Russell J Varley

List of Publications by Year
in descending order

122 papers	5,739 citations	76326 40 h-index	82547 72 g-index
123 all docs	123 docs citations	123 times ranked	4395 citing authors

#	Article	IF	Citations
1	Morphology, thermal relaxations and mechanical properties of layered silicate nanocomposites based upon high-functionality epoxy resins. Polymer, 2002, 43, 4365-4373.	3.8	393
2	Thermoplastic toughening of epoxy resins: a critical review. Polymers for Advanced Technologies, 1998, 9, 3-10.	3.2	339
3	Thermal stability and water uptake of high performance epoxy layered silicate nanocomposites. European Polymer Journal, 2004, 40, 187-195.	5.4	248
4	Towards an understanding of thermally activated self-healing of an ionomer system during ballistic penetration. Acta Materialia, 2008, 56, 5737-5750.	7.9	245
5	Layered Silicate Nanocomposites Based on Various High-Functionality Epoxy Resins:Â The Influence of Cure Temperature on Morphology, Mechanical Properties, and Free Volume. Macromolecules, 2003, 36, 1616-1625.	4.8	209
6	Designing green, self-healing coatings for metal protection. NPG Asia Materials, 2010, 2, 143-151.	7.9	190
7	Manufacturing Techniques and Surface Engineering of Polymer Based Nanoparticles for Targeted Drug Delivery to Cancer. Nanomaterials, 2016, 6, 26.	4.1	163
8	Nanocomposites based on a combination of epoxy resin, hyperbranched epoxy and a layered silicate. Polymer, 2003, 44, 7449-7457.	3.8	156
9	1D/2D Nanomaterials Synergistic, Compressible, and Response Rapidly 3D Graphene Aerogel for Piezoresistive Sensor. Advanced Functional Materials, 2020, 30, 2003618.	14.9	147
10	Effect of ionic content on ballistic self-healing in EMAA copolymers and ionomers. Polymer Chemistry, 2013, 4, 4910.	3.9	121
11	Clay-reinforced epoxy nanocomposites. Polymer International, 2003, 52, 1403-1407.	3.1	119
12	Studies on blends of epoxy-functionalized hyperbranched polymer and epoxy resin. Journal of Materials Science, 2003, 38, 147-154.	3.7	118
13	Effect of organo-phosphorus and nano-clay materials on the thermal and fire performance of epoxy resins. Journal of Applied Polymer Science, 2004, 91, 1233-1253.	2.6	118
14	The effect of cluster plasticisation on the self healing behaviour of ionomers. Polymer, 2010, 51, 679-686.	3.8	115
15	Development of a quasi-static test method to investigate the origin of self-healing in ionomers under ballistic conditions. Polymer Testing, 2008, 27, 11-19.	4.8	105
16	Toughening of trifunctional epoxy using an epoxy-functionalized hyperbranched polymer. Journal of Applied Polymer Science, 2003, 89, 2339-2345.	2.6	104
17	Toughening of epoxy resin systems using low-viscosity additives. Polymer International, 2004, 53, 78-84.	3.1	93
18	Self-healing of delamination cracks in mendable epoxy matrix laminates using poly[ethylene-co-(methacrylic acid)] thermoplastic. Composites Part A: Applied Science and Manufacturing, 2012, 43, 1301-1307.	7.6	88

