

Self-healing polymeric materials: A review of recent developments

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Towards an understanding of thermally activated self-healing of an ionomer system during ballistic penetration. <i>Acta Materialia</i> , 2008, 56, 5737-5750.	3.8	245
2	Microencapsulation of Isocyanates for Self-Healing Polymers. <i>Macromolecules</i> , 2008, 41, 9650-9655.	2.2	412
4	Influência de colorantes na degradação termo-oxidativa do policarbonato. <i>Revista Materia</i> , 2009, 14, 1028-1038.	0.1	0
5	A Review of Computational Methods in Materials Science: Examples from Shock-Wave and Polymer Physics. <i>International Journal of Molecular Sciences</i> , 2009, 10, 5135-5216.	1.8	86
6	A Facile Strategy for Preparing Self-Healing Polymer Composites by Incorporation of Cationic Catalyst-Loaded Vegetable Fibers. <i>Advanced Functional Materials</i> , 2009, 19, 2289-2296.	7.8	77
8	Hollow Microtubes and Shells from Reactant-Loaded Polymer Beads. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 8752-8756.	7.2	47
9	Polyethylene-co-methacrylic acid healing agents for mendable epoxy resins. <i>Acta Materialia</i> , 2009, 57, 4312-4320.	3.8	115
10	Light-sensitive Intelligent Drug Delivery Systems^{â€‹}. <i>Photochemistry and Photobiology</i> , 2009, 85, 848-860.	1.3	457
11	Self-healing epoxy based on cationic chain polymerization. <i>Polymer</i> , 2009, 50, 2967-2975.	1.8	133
12	Study of factors related to performance improvement of self-healing epoxy based on dual encapsulated healant. <i>Polymer</i> , 2009, 50, 5771-5781.	1.8	87
13	Stratification, stimuli-responsiveness, self-healing, and signaling in polymer networks. <i>Progress in Polymer Science</i> , 2009, 34, 679-687.	11.8	130
14	Polymer micelles from tadpole-shaped amphiphilic block-graft copolymers prepared by α -grafting-through-ATRP. <i>Polymer Science - Series A</i> , 2009, 51, 1210-1217.	0.4	9
15	Harnessing Labile Bonds between Nanogel Particles to Create Self-Healing Materials. <i>ACS Nano</i> , 2009, 3, 885-892.	7.3	80
16	Mechanically-Induced Chemical Changes in Polymeric Materials. <i>Chemical Reviews</i> , 2009, 109, 5755-5798.	23.0	1,130
17	A self-repairing, supramolecular polymer system: healability as a consequence of donor-acceptor π - π stacking interactions. <i>Chemical Communications</i> , 2009, , 6717.	2.2	475
18	A Thermoplastic/Thermoset Blend Exhibiting Thermal Mending and Reversible Adhesion. <i>ACS Applied Materials & Interfaces</i> , 2009, 1, 612-620.	4.0	176
19	Thermally Self-Healing Polymeric Materials: The Next Step to Recycling Thermoset Polymers?. <i>Macromolecules</i> , 2009, 42, 1906-1912.	2.2	419
20	Investigating the Self Healing Capability of Bituminous Binders. <i>Road Materials and Pavement Design</i> , 2009, 10, 81-94.	2.0	81

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21	Robust polydopamine nano/microcapsules and their loading and release behavior. Chemical Communications, 2009, , 6789.	2.2	195
22	Analysing dielectric interphases in composites containing nano- and micro-particles. Journal Physics D: Applied Physics, 2009, 42, 064004.	1.3	17
23	A novel self-healing supramolecular polymer system. Faraday Discussions, 2009, 143, 251.	1.6	186
24	Reversibly Cross-Linking Amino-Polysiloxanes by Simple Triatomic Molecules. Facile Methods for Tuning Thermal, Rheological, and Adhesive Properties. Journal of Physical Chemistry C, 2009, 113, 11546-11553.	1.5	44
25	Self-Healing Polymers and Composites. Annual Review of Materials Research, 2010, 40, 179-211.	4.3	1,236
26	Surface Modification of Poly(urea-formaldehyde) Microcapsules and the Effect on the Epoxy Composites Performance. Journal of Macromolecular Science - Pure and Applied Chemistry, 2010, 47, 991-995.	1.2	19
27	Heat-induced crack healing in a perfluorocyclobutane-containing polymer. Macromolecular Research, 2010, 18, 212-214.	1.0	11
