Damien Thompson

List of Publications by Citations

127 papers	2,738 citations	28 h-index	46 g-index
145 ext. papers	3,501 ext. citations	9.5 avg, IF	5.45 L-index

#	Paper	IF	Citations
127	The role of van der Waals forces in the performance of molecular diodes. *Nature Nanotechnology*, **2013**, 8, 113-8	28.7	245
126	Controlling the direction of rectification in a molecular diode. *Nature Communications*, **2015**, 6, 6324	17.4	153
125	Molecular diodes with rectification ratios exceeding 10 driven by electrostatic interactions. *Nature Nanotechnology*, **2017**, 12, 797-803	28.7	148
124	Control of piezoelectricity in amino acids by supramolecular packing. *Nature Materials*, **2018**, 17, 180-186	27	118
123	Gradient-driven motion of multivalent ligand molecules along a surface functionalized with multiple receptors. *Nature Chemistry*, **2011**, 3, 317-22	17.6	86
122	On the remarkable role of surface topography of the bottom electrodes in blocking leakage currents in molecular diodes. *Journal of the American Chemical Society*, **2014**, 136, 6554-7	16.4	77
121	Nanoparticle-based drug delivery: case studies for cancer and cardiovascular applications. *Cellular and Molecular Life Sciences*, **2012**, 69, 389-404	10.3	64
120	Organic piezoelectric materials: milestones and potential. *NPG Asia Materials*, **2019**, 11,	10.3	57
119	Non-Covalent Functionalization of Graphene Using Self-Assembly of Alkane-Amines. *Advanced Functional Materials*, **2012**, 22, 717-725	15.6	57
118	Even the Odd Numbers Help: Failure Modes of SAM-Based Tunnel Junctions Probed via Odd-Even Effects Revealed in Synchrotrons and Supercomputers. *Accounts of Chemical Research*, **2016**, 49, 2061-2069	24.3	56
117	Electric-field-driven dual-functional molecular switches in tunnel junctions. *Nature Materials*, **2020**, 19, 843-848	27	54
116	One Carbon Matters: The Origin and Reversal of Odd–Even Effects in Molecular Diodes with Self-Assembled Monolayers of Ferrocenyl-Alkanethiolates. *Journal of Physical Chemistry C*, **2015**, 119, 17910-17919	3.8	50
115	Alchemical free energy simulations for biological complexes: powerful but temperamental. *Journal of Molecular Recognition*, **2010**, 23, 117-27	2.6	46
114	Bioinspired Stable and Photoluminescent Assemblies for Power Generation. *Advanced Materials*, **2019**, 31, e1807481	24	41
113	Nonideal Electrochemical Behavior of Ferrocenyl–Alkanethiolate SAMs Maps the Microenvironment of the Redox Unit. *Journal of Physical Chemistry C*, **2015**, 119, 21978-21991	3.8	41
112	Monofunctionalized gold nanoparticles stabilized by a single dendrimer form dumbbell structures upon homocoupling. *Journal of the American Chemical Society*, **2012**, 134, 14674-7	16.4	39
111	One-Nanometer Thin Monolayers Remove the Deleterious Effect of Substrate Defects in Molecular Tunnel Junctions. *Nano Letters*, **2015**, 15, 6643-9	11.5	38

