David A Spiegel

List of Publications by Year
in descending order

55 papers	2,864 citations	201674 27 h-index	175258 52 g-index
60 all docs	60 docs citations	60 times ranked	3843 citing authors

#	Article	IF	Citations
1	A Comprehensive Mathematical Model for Three-Body Binding Equilibria. Journal of the American Chemical Society, 2013, 135, 6092-6099.	13.7	310
2	Deoxygenation of Alcohols Employing Water as the Hydrogen Atom Source. Journal of the American Chemical Society, 2005, 127, 12513-12515.	13.7	213
3	A â€œTurn-Onâ€•Fluorescent Sensor for Methylglyoxal. Journal of the American Chemical Society, 2013, 135, 12429-12433.	13.7	163
4	Regulatory myeloid cells paralyze T cells through cellâ€“cell transfer of the metabolite methylglyoxal. Nature Immunology, 2020, 21, 555-566.	14.5	147
5	A Remote Arene-Binding Site on Prostate Specific Membrane Antigen Revealed by Antibody-Recruiting Small Molecules. Journal of the American Chemical Society, 2010, 132, 12711-12716.	13.7	131
6	Methylglyoxal-derived posttranslational arginine modifications are abundant histone marks. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9228-9233.	7.1	123
7	Non-enzymatic Lysine Lactoylation of Glycolytic Enzymes. Cell Chemical Biology, 2020, 27, 206-213.e6.	5.2	114
8	Antibody-Recruiting Molecules: An Emerging Paradigm for Engaging Immune Function in Treating Human Disease. ACS Chemical Biology, 2012, 7, 1139-1151.	3.4	113
9	Chemical Control over Immune Recognition: A Class of Antibody-Recruiting Small Molecules That Target Prostate Cancer. Journal of the American Chemical Society, 2009, 131, 17090-17092.	13.7	106
10	Methylglyoxal, a glycolysis side-product, induces Hsp90 glycation and YAP-mediated tumor growth and metastasis. ELife, 2016, 5, .	6.0	100
11	Bifunctional small molecules that mediate the degradation of extracellular proteins. Nature Chemical Biology, 2021, 17, 947-953.	8.0	87
12	An Antibody-Recruiting Small Molecule That Targets HIV gp120. Journal of the American Chemical Society, 2009, 131, 16392-16394.	13.7	76
13	Glyoxalase Goes Green: The Expanding Roles of Glyoxalase in Plants. International Journal of Molecular Sciences, 2017, 18, 898.	4.1	73
14	Click-coated, heparinized, decellularized vascular grafts. Acta Biomaterialia, 2015, 13, 177-187.	8.3	65
15	A Biosynthetic Strategy for Re-engineering theStaphylococcus aureusCell Wall with Non-native Small Molecules. ACS Chemical Biology, 2010, 5, 1147-1155.	3.4	63
16	Reâ€engineering the Immune Response to Metastatic Cancer: Antibodyâ€Recruiting Small Molecules Targeting the Urokinase Receptor. Angewandte Chemie - International Edition, 2016, 55, 3642-3646.	13.8	63
17	Hormetic potential of methylglyoxal, a side-product of glycolysis, in switching tumours from growth to death. Scientific Reports, 2017, 7, 11722.	3.3	60
18	Exploring Binding and Effector Functions of Natural Human Antibodies Using Synthetic Immunomodulators. ACS Chemical Biology, 2013, 8, 2404-2411.	3.4	59

#	Article	IF	Citations
19	The Art of Innovation in Organic Chemistry:Â Synthetic Efforts toward the Phomoidrides. Chemical Reviews, 2003, 103, 2691-2728.	47.7	54
20	An Expeditious Approach toward the Total Synthesis of CP-263,114. Organic Letters, 2001, 3, 2435-2438.	4.6	51
21	A Nanobody Activation Immunotherapeutic that Selectively Destroys HER2â€Positive Breast Cancer Cells. ChemBioChem, 2016, 17, 155-158.	2.6	45
22	A Chemically Induced Vaccine Strategy for Prostate Cancer. ACS Chemical Biology, 2011, 6, 1223-1231.	3.4	42
23	Chemically Synthesized Molecules with the Targeting and Effector Functions of Antibodies. Journal of the American Chemical Society, 2014, 136, 18034-18043.	13.7	40
24	Concise total synthesis of glucosepane. Science, 2015, 350, 294-298.	12.6	40
25	Exploring Post-translational Arginine Modification Using Chemically Synthesized Methylglyoxal Hydroimidazolones. Journal of the American Chemical Society, 2012, 134, 8958-8967.	13.7	39
26	Exterior design: strategies for redecorating the bacterial surface with small molecules. Trends in Biotechnology, 2013, 31, 258-267.	9.3	39
27	Chemical Probes Reveal an Extraseptal Mode of Cross-Linking in Staphylococcus aureus. Journal of the American Chemical Society, 2015, 137, 7441-7447.	13.7	37
28	Wall teichoic acids prevent antibody binding to epitopes within the cell wall of Staphylococcus aureus. ACS Chemical Biology, 2016, 11, 25-30.	3.4	35
29	An Activityâ€Based Probe for Studying Crosslinking in Live Bacteria. Angewandte Chemie - International Edition, 2015, 54, 10492-10496.	13.8	33
30	Age-related changes in the physical properties, cross-linking, and glycation of collagen from mouse tail tendon. Journal of Biological Chemistry, 2020, 295, 10562-10571.	3.4	27
31	Reprogramming Urokinase into an Antibody-Recruiting Anticancer Agent. ACS Chemical Biology, 2012, 7, 316-321.	3.4	25
32	Synthetic Rhamnose Glycopolymer Cell-Surface Receptor for Endogenous Antibody Recruitment. Biomacromolecules, 2020, 21, 793-802.	5.4	24
33	Grand Challenge Commentary: Synthetic immunology to engineer human immunity. Nature Chemical Biology, 2010, 6, 871-872.	8.0	23
34	Generation and characterization of antibodies against arginine-derived advanced glycation endproducts. Bioorganic and Medicinal Chemistry Letters, 2015, 25, 4881-4886.	2.2	23
35	Reâ€engineering the Immune Response to Metastatic Cancer: Antibodyâ€Recruiting Small Molecules Targeting the Urokinase Receptor. Angewandte Chemie, 2016, 128, 3706-3710.	2.0	23
36	A low glycemic diet protects disease-prone Nrf2-deficient mice against age-related macular degeneration. Free Radical Biology and Medicine, 2020, 150, 75-86.	2.9	23

