Pavel Troshin

List of Publications by Citations

318 papers	7,163 citations	41 h-index	71 g-index
359 ext. papers	8,360 ext. citations	5.8 avg, IF	6.05 L-index

#	Paper	IF	Citations
318	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. *Nature Energy*, **2020**, 5, 35-49	62.3	369
317	Indigo--a natural pigment for high performance ambipolar organic field effect transistors and circuits. *Advanced Materials*, **2012**, 24, 375-80	24	334
316	Material Solubility-Photovoltaic Performance Relationship in the Design of Novel Fullerene Derivatives for Bulk Heterojunction Solar Cells. *Advanced Functional Materials*, **2009**, 19, 779-788	15.6	329
315	Biocompatible and Biodegradable Materials for Organic Field-Effect Transistors. *Advanced Functional Materials*, **2010**, 20, 4069-4076	15.6	317
314	Highly Efficient All-Inorganic Planar Heterojunction Perovskite Solar Cells Produced by Thermal Coevaporation of CsI and PbI. *Journal of Physical Chemistry Letters*, **2017**, 8, 67-72	6.4	214
313	Probing the Intrinsic Thermal and Photochemical Stability of Hybrid and Inorganic Lead Halide Perovskites. *Journal of Physical Chemistry Letters*, **2017**, 8, 1211-1218	6.4	160
312	Isolation of two seven-membered ring C58 fullerene derivatives: C58F17CF3 and C58F18. *Science*, **2005**, 309, 278-81	33.3	145
311	C(60)F(18), a Flattened Fullerene: Alias a Hexa-Substituted Benzene This work was supported by the Royal Society, INTAS, the Russian Foundation for Fundamental Research (grant no. 99-03-32810), and the Russian Programme, "Fullerenes and Atomic Clusters". *Angewandte Chemie - International Edition*, **2000**, 39, 3273-3276	16.4	130
310	Synthesis and structure of the highly chlorinated [60]fullerene C60Cl30 with a drum-shaped carbon cage. *Angewandte Chemie - International Edition*, **2004**, 44, 234-7	16.4	116
309	Environmentally sustainable organic field effect transistors. *Organic Electronics*, **2010**, 11, 1974-1990	3.5	106
308	The chemical origin of the p-type and n-type doping effects in the hybrid methylammonium-lead iodide (MAPbI3) perovskite solar cells. *Chemical Communications*, **2015**, 51, 14917-20	5.8	100
307	Chlorofullerene C60Cl6: a precursor for straightforward preparation of highly water-soluble polycarboxylic fullerene derivatives active against HIV. *Organic and Biomolecular Chemistry*, **2007**, 5, 2783-91	3.9	82
306	Two Isomers of C F : An Indented Fullerene. *Angewandte Chemie - International Edition*, **2001**, 40, 2285-2287	16.4	82
305	Effect of Electron-Transport Material on Light-Induced Degradation of Inverted Planar Junction Perovskite Solar Cells. *Advanced Energy Materials*, **2017**, 7, 1700476	21.8	80
304	Exploring the Effects of the Pb Substitution in MAPbI on the Photovoltaic Performance of the Hybrid Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2016**, 7, 4353-4357	6.4	70
303	Facile preparation of amine and amino acid adducts of [60]fullerene using chlorofullerene C60Cl6 as a precursor. *Chemical Communications*, **2012**, 48, 5461-3	5.8	65
302	Overcoming the Thermal Instability of Efficient Polymer Solar Cells by Employing Novel Fullerene-Based Acceptors. *Advanced Energy Materials*, **2017**, 7, 1601204	21.8	61

301	Organic chemistry of fullerenes: the major reactions, types of fullerene derivatives and prospects for practical use. *Russian Chemical Reviews*, **2008**, 77, 323-369	6.8	60
300	Complexation of pyrrolidinofullerenes and zinc-phthalocyanine in a bilayer organic solar cell structure. *Applied Physics Letters*, **2005**, 87, 244102	3.4	60
299	An Efficient [2+3] Cycloaddition Approach to the Synthesis of Pyridyl-Appended Fullerene Ligands. *European Journal of Organic Chemistry*, **2005**, 2005, 3064-3074	3.2	60
298	Water-Soluble Fullerene Derivatives as Brain Medicine: Surface Chemistry Determines If They Are Neuroprotective and Antitumor. *ACS Applied Materials & Interfaces*, **2017**, 9, 11482-11492	9.5	59
