Wayne Hayes

List of Publications by Year in descending order

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86 papers	5,622 citations	136950 32 h-index	76900 74 g-index
89 all docs	89 docs citations	89 times ranked	6060 citing authors

#	Article	IF	Citations
1	A Healable Supramolecular Polymer Blend Based on Aromatic Ï€â^Ï€ Stacking and Hydrogen-Bonding Interactions. Journal of the American Chemical Society, 2010, 132, 12051-12058.	13.7	779
2	Synthesis and applications of hyperbranched polymers. European Polymer Journal, 2004, 40, 1257-1281.	5.4	501
3	A self-repairing, supramolecular polymer system: healability as a consequence of donorâ€“acceptor Ï€â€“Ï€ stacking interactions. Chemical Communications, 2009, , 6717.	4.1	475
4	Dendrimers: a new class of nanoscopic containers and delivery devices. European Polymer Journal, 2003, 39, 1741-1771.	5.4	390
5	Healable polymeric materials: a tutorial review. Chemical Society Reviews, 2010, 39, 1973.	38.1	389
6	High-Strength, Healable, Supramolecular Polymer Nanocomposites. Journal of the American Chemical Society, 2012, 134, 5362-5368.	13.7	303
7	A Supramolecular Polymer Based on Tweezer-Type Ï€â^Ï€ Stacking Interactions: Molecular Design for Healability and Enhanced Toughness. Chemistry of Materials, 2011, 23, 6-8.	6.7	222
8	A novel self-healing supramolecular polymer system. Faraday Discussions, 2009, 143, 251.	3.2	186
9	Healable supramolecular polymers. Polymer Chemistry, 2013, 4, 4860.	3.9	138
10	Self-immolative linkers in polymeric delivery systems. Polymer Chemistry, 2011, 2, 773-790.	3.9	131
11	Development and application of diazirines in biological and synthetic macromolecular systems. Soft Matter, 2005, 1, 178.	2.7	127
12	3D Printing of Biocompatible Supramolecular Polymers and their Composites. ACS Applied Materials & Interfaces, 2016, 8, 3115-3122.	8.0	105
13	Hydrogen Bonded Supramolecular Elastomers: Correlating Hydrogen Bonding Strength with Morphology and Rheology. Macromolecules, 2010, 43, 2512-2517.	4.8	101
14	Selective and highly efficient dye scavenging by a pH-responsive molecular hydrogelator. Chemical Communications, 2010, 46, 7960.	4.1	96
15	Chiral dendrimersâ€”from architecturally interesting hyperbranched macromolecules to functional materials. Journal of Materials Chemistry, 2002, 12, 767-799.	6.7	88
16	A Thermoreversible Supramolecular Polyurethane with Excellent Healing Ability at 45 Â°C. Macromolecules, 2015, 48, 6132-6141.	4.8	87
17	Design, synthesis and computational modelling of aromatic tweezer-molecules as models for chain-folding polymer blends. Tetrahedron, 2008, 64, 8346-8354.	1.9	77
18	Multivalency in healable supramolecular polymers: the effect of supramolecular cross-link density on the mechanical properties and healing of non-covalent polymer networks. Polymer Chemistry, 2014, 5, 3680-3688.	3.9	75