#	Article	IF	Citations
37	Sirtuin 2 Regulates Protein LactoylLys Modifications. ChemBioChem, 2021, 22, 2102-2106.	2.6	23
38	Classically activated mouse macrophages produce methylglyoxal that induces a TLR4- and RAGE-independent proinflammatory response. Journal of Leukocyte Biology, 2021, 109, 605-619.	3.3	22
39	Illuminating HIV gp120-ligand recognition through computationally-driven optimization of antibody-recruiting molecules. Chemical Science, 2014, 5, 2311-2317.	7.4	19
40	Glycation and Serum Albumin Infiltration Contribute to the Structural Degeneration of Bioprosthetic Heart Valves. JACC Basic To Translational Science, 2020, 5, 755-766.	4.1	19
41	Combined Methylglyoxal Scavenger and Collagen Hydrogel Therapy Prevents Adverse Remodeling and Improves Cardiac Function Postâ€Myocardial Infarction. Advanced Functional Materials, 2022, 32, 2108630.	14.9	14
42	Neutralization of Pathogenic Fungi with Smallâ€Molecule Immunotherapeutics. Angewandte Chemie - International Edition, 2017, 56, 13036-13040.	13.8	11
43	Biocatalytic Reversal of Advanced Glycation End Product Modification. ChemBioChem, 2019, 20, 2402-2410.	2.6	10
44	Peptidines: glycine-amidine-based oligomers for solution- and solid-phase synthesis. Chemical Science, 2016, 7, 3317-3324.	7.4	9
45	Oneâ€Step Synthesis of 2,5â€Diaminoimidazoles and Total Synthesis of Methylglyoxalâ€Derived Imidazolium Crosslink (MODIC). Angewandte Chemie - International Edition, 2019, 58, 18913-18917.	13.8	7
46	A call to ARMs: the promise of immunomodulatory small molecules. Expert Review of Clinical Pharmacology, 2013, 6, 223-225.	3.1	6
47	Serendipitous discovery of two highly selective inhibitors ofÂbacterial luciferase. Tetrahedron, 2013, 69, 7692-7698.	1.9	6
48	Encoded Silicon-Chip-Based Platform for Combinatorial Synthesis and Screening. ACS Combinatorial Science, 2017, 19, 255-261.	3.8	6
49	Model studies of advanced glycation end product modification of heterograft biomaterials: The effects of in vitro glucose, glyoxal, and serum albumin on collagen structure and mechanical properties. Acta Biomaterialia, 2021, 123, 275-285.	8.3	6
50	Generation and Characterization of Anti-Glucosepane Antibodies Enabling Direct Detection of Glucosepane in Retinal Tissue. ACS Chemical Biology, 2020, 15, 2655-2661.	3.4	3
51	Fluorescent stem peptide mimics: In situ probes for peptidoglycan crosslinking. Methods in Enzymology, 2020, 638, 57-67.	1.0	2
52	Neutralization of Pathogenic Fungi with Smallâ€Molecule Immunotherapeutics. Angewandte Chemie, 2017, 129, 13216-13220.	2.0	1
53	Oneâ€Step Synthesis of 2,5â€Diaminoimidazoles and Total Synthesis of Methylglyoxalâ€Derived Imidazolium Crosslink (MODIC). Angewandte Chemie, 2019, 131, 19089-19093.	2.0	1
54	Comment on a suite of mathematical solutions to describe ternary complex formation and their application to targeted protein degradation by heterobifunctional ligands. Journal of Biological Chemistry, 2021, 296, 100331.	3.4	1

#	Article	IF	Citations
55	A Slick Solution to a Sticky Problem. Biochemistry, 2018, 57, 5923-5924.	2.5	0