297	Design of indigo derivatives as environment-friendly organic semiconductors for sustainable organic electronics. *Journal of Materials Chemistry C*, **2014**, 2, 7621-7631	7.1	59
296	Highly selective reactions of C60Cl6 with thiols for the synthesis of functionalized [60]fullerene derivatives. *Chemical Communications*, **2012**, 48, 7158-60	5.8	59
295	Antimony (V) Complex Halides: Lead-Free Perovskite-Like Materials for Hybrid Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1701140	21.8	57
294	Synthesis and antiviral activity of highly water-soluble polycarboxylic derivatives of [70]fullerene. *Chemical Communications*, **2011**, 47, 8298-300	5.8	57
293	Organic solar cells with semitransparent metal back contacts for power window applications. *ChemSusChem*, **2009**, 2, 309-13	8.3	56
292	Supramolecular Association of Pyrrolidinofullerenes Bearing Chelating Pyridyl Groups and Zinc Phthalocyanine for Organic Solar Cells. *Chemistry of Materials*, **2007**, 19, 5363-5372	9.6	56
291	Design of rewritable and read-only non-volatile optical memory elements using photochromic spiropyran-based salts as light-sensitive materials. *Journal of Materials Chemistry C*, **2015**, 3, 11675-11680	7.1	55
290	Light or Heat: What Is Killing Lead Halide Perovskites under Solar Cell Operation Conditions?. *Journal of Physical Chemistry Letters*, **2020**, 11, 333-339	6.4	54
289	Photoswitchable organic field-effect transistors and memory elements comprising an interfacial photochromic layer. *Chemical Communications*, **2015**, 51, 6130-2	5.8	53
288	Bromination of [60]Fullerene. II. Crystal and Molecular Structure of [60]Fullerene Bromides, C60Br6, C60Br8, and C60Br24. *Fullerenes Nanotubes and Carbon Nanostructures*, **2003**, 11, 61-77	1.8	52
287	C60F20: Saturnene, an Extraordinary Squashed Fullerene. *Angewandte Chemie - International Edition*, **2001**, 40, 787-789	16.4	51
286	[70]fullerene-based materials for organic solar cells. *ChemSusChem*, **2011**, 4, 119-24	8.3	48
285	Fullerenolates: metallated polyhydroxylated fullerenes with potent anti-amyloid activity. *Organic and Biomolecular Chemistry*, **2011**, 9, 5714-9	3.9	46
284	Hexaazatriphenylene-based polymer cathode for fast and stable lithium-, sodium- and potassium-ion batteries. *Journal of Materials Chemistry A*, **2019**, 7, 22596-22603	13	46

283	Bromination of [60]Fullerene. I. High-Yield Synthesis of C60Br x (x=6, 8, 24). *Fullerenes Nanotubes and Carbon Nanostructures*, **2003**, 11, 47-60	1.8	45
282	Hydrazinium-assisted stabilisation of methylammonium tin iodide for lead-free perovskite solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 21389-21395	13	45
281	High-Energy and High-Power-Density Potassium Ion Batteries Using Dihydrophenazine-Based Polymer as Active Cathode Material. *Journal of Physical Chemistry Letters*, **2019**, 10, 5440-5445	6.4	44
280	ESR spectroscopy for monitoring the photochemical and thermal degradation of conjugated polymers used as electron donor materials in organic bulk heterojunction solar cells. *Chemical Communications*, **2015**, 51, 2242-4	5.8	44
279	Suppressing photooxidation of conjugated polymers and their blends with fullerenes through nickel chelates. *Energy and Environmental Science*, **2017**, 10, 2005-2016	35.4	44
278	Material solubility and molecular compatibility effects in the design of fullerene/polymer composites for organic bulk heterojunction solar cells. *Journal of Materials Chemistry*, **2012**, 22, 18433		42
277	Light-induced generation of free radicals by fullerene derivatives: an important degradation pathway in organic photovoltaics?. *Journal of Materials Chemistry A*, **2017**, 5, 8044-8050	13	41
276	Arbuzov chemistry with chlorofullerene C60Cl6: a powerful method for selective synthesis of highly functionalized [60]fullerene derivatives. *Chemical Communications*, **2012**, 48, 8916-8	5.8	41
