Patrick W Fowler

List of Publications by Year
in descending order

141 papers	5,080 citations	81743 39 h-index	102304 66 g-index
145 all docs	145 docs citations	145 times ranked	3275 citing authors

#	Article	IF	Citations
1	Tracking heavy water (D ₂ O) incorporation for identifying and sorting active microbial cells. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E194-203.	3.3	359
2	Molecular graphs, point groups, and fullerenes. Journal of Chemical Physics, 1992, 96, 7603-7614.	1.2	293
3	Four- and two-electron rules for diatropic and paratropic ring currents in monocyclic Ãê,¬ systems. Chemical Communications, 2001, , 2220-2221.	2.2	252
4	Counter-Rotating Ring Currents in Coronene and Corannulene. Angewandte Chemie - International Edition, 2001, 40, 362-366.	7.2	233
5	Ring Currents and Aromaticity of Monocyclic Ï€-Electron Systems C6H6, B3N3H6, B3O3H3, C3N3H3, C5H5-, C7H7+, C3N3F3, C6H3F3, and C6F6. Journal of Physical Chemistry A, 1997, 101, 1409-1413.	1.1	195
6	Ring currents in aromatic hydrocarbons. International Journal of Quantum Chemistry, 1996, 60, 609-616.	1.0	153
7	Electronic Structures and Geometries of C60Anions via Density Functional Calculations. The Journal of Physical Chemistry, 1996, 100, 14892-14898.	2.9	125
8	Faraday communications. An end to the search for the ground state of C84?. Journal of the Chemical Society, Faraday Transactions, 1992, 88, 3117.	1.7	115
9	On the orbital analysis of magnetic properties. Physical Chemistry Chemical Physics, 2004, 6, 261-272.	1.3	114
10	Carbon cylinders: a class of closed-shell clusters. Journal of the Chemical Society, Faraday Transactions, 1990, 86, 2073.	1.7	102
11	Correlation of Delocalization Indices and CurrentâEDensity Maps in Polycyclic Aromatic Hydrocarbons. Chemistry - A European Journal, 2008, 14, 3093-3099.	1.7	100
12	If-Aromaticity in <mml:math altimg="si12.gif" display="inline" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.c. Che	1.2	86
13	Magic numbers and stable structures for fullerenes, fullerides and fullerenium ions. Nature, 1992, 355, 428-430.	13.7	80
14	Aromaticity and antiaromaticity of LixAl4clusters: Ring current patterns versus electron counting. Physical Chemistry Chemical Physics, 2004, 6, 285-288.	1.3	76
15	Current-density maps as probes of aromaticity: Global and Clar Ï€ ring currents in totally resonant polycyclic aromatic hydrocarbons. Faraday Discussions, 2007, 135, 309-323.	1.6	73
16	Electronic stability of fullerenes: eigenvalue theorems for leapfrog carbon clusters. Journal of the Chemical Society, Faraday Transactions, 1992, 88, 2427.	1.7	71
17	The Electronic Structure of Inorganic Benzenes:Â Valence Bond and Ring-Current Descriptions. Inorganic Chemistry, 2005, 44, 5266-5272.	1.9	71
18	Leapfrog transformations and polyhedra of Clar type. Journal of the Chemical Society, Faraday Transactions, 1994, 90, 2865.	1.7	70

#	Article	IF	Citations
19	Determining the Effective Density and Stabilizer Layer Thickness of Sterically Stabilized Nanoparticles. Macromolecules, 2016, 49, 5160-5171.	2.2	70
20	Dipole and quadrupole polarization in ionic systems: Ab initio studies. Journal of Chemical Physics, 1999, 111, 2038-2049.	1.2	68
21	Control of the Diatropic Ï€ Ring Current in Strained Benzenes:Â Effects of Annelation with Cyclopropa, Cyclobuta, and Cyclobutadieno Clamping Groups. Journal of Organic Chemistry, 2002, 67, 4753-4758.	1.7	68
