Jeffrey D Hartgerink

List of Publications by Citations

103 papers	13,239 citations	53 h-index	112 g-index
112 ext. papers	14,324 ext. citations	11.1 avg, IF	6.62 L-index

#	Paper	IF	Citations
103	Self-assembly and mineralization of peptide-amphiphile nanofibers. *Science*, **2001**, 294, 1684-8	33.3	3160
102	Peptide-amphiphile nanofibers: a versatile scaffold for the preparation of self-assembling materials. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 5133-8	11.5	1056
101	Self-assembly of peptide-amphiphile nanofibers: the roles of hydrogen bonding and amphiphilic packing. *Journal of the American Chemical Society*, **2006**, 128, 7291-8	16.4	550
100	Self-Assembling Peptide Nanotubes. *Journal of the American Chemical Society*, **1996**, 118, 43-50	16.4	536
99	Multi-hierarchical self-assembly of a collagen mimetic peptide from triple helix to nanofibre and hydrogel. *Nature Chemistry*, **2011**, 3, 821-8	17.6	468
98	Self-assembly combining two bioactive peptide-amphiphile molecules into nanofibers by electrostatic attraction. *Journal of the American Chemical Society*, **2003**, 125, 7146-7	16.4	399
97	Gold nanoparticles can induce the formation of protein-based aggregates at physiological pH. *Nano Letters*, **2009**, 9, 666-71	11.5	317
96	Self-assembly of multidomain peptides: balancing molecular frustration controls conformation and nanostructure. *Journal of the American Chemical Society*, **2007**, 129, 12468-72	16.4	281
95	Self-assembling multidomain peptide hydrogels: designed susceptibility to enzymatic cleavage allows enhanced cell migration and spreading. *Journal of the American Chemical Society*, **2010**, 132, 3217-23	16.4	273
94	Self-assembling peptide amphiphile nanofiber matrices for cell entrapment. *Acta Biomaterialia*, **2005**, 1, 387-97	10.8	260
93	Peptide Nanotubes and Beyond. *Chemistry - A European Journal*, **1998**, 4, 1367-1372	4.8	225
92	Dentin conditioning codetermines cell fate in regenerative endodontics. *Journal of Endodontics*, **2011**, 37, 1536-41	4.7	202
91	A customized self-assembling peptide hydrogel for dental pulp tissue engineering. *Tissue Engineering - Part A*, **2012**, 18, 176-84	3.9	201
90	Self-assembly of multidomain peptides: sequence variation allows control over cross-linking and viscoelasticity. *Biomacromolecules*, **2009**, 10, 2694-8	6.9	198
89	Oriented Self-Assembly of Cyclic Peptide Nanotubes in Lipid Membranes. *Journal of the American Chemical Society*, **1998**, 120, 4417-4424	16.4	190
88	Peptide-mediated formation of single-wall carbon nanotube composites. *Nano Letters*, **2006**, 6, 40-4	11.5	165
87	Enzyme-Mediated Degradation of Peptide-Amphiphile Nanofiber Networks. *Advanced Materials*, **2005**, 17, 2612-2617	24	163