28	Self-Healing Materials. Advanced Materials, 2010, 22, 5424-5430.	11.1	944
31	Autonomic Self-Healing of Hydrogel Thin Films. Angewandte Chemie - International Edition, 2010, 49, 767-771.	7.2	166
32	Self-Repair of a One-Dimensional Molecular Assembly in Mesoporous Silica by a Nanoscopic Template Effect. Angewandte Chemie - International Edition, 2010, 49, 4241-4245.	7.2	51
33	Preparation and Fluorescence Characteristics of Amido-Functionalized Dual-Fluorescent Microspheres with Core/Shell Structure. Macromolecular Chemistry and Physics, 2010, 211, 2347-2355.	1.1	5
34	The world of smart healable materials. Progress in Polymer Science, 2010, 35, 223-251.	11.8	614
35	Stimuli-responsive molecular brushes. Progress in Polymer Science, 2010, 35, 24-44.	11.8	600
36	Thermo-responsive mending of polymers crosslinked by thermally reversible covalent bond: Polymers from bisfuranic terminated poly(ethylene adipate) and tris-maleimide. Polymer Degradation and Stability, 2010, 95, 826-829.	2.7	84
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39	A biomimic shape memory polymer based self-healing particulate composite. Polymer, 2010, 51, 6021-6029.	1.8	176
40	FTIR study of bonding between a thermoplastic healing agent and a mendable epoxy resin. Vibrational Spectroscopy, 2010, 52, 10-15.	1.2	106

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41	A review of recent research on mechanics of multifunctional composite materials and structures. <i>Composite Structures</i> , 2010, 92, 2793-2810.	3.1	927
42	Investigation of the self-healing properties of shape memory polyurethane coatings with the $\hat{\epsilon}$ -odd random phase multisine $\hat{\epsilon}$ TM electrochemical impedance spectroscopy. <i>Electrochimica Acta</i> , 2010, 55, 6195-6203.	2.6	81
43	Cure behavior and mechanical properties of structural self-healing epoxy resins. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2010, 48, 2413-2423.	2.4	45
44	Autonomous damage initiated healing in a thermo-responsive ionomer. <i>Polymer International</i> , 2010, 59, 1031-1038.	1.6	32
45	Computational Analysis of the Structural Integrity of Self-Healing Composites. <i>Materials Science Forum</i> , 2010, 654-656, 2576-2578.	0.3	4
46	Advances in epoxy adhesives. , 2010, , 20-34.		5
48	Vascular structures for volumetric cooling and mechanical strength. <i>Journal of Applied Physics</i> , 2010, 107, 044901.	1.1	13
49	A Healable Supramolecular Polymer Blend Based on Aromatic $\hat{\epsilon}$ - $\hat{\epsilon}$ Stacking and Hydrogen-Bonding Interactions. <i>Journal of the American Chemical Society</i> , 2010, 132, 12051-12058.	6.6	779
50	Smart $\hat{\epsilon}$ -All Acrylate $\hat{\epsilon}$ -ABA Triblock Copolymer Bearing Reactive Functionality via Atom Transfer Radical Polymerization (ATRP): Demonstration of a $\hat{\epsilon}$ -Click Reaction $\hat{\epsilon}$ in Thermoreversible Property. <i>Macromolecules</i> , 2010, 43, 3193-3205.	2.2	134
51	Self-healing polymers and composites. <i>International Materials Reviews</i> , 2010, 55, 317-346.	9.4	215
52	Photo-Cross-Linkable Thermoresponsive Star Polymers Designed for Control of Cell-Surface Interactions. <i>Biomacromolecules</i> , 2010, 11, 2647-2652.	2.6	40
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54	Responsive Gels Based on a Dynamic Covalent Trithiocarbonate Cross-Linker. <i>Macromolecules</i> , 2010, 43, 4355-4361.	2.2	204
55	Healable polymeric materials: a tutorial review. <i>Chemical Society Reviews</i> , 2010, 39, 1973.	18.7	389
56	Self-healing and self-mendable polymers. <i>Polymer Chemistry</i> , 2010, 1, 978.	1.9	367
57	Self-repairing material systems $\hat{\epsilon}$ -a dream or a reality?. <i>Natural Science</i> , 2010, 02, 873-901.	0.2	46
58	Designing green, self-healing coatings for metal protection. <i>NPG Asia Materials</i> , 2010, 2, 143-151.	3.8	190