275	C60F18O, the first characterisedintramolecular fullerene ether. *Chemical Communications*, **2000**, 1325-1326	5.8	41
274	Polymeric iodobismuthates {[Bi3I10]} and {[BiI4]} with N-heterocyclic cations: promising perovskite-like photoactive materials for electronic devices. *Journal of Materials Chemistry A*, **2019**, 7, 5957-5966	13	40
273	An ultrafast charging polyphenylamine-based cathode material for high rate lithium, sodium and potassium batteries. *Journal of Materials Chemistry A*, **2019**, 7, 11430-11437	13	40
272	Impedance Measurements as a Simple Tool to Control the Quality of Conjugated Polymers Designed for Photovoltaic Applications. *Advanced Functional Materials*, **2010**, 20, 4351-4357	15.6	39
271	New pyrrolidine and pyrroline derivatives of fullerenes: from the synthesis to the use in light-converting systems. *Russian Chemical Bulletin*, **2008**, 57, 887-912	1.7	37
270	Synthese und Struktur des hoch chlorierten [60]Fullerens C60Cl30 mit trommelförmigem Kohlenstoffkäfig. *Angewandte Chemie*, **2005**, 117, 238-241	3.6	37
269	Photoaddition of N-substituted piperazines to C60: an efficient approach to the synthesis of water-soluble fullerene derivatives. *Chemistry - A European Journal*, **2006**, 12, 5569-77	4.8	35
268	Nickel(II) and Copper(II) Coordination Polymers Derived from 1,2,4,5-Tetraaminobenzene for Lithium-Ion Batteries. *Chemistry of Materials*, **2019**, 31, 5197-5205	9.6	34
267	Design of (X-DADAD)n Type Copolymers for Efficient Bulk Heterojunction Organic Solar Cells. *Macromolecules*, **2015**, 48, 2013-2021	5.5	33
266	A Novel Family of Polyiodo-Bromoantimonate(III) Complexes: Cation-Driven Self-Assembly of Photoconductive Metal-Polyhalide Frameworks. *Chemistry - A European Journal*, **2018**, 24, 14707-14711	4.8	33

265	Statistical carbazole-fluorene-TTBTBTT terpolymers as promising electron donor materials for organic solar cells. *Chemical Communications*, **2015**, 51, 7562-4	5.8	32
264	Towards understanding the behavior of indigo thin films in organic field-effect transistors: a template effect of the aliphatic hydrocarbon dielectric on the crystal structure and electrical performance of the semiconductor. *Chemical Communications*, **2014**, 50, 7639-41	5.8	32
263	Spatially-resolved nanoscale measurements of grain boundary enhanced photocurrent in inorganic CsPbBr3 perovskite films. *Solar Energy Materials and Solar Cells*, **2017**, 171, 205-212	6.4	32
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261	Some New Aspects of Chlorination of Fullerenes. *Fullerenes Nanotubes and Carbon Nanostructures*, **2003**, 11, 165-185	1.8	32
260	ESR spectroscopy as a powerful tool for probing the quality of conjugated polymers designed for photovoltaic applications. *Chemical Communications*, **2015**, 51, 2239-41	5.8	31
259	Photovoltaic performance of PPE-PPV copolymers: effect of the fullerene component. *Journal of Materials Chemistry*, **2011**, 21, 2356-2361		30
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255	Morphology evaluation of a polymer–fullerene bulk heterojunction ensemble generated by the fullerene derivatization. *Journal of Materials Chemistry*, **2012**, 22, 15987		29
254	Fullerene solubility–current density relationship in polymer solar cells. *Physica Status Solidi - Rapid Research Letters*, **2008**, 2, 263-265	2.5	29
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251	C2 C70F38 is aromatic, contains three planar hexagons, and has equatorial addends. *Chemical Communications*, **2005**, 75-7	5.8	28
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248	Isolation and spectroscopic characterisation of C60F17CF2CF3 and isomers of C60F17CF3; insertion of :CF2 into fluorofullerene C–F bonds. *Perkin Transactions II RSC*, **2000**, 2410-2414		26

247	Efficient and Stable MAPbI-Based Perovskite Solar Cells Using Polyvinylcarbazole Passivation. *Journal of Physical Chemistry Letters*, **2020**, 11, 6772-6778	6.4	26