110	Charge disproportionate molecular redox for discrete memristive and memcapacitive switching. *Nature Nanotechnology*, **2020**, 15, 380-389	28.7	37
109	Gold nanoparticles stabilized by thioether dendrimers. *Chemistry - A European Journal*, **2011**, 17, 13473-84	4.8	37
108	Noncovalent Self-Assembled Monolayers on Graphene as a Highly Stable Platform for Molecular Tunnel Junctions. *Advanced Materials*, **2016**, 28, 631-9	24	35
107	Nanoscale Engineering of Designer Cellulosomes. *Advanced Materials*, **2016**, 28, 5619-47	24	35
106	Free-energy simulations and experiments reveal long-range electrostatic interactions and substrate-assisted specificity in an aminoacyl-tRNA synthetase. *ChemBioChem*, **2006**, 7, 337-44	3.8	34
105	Molecular dynamics study of naturally occurring defects in self-assembled monolayer formation. *ACS Nano*, **2010**, 4, 921-32	16.7	33
104	Molecular dynamics simulations show that bound Mg2+ contributes to amino acid and aminoacyl adenylate binding specificity in aspartyl-tRNA synthetase through long range electrostatic interactions. *Journal of Biological Chemistry*, **2006**, 281, 23792-803	5.4	33
103	Controlling Protein Surface Orientation by Strategic Placement of Oligo-Histidine Tags. *ACS Nano*, **2017**, 11, 9068-9083	16.7	31
102	Self-Assembled Cationic Cyclodextrin Nanostructures for siRNA Delivery. *Molecular Pharmaceutics*, **2019**, 16, 1358-1366	5.6	28
101	On the hydration of subnanometric antifouling organosilane adlayers: a molecular dynamics simulation. *Journal of Colloid and Interface Science*, **2015**, 437, 197-204	9.3	28
100	Complete aggregation pathway of amyloid (1-40) and (1-42) resolved on an atomically clean interface. *Science Advances*, **2020**, 6, eaaz6014	14.3	28
99	Racemic Amino Acid Piezoelectric Transducer. *Physical Review Letters*, **2019**, 122, 047701	7.4	27
98	Nanoelectrical analysis of single molecules and atomic-scale materials at the solid/liquid interface. *Nature Materials*, **2014**, 13, 947-53	27	27
97	Modeling competitive guest binding to beta-cyclodextrin molecular printboards. *Journal of Physical Chemistry B*, **2006**, 110, 16640-5	3.4	26
96	Familial Mutations May Switch Conformational Preferences in Synuclein Fibrils. *ACS Chemical Neuroscience*, **2017**, 8, 837-849	5.7	25
95	Scanning the potential energy surface for synthesis of dendrimer-wrapped gold clusters: design rules for true single-molecule nanostructures. *ACS Nano*, **2012**, 6, 3007-17	16.7	25
94	Physisorption Controls the Conformation and Density of States of an Adsorbed Porphyrin. *Journal of Physical Chemistry C*, **2015**, 119, 27982-27994	3.8	24
93	Stable Molecular Diodes Based on Interactions of the Molecular Frontier Orbitals with Graphene Electrodes. *Advanced Materials*, **2018**, 30, 1706322	24	23

92	Nanoscale dynamics and protein adhesivity of alkylamine self-assembled monolayers on graphene. *Langmuir*, **2013**, 29, 7271-82	4	23
91	Probing Crystal Nucleation of Fenoxycarb from Solution through the Effect of Solvent. *Crystal Growth and Design*, **2019**, 19, 2037-2049	3.5	22
90	Quantification of ink diffusion in microcontact printing with self-assembled monolayers. *Langmuir*, **2009**, 25, 242-7	4	22
89	Interaction of acridine-calix[4]arene with DNA at the electrified liquid|liquid interface. *Electrochimica Acta*, **2010**, 55, 3348-3354	6.7	22
88	Ammonium scanning in an enzyme active site. The chiral specificity of aspartyl-tRNA synthetase. *Journal of Biological Chemistry*, **2007**, 282, 30856-68	5.4	22
87	Modelling the active sites in vanadyl pyrophosphate. *Journal of Molecular Catalysis A*, **2003**, 198, 125-137		22
86	Accelerated charge transfer in water-layered peptide assemblies. *Energy and Environmental Science*, **2020**, 13, 96-101	35.4	21
85	Deconstructing collagen piezoelectricity using alanine-hydroxyproline-glycine building blocks. *Nanoscale*, **2018**, 10, 9653-9663	7.7	20
84	Molecular Simulations Reveal Terminal Group Mediated Stabilization of Helical Conformers in Both Amyloid-□2 and □Synuclein. *ACS Chemical Neuroscience*, **2019**, 10, 2830-2842	5.7	19
83	Large directional conductivity change in chemically stable layered thin films of vanadium oxide and a 1D metal complex. *Journal of Materials Chemistry C*, **2013**, 1, 5675	7.1	19
82	Restoring the Electrical Properties of CVD Graphene via Physisorption of Molecular Adsorbates. *ACS Applied Materials & Interfaces*, **2017**, 9, 25014-25022	9.5	19
81	Decision trees within a molecular memristor. *Nature*, **2021**, 597, 51-56	50.4	19
80	Diphenylalanine-Derivative Peptide Assemblies with Increased Aromaticity Exhibit Metal-like Rigidity and High Piezoelectricity. *ACS Nano*, **2020**, 14, 7025-7037	16.7	18
79	Tunable Mechanical and Optoelectronic Properties of Organic Cocrystals by Unexpected Stacking Transformation from H- to J- and X-Aggregation. *ACS Nano*, **2020**, 14, 10704-10715	16.7	18
78	Reassigning the most stable surface of hydroxyapatite to the water resistant hydroxyl terminated (010) surface. *Surface Science*, **2014**, 623, 55-63	1.8	17
77	Interdigitating organic bilayers direct the short interlayer spacing in hybrid organic-inorganic layered vanadium oxide nanostructures. *Journal of Physical Chemistry B*, **2011**, 115, 14518-25	3.4	17
76	Computer simulations reveal a novel nucleotide-type binding orientation for ellipticine-based anticancer c-kit kinase inhibitors. *Biochemistry*, **2008**, 47, 10333-44	3.2	17
75	Longitudinal Piezoelectricity in Orthorhombic Amino Acid Crystal Films. *Crystal Growth and Design*, **2018**, 18, 4844-4848	3.5	16