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19	Toughening of a trifunctional epoxy system. Polymer, 2001, 42, 3847-3858.	3.8	87
20	Toughening of an epoxy anhydride resin system using an epoxidized hyperbranched polymer. Polymer International, 2004, 53, 69-77.	3.1	87
21	Understanding the effect of nano-modifier addition upon the properties of fibre reinforced laminates. Composites Science and Technology, 2008, 68, 718-726.	7.8	84
22	Confirmation of the healing mechanism in a mendable EMAAâ€“epoxy resin. European Polymer Journal, 2012, 48, 524-531.	5.4	74
23	Toughening of a trifunctional epoxy system Part III. Kinetic and morphological study of the thermoplastic modified cure process. Polymer, 2000, 41, 3425-3436.	3.8	71
24	Fire-retardant unsaturated polyester thermosets: The state-of-the-art, challenges and opportunities. Chemical Engineering Journal, 2022, 430, 132785.	12.7	69
25	Healing of carbon fibreâ€“epoxy composites using thermoplastic additives. Polymer Chemistry, 2013, 4, 5007.	3.9	67
26	Phosphorus-containing diamine for flame retardancy of high functionality epoxy resins. Part II. The thermal and mechanical properties of mixed amine systems. Polymer, 2006, 47, 2091-2098.	3.8	66
27	Understanding the decomposition and fire performance processes in phosphorus and nanomodified high performance epoxy resins and composites. Polymer, 2007, 48, 2345-2354.	3.8	64
28	Toughening of a trifunctional epoxy system: 1. Near infra-red spectroscopy study of homopolymer cure. Polymer, 1995, 36, 1347-1355.	3.8	62
29	Mechanical, Thermal, and Morphological Behavior of Silicone Rubber during Accelerated Aging. Polymer-Plastics Technology and Engineering, 2018, 57, 1687-1696.	1.9	61
30	Toughening of a carbon fibre reinforced epoxy anhydride composite using an epoxy terminated hyperbranched modifier. Composites Science and Technology, 2005, 65, 2156-2166.	7.8	60
31	Self-healing of delamination fatigue cracks in carbon fibreâ€“epoxy laminate using mendable thermoplastic. Journal of Materials Science, 2012, 47, 4449-4456.	3.7	60
32	Layered silicate nanocomposites based on various high-functionality epoxy resins: The influence of an organoclay on resin cure. Polymer Engineering and Science, 2003, 43, 850-862.	3.1	57
33	Dynamic plant-derived polysaccharide-based hydrogels. Carbohydrate Polymers, 2020, 231, 115743.	10.2	57
34	Effect of Ultrasonic Dispersion Methods on Thermal and Mechanical Properties of Organoclay Epoxy Nanocomposites. Macromolecular Materials and Engineering, 2007, 292, 415-427.	3.6	50
35	Thermoplastic Healing in Epoxy Networks: Exploring Performance and Mechanism of Alternative Healing Agents. Macromolecular Materials and Engineering, 2013, 298, 1232-1242.	3.6	47
36	Mechanical properties of mendable composites containing self-healing thermoplastic agents. Composites Part A: Applied Science and Manufacturing, 2014, 65, 10-18.	7.6	46

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37	Thermally activated healing in a mendable resin using a non woven EMAA fabric. Composites Science and Technology, 2012, 72, 453-460.	7.8	44
38	The effect of surface treatments on the mechanical properties of basaltâ€reinforced epoxy composites. Polymer Composites, 2013, 34, 320-329.	4.6	43
39	Time Dependent Structure and Property Evolution in Fibres during Continuous Carbon Fibre Manufacturing. Materials, 2019, 12, 1069.	2.9	43
40	Toughening of a trifunctional epoxy system. II. Thermal characterization of epoxy/amine cure. Journal of Applied Polymer Science, 1996, 60, 2251-2263.	2.6	42
41	Use of layered silicates to supplementarily toughen high performance epoxy-carbon fiber composites. Journal of Materials Science Letters, 2003, 22, 1411-1414.	0.5	41
42	Influence of substituents on the kinetics of epoxy/aromatic diamine resin systems. Journal of Polymer Science Part A, 2004, 42, 3143-3156.	2.3	41
43	Moisture induced crack filling in barrier coatings containing montmorillonite as an expandable phase. Surface and Coatings Technology, 2008, 202, 3346-3353.	4.8	40
44	Processing and chemorheology of epoxy resins and their blends with dendritic hyperbranched polymers. Journal of Applied Polymer Science, 2004, 92, 1604-1610.	2.6	38
45	Phosphorus intercalation of halloysite nanotubes for enhanced fire properties of polyamide 6. Polymers for Advanced Technologies, 2012, 23, 1564-1571.	3.2	37
46	Effect of mendable polymer stitch density on the toughening and healing of delamination cracks in carbonâ€“epoxy laminates. Composites Part A: Applied Science and Manufacturing, 2013, 50, 22-30.	7.6	36
47	A phosphorus-containing diamine for flame-retardant, high-functionality epoxy resins. I. Synthesis, reactivity, and thermal degradation properties. Journal of Applied Polymer Science, 2004, 92, 2093-2100.	2.6	33
48	Carbon fibre waste recycling into hybrid nonwovens for electromagnetic interference shielding and sound absorption. Journal of Cleaner Production, 2021, 315, 128196.	9.3	33
49	Autonomous damage initiated healing in a thermoâ€responsive ionomer. Polymer International, 2010, 59, 1031-1038.	3.1	32
50	Dynamic nanocellulose hydrogels: Recent advancements and future outlook. Carbohydrate Polymers, 2021, 270, 118357.	10.2	32
51	Cellulose-lignin composite fibers as precursors for carbon fibers: Part 2 â€“ The impact of precursor properties on carbon fibers. Carbohydrate Polymers, 2020, 250, 116918.	10.2	31
52	Reaction Kinetics and Phase Transformations During Cure of a Thermoplastic-Modified Epoxy Thermoset. Macromolecular Materials and Engineering, 2007, 292, 46-61.	3.6	29
53	Poly(ethylene- co -methacrylic acid) (EMAA) as an efficient healing agent for high performance epoxy networks using diglycidyl ether of bisphenol A (DGEBA). Polymer, 2016, 92, 153-163.	3.8	29
54	A 3D printable dynamic nanocellulose/nanochitin self-healing hydrogel and soft strain sensor. Carbohydrate Polymers, 2022, 291, 119545.	10.2	29

