David F Watson

List of Publications by Citations

65 papers	2,541 citations	26 h-index	49 g-index
69 ext. papers	2,738 ext. citations	7.2 avg, IF	5.25 L-index

#	Paper	IF	Citations
65	Electron injection at dye-sensitized semiconductor electrodes. *Annual Review of Physical Chemistry*, **2005**, 56, 119-56	15.7	218
64	Cation effects in nanocrystalline solar cells. *Coordination Chemistry Reviews*, **2004**, 248, 1391-1406	23.2	188
63	Distance-Dependent Electron Transfer in Tethered Assemblies of CdS Quantum Dots and TiO2 Nanoparticles. *Journal of Physical Chemistry C*, **2009**, 113, 3139-3149	3.8	172
62	Linker-Assisted Assembly and Interfacial Electron-Transfer Reactivity of Quantum Dot Substrate Architectures. *Journal of Physical Chemistry Letters*, **2010**, 1, 2299-2309	6.4	132
61	Thin-Film Molecular Materials Based on Tetrametallic Squares: Nanoscale Porosity and Size-Selective Guest Transport Characteristics. *Journal of the American Chemical Society*, **1999**, 121, 557-563	16.4	132
60	Optimizing the Photocurrent Efficiency of Dye-Sensitized Solar Cells through the Controlled Aggregation of Chalcogenoxanthylium Dyes on Nanocrystalline Titania Films. *Journal of Physical Chemistry C*, **2008**, 112, 13057-13061	3.8	117
59	Theoretical solar-to-electrical energy-conversion efficiencies of perylene-porphyrin light-harvesting arrays. *Journal of Physical Chemistry B*, **2006**, 110, 25430-40	3.4	108
58	Chalcogenide perovskites: an emerging class of ionic semiconductors. *Nano Energy*, **2016**, 22, 129-135	17.1	104
57	Excited-State Electron Transfer from CdS Quantum Dots to TiO2 Nanoparticles via Molecular Linkers with Phenylene Bridges. *Journal of Physical Chemistry C*, **2009**, 113, 18643-18651	3.8	85
56	Influence of Surface Protonation on the Sensitization Efficiency of Porphyrin-Derivatized TiO2. *Journal of Physical Chemistry B*, **2004**, 108, 11680-11688	3.4	85
55	Photocatalytic patterning of monolayers for the site-selective deposition of quantum dots onto TiO2 surfaces. *Langmuir*, **2007**, 23, 3432-9	4	65
54	Adsorption of CdSe nanoparticles to thiolated TiO2 surfaces: influence of intralayer disulfide formation on CdSe surface coverage. *Langmuir*, **2007**, 23, 10924-8	4	62
53	Aggregation-Induced Increase of the Quantum Yield of Electron Injection from Chalcogenorhodamine Dyes to TiO2. *Journal of Physical Chemistry C*, **2011**, 115, 6010-6018	3.8	61
52	Insights into Dye-Sensitization of Planar TiO2: Evidence for Involvement of a Protonated Surface State. *Journal of Physical Chemistry B*, **2003**, 107, 10971-10973	3.4	60
51	Natural organic matter-mediated phase transfer of quantum dots in the aquatic environment. *Environmental Science & Technology*, **2009**, 43, 677-82	10.3	58
50	Influence of surface-attachment functionality on the aggregation, persistence, and electron-transfer reactivity of chalcogenorhodamine dyes on TiO2. *Langmuir*, **2012**, 28, 7071-82	4	53
49	Attachment of CdSe nanoparticles to TiO2 via aqueous linker-assisted assembly: influence of molecular linkers on electronic properties and interfacial electron transfer. *ACS Applied Materials & Interfaces*, **2011**, 3, 4242-53	9.5	49