22	Can percolation theory explain the gelation behavior of diblock copolymer worms?. Chemical Science, 2018, 9, 7138-7144.	3.7	66
23	Ipsocentric ring currents in density functional theory. Chemical Physics Letters, 2007, 449, 347-353.	1.2	64
24	Double Aromaticity and Ring Currents in Allâ€Carbon Rings. Chemistry - A European Journal, 2009, 15, 6964-6972.	1.7	64
25	Visualisation of counter-rotating ring currents in kekulene. Chemical Communications, 2001, , 659-660.	2.2	62
26	A fullerene without a spiral. Chemical Physics Letters, 1993, 204, 1-7.	1.2	61
27	Paratropic Delocalized Ring Currents in Flattened Cyclooctatetraene Systems with Bond Alternation. Angewandte Chemie - International Edition, 2002, 41, 1558-1560.	7.2	61
28	A Unified Orbital Model of Delocalised and Localised Currents in Monocycles, from Annulenes to Azabora-heterocycles. Chemistry - A European Journal, 2005, 11, 1257-1266.	1.7	59
29	Perimeter Effects on Ring Currents in Polycyclic Aromatic Hydrocarbons: Circumcoronene and Two Hexabenzocoronenes. Chemistry - A European Journal, 2003, 9, 2974-2981.	1.7	51
30	Raman Deuterium Isotope Probing Reveals Microbial Metabolism at the Single-Cell Level. Analytical Chemistry, 2017, 89, 13305-13312.	3.2	51
31	Aromaticity revisited. Nature, 1991, 350, 20-21.	13.7	49
32	C60F18O, the first characterised intramolecular fullerene ether. Chemical Communications, 2000, , 1325-1326.	2.2	48
33	Survival and extinction of delocalised ring currents in clamped benzenes. Chemical Communications, 2001, , 2386-2387.	2.2	48
34	Bespoke Diblock Copolymer Nanoparticles Enable the Production of Relatively Stable Oil-in-Water Pickering Nanoemulsions. Langmuir, 2017, 33, 12616-12623.	1.6	46
35	Designing Ring-Current Patterns:Â [10,5]-Coronene, a Circulene with Inverted Rim and Hub Currents. Journal of Physical Chemistry A, 2006, 110, 7447-7452.	1.1	45
36	The Phenalenyl Motif: A Magnetic Chameleon. Chemistry - A European Journal, 2007, 13, 2201-2207.	1.7	45

#	Article	IF	Citations
37	Symmetry conditions and finite mechanisms. Journal of Mechanics of Materials and Structures, 2007, 2, 293-301.	0.4	43
38	The â€œAnthracene Problemâ€• Closed-Form Conjugated-Circuit Models of Ring Currents in Linear Polyacenes. Journal of Physical Chemistry A, 2011, 115, 13191-13200.	1.1	42
39	Induced Currents and Electron Counting in Aromatic Boron Wheels:Â B82-and B9-. Inorganic Chemistry, 2007, 46, 2892-2897.	1.9	41
40	Mapping the modification of ring currents induced by cyclopenta-fusion on a naphthalene core. Perkin Transactions II RSC, 2001, , 1058-1065.	1.1	36
41	Designing Paramagnetic Circulenes. Angewandte Chemie - International Edition, 2007, 46, 1889-1892.	7.2	36
42	Stabilisation of pentagon adjacencies in the lower fullerenes by functionalisation. Perkin Transactions II RSC, 2001, , 487-490.	1.1	35
43	Localisation and reversal of paratropic ring currents in molecules with formal anti-aromatic electron counts. Physical Chemistry Chemical Physics, 2004, 6, 289-294.	1.3	35
44	Aromaticity rules for cycles with arbitrary numbers of half-twists. Physical Chemistry Chemical Physics, 2006, 8, 1775.	1.3	34
45	Double Aromaticity in â€œBoron Toroidsâ€• Journal of Physical Chemistry C, 2009, 113, 15569-15575.	1.5	34
46	The four-electron diamagnetic ring current of porphycene. Organic and Biomolecular Chemistry, 2003, 1, 1785.	1.5	33