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55	Double dynamic cellulose nanocomposite hydrogels with environmentally adaptive self-healing and pH-tuning properties. Cellulose, 2020, 27, 1407-1422.	4.9	27
56	Rational Design of Musselâ€Inspired Hydrogels with Dynamic Catecholatoâ^'Metal Coordination Bonds. Macromolecular Rapid Communications, 2020, 41, e2000439.	3.9	26
57	New approaches to bonding thermoplastic and thermoset polymer composites. Composites Part A: Applied Science and Manufacturing, 2020, 133, 105870.	7.6	26
58	Healing of fatigue delamination cracks in carbonâ€"epoxy composite using mendable polymer stitching. Journal of Intelligent Material Systems and Structures, 2014, 25, 75-86.	2.5	25
59	Toughening of a trifunctional epoxy system: IV. Dynamic mechanical relaxational study of the thermoplastic-modified cure process. Journal of Polymer Science, Part B: Polymer Physics, 1997, 35, 153-163.	2.1	24
60	EMAA as a healing agent for mendable high temperature epoxy amine thermosets. Composites Part A: Applied Science and Manufacturing, 2012, 43, 1073-1080.	7.6	24
61	Modelling and analysis of the energy intensity in polyacrylonitrile (PAN) precursor and carbon fibre manufacturing. Journal of Cleaner Production, 2021, 303, 127105.	9.3	24
62	Microwave Attenuation of Graphene Modified Thermoplastic Poly(Butylene adipate-co-terephthalate) Nanocomposites. Polymers, 2018, 10, 582.	4.5	23
63	Recovery of Mode I self-healing interlaminar fracture toughness of fiber metal laminate by modified double cantilever beam test. Composites Communications, 2019, 16, 25-29.	6.3	23
64	Effect of reinforcing fibres on the morphology of a toughened epoxy/amine system. Polymer, 1997, 38, 1005-1009.	3.8	22
65	Synthesis, thermal behavior, and cone calorimetry of organophosphorus epoxy materials. Journal of Applied Polymer Science, 2003, 90, 3696-3707.	2.6	21
66	Investigation of thermal and fire performance of novel hybrid geopolymer composites. Journal of Materials Science, 2004, 39, 4721-4726.	3.7	21
67	Thermoâ€reversible healing in a crosslinked polymer network containing covalent and thermoâ€reversible bonds. Journal of Applied Polymer Science, 2013, 128, 3743-3750.	2.6	21
68	Synthesis of a phosphorusâ€'silicone modifier imparting excellent flame retardancy and improved mechanical properties to a rapid cure epoxy. Reactive and Functional Polymers, 2020, 157, 104743.	4.1	21
69	Effect of boric acid on the stabilisation of cellulose-lignin filaments as precursors for carbon fibres. Cellulose, 2021, 28, 729-739.	4.9	21
70	Ionomers as Self Healing Polymers. Springer Series in Materials Science, 2007, , 95-114.	0.6	20
71	Life Cycle Engineering of Carbon Fibres for Lightweight Structures. Procedia CIRP, 2018, 69, 43-48.	1.9	19
72	Rapid Cross-Linking of Epoxy Thermosets Induced by Solvate Ionic Liquids. ACS Applied Polymer Materials, 2020, 2, 2651-2657.	4.4	19