246	Toxic and DNA damaging effects of a functionalized fullerene in human embryonic lung fibroblasts. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis*, **2016**, 805, 46-57	3	26
245	A strong influence of the positions of solubilizing alkyl side chains on optoelectronic and photovoltaic properties of TTBTBTT-based conjugated polymers. *Journal of Materials Chemistry C*, **2015**, 3, 1497-1506	7.1	24
244	Highly Regio- and Stereoselective [2+3] Cycloadditions of Azomethine Ylides to [70]Fullerene. *European Journal of Organic Chemistry*, **2007**, 2007, 5861-5866	3.2	24
243	Synthesis and investigation of fullerene-based acceptor materials. *Mendeleev Communications*, **2007**, 17, 175-177	1.9	24
242	Ray-Induced Degradation in the Triple-Cation Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2019**, 10, 813-818	6.4	24
241	Structural origins of capacity fading in lithium-polyimide batteries. *Journal of Materials Chemistry A*, **2017**, 5, 6532-6537	13	23
240	Organic Field-effect Transistors based on Disubstituted Perylene Diimides: Effect of Alkyl Chains on the Device Performance. *Mendeleev Communications*, **2014**, 24, 306-307	1.9	23
239	The Activity of [60]Fullerene Derivatives Bearing Amine and Carboxylic Solubilizing Groups againstEscherichia coli: A Comparative Study. *Journal of Nanomaterials*, **2014**, 2014, 1-9	3.2	23
238	Preparation and spectroscopic properties of chlorofullerenes C60Cl24, C60Cl28, and C60Cl30. *Carbon*, **2006**, 44, 2770-2777	10.4	23
237	OFET-Based Memory Devices Operating via Optically and Electrically Modulated Charge Separation between the Semiconductor and 1,2-bis(Hetaryl)ethene Dielectric Layers. *Advanced Electronic Materials*, **2016**, 2, 1500219	6.4	23
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235	Improved Photovoltaic Performance of PPV-Based Copolymers Using Optimized Fullerene-Based Counterparts. *Advanced Energy Materials*, **2013**, 3, 161-166	21.8	22
234	Fullerene derivatives as a new class of inhibitors of protein tyrosine phosphatases. *Bioorganic and Medicinal Chemistry Letters*, **2014**, 24, 3175-9	2.9	22
233	Hybrid photoactive fullerene derivative-ruboxyl nanostructures for photodynamic therapy. *Organic and Biomolecular Chemistry*, **2013**, 11, 4397-404	3.9	22
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230	Reversible Pb2+/Pb0 and I/I3Redox Chemistry Drives the Light-Induced Phase Segregation in All-Inorganic Mixed Halide Perovskites. *Advanced Energy Materials*, **2021**, 11, 2002934	21.8	22

229	A new polytriarylamine derivative for dopant-free high-efficiency perovskite solar cells. *Sustainable Energy and Fuels*, **2019**, 3, 2627-2632	5.8	21
228	Biomimetic Approach to Inhibition of Photooxidation in Organic Solar Cells Using Beta-Carotene as an Additive. *ACS Applied Materials & Interfaces*, **2019**, 11, 41570-41579	9.5	21
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225	Reversible and Irreversible Electric Field Induced Morphological and Interfacial Transformations of Hybrid Lead Iodide Perovskites. *ACS Applied Materials & Interfaces*, **2017**, 9, 33478-33483	9.5	20
224	Efficient and stable all-inorganic perovskite solar cells based on nonstoichiometric CsxPbI2Brx (x > 1) alloys. *Journal of Materials Chemistry C*, **2019**, 7, 5314-5323	7.1	20
223	Antioxidant Properties of Fullerene Derivatives Depend on Their Chemical Structure: A Study of Two Fullerene Derivatives on HELFs. *Oxidative Medicine and Cellular Longevity*, **2019**, 2019, 4398695	6.7	20
222	New tetraazapentacene-based redox-active material as a promising high-capacity organic cathode for lithium and potassium batteries. *Journal of Power Sources*, **2019**, 435, 226724	8.9	20
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218	Reactions of chlorofullerene C60Cl6 with N-substituted piperazines. *Tetrahedron*, **2006**, 62, 10147-10151	2.4	20