86	Self-Assembling Multidomain Peptide Nanofibers for Delivery of Bioactive Molecules and Tissue Regeneration. *Accounts of Chemical Research*, **2017**, 50, 714-722	24.3	158
85	Injectable multidomain peptide nanofiber hydrogel as a delivery agent for stem cell secretome. *Biomacromolecules*, **2011**, 12, 1651-7	6.9	154
84	Peptide amphiphile nanofibers template and catalyze silica nanotube formation. *Langmuir*, **2007**, 23, 5033-8	4	148
83	Self-assembling peptide amphiphile nanofibers as a scaffold for dental stem cells. *Tissue Engineering - Part A*, **2008**, 14, 2051-8	3.9	147
82	Self-assembly of alpha-helical coiled coil nanofibers. *Journal of the American Chemical Society*, **2008**, 130, 13691-5	16.4	146
81	Synthetic collagen mimics: self-assembly of homotrimers, heterotrimers and higher order structures. *Chemical Society Reviews*, **2010**, 39, 3510-27	58.5	137
80	Scaffolds for dental pulp tissue engineering. *Advances in Dental Research*, **2011**, 23, 333-9	2.3	136
79	Self-assembled heterotrimeric collagen triple helices directed through electrostatic interactions. *Journal of the American Chemical Society*, **2007**, 129, 2683-90	16.4	134
78	Highly angiogenic peptide nanofibers. *ACS Nano*, **2015**, 9, 860-8	16.7	109
77	Aromatic amino acids providing characteristic motifs in the Raman and SERS spectroscopy of peptides. *Journal of Physical Chemistry B*, **2008**, 112, 9158-64	3.4	108
76	Synthesis of Collagen-like Peptide Polymers by Native Chemical Ligation. *Macromolecules*, **2005**, 38, 7555-7561	5.5	108
75	STINGel: Controlled release of a cyclic dinucleotide for enhanced cancer immunotherapy. *Biomaterials*, **2018**, 163, 67-75	15.6	100
74	A nanostructured synthetic collagen mimic for hemostasis. *Biomacromolecules*, **2014**, 15, 1484-90	6.9	98
73	Drug-triggered and cross-linked self-assembling nanofibrous hydrogels. *Journal of the American Chemical Society*, **2015**, 137, 4823-30	16.4	97
72	Self-assembling multidomain peptides tailor biological responses through biphasic release. *Biomaterials*, **2015**, 52, 71-8	15.6	89
71	Nanofibers and lyotropic liquid crystals from a class of self-assembling beta-peptides. *Angewandte Chemie - International Edition*, **2008**, 47, 1241-4	16.4	89
70	Supramolecular one-dimensional objects. *Current Opinion in Solid State and Materials Science*, **2001**, 5, 355-361	12	89
69	Self-Assembling Biomaterials: l-Lysine-Dendron-Substituted Cholesteryl-(l-lactic acid)n . *Macromolecules*, **2002**, 35, 6101-6111	5.5	86

68	Enzymatic cross-linking of a nanofibrous peptide hydrogel. *Biomacromolecules*, **2011**, 12, 82-7	6.9	83
67	Surprisingly high stability of collagen ABC heterotrimer: evaluation of side chain charge pairs. *Journal of the American Chemical Society*, **2007**, 129, 15034-41	16.4	80
66	Advances in immunotherapy delivery from implantable and injectable biomaterials. *Acta Biomaterialia*, **2019**, 88, 15-31	10.8	79
65	Self-assembly of fiber-forming collagen mimetic peptides controlled by triple-helical nucleation. *Journal of the American Chemical Society*, **2014**, 136, 14417-24	16.4	77
64	Synthesis and in vitro hydroxyapatite binding of peptides conjugated to calcium-binding moieties. *Biomacromolecules*, **2007**, 8, 2237-43	6.9	76
63	Synthetic collagen heterotrimers: structural mimics of wild-type and mutant collagen type I. *Journal of the American Chemical Society*, **2008**, 130, 7509-15	16.4	74
62	Fullerene-derivatized amino acids: synthesis, characterization, antioxidant properties, and solid-phase peptide synthesis. *Chemistry - A European Journal*, **2007**, 13, 2530-45	4.8	74
61	Treatment of hind limb ischemia using angiogenic peptide nanofibers. *Biomaterials*, **2016**, 98, 113-9	15.6	73
60	Self-assembling multidomain peptide fibers with aromatic cores. *Biomacromolecules*, **2013**, 14, 1370-8	6.9	69
59	Solution structure of an ABC collagen heterotrimer reveals a single-register helix stabilized by electrostatic interactions. *Journal of Biological Chemistry*, **2009**, 284, 26851-9	5.4	69
58	Peptides that non-covalently functionalize single-walled carbon nanotubes to give controlled solubility characteristics. *Journal of Materials Chemistry*, **2007**, 17, 1909		69
57	Biomimetic self-assembled nanofibers. *Soft Matter*, **2006**, 2, 177-181	3.6	68
56	Nanofibrous peptide hydrogel elicits angiogenesis and neurogenesis without drugs, proteins, or cells. *Biomaterials*, **2018**, 161, 154-163	15.6	66
55	Multidomain Peptide Hydrogel Accelerates Healing of Full-Thickness Wounds in Diabetic Mice. *ACS Biomaterials Science and Engineering*, **2018**, 4, 1386-1396	5.5	66
54	Self-assembling peptide coatings designed for highly luminescent suspension of single-walled carbon nanotubes. *Journal of the American Chemical Society*, **2008**, 130, 17134-40	16.4	66
53	Structural insights into charge pair interactions in triple helical collagen-like proteins. *Journal of Biological Chemistry*, **2012**, 287, 8039-47	5.4	61
52	Two-step self-assembly of liposome-multidomain peptide nanofiber hydrogel for time-controlled release. *Biomacromolecules*, **2014**, 15, 3587-95	6.9	61
51	Chain-length-dependent vibrational resonances in alkanethiol self-assembled monolayers observed on plasmonic nanoparticle substrates. *Nano Letters*, **2006**, 6, 2617-21	11.5	56

