEHAVIOR OF DENDRONS DERIVED FROM 3,4,5-TRIS(TETRADECYLOXY)BENZOIC ACID WITH DIFFERENT FUNCTIONAL GROUPS IN FOCAL POINT.**  
*Gruzdev M., Chervonova U., Kolker A., Akopova O.* J. Chem. Sciences. 2015. **127** (10), 1801-1810. DOI:10.1007/s12039-015-0945-4.
- 19. TRIAZOLE DERIVATIVES. PROGNOSIS OF COLUMNAR MESOMORPHISM.**  
*Bumbina N.V., Smirnova A.I., Akopova O.B., Usoltseva N.V., Dubrovina T.E., Kudayarova T.V., Danilova E.A.* Liq. Cryst. and their Appl. 2015. **15** (1), 17-21.
- 20. APPLICATION OF MOLECULAR PARAMETERS IN FORECASTING OF MESOMORPHISM OF HETEROCYCLIC STAR-SHAPED DISCOTIC COMPOUNDS.**  
*Kovaleva M.I., Akopova O.B.* Liq. Cryst. and their Appl., 2015. **15** (2), 94-101.
- 21. LUBRICANT COMPOSITION.**  
*Terentyev VV, Lapshin VB, Subbotin KV, Bogdanov VS, Akopova OB.* Patent RU 2530023 C2, 10.10.2014. Application No. 2012149497/04 dated 20.11.2012.

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22. **NUCLEOPHILIC SUBSTITUTION IN 4-BROMO-5-NITRO-PHTHALODINITRILE: XI. PREPARATION, PROPERTIES, AND PREDICTION OF MESOMORPHISM IN MIXED-SUBSTITUTED PHTHALOCYANINES CONTAINING ARYLOXY AND BENZOTRIAZOLE FRAGMENTS.**  
*Znoiko S.A., Maizlish V.E., Shaposhnikov G.P., Akopova O.B., Bumbina N.V., Usoltseva N.V., Abramov I.G.* Russ. J. General Chem. 2014. **84** (10). 2060 – 2066. [RUSS. J. OF GEN. CHEM. 2014. **84** (4), 708–714-English]. DOI: 10.1134/S1070363214040185.
23. **MOLECULAR DESIGN AND SYNTHESIS OF HETEROCYCLIC STAR-SHAPED DISCOTIC MESOGENS.**  
*Akopova O.B., Kovaleva M.I.* Liq. Cryst. and their Appl. 2014. **14** (2), 21–57.
24. **DEVELOPMENT AND RESEARCH OF ANTIFRICTION AND ANTIWEAR DISCOTIC MESOGENIC ADDITIVES FOR PLASTIC LUBRICANTS OF MACHINES AND EQUIPMENT.**  
*Terent'ev V.V., Akopova O.B., Bausov A.M., Gerasimov A.I., Telegin I.A.* Bulletin of the Samara State Agricultural Academy. 2014. No. 3. S. 53-56.
25. **SYNTHESIS AND PROPERTIES OF SULFO AND ALKYL-SULFAMOYL SUBSTITUTED  $Cu^{II}$  AND  $Ni^{II}$  PHTHALOCYANINES BEARING 1-BENZOTRIAZOLYL AND 4-(1-METHYL-1-PHENYLETHYL)PHENOXY GROUPS.**  
*Znoiko S.A., Akopova O.B., Bumbina N.V., Maizlish V.E., Shaposhnikov G.P., Usol'tseva N.V.* Macroheterocycles. 2014. **7** (3), 287 – 295. DOI:10.6060/mhc140930z.
26. **SYNTHESIS AND STUDY OF VITRESCENT MATERIALS BASED ON THE ALKOXYBENZOIC ACIDS DERIVATIVES AND TRIETHANOLAMINE.**  
*Gruzdev M.S., Akopova O.B., Frolova T.V.* Russ. J. Gen. Chem. 2013. **83** (4), 652–658. DOI:10.1134/S1070363213040075.
27. **COPPER(II) CARBOXYLATES. SIMULATION, SYNTHESIS, MESOMORPHISM AND TRIBOLOGICAL PROPERTIES.**  
*Akopova O.B., Lapshin V.B., Terent'ev V.V., Bogdanov V.S.* Liq. Cryst. and their Appl. 2012. №2 (40). C. 20–28.
28. **PROGRESS IN THE DESIGN AND SYNTHESIS OF CHIRAL DISCOTIC MESOGENS.**  
*Akopova O.B., Pestov S.M.* Liq. Cryst. and their Appl. 2012. №4(42). C. 20–33.
29. **EFFECT OF THE NATURE OF CHIRAL FRAGMENT ON MESOMORPHIC PROPERTIES OF TRIPHENYLENE ETHERS.**  
*Akopova O.B., Bulavkova M.G., Gruzdev M.S., Frolova T.V.* Russ. J. Gen. Chem. 2011. **81** (4), 714–720. DOI: 10.1134/S1070363211040165.