59	Redox Responsive Behavior of Thiol/Disulfide-Functionalized Star Polymers Synthesized via Atom Transfer Radical Polymerization. <i>Macromolecules</i> , 2010, 43, 4133-4139.	2.2	159

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61	The effect of self-healing hollow fibres on the mechanical properties of polymer composites. <i>Smart Materials and Structures</i> , 2010, 19, 085021.	1.8	80
62	Photo-Plasticity in Thiol-ene Network Polymers - A Review. <i>Macromolecular Symposia</i> , 2010, 291-292, 50-65.	0.4	14
63	Development of Corrosion Protection Coatings for AA2024-T3 Using Micro-Encapsulated Inhibitors. <i>ACS Symposium Series</i> , 2010, , 165-189.	0.5	13
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65	Self-Healing Materials Based on Disulfide Links. <i>Macromolecules</i> , 2011, 44, 2536-2541.	2.2	789
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67	Self-Healing of Polymers via Synchronous Covalent Bond Fission/Radical Recombination. <i>Chemistry of Materials</i> , 2011, 23, 5076-5081.	3.2	198
69	Dielsâ€“Alder â€œclickâ€œ reactions: recent applications in polymer and material science. <i>Polymer Chemistry</i> , 2011, 2, 2133.	1.9	488
70	Tough and Self-Healing Hydrogels Formed via Hydrophobic Interactions. <i>Macromolecules</i> , 2011, 44, 4997-5005.	2.2	656
71	Mechanically Facilitated Retro [4 + 2] Cycloadditions. <i>Journal of the American Chemical Society</i> , 2011, 133, 7180-7189.	6.6	78
72	Reversible cross-linking of hydrophilic dynamic covalent polymers with radically exchangeable alkoxyamines in aqueous media. <i>Polymer Chemistry</i> , 2011, 2, 2021.	1.9	42
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74	Facile microencapsulation of HDI for self-healing anticorrosion coatings. <i>Journal of Materials Chemistry</i> , 2011, 21, 11123.	6.7	279
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76	Novel Thermoresponsive Polymers Tunable by pH. <i>Macromolecules</i> , 2011, 44, 1628-1634.	2.2	58
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81	Phenylboronate-diol crosslinked polymer gels with reversible sol-gel transition. <i>Polymer</i> , 2011, 52, 4268-4276.	1.8	51
82	A thermally-stable self-mending polymer networked by Diels-Alder cycloaddition. <i>Polymer</i> , 2011, 52, 6074-6079.	1.8	110
83	Synthesis of durable microcapsules for self-healing anticorrosive coatings: A comparison of selected methods. <i>Progress in Organic Coatings</i> , 2011, 70, 342-352.	1.9	128
84	A critical appraisal of the potential of self healing polymeric coatings. <i>Progress in Organic Coatings</i> , 2011, 72, 211-221.	1.9	227
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86	A comparison of the strength of autohesion of plasma treated amorphous and semi-crystalline PEEK films. <i>Polymers for Advanced Technologies</i> , 2011, 22, 2496-2502.	1.6	33
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88	Azide/Alkyne Click Reactions of Encapsulated Reagents: Toward Self-Healing Materials. <i>Macromolecular Rapid Communications</i> , 2011, 32, 419-425.	2.0	119
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92	Compression Behavior of a Self-Healing Fibre Reinforced Epoxy Composite. <i>Applied Mechanics and Materials</i> , 0, 55-57, 1281-1286.	0.2	1
93	A Smart Polymer Composite for Repeatedly Self-Healing Impact Damage in Fiber Reinforced Polymer (FRP) Vessels. , 2011, , .		0
95	Modeling the nanoscratching of self-healing materials. <i>Journal of Chemical Physics</i> , 2011, 134, 084901.	1.2	13
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97	Self-Healing Materials Systems: Overview of Major Approaches and Recent Developed Technologies. <i>Advances in Materials Science and Engineering</i> , 2012, 2012, 1-17.	1.0	126
98	Developing a Simple Damage Model for the Long-Term Durability of Acrylic Foam Structural Glazing Tape Subject to Sustained Wind Loading. <i>Journal of Architectural Engineering</i> , 2012, 18, 214-222.	0.8	4