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209	Efficient 2 + 3 Cycloaddition Approach to Synthesis of Pyridinyl Based [60]Fullerene Ligands. *Fullerenes Nanotubes and Carbon Nanostructures*, **2005**, 12, 413-419	1.8	18
208	Reduction of Methylammonium Cations as a Major Electrochemical Degradation Pathway in MAPbI Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2020**, 11, 221-228	6.4	18
207	Synthesis of the (X-DADAD) n -type conjugated polymers with 2,1,3-benzoxadiazole acceptor blocks and their application in organic solar cells. *Tetrahedron Letters*, **2017**, 58, 97-100	2	17
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205	Metal-ion batteries meet supercapacitors: high capacity and high rate capability rechargeable batteries with organic cathodes and a Na/K alloy anode. *Chemical Communications*, **2019**, 55, 11758-11761	5.8	16
204	New Naphthalene-Based Polyimide as an Environment-Friendly Organic Cathode Material for Lithium Batteries. *Energy Technology*, **2019**, 7, 1801016	3.5	16
203	Molecular structure–electrical performance relationship for OFET-based memory elements comprising unsymmetrical photochromic diarylethenes. *Journal of Materials Chemistry C*, **2019**, 7, 6889-6894	7.1	16
202	Toward Understanding the Antitumor Effects of Water-Soluble Fullerene Derivatives on Lung Cancer Cells: Apoptosis or Autophagy Pathways?. *Journal of Medicinal Chemistry*, **2019**, 62, 7111-7125	8.3	16
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191	XPS spectra as a tool for studying photochemical and thermal degradation in APbX3 hybrid halide perovskites. *Nano Energy*, **2021**, 79, 105421	17.1	15
190	Impact of charge transport layers on the photochemical stability of MAPbI3 in thin films and perovskite solar cells. *Sustainable Energy and Fuels*, **2019**, 3, 2705-2716	5.8	14
189	Photodynamic activity of a hybrid nanostructure based on a polycationic fullerene derivative and phthalocyanine dye photosens. *Doklady Physical Chemistry*, **2013**, 452, 229-232	0.8	14
188	Material structure-composite morphology-photovoltaic performance relationship for organic bulk heterojunction solar cells. *Chemical Communications*, **2012**, 48, 9477-9	5.8	14
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186	The effect of the fluorine loading on the optoelectronic and photovoltaic properties of (X-DADAD-)n-type donor–acceptor copolymers with the benzothiadiazole A units. *Physica Status Solidi - Rapid Research Letters*, **2017**, 11, 1700087	2.5	13
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183	Polycarboxylic fullerene derivatives as protein tyrosine phosphatase inhibitors. *Mendeleev Communications*, **2015**, 25, 199-201	1.9	13
182	The effect of fullerene derivative on polaronic charge transfer in poly(3-hexylthiophene)/fullerene compound. *Journal of Chemical Physics*, **2008**, 128, 164715	3.9	13
181	Novel synthetic route to fluorofullerenes: reaction with binary and complex lead fluorides. *Journal of Fluorine Chemistry*, **2001**, 110, 157-163	2.1	13
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179	Polydiphenylamine as a promising high-energy cathode material for dual-ion batteries. *Journal of Materials Chemistry A*, **2021**, 9, 2864-2871	13	13
178	Halogenated fullerenes as precursors for the synthesis of functional derivatives of C60 and C70. *Russian Chemical Reviews*, **2017**, 86, 805-830	6.8	12
177	Incorporation of Vanadium(V) Oxide in Hybrid Hole Transport Layer Enables Long-term Operational Stability of Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2020**, 11, 5563-5568	6.4	12
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175	Structural effect of fullerene derivative on polaron relaxation and charge transfer in poly(3-hexylthiophene)/fullerene composite. *Acta Materialia*, **2008**, 56, 3982-3989	8.4	12
174	C60F20: Saturnene, an Extraordinary Squashed Fullerene. *Angewandte Chemie*, **2001**, 113, 809-811	3.6	12
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