50	Lyotropic liquid crystals formed from ACHC-rich peptides. *Journal of the American Chemical Society*, **2011**, 133, 13604-13	16.4	51
49	Short homodimeric and heterodimeric coiled coils. *Biomacromolecules*, **2006**, 7, 691-5	6.9	51
48	Covalent capture: a natural complement to self-assembly. *Current Opinion in Chemical Biology*, **2004**, 8, 604-9	9.7	51
47	Role of hydrophobic clusters in the stability of alpha-helical coiled coils and their conversion to amyloid-like beta-sheets. *Biomacromolecules*, **2007**, 8, 617-23	6.9	48
46	Scaffolds to control inflammation and facilitate dental pulp regeneration. *Journal of Endodontics*, **2014**, 40, S6-12	4.7	46
45	Sequence effects of self-assembling multidomain peptide hydrogels on encapsulated SHED cells. *Biomacromolecules*, **2014**, 15, 2004-11	6.9	44
44	Chemical functionality of multidomain peptide hydrogels governs early host immune response. *Biomaterials*, **2020**, 231, 119667	15.6	44
43	"Missing Tooth" Multidomain Peptide Nanofibers for Delivery of Small Molecule Drugs. *Biomacromolecules*, **2016**, 17, 2087-95	6.9	42
42	Selective assembly of a high stability AAB collagen heterotrimer. *Journal of the American Chemical Society*, **2010**, 132, 3242-3	16.4	42
41	Electrostatic Catalysis of the Claisen Rearrangement: Probing the Role of Glu78 in Bacillus subtilis Chorismate Mutase by Genetic Selection. *Journal of the American Chemical Society*, **1996**, 118, 3069-3070	16.4	42
40	Computational design of self-assembling register-specific collagen heterotrimers. *Nature Communications*, **2012**, 3, 1087	17.4	40
39	Positive and negative design leads to compositional control in AAB collagen heterotrimers. *Journal of the American Chemical Society*, **2011**, 133, 5432-43	16.4	40
38	Inhibition of cancer cell proliferation by designed peptide amphiphiles. *Acta Biomaterialia*, **2009**, 5, 842-53	10.8	40
37	Nanofibrous Snake Venom Hemostat. *ACS Biomaterials Science and Engineering*, **2015**, 1, 1300-1305	5.5	38
36	Hydroxyproline-free single composition ABC collagen heterotrimer. *Journal of the American Chemical Society*, **2013**, 135, 6014-7	16.4	37
35	Biomaterials and their potential applications for dental tissue engineering. *Journal of Materials Chemistry*, **2010**, 20, 8730		37
34	Covalent Capture of Aligned Self-Assembling Nanofibers. *Journal of the American Chemical Society*, **2017**, 139, 8044-8050	16.4	36
33	Peptide nanofibers preconditioned with stem cell secretome are renoprotective. *Journal of the American Society of Nephrology: JASN*, **2011**, 22, 704-17	12.7	35