47	Restricted Rotation in (Phenylpyrrolidino)fullerene Derivatives. European Journal of Organic Chemistry, 2005, 2005, 3766-3774.	1.2	32
48	Aromaticity, Ï€-electron delocalization, and ring currents. Pure and Applied Chemistry, 2007, 79, 969-979.	0.9	31
49	Competition between Even and Odd Fullerenes:â€‰ C118, C119, and C120. Journal of Physical Chemistry A, 2000, 104, 9625-9629.	1.1	29
50	Is There a ?Most Chiral Tetrahedron??. Chemistry - A European Journal, 2004, 10, 6575-6580.	1.7	29
51	Ring currents in large [4nâ€‰+â€‰2]-annulenes. Physical Chemistry Chemical Physics, 2004, 6, 277-284.	1.3	29
52	Comparison of ring currents evaluated consistently at density functional and Hartreeâ€“Fock levels. Molecular Physics, 2009, 107, 2591-2600.	0.8	29
53	Persistence of Paratropic Ring Currents in Nonplanar, Tub-Shaped Geometries of 1,3,5,7-Cyclooctatetraene. Organic Letters, 2006, 8, 1255-1258.	2.4	25
54	The ring current in cyclopropane. Theoretical Chemistry Accounts, 2007, 118, 123-127.	0.5	25

#	Article	IF	Citations
55	Fullerene stability and structure. Contemporary Physics, 1996, 37, 235-247.	0.8	24
56	Effect on Ring Current of the KekulÃ© Vibration in Aromatic and Antiaromatic Rings. Journal of Physical Chemistry A, 2011, 115, 13649-13656.	1.1	24
57	Non-bonding orbitals in graphite, carbon tubules, toroids and fullerenes. Journal of the Chemical Society, Faraday Transactions, 1997, 93, 1037-1043.	1.7	23
58	Substituent effects on induced current densities in penta- and heptafulvenes. Perkin Transactions II RSC, 2002, , 502-507.	1.1	23
59	Ring Current Patterns in Annelated Bicyclic Polyenes. Journal of Physical Chemistry A, 2002, 106, 5703-5708.	1.1	22
60	A diatropic ring current in a fluorofullerene trannulene. Chemical Communications, 2003, , 3042.	2.2	22
61	Vertex Spirals in Fullerenes and Their Implications for Nomenclature of Fullerene Derivatives. Chemistry - A European Journal, 2007, 13, 2208-2217.	1.7	22
62	A graph-theoretical model for ballistic conduction in single-molecule conductors. Pure and Applied Chemistry, 2011, 83, 1515-1528.	0.9	22
63	Counterâ€Rotating Spinâ€Polarised Ring Currents in Oddâ€Electron Carbocycles. Chemistry - A European Journal, 2013, 19, 1740-1746.	1.7	22
64	Trimerization of Ethyne:â€‰ Growth and Evolution of Ring Currents in the Formation of the Benzene Ring. Journal of Physical Chemistry A, 2003, 107, 1867-1871.	1.1	21
65	Symmetry properties of the leapfrog transformation for fullerenes and benzenoids. Chemical Physics Letters, 1994, 224, 123-130.	1.2	20
66	Isolation and characterisation of two oxahomofullerene derivatives of C60F18. Perkin Transactions II RSC, 2000, , 2212-2216.	1.1	19
67	Complete Bond Force Fields for Trivalent and Deltahedral Cages:â€‰ Group Theory and Applications to Cubane, Closo-dodecaborane, and Buckminsterfullerene. Journal of Physical Chemistry A, 2001, 105, 8284-8295.	1.1	18
68	Evidence from current-density mapping for Ï*f*-delocalisation in the aromatic hexaiodobenzene cation. Tetrahedron Letters, 2008, 49, 1421-1424.	0.7	18
69	Isolation and characterisation of bis(oxahomo)fullerene derivatives of C60F18. Perkin Transactions II RSC, 2001, , 550-556.	1.1	17
70	Aromaticity of Organic Heterocyclothiazenes and Analogues. Journal of the American Chemical Society, 2004, 126, 11202-11212.	6.6	17