74	Electronic structure calculations and physicochemical experiments quantify the competitive liquid ion association and probe stabilisation effects for nitrobenzospiropyran in phosphonium-based ionic liquids. *Physical Chemistry Chemical Physics*, **2011**, 13, 6156-68	3.6	16
73	Linker-mediated assembly of gold nanoparticles into multimeric motifs. *Nanotechnology*, **2011**, 22, 445601	3.4	16
72	Guanidinium chloride molecular diffusion in aqueous and mixed water-ethanol solutions. *Journal of Physical Chemistry B*, **2008**, 112, 8906-11	3.4	16
71	Free energy balance predicates dendrimer binding multivalency at molecular printboards. *Langmuir* , **2007**, 23, 8441-51	4	16
70	Re-designing the β-synuclein tetramer. *Chemical Communications*, **2018**, 54, 8080-8083	5.8	16
69	Accommodating Curvature in a Highly Ordered Functionalized Metal Oxide Nanofiber: Synthesis, Characterization, and Multiscale Modeling of Layered Nanosheets. *Chemistry of Materials*, **2012**, 24, 3981-3992	9.6	15
68	On the ubiquity of helical β-synuclein tetramers. *Physical Chemistry Chemical Physics*, **2019**, 21, 12036-12043	3.6	14
67	Capturing the embryonic stages of self-assembly - design rules for molecular computation. *Scientific Reports*, **2015**, 5, 10116	4.9	14
66	Molecular dynamics of the "hydrophobic patch" that immobilizes hydrophobin protein HFBII on silicon. *Journal of Molecular Modeling*, **2011**, 17, 2227-35	2	14
65	Supramolecular Structure of the Monolayer Triggers Odd–Even Effects in the Tunneling Rates across Noncovalent Junctions on Graphene. *Journal of Physical Chemistry C*, **2017**, 121, 4172-4180	3.8	13
64	The length but not the sequence of peptide linker modules exerts the primary influence on the conformations of protein domains in cellulosome multi-enzyme complexes. *Physical Chemistry Chemical Physics*, **2017**, 19, 21414-21425	3.6	13
63	Peptide Recognition Capabilities of Cellulose in Molecular Dynamics Simulations. *Journal of Physical Chemistry C*, **2015**, 119, 24404-24416	3.8	13
62	Probing electrostatic interactions and ligand binding in aspartyl-tRNA synthetase through site-directed mutagenesis and computer simulations. *Proteins: Structure, Function and Bioinformatics*, **2008**, 71, 1450-60	4.2	12
61	Colossal current and voltage tunability in an organic memristor via electrode engineering. *Applied Materials Today*, **2020**, 19, 100626	6.6	11
60	The fold preference and thermodynamic stability of β-synuclein fibrils is encoded in the non-amyloid-β component region. *Physical Chemistry Chemical Physics*, **2018**, 20, 4502-4512	3.6	11
59	Coarse-grained molecular dynamics simulations of nanopatterning with multivalent inks. *Journal of Chemical Physics*, **2008**, 128, 234906	3.9	11
58	Molecular engineering of piezoelectricity in collagen-mimicking peptide assemblies. *Nature Communications*, **2021**, 12, 2634	17.4	11
57	Formation Mechanism of Metal–Molecule–Metal Junctions: Molecule-Assisted Migration on Metal Defects. *Journal of Physical Chemistry C*, **2015**, 119, 19438-19451	3.8	10

