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	Fire-retardant unsaturated polyester thermosets: The state-of-the-art, challenges and opportunities. Chemical Engineering Journal, 2022, 430, 132785.	12.7	69
2	Aromatic tetra-glycidyl ether versus tetra-glycidyl amine epoxy networks: Influence of monomer structure and epoxide conversion. Polymer, 2022, 239, 124401.	3.8	11
3	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
4	Multiple Hydrogen Bond Channel Structural Electrolyte for an Enhanced Carbon Fiber Composite Battery. ACS Applied Energy Materials, 2022, 5, 2054-2066.	5.1	8
5	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
6	Investigation of the processability, thermal, mechanical and flame retardant properties of bisoxazoline composites. Composites Part B: Engineering, 2022, 232, 109629.	12.0	3
7	Continuous, pilot-scale production of carbon fiber from a textile grade PAN polymer. Materials Today Communications, 2022, 31, 103231.	1.9	3
8	A 3D printable dynamic nanocellulose/nanochitin self-healing hydrogel and soft strain sensor. Carbohydrate Polymers, 2022, 291, 119545.	10.2	29
9	Carbon fiber polypropylene interphase modification as a route to improved toughness. Composites Part A: Applied Science and Manufacturing, 2022, 159, 107001.	7.6	14
10	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
11	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
12	Polyaryletherketone (PAEK) thermoplastic composites via in-situ ring opening polymerisation. Composites Science and Technology, 2021, 201, 108534.	7.8	5
13	Understanding the influence of key parameters on the stabilisation of cellulose-lignin composite fibres. Cellulose, 2021, 28, 911-919.	4.9	10
14	Effect of boric acid on the stabilisation of cellulose-lignin filaments as precursors for carbon fibres. Cellulose, 2021, 28, 729-739.	4.9	21
15	The role of Î² relaxations in controlling compressive properties in hyperbranched polymer-modified epoxy networks. Polymer Journal, 2021, 53, 393-401.	2.7	4
16	A healable polyethylene adhesive using poly(ethylene methacrylic acid) (EMAA) for three-layer pipe coatings. Multifunctional Materials, 2021, 4, 014001.	3.7	0
17	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
18	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

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19	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
20	Dynamic Nanohybrid-Polysaccharide Hydrogels for Soft Wearable Strain Sensing. Sensors, 2021, 21, 3574.	3.8	11
21	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
22	Carbon fibre waste recycling into hybrid nonwovens for electromagnetic interference shielding and sound absorption. Journal of Cleaner Production, 2021, 315, 128196.	9.3	33
23	Dynamic nanocellulose hydrogels: Recent advancements and future outlook. Carbohydrate Polymers, 2021, 270, 118357.	10.2	32
24	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
25	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
26	Dynamic plant-derived polysaccharide-based hydrogels. Carbohydrate Polymers, 2020, 231, 115743.	10.2	57
27	Synthesis of triâ€aryl ketone amine isomers and their cure with epoxy resins. Polymers for Advanced Technologies, 2020, 31, 827-837.	3.2	3
28	Double dynamic cellulose nanocomposite hydrogels with environmentally adaptive self-healing and pH-tuning properties. Cellulose, 2020, 27, 1407-1422.	4.9	27
29	Water activated healing of thiolene boronic ester coatings. Progress in Organic Coatings, 2020, 139, 105424.	3.9	3
30	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
31	1D/2D Nanomaterials Synergistic, Compressible, and Response Rapidly 3D Graphene Aerogel for Piezoresistive Sensor. Advanced Functional Materials, 2020, 30, 2003618.	14.9	147
32	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
33	Beyond the ring flip: A molecular signature of the glassâ€“rubber transition in tetrafunctional epoxy resins. Polymer, 2020, 206, 122893.	3.8	6
34	Rational Design of Musselâ€Inspired Hydrogels with Dynamic Catecholatoâ€Metal Coordination Bonds. Macromolecular Rapid Communications, 2020, 41, e2000439.	3.9	26
35	Rapid Cross-Linking of Epoxy Thermosets Induced by Solvate Ionic Liquids. ACS Applied Polymer Materials, 2020, 2, 2651-2657.	4.4	19
36	New approaches to bonding thermoplastic and thermoset polymer composites. Composites Part A: Applied Science and Manufacturing, 2020, 133, 105870.	7.6	26

