Jian Ping Gong

List of Publications by Citations

423 papers	24,762 citations	74 h-index	145 g-index
449 ext. papers	28,072 ext. citations	6.9 avg, IF	7.46 L-index

#	Paper	IF	Citations
423	Double-Network Hydrogels with Extremely High Mechanical Strength. *Advanced Materials*, **2003**, 15, 1155-1158	24	2799
422	Why are double network hydrogels so tough?. *Soft Matter*, **2010**, 6, 2583	3.6	1369
421	Physical hydrogels composed of polyampholytes demonstrate high toughness and viscoelasticity. *Nature Materials*, **2013**, 12, 932-7	27	1264
420	High Mechanical Strength Double-Network Hydrogel with Bacterial Cellulose. *Advanced Functional Materials*, **2004**, 14, 1124-1128	15.6	546
419	Large Strain Hysteresis and Mullins Effect of Tough Double-Network Hydrogels. *Macromolecules*, **2007**, 40, 2919-2927	5.5	496
418	Super tough double network hydrogels and their application as biomaterials. *Polymer*, **2012**, 53, 1805-1822	3.9	488
417	Soft and Wet Materials: Polymer Gels. *Advanced Materials*, **1998**, 10, 827-837	24	466
416	Oppositely charged polyelectrolytes form tough, self-healing, and rebuildable hydrogels. *Advanced Materials*, **2015**, 27, 2722-7	24	439
415	Novel hydrogels with excellent mechanical performance. *Progress in Polymer Science*, **2005**, 30, 1-9	29.6	359
414	Tough Physical Double-Network Hydrogels Based on Amphiphilic Triblock Copolymers. *Advanced Materials*, **2016**, 28, 4884-90	24	328
413	Mechanoresponsive self-growing hydrogels inspired by muscle training. *Science*, **2019**, 363, 504-508	33.3	299
412	Friction and lubrication of hydrogels-its richness and complexity. *Soft Matter*, **2006**, 2, 544-552	3.6	291
411	Lamellar Bilayers as Reversible Sacrificial Bonds To Toughen Hydrogel: Hysteresis, Self-Recovery, Fatigue Resistance, and Crack Blunting. *Macromolecules*, **2011**, 44, 8916-8924	5.5	282
410	Biomechanical properties of high-toughness double network hydrogels. *Biomaterials*, **2005**, 26, 4468-75	15.6	259
409	Materials science. Materials both tough and soft. *Science*, **2014**, 344, 161-2	33.3	253
408	Determination of fracture energy of high strength double network hydrogels. *Journal of Physical Chemistry B*, **2005**, 109, 11559-62	3.4	239
407	True Chemical Structure of Double Network Hydrogels. *Macromolecules*, **2009**, 42, 2184-2189	5.5	222