56	Direct measurement of the local field within alkyl-ferrocenyl-alkanethiolate monolayers: Importance of the supramolecular and electronic structure on the voltammetric response and potential profile. *Electrochimica Acta*, **2019**, 311, 92-102	6.7	9
55	Revisiting the earliest signatures of amyloidogenesis: Roadmaps emerging from computational modeling and experiment. *Wiley Interdisciplinary Reviews: Computational Molecular Science*, **2018**, 8, e1359	7.9	9
54	Ordering of Air-Oxidized Decanethiols on Au(111). *Journal of Physical Chemistry C*, **2018**, 122, 8430-8436	3.8	9
53	A DFT periodic study of the vanadyl pyrophosphate (100) surface. *Surface Science*, **2003**, 547, 438-451	1.8	9
52	Modulation of physical properties of organic cocrystals by amino acid chirality. *Materials Today*, **2021**, 42, 29-40	21.8	9
51	. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2018**, 25, 803-807	2.3	8
50	The interplay of electrostatic and covalent effects in 1-butene oxidation over vanadyl pyrophosphate. *Journal of Molecular Catalysis A*, **2003**, 206, 435-439		8
49	Design principles of dual-functional molecular switches in solid-state tunnel junctions. *Applied Physics Letters*, **2020**, 117, 030502	3.4	8
48	Atomistic-Benchmarking towards a protocol development for rapid quantitative metrology of piezoelectric biomolecular materials. *Applied Materials Today*, **2020**, 21, 100818	6.6	8
47	Understanding solid-state processing of pharmaceutical cocrystals via milling: Role of tablet excipients. *International Journal of Pharmaceutics*, **2021**, 601, 120514	6.5	8
46	Fingerprinting Electronic Molecular Complexes in Liquid. *Scientific Reports*, **2016**, 6, 19009	4.9	8
45	The supramolecular structure and van der Waals interactions affect the electronic structure of ferrocenyl-alkanethiolate SAMs on gold and silver electrodes. *Nanoscale Advances*, **2019**, 1, 1991-2002	5.1	7
44	Graphene wrinkle effects on molecular resonance states. *Npj 2D Materials and Applications*, **2018**, 2,	8.8	7
43	Mechanostability of cohesin-dockerin complexes in a structure-based model: anisotropy and lack of universality in the force profiles. *Journal of Chemical Physics*, **2014**, 141, 245103	3.9	7
42	A multi-scale molecular dynamics study of the assembly of micron-size supraparticles from 30 nm alkyl-coated nanoparticles. *Physical Chemistry Chemical Physics*, **2013**, 15, 8132-43	3.6	7
41	On the distinct binding modes of expansin and carbohydrate-binding module proteins on crystalline and nanofibrous cellulose: implications for cellulose degradation by designer cellulosomes. *Physical Chemistry Chemical Physics*, **2018**, 20, 8278-8293	3.6	6
40	Hydrocarbon Selective Oxidation on Vanadium Phosphorus Oxide Catalysts: Insights from Electronic Structure Calculations. *Topics in Catalysis*, **2008**, 50, 116-123	2.3	6
39	Electronic structure of the extended vanadyl pyrophosphate (1 0 0) surface. *Catalysis Today*, **2004**, 91-92, 177-180	5.3	6

38	Nanoconfined water governs polarization-related properties of self-assembled peptide nanotubes. *Nano Select*, **2021**, 2, 817-829	3.1	6
37	Long-range Regulation of Partially Folded Amyloidogenic Peptides. *Scientific Reports*, **2020**, 10, 7597	4.9	5
36	Monolayer Packing, Dehydration, and Ink-Binding Dynamics at the Molecular Printboard. *Journal of Physical Chemistry C*, **2009**, 113, 7298-7304	3.8	5
35	The effective concentration of unbound ink anchors at the molecular printboard. *Journal of Physical Chemistry B*, **2008**, 112, 4994-9	3.4	5
34	In silico engineering of tailored ink-binding ability at molecular printboards. *ChemPhysChem*, **2007**, 8, 1684-93	3.2	5
33	A single atom change turns insulating saturated wires into molecular conductors. *Nature Communications*, **2021**, 12, 3432	17.4	5
32	Steered molecular dynamics simulations reveal the role of Ca in regulating mechanostability of cellulose-binding proteins. *Physical Chemistry Chemical Physics*, **2018**, 20, 22674-22680	3.6	4
31	Non-local effects of point mutations on the stability of a protein module. *Journal of Chemical Physics*, **2017**, 147, 105101	3.9	4
30	The laterally acquired GH5 EngA from the marine bacterium is dedicated to hemicellulose hydrolysis. *Biochemical Journal*, **2018**, 475, 3609-3628	3.8	4
29	Motion of Fullerenes around Topological Defects on Metals: Implications for the Progress of Molecular Scale Devices. *ACS Applied Materials & Interfaces*, **2017**, 9, 7897-7902	9.5	3
28	Phase-change memories (PCM) - Experiments and modelling: general discussion. *Faraday Discussions*, **2019**, 213, 393-420	3.6	3
27	A robust molecular probe for Ångstrom-scale analytics in liquids. *Nature Communications*, **2016**, 7, 12403	17.4	3
26	Subcellular Imaging of Liquid Silicone Coated-Intestinal Epithelial Cells. *Scientific Reports*, **2018**, 8, 10763	4.9	3
25	Monitoring transient changes in the structure of water at a polarised liquid-liquid interface using electrocapillary curves. *Electrochemistry Communications*, **2019**, 109, 106564	5.1	3
24	Quantitative Polarization-Resolved Second-Harmonic-Generation Microscopy of Glycine Microneedles. *Advanced Materials*, **2020**, 32, e2002873	24	3
23	Molecular Electronics: Noncovalent Self-Assembled Monolayers on Graphene as a Highly Stable Platform for Molecular Tunnel Junctions (Adv. Mater. 4/2016). *Advanced Materials*, **2016**, 28, 784-784	24	3
22	Self-Assembled Pyrene Stacks and Peptide Monolayers Tune the Electronic Properties of Functionalized Electrolyte-Gated Graphene Field-Effect Transistors. *ACS Applied Materials & Interfaces*, **2021**, 13, 9134-9142	9.5	3
21	A Piezoelectric Ionic Cocrystal of Glycine and Sulfamic Acid. *Crystal Growth and Design*, **2021**, 21, 5818-5827	3.7	3