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37	Synthesis of Triâ€Aryl Methane Epoxy Resin Isomers and Their Cure with Aromatic Amines. Macromolecular Materials and Engineering, 2020, 305, 1900546.	3.6	5
38	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
39	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
40	Experimental and simulation study of effect of thickness on performance of (butylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 632 Td (adi electromagnetic interference shielding and metal-backed microwave absorbers. Composites Science and Technology, 2020, 195, 108186.	7.8	16
41	Understanding the Effects of In-Service Temperature and Functional Fluid on the Ageing of Silicone Rubber. Polymers, 2019, 11, 388.	4.5	12
42	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
43	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
44	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
45	Time Dependent Structure and Property Evolution in Fibres during Continuous Carbon Fibre Manufacturing. Materials, 2019, 12, 1069.	2.9	43
46	Facile one pot synthesis of strong epoxy/agar hybrid hydrogels. Journal of Polymer Research, 2019, 26, 1.	2.4	3
47	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
48	Mechanical, Thermal, and Morphological Behavior of Silicone Rubber during Accelerated Aging. Polymer-Plastics Technology and Engineering, 2018, 57, 1687-1696.	1.9	61
49	In Situ SAXS Measurement and Molecular Dynamics Simulation of Magnetic Alignment of Hexagonal LLC Nanostructures. Membranes, 2018, 8, 123.	3.0	2
50	Life Cycle Engineering of Carbon Fibres for Lightweight Structures. Procedia CIRP, 2018, 69, 43-48.	1.9	19
51	Microwave Attenuation of Graphene Modified Thermoplastic Poly(Butylene adipate-co-terephthalate) Nanocomposites. Polymers, 2018, 10, 582.	4.5	23
52	Manufacturing Techniques and Surface Engineering of Polymer Based Nanoparticles for Targeted Drug Delivery to Cancer. Nanomaterials, 2016, 6, 26.	4.1	163
53	Polymer Coatings for Oilfield Pipelines. Springer Series in Materials Science, 2016, , 385-428.	0.6	5
54	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

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55	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
56	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
57	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
58	Solid-state healing of resins and composites. , 2015, , 53-99.		2
59	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
60	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
61	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
62	Synthesis and characterisation of new sulphur-containing epoxy networks. High Performance Polymers, 2014, 26, 420-435.	1.8	10
63	Mechanical properties of mendable composites containing self-healing thermoplastic agents. Composites Part A: Applied Science and Manufacturing, 2014, 65, 10-18.	7.6	46
64	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
65	Thermoplastic Healing in Epoxy Networks: Exploring Performance and Mechanism of Alternative Healing Agents. Macromolecular Materials and Engineering, 2013, 298, 1232-1242.	3.6	47
66	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
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	Effect of ionic content on ballistic self-healing in EMAA copolymers and ionomers. Polymer Chemistry, 2013, 4, 4910.	3.9	121
69	Healing of carbon fibreâ€“epoxy composites using thermoplastic additives. Polymer Chemistry, 2013, 4, 5007.	3.9	67
70	The effect of surface treatments on the mechanical properties of basaltâ€reinforced epoxy composites. Polymer Composites, 2013, 34, 320-329.	4.6	43
71	Investigation of factors impacting the in-service degradation of aerospace coatings. Progress in Organic Coatings, 2012, 74, 679-686.	3.9	13
72	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