71	Efficient mapping ofÂring currents inÂfullerenes andÂother curved carbon networks. Comptes Rendus Chimie, 2006, 9, 1085-1093.	0.2	17
72	Evaluating the cyclic Ï€-electron delocalization energy through a double cut of conjugated rings. New Journal of Chemistry, 2007, 31, 1918.	1.4	17

#	Article	IF	Citations
73	Determination of Effective Particle Density for Sterically Stabilized Carbon Black Particles: Effect of Diblock Copolymer Stabilizer Composition. Langmuir, 2015, 31, 8764-8773.	1.6	17
74	Structural interconnections and the role of heptagonal rings in endohedral trimetallic nitride template fullerenes. Journal of Computational Chemistry, 2016, 37, 1907-1913.	1.5	17
75	Effect of Ring Size and Migratory Groups on [1,n] Suprafacial Shift Reactions. Confirmation of Aromatic and Antiaromatic Transition-State Character by Ring-Current Analysis. Journal of Organic Chemistry, 2016, 81, 8777-8788.	1.7	17
76	Dihedral fullerenes of threefold symmetry with and without face spirals. Journal of the Chemical Society, Faraday Transactions, 1997, 93, 3289-3294.	1.7	16
77	Leapfrog fullerenes, HÃ¼ckel bond order and KekulÃ© structures. Perkin Transactions II RSC, 2001, , 18-22.	1.1	16
78	Selection rules for ring currents in radial Ï€ systems: trannulene substructures in hydrogenated fullerene cages. Perkin Transactions II RSC, 2002, , 723-727.	1.1	15
79	On nut and core singular fullerenes. Discrete Mathematics, 2008, 308, 267-276.	0.4	15
80	Interlacingâ€“extremal graphs. Ars Mathematica Contemporanea, 2013, 6, 261-278.	0.3	15
81	Allowed Boundary Sequences for Fused Polycyclic Patches and Related Algorithmic Problems. Journal of Chemical Information and Computer Sciences, 2001, 41, 300-308.	2.8	14
82	A transferable representation of the induced multipoles in ionic crystals. Molecular Physics, 2002, 100, 3847-3865.	0.8	14
83	An atlas of endohedral Sc₂S cluster fullerenes. Physical Chemistry Chemical Physics, 2017, 19, 419-425.	1.3	14
84	Topological Rotational Strengths as Chirality Descriptors for Fullerenes. Chemistry - A European Journal, 2003, 9, 644-651.	1.7	13
85	Ring Currents in Tangentially pâ€”p Bonded Ïƒ-Aromatic Systems. Journal of Organic Chemistry, 2006, 71, 6459-6467.	1.7	13
86	Investigating the Threshold of Aromaticity and Antiaromaticity by Variation of Nuclear Charge. Journal of Physical Chemistry A, 2010, 114, 10742-10749.	1.1	13
87	Visualising aromaticity of bowl-shaped molecules. Physical Chemistry Chemical Physics, 2011, 13, 20637.	1.3	13
88	Writing with ring currents: selectively hydrogenated polycyclic aromatics as finite models of graphene and graphane. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20130617.	1.0	13
89	A new approach to the method of source-sink potentials for molecular conduction. Journal of Chemical Physics, 2015, 143, 194105.	1.2	13
90	Regioselectivity in radical reactions of C60 derivatives. Perkin Transactions II RSC, 2001, , 821-823.	1.1	12

#	Article	IF	Citations
91	Aromaticity of planar Si6rings in siliconâ€“lithium clusters. Molecular Physics, 2008, 106, 1803-1811.	0.8	12
92	Vocabulary for fuzzy symmetry. Nature, 1992, 360, 626-626.	13.7	10
93	Equiaromatic benzenoids: Arbitrarily large sets of isomers with equal ring currents. Chemical Physics Letters, 2014, 597, 30-35.	1.2	10
94	Planar Homotropenylium Cation: A Transition State with Reversed Aromaticity. Journal of Organic Chemistry, 2015, 80, 1395-1401.	1.7	10