20	Molecular Modelling Guided Modulation of Molecular Shape and Charge for Design of Smart Self-Assembled Polymeric Drug Transporters. *Pharmaceutics*, **2021**, 13,	6.4	2
19	Molecular simulations reveal that a short helical loop regulates thermal stability of type I cohesin-dockerin complexes. *Physical Chemistry Chemical Physics*, **2018**, 20, 28445-28451	3.6	2
18	Restriction boosts piezoelectricity. *Nature Materials*, **2021**, 20, 574-575	27	2
17	Frontiers of Cu Electrodeposition and Electroless Plating for On-chip Interconnects. *Nanostructure Science and Technology*, **2014**, 99-113	0.9	2
16	Large cooperative effects in tunneling rates across van der Waals coupled binary self-assembled monolayers. *Nano Today*, **2022**, 44, 101497	17.9	2
15	Anchoring and packing of self-assembled monolayers of semithio-bambusurils on Au(111). *Molecular Systems Design and Engineering*, **2020**, 5, 511-520	4.6	1
14	Piezoelectricity in the proteinogenic amino acid L-leucine: A novel piezoactive bioelectret. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2020**, 27, 1465-1468	2.3	1
13	Extended Lifetime of Molecules Adsorbed onto Excipients Drives Nucleation in Heterogeneous Crystallization.. *Crystal Growth and Design*, **2021**, 21, 2101-2112	3.5	1
12	Piezoelectricity of the Transmembrane Protein ba3 Cytochrome c Oxidase. *Advanced Functional Materials*, **2021**, 31, 2100884	15.6	1
11	A practical approach for standardization of converse piezoelectric constants obtained from piezoresponse force microscopy. *Journal of Applied Physics*, **2021**, 129, 185104	2.5	1
10	Modulating the pro-apoptotic activity of cytochrome c at a biomimetic electrified interface. *Science Advances*, **2021**, 7, eabg4119	14.3	0
9	Energy-Level Alignment and Orbital-Selective Femtosecond Charge Transfer Dynamics of Redox-Active Molecules on Au, Ag, and Pt Metal Surfaces. *Journal of Physical Chemistry C*, **2021**, 125, 18474-18482	3.8	0
8	Balanced lipase interactions for degradation-controlled paclitaxel release from lipid cubic phase formulations. *Journal of Colloid and Interface Science*, **2022**, 607, 978-991	9.3	0
7	Predictive Modeling of Neurotoxic □Synuclein Polymorphs.. *Methods in Molecular Biology*, **2022**, 2340, 379-399	1.4	0
6	Characterization of Amyloidogenic Peptide Aggregability in Helical Subspace.. *Methods in Molecular Biology*, **2022**, 2340, 401-448	1.4	0
5	Modulating vectored non-covalent interactions for layered assembly with engineerable properties. *Bio-Design and Manufacturing*,1	4.7	0
4	Stable Universal 1- and 2-Input Single-Molecule Logic Gates.. *Advanced Materials*, **2022**, e2202135	24	0
3	Molecular Diodes: Stable Molecular Diodes Based on □Interactions of the Molecular Frontier Orbitals with Graphene Electrodes (Adv. Mater. 10/2018). *Advanced Materials*, **2018**, 30, 1870069	24	

List of Publications

2 Harnessing Nanoscale Physics for Next-Generation Electronic Medical Devices **2016**, 491-509

1 Predictive Modeling of Ceramic Materials **2021**, 475-480