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- 30. TRIBOLOGY AND MESOMORPHISM.**  
*Usoltseva N.V., Akopova O.B.* Physics, chemistry and mechanics of tribosystems. 2011. No.10. P. 14–23.
- 31. DISCOTIC MESOGENS: FROM MONOMERS TO POLYMERS AND DENDRIMERS.**  
*Akopova O.B., Usoltseva N.V.;* Monograph. Publishing house: Ministry of Education and Science of the Russian Federation, State Educational Institution of Higher Professional Education "Ivanovo State University". Ivanovo, 2010.150 p.
- 32. DESIGN OF LOW-MOLECULAR-MASS AND POLYMERIC DISCOTIC MESOGENES.**  
*Akopova O. B. Usol'tseva N. V.* Polymer Sci. Ser. A. 2010. **52** (10), P. 985 – 1011. DOI:10.1134/S0965545X10100020.
- 33. SYNTHESIS AND STUDY OF HEPTASUBSTITUTED TRIPHENYLENES WITH CHIRAL FRAGMENTS AND PREDICTABLE TYPE OF MESOMORPHISM.**  
*Akopova O.B., Gruzdev M.S., Kurbatova E.V.* Russ. J. Gen. Chem. 2010. **80**. (2), 268–274. DOI: 10.1134/S1070363210020155
- 34. DESIGN, SYNTHESIS AND STUDY OF CHIRAL HEXAOXYTRIPHENYLENE DERIVATIVES MESOMORPHISM.**  
*Akopova O.B., Bulavkova M.G., Gruzdev M.S., Lukyanov I.Yu.* Liq. Cryst. and their Appl. 2010. №2 (32). C. 46 – 57.
- 35. STRUCTURAL INVESTIGATIONS OF CHIRAL TRIPHENYLENE IN BULK AND FILM STATES.**  
*Aleksandrov A.I., Barakhtenko D.V., Pashkova T.V., Akopova O.B.* Liq. Cryst. and their Appl. 2010. №4 (34). C. 107 – 116.
- 36. SYNTHESIS AND INVESTIGATION OF TRIPHENYLENE DISCOTIC DERIVATIVES WITH DONOR AND ACCEPTOR GROUPS AND WITH PREDICTABLE TYPE OF MESOMORPHISM.**  
*Akopova O.B., Kurbatova E.V., Gruzdev M.S.* Russ. J. Gen. Chem. 2008. **78** (10), 1902 – 1909. DOI:10.1134/S1070363208100149.
- 37. THE THERMODYNAMIC PARAMETERS OF SORPTION AND ENANTIOSELECTIVITY OF THE CHIRAL SMECTIC LIQUID CRYSTAL 2-METHYLBUTYL ESTER OF 4-(4-DECYLOXYBENZYLIDENEAMINO)-CINNAMIC ACID.**  
*Onuchak L. A., Stepanova R. F., Glebova O. V., Chernova O. M., Akopova O.B.* J. Phys. Chem. A., 2008. **82** (6), 893 – 901. DOI:10.1134/S0036024408060034.

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**38. ANTIFRICTION AND ANTIWEAR LUBRICANT COMPOSITION.**

*Akopova O.B., Frolova T.V., Usoltseva N.V., Lapshin V.B., Lyubina G.M.*  
Patent No. 2329295. Priority from 14.12.05. 2008. Bulletin of inventions No. 20.

**39. MOLECULAR STRUCTURE AND MESOMORPHISM IN THE SERIES OF DISCOTIC ESTERS DERIVED FROM BENZENE, TRIAZINE, BIPHENYL AND TRIPHENYLENE.**

*Akopova O.B., Frolova T.V., Usoltseva N.V.* Russ. J. Gen. Chem. 2007. **77**. (1) 103 – 110.  
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**40. MOLECULAR PARAMETERS AND MESOMORPHISM OF DISCOTIC POLYSUBSTITUTED BENZENE DERIVATIVES.**

*Akopova O. B., Frolova T. V., Kotovich L. N.* 2006. Russ. J. Gen. Chem. **76** (2), 258–264.  
**DOI:**10.1134/s1070363206020162.