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19	pHâ€Tunable Hydrogelators for Water Purification: Structural Optimisation and Evaluation. Chemistry - A European Journal, 2012, 18, 2692-2699.	3.3	70
20	An adhesive elastomeric supramolecular polyurethane healable at body temperature. Chemical Science, 2016, 7, 4291-4300.	7.4	65
21	Polymer-supported nitroxyl catalysts for selective oxidation of alcohols. Green Chemistry, 2004, 6, 310.	9.0	64
22	Perylene as an electron-rich moiety in healable, complementary Ï€â€“Ï€ stacked, supramolecular polymer systems. Polymer, 2015, 69, 293-300.	3.8	56
23	Molecular recognition between functionalized gold nanoparticles and healable, supramolecular polymer blends â€“ a route to property enhancement. Polymer Chemistry, 2013, 4, 4902.	3.9	55
24	Janus PEG-Based Dendrimers for Use in Combination Therapy: Controlled Multi-Drug Loading and Sequential Release. Biomacromolecules, 2013, 14, 564-574.	5.4	46
25	Selfâ€Assembly Studies of a Chiral Bisureaâ€Based Superhydrogelator. Chemistry - A European Journal, 2012, 18, 14725-14731.	3.3	40
26	Supramolecular Approach to New Inkjet Printing Inks. ACS Applied Materials & Interfaces, 2015, 7, 8906-8914.	8.0	40
27	Thermo-responsive microphase separated supramolecular polyurethanes. Polymer Chemistry, 2010, 1, 1263.	3.9	39
28	Composite polyurethane adhesives that debond-on-demand by hysteresis heating in an oscillating magnetic field. European Polymer Journal, 2019, 121, 109264.	5.4	39
29	A 3D printed drug delivery implant formed from a dynamic supramolecular polyurethane formulation. Polymer Chemistry, 2020, 11, 3453-3464.	3.9	38
30	Facile bisurethane supramolecular polymers containing flexible alicyclic receptor units. Soft Matter, 2009, 5, 2000.	2.7	37
31	Fluoride degradable and thermally debondable polyurethane based adhesive. Polymer Chemistry, 2017, 8, 7207-7216.	3.9	36
32	Surface modification of nylon 6,6 using a carbene insertion approach. New Journal of Chemistry, 2006, 30, 53-58.	2.8	34
33	Thermoresponsive Supramolecular Polymer Network Comprising Pyrene-Functionalized Gold Nanoparticles and a Chain-Folding Polydiimide. Macromolecules, 2012, 45, 5567-5574.	4.8	33
34	Mutual binding of polymer end-groups by complementary Ï€â€“Ï€-stacking: a molecular â€œRoman Handshakeâ€• Chemical Communications, 2013, 49, 454-456.	4.1	33
35	Synthesis and characterization of hyperbranched polyesters incorporating the AB2 monomer 3,5-bis(3-hydroxylprop-1-ynyl)benzoic acid. European Polymer Journal, 2003, 39, 1955-1963.	5.4	28
36	Synthesis of Hyperbranched Poly(aryl ether)s via Carbene Insertion Processes. Macromolecules, 2007, 40, 939-949.	4.8	26

