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A Dynamic Analysis of Toron Formation in Chiral Nematic Liquid Crystals Using a Polarization Holographic Microscope

Tikhon V. Reztsov, Aleksey V. Chernykh, Tetiana Orlova, Nikolay V. Petrov

Polymers MDPI 2025 1849

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Polarization-controlled orbital angular momentum of light passing through a cholesteric spherulite

A. N. Shalev, A. A. Misura, A. O. Georgieva, A. V. Chernykh, N. V. Petrov, T. Orlova, I. S. Lobanov,
E. V. Aksenova, V. M. Uzdin, A. D. Kiselev

Optics Letters 2025 4866-4869

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Rewritable Binary Recording of the Photon Spin State in Chiral Liquid Crystals

Nicolas Bruni, Charles Loussert, Mushegh Rafayelyan, Tetiana Orlova, Delphine Coursault,

Etienne Brasselet

Physical Review Letters 2025 223804

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Fine Tuning of the Rotational Speed of Light-Driven, Second-Generation Molecular Motors by Fluorine Substitution

Ivan Tambovtsev, Yorick L. A. Schmerwitz, Gianluca Levi, Darina D. Darmoroz, Pavel V. Nesterov,
Tetiana Orlova, Hannes Jónsson

Journal of Physical Chemistry Letters 2025 4014 - 4020

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Microsecond-scale observation of phase transition and diffusion in 5CB liquid crystal at the molecular level

N. Kasapenko, T. Orlova, N. Kondratyuk

Journal of Chemical Physics 2025 154901

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Light-Induced Heating of Microsized Nematic Volumes

Dmitrii Shcherbinin, Denis A. Glukharev, Semyon Rudyi, Anastasiia Piven, Tetiana Orlova, Izabela Sliwa,

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Light-induced isotropic pen for generation of topological solitons and hopfion-toron transition in frustrated chiral nematic films

Sergey A. Shvetsov, Darina D. Darmoroz, Alexey Vasil'ev, Tetiana Orlova, Igor S. Lobanov,
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Chaos, Solitons and Fractals 2025 116905

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On-Demand Photopatterned Twisted Nematics for Generation of Polychromatic Vector Fields

Edvard Grigoryan, Hayk H. Harutyunyan, Hrayr Hakobyan, Sergey A. Shvetsov, Tetiana Orlova,

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Nikita A. Krotkov, Dmitrii A. Sbytov, Anna A. Chakhoyan, Polina I. Kornienko, Anna A. Starikova,

Maxim G. Stepanov, Anastasiia O. Piven, Timur A. Aliev, Tetiana Orlova, Mushegh S. Rafayelyan,

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Darina Darmoroz, Tetiana Orlova, Anastasiia Piven

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Machine learning methods for liquid crystal research: phases, textures, defects and physical properties

Anastasiia Piven, Darina Darmoroz, Ekaterina Skorb, Tetiana Orlova

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Topological Learning for the Classification of Disorder: An Application to the Design of Metasurfaces

Tristan Madeleine, Nina Podoliak, Oleksandr Buchnev, Ingrid Membrillo Solis, Tetiana Orlova,

Maria van Rossem, Malgosia Kaczmarek, Giampaolo D'Alessandro, Jacek Brodzki

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Reactions of 5-(Trialkyl)silylpent-1-en-4-yn-3-ones with Hydrazines: Original Synthetic Routes to Luminescent Substances Containing Azole Motifs

Ivan S. Odin, Kareem V. Gordon, Radik N. Itakhunov, Dmitry M. Gusev, Sergey A. Sokov,

Anna V. Vologzhanina, Stanislav A. Grabovskiy, Ilya M. Sosnin, Anton I. Ukolov, Olga I. Orlova,

Vladimir A. Lazarenko, Pavel V. Dorovatovskii, Darina D. Darmoroz, Anastasiia O. Piven, Tetiana Orlova,

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Machine learning for soft and liquid molecular materials

Tetiana Orlova, Anastasiia Piven, Darina Darmoroz, Timur Aliev, Tamer Mahmoud Tamer Abdel Razik,

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Optical nonlinearity of a dual-frequency nematic liquid crystal via temperature-mediated mapping of dielectric anisotropy

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Optical Imaging and Analytical Design of Localized Topological Structures in Chiral Liquid Crystals

Igor Lobanov, Elena Aksenova, Tetiana Orlova, Darina Darmoroz, Valery Uzdin, Alexei D. Kiselev

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Light-Induced Structures and Microparticle Transportation in a Free-Surface Frustrated Chiral Nematic Film

Sergey A. Shvetsov, Tetiana Orlova, Alexander V. Emelyanenko

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Nanoparticle-Induced Property Changes in Nematic Liquid Crystals

Nicolas Brouckaert, Nina Podoliak, Tetiana Orlova, Denitsa Bankova, Angela F. De Fazio,

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Ilya Korolev, Timur A. Aliev, Tetiana Orlova, Sviatlana A. Ulasevich, Michael Nosonovsky,

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Journal of Physical Chemistry B 2022 3161 - 3169

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Tracking the time evolution of soft matter systems via topological structural heterogeneity

Ingrid Membrillo Solis, Tetiana Orlova, Karolina Bednarska, Piotr Lesiak, Tomasz R. Woliński,

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