95	Counter-Rotating Ring Currents in Coronene and Corannulene We are grateful for a travel grant from the Council for Chemical Sciences of the Netherlands Organization for Scientific Research (CW-NWO) and the British Council.. Angewandte Chemie - International Edition, 2001, 40, 362-366.	7.2	10
96	Investigation of induced currents in cyclic forms of ortho-acylphenols and lithium analogues: does the lithium cation contribute to aromatic Ï€-electron delocalisation?. Physical Chemistry Chemical Physics, 2008, 10, 6979.	1.3	9
97	Double aromaticity and ring currents in open-shell systems. Chemical Physics Letters, 2009, 483, 193-197.	1.2	9
98	Symmetry Perspectives on Some Auxetic Body-Bar Frameworks. Symmetry, 2014, 6, 368-382.	1.1	9
99	Cyclopent[b,c]acenaphthylene: An elusive isomer of pyracylene with the ring currents of an annelated pentalene. Physical Chemistry Chemical Physics, 2004, 6, 2033.	1.3	8
100	Growing fullerenes from seed: Growth transformations of fullerene polyhedra. Chemical Physics Letters, 2006, 428, 386-393.	1.2	8
101	From C₅₈to C₆₂and back: Stability, structural similarity, and ring current. Journal of Computational Chemistry, 2017, 38, 144-151.	1.5	8
102	Receptor interactions of the position 4 side chains of angiotensin II analogues: Importance of aromatic ring quadrupole. Journal of Molecular Recognition, 1994, 7, 251-256.	1.1	7
103	A HÃ¼ckel source-sink-potential theory of Pauli spin blockade in molecular electronic devices. Journal of Chemical Physics, 2016, 145, 204113.	1.2	7
104	A generalized ring spiral algorithm for coding fullerenes and other cubic polyhedra. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 2000, , 175-187.	0.0	7
105	Facts and Conjectures about Fullerene Graphs: Leapfrog, Cylinder and Ramanujan Fullerenes. , 2001, , 134-146.		6
106	Fixing a molecular snapshot. Nature, 1992, 355, 586-587.	13.7	5
107	Geometric localisation in MÃ¶bius Ï€ systems. Chemical Physics Letters, 2006, 427, 221-224.	1.2	5
108	Distributed curvature and stability of fullerenes. Physical Chemistry Chemical Physics, 2015, 17, 23257-23264.	1.3	5

#	Article	IF	Citations
109	Perimeter ring currents in benzenoids from Pauling bond orders. Physical Chemistry Chemical Physics, 2016, 18, 11756-11764.	1.3	5
110	Ring-Current Maps for Benzenoids: Comparisons, Contradictions, and a Versatile Combinatorial Model. Journal of Physical Chemistry A, 2020, 124, 4517-4533.	1.1	5
111	Equiauxetic Hinged Archimedean Tilings. Symmetry, 2022, 14, 232.	1.1	5
112	Some cycloadditions of dienes with C60F18: structures and relative stabilities derived from theoretical calculation. Perkin Transactions II RSC, 2002, , 1718-1721.	1.1	4
113	A parity rule for ring currents in Ï€-clamped monocycles. Physical Chemistry Chemical Physics, 2004, 6, 4921-4923.	1.3	4
114	The Undecakisicosahedral Group and a 3-regular Carbon Network of Genus 26. Journal of Mathematical Chemistry, 2007, 42, 617-644.	0.7	4
115	Counterexamples to a proposed algorithm for Fries structures of benzenoids. Journal of Mathematical Chemistry, 2012, 50, 2408-2426.	0.7	4
116	The homotropenylium cation: a system with a pinched Ï€ ring current. Physical Chemistry Chemical Physics, 2014, 16, 11566-11572.	1.3	4
117	Mobility of symmetric block-and-hole polyhedra. International Journal of Solids and Structures, 2018, 150, 40-51.	1.3	4