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73	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
74	Phosphorus intercalation of halloysite nanotubes for enhanced fire properties of polyamide 6. Polymers for Advanced Technologies, 2012, 23, 1564-1571.	3.2	37
75	Thermally activated healing in a mendable resin using a non woven EMAA fabric. Composites Science and Technology, 2012, 72, 453-460.	7.8	44
76	Confirmation of the healing mechanism in a mendable EMAAâ€“epoxy resin. European Polymer Journal, 2012, 48, 524-531.	5.4	74
77	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
78	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
79	The effect of cluster plasticisation on the self healing behaviour of ionomers. Polymer, 2010, 51, 679-686.	3.8	115
80	Autonomous damage initiated healing in a thermoâ€responsive ionomer. Polymer International, 2010, 59, 1031-1038.	3.1	32
81	Designing green, self-healing coatings for metal protection. NPG Asia Materials, 2010, 2, 143-151.	7.9	190
82	Preparation and characterisation of polyamideâ€“polyimide organoclay nanocomposites. Polymer International, 2008, 57, 618-625.	3.1	14
83	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
84	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
85	The role of nanodispersion on the fire performance of organoclayâ€“polyamide nanocomposites. Composites Science and Technology, 2008, 68, 2882-2891.	7.8	18
86	Towards an understanding of thermally activated self-healing of an ionomer system during ballistic penetration. Acta Materialia, 2008, 56, 5737-5750.	7.9	245
87	Moisture induced crack filling in barrier coatings containing montmorillonite as an expandable phase. Surface and Coatings Technology, 2008, 202, 3346-3353.	4.8	40
88	Ionomers as Self Healing Polymers. Springer Series in Materials Science, 2007, , 95-114.	0.6	20
89	Reaction Kinetics and Phase Transformations During Cure of a Thermoplastic-Modified Epoxy Thermoset. Macromolecular Materials and Engineering, 2007, 292, 46-61.	3.6	29
90	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

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91	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
92	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
93	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
94	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
95	Investigation of thermal and fire performance of novel hybrid geopolymer composites. Journal of Materials Science, 2004, 39, 4721-4726.	3.7	21
96	Toughening of epoxy resin systems using low-viscosity additives. Polymer International, 2004, 53, 78-84.	3.1	93
97	Toughening of an epoxy anhydride resin system using an epoxidized hyperbranched polymer. Polymer International, 2004, 53, 69-77.	3.1	87
98	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
99	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
100	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
101	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
102	Thermal stability and water uptake of high performance epoxy layered silicate nanocomposites. European Polymer Journal, 2004, 40, 187-195.	5.4	248
103	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
104	Studies on blends of epoxy-functionalized hyperbranched polymer and epoxy resin. Journal of Materials Science, 2003, 38, 147-154.	3.7	118
105	Title is missing!. Journal of Materials Science Letters, 2003, 22, 455-458.	0.5	17
106	Toughening of trifunctional epoxy using an epoxy-functionalized hyperbranched polymer. Journal of Applied Polymer Science, 2003, 89, 2339-2345.	2.6	104
107	Synthesis, thermal behavior, and cone calorimetry of organophosphorus epoxy materials. Journal of Applied Polymer Science, 2003, 90, 3696-3707.	2.6	21
108	Nanocomposites based on a combination of epoxy resin, hyperbranched epoxy and a layered silicate. Polymer, 2003, 44, 7449-7457.	3.8	156

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109	Clay-reinforced epoxy nanocomposites. Polymer International, 2003, 52, 1403-1407.	3.1	119
110	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
111	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
112	Thermal and mechanical characterisation of intercalated epoxy nanocomposites. International Journal of Materials and Product Technology, 2003, 19, 199.	0.2	2
113	Morphology, thermal relaxations and mechanical properties of layered silicate nanocomposites based upon high-functionality epoxy resins. Polymer, 2002, 43, 4365-4373.	3.8	393
114	Toughening of a trifunctional epoxy system. Polymer, 2001, 42, 3847-3858.	3.8	87
115	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
116	Thermoplastic toughening of epoxy resins: a critical review. Polymers for Advanced Technologies, 1998, 9, 3-10.	3.2	339
117	Effect of reinforcing fibres on the morphology of a toughened epoxy/amine system. Polymer, 1997, 38, 1005-1009.	3.8	22
118	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
119	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
120	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
121	Toughening of a trifunctional epoxy system: 1. Near infra-red spectroscopy study of homopolymer cure. Polymer, 1995, 36, 1347-1355.	3.8	62
122	Toughening epoxy resins with polyepichlorohydrin. Journal of Applied Polymer Science, 1993, 48, 1259-1269.	2.6	13