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73	Investigation of the Dual Polymerization of Rapid Curing Organophosphorous Modified Epoxy/Amine Resins and Subsequent Flame Retardancy. Macromolecular Chemistry and Physics, 2021, 222, 2000342.	2.2	19
74	The role of nanodispersion on the fire performance of organoclayâ€“polyamide nanocomposites. Composites Science and Technology, 2008, 68, 2882-2891.	7.8	18
75	Title is missing!. Journal of Materials Science Letters, 2003, 22, 455-458.	0.5	17
76	Different Î² nucleants and the resultant microstructural, fracture, and tensile properties for filled and unfilled ISO polypropylene. Journal of Applied Polymer Science, 2013, 128, 619-627.	2.6	17
77	Epoxy/Poly(ethyleneâ€coâ€methacrylic acid) Blends as Thermally Activated Healing Agents in an Epoxy/Amine Network. Macromolecular Materials and Engineering, 2015, 300, 70-79.	3.6	16
78	Experimental and simulation study of effect of thickness on performance of (butylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 552 Td (adi electromagnetic interference shielding and metal-backed microwave absorbers. Composites Science and Technology, 2020, 195, 108186.	7.8	16
79	A modular LCA/LCC-modelling concept for evaluating material and process innovations in carbon fibre manufacturing. Procedia CIRP, 2021, 98, 529-534.	1.9	15
80	Preparation and characterisation of polyamideâ€“polyimide organoclay nanocomposites. Polymer International, 2008, 57, 618-625.	3.1	14
81	Effect of aromatic substitution on the kinetics and properties of epoxy cured triâ€phenylether amines. Journal of Applied Polymer Science, 2019, 136, 47383.	2.6	14
82	Carbon fiber polypropylene interphase modification as a route to improved toughness. Composites Part A: Applied Science and Manufacturing, 2022, 159, 107001.	7.6	14
83	Toughening epoxy resins with polyepichlorohydrin. Journal of Applied Polymer Science, 1993, 48, 1259-1269.	2.6	13
84	Investigation of factors impacting the in-service degradation of aerospace coatings. Progress in Organic Coatings, 2012, 74, 679-686.	3.9	13
85	Low-molecular-weight thermoplastic modifiers as effective healing agents in mendable epoxy networks. Journal of Intelligent Material Systems and Structures, 2014, 25, 107-117.	2.5	13
86	Investigation of the reaction mechanism of different epoxy resins using a phosphorus-based hardener. Journal of Applied Polymer Science, 2006, 99, 3288-3299.	2.6	12
87	Understanding the Effects of In-Service Temperature and Functional Fluid on the Ageing of Silicone Rubber. Polymers, 2019, 11, 388.	4.5	12
88	Subtle variations in the structure of crosslinked epoxy networks and the impact upon mechanical and thermal properties. Journal of Applied Polymer Science, 2020, 137, 48874.	2.6	12
89	The effect of compatibilization on the behavior of a polycarbonate/polymer liquid crystal blend. Polymer Engineering and Science, 1996, 36, 1038-1046.	3.1	11
90	Biocompatibility and modification of the proteinâ€based adhesive secreted by the Australian frog Notaden bennetti. Journal of Biomedical Materials Research - Part A, 2010, 93A, 429-441.	4.0	11