118	Modelling aromatisation of (BN)_nH_{2n} azabora-annulenes. Physical Chemistry Chemical Physics, 2020, 22, 15919-15925.	1.3	4
119	Design of annulene-within-an-annulene systems by the altanisation approach. A study of altan-[n]annulenes. Physical Chemistry Chemical Physics, 2020, 22, 5476-5486.	1.3	4
120	Partitioning HÃ¼ckelâ€“London Currents into Cycle Contributions. Chemistry, 2021, 3, 1138-1156.	0.9	4
121	Mellitic Trianhydride, C12O9:â€‰ The Aromatic Oxide of Carbon. Journal of Chemical Information and Modeling, 2007, 47, 905-908.	2.5	3
122	Non-IPR fullerenes with properly closed shells. Physical Chemistry Chemical Physics, 2010, 12, 14822.	1.3	3
123	Cubic polyhedral Ramanujan graphs with face size no larger than six. Journal of Mathematical Chemistry, 2011, 49, 843-858.	0.7	3
124	Coronoids, patches and generalised altans. Journal of Mathematical Chemistry, 2016, 54, 977-1009.	0.7	3
125	Sizes of pentagonal clusters in fullerenes. Journal of Mathematical Chemistry, 2017, 55, 1669-1682.	0.7	3
126	Near omni-conductors and insulators: Alternant hydrocarbons in the SSP model of ballistic conduction. Journal of Chemical Physics, 2017, 147, 164115.	1.2	3

#	Article	IF	Citations
127	Molecular graphs and molecular conduction: the d-omni-conductors. Physical Chemistry Chemical Physics, 2020, 22, 1349-1358.	1.3	3
128	Periodoannulenes: A Generalized Annulene-within-an-Annulene Paradigm for Combined Ïƒ and Ï€ Ring Currents. Journal of Physical Chemistry A, 2021, 125, 6374-6383.	1.1	3
129	Isolation and characterisation of symmetrical C60Me6, C60Me5Cl and C60Me5O2OH, together with unsymmetrical C60Me5O3H, C60Me5OOH, C60Me4PhO2OH, and C60Me12; fragmentation of methylfullerenols to C58. Perkin Transactions II RSC, 2002, , 53-58.	1.1	2
130	A classification scheme forÂchiral tetrahedra. Comptes Rendus Chimie, 2006, 9, 1203-1208.	0.2	2
131	Face-spiral codes in cubic polyhedral graphs with face sizes no larger than 6. Journal of Mathematical Chemistry, 2012, 50, 2272-2280.	0.7	2
132	One rule for the electron-rich.... Nature Chemistry, 2015, 7, 857-858.	6.6	2
133	A Correlated Source-Sink-Potential Model Consistent with the Meirâ€“Wingreen Formula. Journal of Physical Chemistry A, 2020, 124, 6928-6944.	1.1	2
134	Convexity Deficit of Benzenoids. Croatica Chemica Acta, 2020, 92, 457-466.	0.1	2
135	Topological coordinates for carbon nanostructures. AIP Conference Proceedings, 2001, , .	0.3	1
136	Reaction of C60F18 with diethyl bromomalonate: diversion of the Bingel reaction and formation of the first 18Ï€ annulenic fullereneElectronic supplementary information (ESI) available: EI mass spectra for fullerenes 1â€“3. See http://www.rsc.org/suppdata/p2/b1/b105921c/. Perkin Transactions II RSC, 2002, , 41-46.	1.1	1
137	Applications of symmetry in pointâ€“lineâ€“plane frameworks for CAD. Journal of Computational Design and Engineering, 2021, 8, 615-637.	1.5	1
138	Ring currents in aromatic hydrocarbons. , 1996, 60, 609.		1
139	In search of Coulsonâ€™s lost theorem. Journal of Chemical Physics, 2019, 151, 151101.	1.2	0
140	Catacondensed Chemical Hexagonal Complexes: A Natural Generalisation of Benzenoids. Croatica Chemica Acta, 2020, 93, .	0.1	0
141	A Simple Model of Ballistic Conduction in Multi-Lead Molecular Devices. Applied Sciences (Switzerland), 2021, 11, 11696.	1.3	0