32	Modulation of peptide-amphiphile nanofibers via phospholipid inclusions. *Biomacromolecules*, **2006**, 7, 24-6	6.9	32
31	Rational design of single-composition ABC collagen heterotrimers. *Journal of the American Chemical Society*, **2012**, 134, 1430-3	16.4	30
30	Multidomain peptides as single-walled carbon nanotube surfactants in cell culture. *Biomacromolecules*, **2009**, 10, 2201-6	6.9	30
29	Controlled Angiogenesis in Peptide Nanofiber Composite Hydrogels. *ACS Biomaterials Science and Engineering*, **2015**, 1, 845-854	5.5	28
28	Tuning the mechanical and bioresponsive properties of peptide-amphiphile nanofiber networks. *Journal of Biomaterials Science, Polymer Edition*, **2008**, 19, 665-76	3.5	28
27	Rational design of a non-canonical "sticky-ended" collagen triple helix. *Journal of the American Chemical Society*, **2014**, 136, 7535-8	16.4	27
26	Pairwise interactions in collagen and the design of heterotrimeric helices. *Current Opinion in Chemical Biology*, **2013**, 17, 960-7	9.7	25
25	Self-Assembling Multidomain Peptides: Design and Characterization of Neutral Peptide-Based Materials with pH and Ionic Strength Independent Self-Assembly. *ACS Biomaterials Science and Engineering*, **2019**, 5, 977-985	5.5	23
24	Self-assembling multidomain peptide hydrogels accelerate peripheral nerve regeneration after crush injury. *Biomaterials*, **2021**, 265, 120401	15.6	19
23	Simultaneous control of composition and register of an AAB-type collagen heterotrimer. *Biomacromolecules*, **2013**, 14, 179-85	6.9	17
22	Glycine Substitutions in Collagen Heterotrimers Alter Triple Helical Assembly. *Biomacromolecules*, **2017**, 18, 617-624	6.9	16
21	Ex Vivo Modeling of Multidomain Peptide Hydrogels with Intact Dental Pulp. *Journal of Dental Research*, **2015**, 94, 1773-81	8.1	14
20	Influence of injection technique, drug formulation and tumor microenvironment on intratumoral immunotherapy delivery and efficacy **2021**, 9,		13
19	Synthetic, Register-Specific, AAB Heterotrimers to Investigate Single Point Glycine Mutations in Osteogenesis Imperfecta. *Biomacromolecules*, **2016**, 17, 914-21	6.9	12
18	Chain alignment of collagen I deciphered using computationally designed heterotrimers. *Nature Chemical Biology*, **2020**, 16, 423-429	11.7	12
17	Control of Collagen Triple Helix Stability by Phosphorylation. *Biomacromolecules*, **2017**, 18, 1157-1161	6.9	11
16	Predicting the stability of homotrimeric and heterotrimeric collagen helices. *Nature Chemistry*, **2021**, 13, 260-269	17.6	11
15	Drug-Mimicking Nanofibrous Peptide Hydrogel for Inhibition of Inducible Nitric Oxide Synthase. *ACS Biomaterials Science and Engineering*, **2019**, 5, 6755-6765	5.5	10

List of Publications

14	Covalent Capture of a Heterotrimeric Collagen Helix. *Organic Letters*, **2019**, 21, 5480-5484	6.2	9
13	Comparative NMR analysis of collagen triple helix organization from N- to C-termini. *Biomacromolecules*, **2015**, 16, 145-55	6.9	9
12	Covalent Capture of Collagen Triple Helices Using Lysine-Aspartate and Lysine-Glutamate Pairs. *Biomacromolecules*, **2020**, 21, 3772-3781	6.9	6
11	Biomaterial-Facilitated Immunotherapy for Established Oral Cancers. *ACS Biomaterials Science and Engineering*, **2021**, 7, 415-421	5.5	6
10	Local Anti-PD-1 Delivery Prevents Progression of Premalignant Lesions in a 4NQO-Oral Carcinogenesis Mouse Model. *Cancer Prevention Research*, **2021**, 14, 767-778	3.2	5
9	Sequence position and side chain length dependence of charge pair interactions in collagen triple helices. *Macromolecular Rapid Communications*, **2012**, 33, 1445-52	4.8	4
8	Nanostructured Collagen Mimics in Tissue Engineering **2005**, 95-117		3
7	Evaluating the physicochemical effects of conjugating peptides into thermogelling hydrogels for regenerative biomaterials applications.. *International Journal of Energy Production and Management* , **2021**, 8, rbab073	5.3	2
6	Self Assembling Organic Nanotubes **1996**, 181-188		1
5	Charge-Free, Stabilizing Amide-Interactions Can Be Used to Control Collagen Triple-Helix Self-Assembly. *Biomacromolecules*, **2021**, 22, 2137-2147	6.9	1
4	Peptide Nanotubes and Beyond **1998**, 4, 1367		1
3	Recent Advances in Supramolecular Polymers **2007**, 715-722		1
2	Supramolecular Polymerization of Peptides and Peptide Derivatives: Nanofibrous Materials359-393		
1	Selective covalent capture of collagen triple helices with a minimal protecting group strategy.. *Chemical Science*, **2022**, 13, 2789-2796	9.4	