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37	A carbene insertion approach to functionalised poly(ethylene oxide)-based gels. Reactive and Functional Polymers, 2008, 68, 868-875.	4.1	26
38	A Microblock Ionomer in Proton Exchange Membrane Electrolysis for the Production of High Purity Hydrogen. Macromolecules, 2013, 46, 1504-1511.	4.8	26
39	Thermally Responsive Elastomeric Supramolecular Polymers Featuring Flexible Aliphatic Hydrogen-Bonding End-Groups. Australian Journal of Chemistry, 2009, 62, 790.	0.9	25
40	Enhancement of microphase ordering and mechanical properties of supramolecular hydrogen-bonded polyurethane networks. Polymer Chemistry, 2018, 9, 3406-3414.	3.9	24
41	Fluoride-responsive debond on demand adhesives: Manipulating polymer crystallinity and hydrogen bonding to optimise adhesion strength at low bonding temperatures. European Polymer Journal, 2019, 119, 260-271.	5.4	24
42	Structural and morphological studies of the dipeptide based l-Pro-l-Val organocatalytic gels and their rheological behaviour. Soft Matter, 2012, 8, 8865.	2.7	23
43	Applications of supramolecular polymer networks. Reactive and Functional Polymers, 2022, 172, 105209.	4.1	23
44	Recent advances in self-immolative linkers and their applications in polymeric reporting systems. Polymer Chemistry, 2022, 13, 3188-3269.	3.9	22
45	Electrospun supramolecular polymer fibres. European Polymer Journal, 2012, 48, 1249-1255.	5.4	21
46	Synthesis and evaluation of a solid supported molecular tweezer type receptor for cholesterolElectronic supplementary information (ESI) available: synthetic procedures and analytical data for compounds 3â€“8. See http://www.rsc.org/suppdata/jm/b2/b210427j/. Journal of Materials Chemistry, 2003, 13, 758-766.	6.7	19
47	Evolution of supramolecular healable composites: a minireview. Polymer International, 2014, 63, 933-942.	3.1	19
48	Bis amide-aromatic-ureasâ€”highly effective hydro- and organogelator systems. Tetrahedron, 2014, 70, 8303-8311.	1.9	19
49	A systematic study of the effect of the hard end-group composition on the microphase separation, thermal and mechanical properties of supramolecular polyurethanes. Polymer, 2016, 107, 368-378.	3.8	19
50	Synthesis and Characterization of Fluorescent Poly(aromatic amide) Dendrimers. Journal of Organic Chemistry, 2005, 70, 63-78.	3.2	18
51	A dynamic supramolecular polyurethane network whose mechanical properties are kinetically controlled. Polymer, 2017, 133, 143-150.	3.8	17
52	Donorâ€“Acceptor Ï€â€“Ï€ Stacking Interactions: From Small Molecule Complexes to Healable Supramolecular Polymer Networks. Advances in Polymer Science, 2015, , 143-166.	0.8	17
53	Mutual Complexation between Ï€â€“Ï€ Stacked Molecular Tweezers. Crystal Growth and Design, 2018, 18, 386-392.	3.0	15
54	Evaluation of thermal and oxidative stability of three generations of phenolic based novel dendritic fuel and lubricant additives. Reactive and Functional Polymers, 2019, 142, 119-127.	4.1	14

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55	Chiral Poly(aromatic amide ester) Dendrimers Bearing an Amino Acid DerivedC3-Symmetric Coreâ˜ Synthesis and Properties. European Journal of Organic Chemistry, 2004, 2004, 4148-4157.	2.4	12
56	Exploiting thermally-reversible covalent bonds for the controlled release of microencapsulated isocyanate crosslinkers. Reactive and Functional Polymers, 2019, 135, 23-31.	4.1	12
57	Synthesis and properties of polyaromatic dendrimers possessing a repetitive amideâ€“ester coupling sequence. Tetrahedron, 2003, 59, 3975-3988.	1.9	11
58	Molecular design of a discrete chain-folding polyimide for controlled inkjet deposition of supramolecular polymers. Polymer Chemistry, 2015, 6, 7342-7352.	3.9	11
59	Property enhancement of healable supramolecular polyurethanes. European Polymer Journal, 2019, 118, 88-96.	5.4	11
60	Synthesis of a novel class of chiral polyaromatic amide dendrimers bearing an amino acid derived C3-symmetric core. Tetrahedron Letters, 2003, 44, 37-40.	1.4	10
61	Synthesis, characterisation, and performance evaluation of tri-armed phenolic antioxidants. Tetrahedron Letters, 2020, 61, 152127.	1.4	10
62	Self-immolative base-mediated conjugate release from triazolylmethylcarbamates. Organic and Biomolecular Chemistry, 2015, 13, 8703-8707.	2.8	9
63	Increasing the antioxidant capability via the synergistic effect of coupling diphenylamine with sterically hindered phenol. Tetrahedron, 2019, 75, 130759.	1.9	9
64	Self-immolative systems for the disclosure of reactive electrophilic alkylating agents. Chemical Communications, 2019, 55, 5219-5222.	4.1	8
65	Lightly branched comb polyesters: Application in fast drying solvent-borne coating formulations. Reactive and Functional Polymers, 2013, 73, 619-623.	4.1	7
66	Nitroarylurea-terminated supramolecular polymers that exhibit facile thermal repair and aqueous swelling-induced sealing of defects. Polymer, 2018, 140, 1-9.	3.8	7
67	Self-assembling unsymmetrical bis-ureas. Reactive and Functional Polymers, 2018, 124, 156-161.	4.1	7
68	One-pot synthesis of multivalent arrays of mannose mono- and disaccharides. Tetrahedron Letters, 2002, 43, 7683-7685.	1.4	6
69	Hyperbranched polymers containing oxazoline monomers and succinic anhydride: Applications in fast drying, low solvent coating formulations. Progress in Organic Coatings, 2014, 77, 1516-1522.	3.9	6
70	Inducing hardening and healability in poly(ethylene-co-acrylic acid) via blending with complementary low molecular weight additives. RSC Advances, 2018, 8, 41445-41453.	3.6	6
71	The use of diffuse reflectance infrared spectroscopy to monitor the oxidation of UV irradiated and naturally aged bitumen and asphalt. Road Materials and Pavement Design, 2021, 22, 1254-1267.	4.0	6
72	Mechanical characterisation and modelling of a thermoreversible superamolecular polyurethane over a wide range of rates. Polymer, 2021, 221, 123607.	3.8	6