406	Microgel-Reinforced Hydrogel Films with High Mechanical Strength and Their Visible Mesoscale Fracture Structure. *Macromolecules*, **2011**, 44, 7775-7781	5.5	214
405	Unidirectional alignment of lamellar bilayer in hydrogel: one-dimensional swelling, anisotropic modulus, and stress/strain tunable structural color. *Advanced Materials*, **2010**, 22, 5110-4	24	210
404	Necking Phenomenon of Double-Network Gels. *Macromolecules*, **2006**, 39, 4641-4645	5.5	200
403	Stimuli-responsive polymer gels and their application to chemomechanical systems. *Progress in Polymer Science*, **1993**, 18, 187-226	29.6	196
402	Synthesis of hydrogels with extremely low surface friction. *Journal of the American Chemical Society* , **2001**, 123, 5582-3	16.4	190
401	Structural Characteristics of Double Network Gels with Extremely High Mechanical Strength. *Macromolecules*, **2004**, 37, 5370-5374	5.5	180
400	Double-Network Hydrogels Strongly Bondable to Bones by Spontaneous Osteogenesis Penetration. *Advanced Materials*, **2016**, 28, 6740-5	24	174
399	Mechano-actuated ultrafast full-colour switching in layered photonic hydrogels. *Nature Communications*, **2014**, 5, 4659	17.4	165
398	Characterization of internal fracture process of double network hydrogels under uniaxial elongation. *Soft Matter*, **2013**, 9, 1955-1966	3.6	161
397	Titration Behavior and Spectral Transitions of Water-Soluble Polythiophene Carboxylic Acids. *Macromolecules*, **1999**, 32, 3964-3969	5.5	155
396	Effect of polymer entanglement on the toughening of double network hydrogels. *Journal of Physical Chemistry B*, **2005**, 109, 16304-9	3.4	154
395	Tough Hydrogels with Fast, Strong, and Reversible Underwater Adhesion Based on a Multiscale Design. *Advanced Materials*, **2018**, 30, e1801884	24	154
394	Self-Healing Behaviors of Tough Polyampholyte Hydrogels. *Macromolecules*, **2016**, 49, 4245-4252	5.5	151
393	A Facile Method to Fabricate Anisotropic Hydrogels with Perfectly Aligned Hierarchical Fibrous Structures. *Advanced Materials*, **2018**, 30, 1704937	24	149
392	Direct Observation of Damage Zone around Crack Tips in Double-Network Gels. *Macromolecules*, **2009**, 42, 3852-3855	5.5	143
391	Mechanically Strong Hydrogels with Ultra-Low Frictional Coefficients. *Advanced Materials*, **2005**, 17, 535-538	24	143
390	A Universal Molecular Stent Method to Toughen any Hydrogels Based on Double Network Concept. *Advanced Functional Materials*, **2012**, 22, 4426-4432	15.6	141
389	Highly Extensible Double-Network Gels with Self-Assembling Anisotropic Structure. *Advanced Materials*, **2008**, 20, 4499-4503	24	140

388	A novel double-network hydrogel induces spontaneous articular cartilage regeneration in vivo in a large osteochondral defect. *Macromolecular Bioscience*, **2009**, 9, 307-16	5.5	135
387	Transition between Phantom and Affine Network Model Observed in Polymer Gels with Controlled Network Structure. *Macromolecules*, **2013**, 46, 1035-1040	5.5	134
386	Gel friction: A model based on surface repulsion and adsorption. *Journal of Chemical Physics*, **1998**, 109, 8062-8068	3.9	132
385	Proteoglycans and glycosaminoglycans improve toughness of biocompatible double network hydrogels. *Advanced Materials*, **2014**, 26, 436-42	24	127
384	Self-Adjustable Adhesion of Polyampholyte Hydrogels. *Advanced Materials*, **2015**, 27, 7344-8	24	127
383	Polymer Gels. *Journal of Macromolecular Science - Reviews in Macromolecular Chemistry and Physics*, **2004**, 44, 87-112		125
382	Lamellar hydrogels with high toughness and ternary tunable photonic stop-band. *Advanced Materials*, **2013**, 25, 3106-10	24	124
381	Biodegradation of high-toughness double network hydrogels as potential materials for artificial cartilage. *Journal of Biomedical Materials Research - Part A*, **2007**, 81, 373-80	5.4	122
380	Friction of Gels. 3. Friction on Solid Surfaces. *Journal of Physical Chemistry B*, **1999**, 103, 6001-6006	3.4	119
379	Friction of Gels. *Journal of Physical Chemistry B*, **1997**, 101, 5487-5489	3.4	117
378	Importance of Entanglement between First and Second Components in High-Strength Double Network Gels. *Macromolecules*, **2007**, 40, 6658-6664	5.5	117
377	Tubular bacterial cellulose gel with oriented fibrils on the curved surface. *Polymer*, **2008**, 49, 1885-1891	3.9	110
376	Friction of Gels. 4. Friction on Charged Gels. *Journal of Physical Chemistry B*, **1999**, 103, 6007-6014	3.4	110
375	Adjacent cationic-aromatic sequences yield strong electrostatic adhesion of hydrogels in seawater. *Nature Communications*, **2019**, 10, 5127	17.4	106
374	Inorganic/Organic Double-Network Gels Containing Ionic Liquids. *Advanced Materials*, **2017**, 29, 1704118	24	105
373	Structure Optimization and Mechanical Model for Microgel-Reinforced Hydrogels with High Strength and Toughness. *Macromolecules*, **2012**, 45, 5218-5228	5.5	105
372	Crack Blunting and Advancing Behaviors of Tough and Self-healing Polyampholyte Hydrogel. *Macromolecules*, **2014**, 47, 6037-6046	5.5	99
371	Fabrication of Bioinspired Hydrogels: Challenges and Opportunities. *Macromolecules*, **2020**, 53, 2769-2782	5.5	97