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91	An efficient healing agent for high temperature epoxy composites based upon tetra-glycidyl diamino diphenyl methane. Composites Part A: Applied Science and Manufacturing, 2015, 78, 201-210.	7.6	11
92	Dynamic Nanohybrid-Polysaccharide Hydrogels for Soft Wearable Strain Sensing. Sensors, 2021, 21, 3574.	3.8	11
93	Aromatic tetra-glycidyl ether versus tetra-glycidyl amine epoxy networks: Influence of monomer structure and epoxide conversion. Polymer, 2022, 239, 124401.	3.8	11
94	Synthesis and characterisation of new sulphur-containing epoxy networks. High Performance Polymers, 2014, 26, 420-435.	1.8	10
95	Understanding the influence of key parameters on the stabilisation of cellulose-lignin composite fibres. Cellulose, 2021, 28, 911-919.	4.9	10
96	Gas Emission Study of the Polyacrylonitrile-Based Continuous Pilot-Scale Carbon Fiber Manufacturing Process. Industrial & Engineering Chemistry Research, 2021, 60, 17379-17389.	3.7	10
97	Chemically Accelerated Stabilization of a Celluloseâ€“Lignin Precursor as a Route to High Yield Carbon Fiber Production. Biomacromolecules, 2022, 23, 839-846.	5.4	10
98	The role of Î² relaxations in determining the compressive properties of an epoxy amine network modified with POSS and mono-functional epoxy resins. Polymer Testing, 2021, 93, 106873.	4.8	8
99	Multiple Hydrogen Bond Channel Structural Electrolyte for an Enhanced Carbon Fiber Composite Battery. ACS Applied Energy Materials, 2022, 5, 2054-2066.	5.1	8
100	Effect of modification of cyclic butylene terephthalate on crystallinity and properties after ring-opening polymerisation. Journal of Materials Science, 2015, 50, 8073-8088.	3.7	7
101	Adhesives performance of 3-layer PE pipe coatings: Effects of MAH loading, PE particles size, coating interval time and service temperature. Progress in Organic Coatings, 2016, 99, 157-165.	3.9	6
102	Beyond the ring flip: A molecular signature of the glassâ€“rubber transition in tetrafunctional epoxy resins. Polymer, 2020, 206, 122893.	3.8	6
103	Study of the acoustic emission response to a core-shell rubber-toughened, high-temperature composite. Journal of Materials Science, 2021, 56, 5609-5623.	3.7	6
104	Cure Kinetics and Network Development of a Very High Tg Naphthalene-Based Epoxy Amine Network. ACS Applied Polymer Materials, 2021, 3, 5717-5726.	4.4	6
105	Enhancement of ionic conduction and mechanical properties for all-solid-state polymer electrolyte systems through ionic and physical bonding. Materials Today Chemistry, 2022, 23, 100663.	3.5	6
106	Polymer Coatings for Oilfield Pipelines. Springer Series in Materials Science, 2016, , 385-428.	0.6	5
107	Effect of aromatic substitution on the cure reaction and network properties of anhydride cured triphenyl ether tetraglycidyl epoxy resins. Polymers for Advanced Technologies, 2019, 30, 1525-1537.	3.2	5
108	Synthesis of Triâ€Aryl Methane Epoxy Resin Isomers and Their Cure with Aromatic Amines. Macromolecular Materials and Engineering, 2020, 305, 1900546.	3.6	5

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109	Synthesis of triâ€aryl ether epoxy resin isomers and their cure with diamino diphenyl sulphone. Journal of Polymer Science, 2020, 58, 1410-1425.	3.8	5
110	Polyaryletherketone (PAEK) thermoplastic composites via in-situ ring opening polymerisation. Composites Science and Technology, 2021, 201, 108534.	7.8	5
111	The role of Î² relaxations in controlling compressive properties in hyperbranched polymer-modified epoxy networks. Polymer Journal, 2021, 53, 393-401.	2.7	4
112	Facile one pot synthesis of strong epoxy/agar hybrid hydrogels. Journal of Polymer Research, 2019, 26, 1.	2.4	3
113	Phosphorus-Based Î±-Amino Acid Mimetic for Enhanced Flame-Retardant Properties in an Epoxy Resin. Australian Journal of Chemistry, 2019, 72, 226-232.	0.9	3
114	Synthesis of triâ€aryl ketone amine isomers and their cure with epoxy resins. Polymers for Advanced Technologies, 2020, 31, 827-837.	3.2	3
115	Water activated healing of thiolene boronic ester coatings. Progress in Organic Coatings, 2020, 139, 105424.	3.9	3
116	Investigation of the processability, thermal, mechanical and flame retardant properties of bisoxazoline composites. Composites Part B: Engineering, 2022, 232, 109629.	12.0	3
117	Continuous, pilot-scale production of carbon fiber from a textile grade PAN polymer. Materials Today Communications, 2022, 31, 103231.	1.9	3
118	The effect of <scp>DOPO</scp> concentration and epoxy amine stoichiometry on the rheological, thermal, mechanical and fireâ€retardant properties of crosslinked networks. Polymer International, 2022, 71, 1320-1329.	3.1	3
119	Thermal and mechanical characterisation of intercalated epoxy nanocomposites. International Journal of Materials and Product Technology, 2003, 19, 199.	0.2	2
120	Solid-state healing of resins and composites. , 2015, , 53-99.		2
121	In Situ SAXS Measurement and Molecular Dynamics Simulation of Magnetic Alignment of Hexagonal LLC Nanostructures. Membranes, 2018, 8, 123.	3.0	2
122	A healable polyethylene adhesive using poly(ethylene methacrylic acid) (EMAA) for three-layer pipe coatings. Multifunctional Materials, 2021, 4, 014001.	3.7	0