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115	Self-Healing Polymer Films Based on Thiol-Disulfide Exchange Reactions and Self-Healing Kinetics Measured Using Atomic Force Microscopy. Macromolecules, 2012, 45, 142-149.	2.2	407
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129	Microcapsule-based self-healing anticorrosive coatings: Capsule size, coating formulation, and exposure testing. <i>Progress in Organic Coatings</i> , 2012, 75, 309-318.	1.9	119
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131	A micromechanics based analysis of hollow fiber composites using DQEM. <i>Composites Part B: Engineering</i> , 2012, 43, 2921-2929.	5.9	14
132	The effect of carbon nanofibres on self-healing epoxy/poly(μ -caprolactone) blends. <i>Composites Science and Technology</i> , 2012, 72, 1952-1959.	3.8	25
133	Synthesis of organic silane microcapsules for self-healing corrosion resistant polymer coatings. <i>Corrosion Science</i> , 2012, 65, 561-566.	3.0	152
134	Structure optimization of self-healing hydrogels formed via hydrophobic interactions. <i>Polymer</i> , 2012, 53, 5513-5522.	1.8	166
135	The Chemistry of Structural Adhesives: Epoxy, Urethane, and Acrylic Adhesives. , 2012, , 549-572.		2
136	REMOVED: Dynamic Interactive Membranes with Pressure-driven Tunable Porosity and Self-repairing Ability. <i>Procedia Engineering</i> , 2012, 44, 216-219.	1.2	0
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139	Activation and deactivation of self-healing in supramolecular rubbers. <i>Soft Matter</i> , 2012, 8, 1681-1687.	1.2	93

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142	Theoretical consideration and modeling of self-healing polymers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2012, 50, 229-241.	2.4	67
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145	Bioinspired, mechanical, deterministic fractal model for hierarchical suture joints. <i>Physical Review E</i> , 2012, 85, 031901.	0.8	90
146	Self-Healing Rubbers Based on NBR Blends with Hyperbranched Polyethylenimines. <i>Macromolecular Materials and Engineering</i> , 2012, 297, 411-419.	1.7	48
147	Stimuli-responsive supramolecular polymeric materials. <i>Chemical Society Reviews</i> , 2012, 41, 6042.	18.7	1,440
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150	Dynamic Interactive Membranes with Pressure-Driven Tunable Porosity and Self-Healing Ability. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 7166-7170.	7.2	52
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161	Facile Synthesis of Supramolecular Ionic Polymers That Combine Unique Rheological, Ionic Conductivity, and Self-Healing Properties. <i>Macromolecular Rapid Communications</i> , 2012, 33, 314-318.	2.0	67
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164	Evaluation of the corrosion inhibition effect of micro/nanocapsulated polymeric coatings: a comparative study by use of EIS and Tafel experiments and the area under the Bode plot. <i>Research on Chemical Intermediates</i> , 2013, 39, 2049-2062.	1.3	27
165	Synthesis and characterization of linear self-healing polyurethane based on thermally reversible Diels-Alder reaction. <i>RSC Advances</i> , 2013, 3, 15475.	1.7	147
166	Repeatable self-healing of a microcapsule-type protective coating. <i>Polymer Chemistry</i> , 2013, 4, 4940.	1.9	81
167	Phenomenological modelling of self-healing polymers based on integrated healing agents. <i>Computational Mechanics</i> , 2013, 52, 681-692.	2.2	43
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169	Self-healing polymeric materials. <i>Chemical Society Reviews</i> , 2013, 42, 7446.	18.7	1,152
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174	A self-healing polymer network based on reversible covalent bonding. <i>Reactive and Functional Polymers</i> , 2013, 73, 413-420.	2.0	137
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