370	Yielding Criteria of Double Network Hydrogels. *Macromolecules*, **2016**, 49, 1865-1872	5.5	95
369	Effects of polyelectrolyte complexation on the UCST of zwitterionic polymer. *Polymer*, **2000**, 41, 141-147	3.9	95
368	Phase-Separation-Induced Anomalous Stiffening, Toughening, and Self-Healing of Polyacrylamide Gels. *Advanced Materials*, **2015**, 27, 6990-8	24	93
367	Brittle–ductile transition of double network hydrogels: Mechanical balance of two networks as the key factor. *Polymer*, **2014**, 55, 914-923	3.9	92
366	Water-Induced Brittle-Ductile Transition of Double Network Hydrogels. *Macromolecules*, **2010**, 43, 9495-9500	5.5	92
365	Double network hydrogels from polyzwitterions: high mechanical strength and excellent anti-biofouling properties. *Journal of Materials Chemistry B*, **2013**, 1, 3685-3693	7.3	91
364	Double-Network Strategy Improves Fracture Properties of Chondroitin Sulfate Networks.. *ACS Macro Letters*, **2013**, 2, 137-140	6.6	86
363	Rapid and Reversible Tuning of Structural Color of a Hydrogel over the Entire Visible Spectrum by Mechanical Stimulation. *Chemistry of Materials*, **2011**, 23, 5200-5207	9.6	86
362	Extremely tough composites from fabric reinforced polyampholyte hydrogels. *Materials Horizons*, **2015**, 2, 584-591	14.4	85
361	Energy-Dissipative Matrices Enable Synergistic Toughening in Fiber Reinforced Soft Composites. *Advanced Functional Materials*, **2017**, 27, 1605350	15.6	84
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359	Gel Machines Constructed from Chemically Cross-linked Actins and Myosins. *Advanced Materials*, **2002**, 14, 1124	24	84
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357	Anisotropic tough double network hydrogel from fish collagen and its spontaneous in vivo bonding to bone. *Biomaterials*, **2017**, 132, 85-95	15.6	81
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351	Bulk Energy Dissipation Mechanism for the Fracture of Tough and Self-Healing Hydrogels. *Macromolecules*, **2017**, 50, 2923-2931	5.5	76
350	Cultivation of endothelial cells on adhesive protein-free synthetic polymer gels. *Biomaterials*, **2005**, 26, 4588-96	15.6	76
349	Strong and Tough Polyion-Complex Hydrogels from Oppositely Charged Polyelectrolytes: A Comparative Study with Polyampholyte Hydrogels. *Macromolecules*, **2016**, 49, 2750-2760	5.5	73
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346	Thermodynamic interactions in double-network hydrogels. *Journal of Physical Chemistry B*, **2008**, 112, 3903-9	3.4	70
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343	Biological responses of novel high-toughness double network hydrogels in muscle and the subcutaneous tissues. *Journal of Materials Science: Materials in Medicine*, **2008**, 19, 1379-87	4.5	68
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335	Creating Stiff, Tough, and Functional Hydrogel Composites with Low-Melting-Point Alloys. *Advanced Materials*, **2018**, 30, e1706885	24	63

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333	Multiscale Energy Dissipation Mechanism in Tough and Self-Healing Hydrogels. *Physical Review Letters*, **2018**, 121, 185501	7.4	63
332	Tunable one-dimensional photonic crystals from soft materials. *Journal of Photochemistry and Photobiology C: Photochemistry Reviews*, **2015**, 23, 45-67	16.4	62
331	A phase diagram of neutral polyampholyte - from solution to tough hydrogel. *Journal of Materials Chemistry B*, **2013**, 1, 4555-4562	7.3	62
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