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73	The effect of chiral end groups on the assembly of supramolecular polyurethanes. Polymer Chemistry, 2021, 12, 4488-4500.	3.9	6
74	Synthesis of novel hyperbranched polymers featuring oxazoline linear units and their application in fastâ€drying solventâ€borne coating formulations. Journal of Polymer Science Part A, 2013, 51, 3964-3974.	2.3	5
75	Multifunctional, Biocompatible, Nonâ€peptidic Hydrogels: from Water Purification to Drug Delivery. ChemistrySelect, 2016, 1, 1641-1649.	1.5	5
76	From Food to Mobility: Investigating a Screening Assay for New Automotive Antioxidants Using the Stable Radical DPPH. ChemistrySelect, 2021, 6, 9179-9184.	1.5	5
77	An Improved Sonogashira Coupling Procedure for the Construction of Rigid Aromatic Multifunctional Monomers Bearing 1,3-Substituted Acetylenic Units. Synlett, 2002, 2002, 0251-0254.	1.8	4
78	Functionalised PEGs with photo-dimerisable, anthracenyl end-groups: New UV-curable materials for use in inkjet formulations. Progress in Organic Coatings, 2021, 151, 106105.	3.9	4
79	Self-Immolative System for Disclosure of Reactive Electrophilic Alkylating Agents: Understanding the Role of the Reporter Group. Journal of Organic Chemistry, 2021, 86, 10263-10279.	3.2	3
80	Tailoring viscoelastic properties of dynamic supramolecular poly(butadiene)-based elastomers. Materials Today Chemistry, 2022, 26, 101008.	3.5	3
81	Urea Organogelators â€“ Synthesis and Properties. Macromolecular Symposia, 2013, 329, 118-124.	0.7	2
82	Synthesis and analysis of a healable, poly(propylene glycol)-based supramolecular network. Progress in Organic Coatings, 2019, 127, 260-265.	3.9	2
83	A fluoride degradable crosslinker for debond-on-demand polyurethane based crosslinked adhesives. Materials Today Communications, 2021, 26, 101777.	1.9	2
84	A supramolecular glass made from a low molecular weight amino acid derivative. European Polymer Journal, 2021, , 110889.	5.4	1
85	Experimental characterisation and modelling of the strain rate dependent mechanical response of a filled thermo-reversible supramolecular polyurethane. International Journal of Impact Engineering, 2022, 166, 104239.	5.0	1
86	Synthesis and Properties of Polyaromatic Dendrimers Possessing a Repetitive Amideâ€”Ester Coupling Sequence.. ChemInform, 2003, 34, no.	0.0	0