48	Synthesis of near-infrared silver-indium-sulfide (AgInS2) quantum dots as heavy-metal free photosensitizer for solar cell applications. *Chemical Physics Letters*, **2011**, 515, 254-257	2.5	47
47	Influence of ligand shell ordering on dimensional confinement of cesium lead bromide (CsPbBr3) perovskite nanoplatelets. *Journal of Materials Chemistry C*, **2017**, 5, 8810-8818	7.1	46
46	Realization of BaZrS3 chalcogenide perovskite thin films for optoelectronics. *Nano Energy*, **2020**, 68, 104317	17.1	35
45	From seconds to femtoseconds: solar hydrogen production and transient absorption of chalcogenorhodamine dyes. *Journal of the American Chemical Society*, **2014**, 136, 7740-50	16.4	34
44	Selenorhodamine Dye-Sensitized Solar Cells: Influence of Structure and Surface-Anchoring Mode on Aggregation, Persistence, and Photoelectrochemical Performance. *Langmuir*, **2016**, 32, 1521-32	4	33
43	Relating structure and photoelectrochemical properties: electron injection by structurally and theoretically characterized transition metal-doped phenanthroline-polyoxotitanate nanoparticles. *Physical Chemistry Chemical Physics*, **2014**, 16, 15792-5	3.6	28
42	Differences in soil mobility and degradability between water-dispersible CdSe and CdSe/ZnS quantum dots. *Environmental Science & Technology*, **2011**, 45, 6343-9	10.3	28
41	Study on the effects of humic and fulvic acids on quantum dot nanoparticles using capillary electrophoresis with laser-induced fluorescence detection. *Environmental Science & Technology*, **2011**, 45, 2917-24	10.3	27
40	Femtosecond Pump-Probe Spectroscopy of Trinuclear Transition Metal Mixed-Valence Complexes. *Journal of Physical Chemistry A*, **2004**, 108, 3261-3267	2.8	27
39	Aqueous-phase linker-assisted attachment of cysteinate(2-)-capped cdse quantum dots to TiO2 for quantum dot-sensitized solar cells. *ACS Applied Materials & Interfaces*, **2013**, 5, 8649-54	9.5	25
38	Partitioning of hydrophobic CdSe quantum dots into aqueous dispersions of humic substances: influence of capping-group functionality on the phase-transfer mechanism. *Journal of Colloid and Interface Science*, **2010**, 348, 119-28	9.3	25
37	Implantable Tin Porphyrin-PEG Hydrogels with pH-Responsive Fluorescence. *Biomacromolecules*, **2017**, 18, 562-567	6.9	24
36	Photochemically Triggered Assembly of Composite Nanomaterials through the Photodimerization of Adsorbed Anthracene Derivatives. *Chemistry of Materials*, **2010**, 22, 294-304	9.6	24
35	Elucidating the Mechanistic Origins of Photocatalytic Hydrogen Evolution Mediated by MoS/CdS Quantum-Dot Heterostructures. *ACS Applied Materials & Interfaces*, **2020**, 12, 43728-43740	9.5	24
34	Designing catalysts for water splitting based on electronic structure considerations. *Electronic Structure*, **2020**, 2, 023001	2.6	21
33	Hole Extraction by Design in Photocatalytic Architectures Interfacing CdSe Quantum Dots with Topochemically Stabilized Tin Vanadium Oxide. *Journal of the American Chemical Society*, **2018**, 140, 17163-17174	16.4	21
32	Ti-Alloying of BaZrS Chalcogenide Perovskite for Photovoltaics. *ACS Omega*, **2020**, 5, 18579-18583	3.9	20
31	The Middle Road Less Taken: Electronic-Structure-Inspired Design of Hybrid Photocatalytic Platforms for Solar Fuel Generation. *Accounts of Chemical Research*, **2019**, 52, 645-655	24.3	20

30	Directional Charge Transfer Mediated by Mid-Gap States: A Transient Absorption Spectroscopy Study of CdSe Quantum Dot/Pb0.33V2O5 Heterostructures. *Journal of Physical Chemistry C*, **2016**, 120, 5221-5232	3.8	19
29	Influence of solvation and the structure of adsorbates on the kinetics and mechanism of dimerization-induced compositional changes of mixed monolayers on TiO(2). *Langmuir*, **2009**, 25, 12217-28	4	19
28	Machine Learning-Directed Navigation of Synthetic Design Space: A Statistical Learning Approach to Controlling the Synthesis of Perovskite Halide Nanoplatelets in the Quantum-Confined Regime. *Chemistry of Materials*, **2019**, 31, 3281-3292	9.6	18
27	Integrating Pb0.33V2O5 Nanowires with CdSe Quantum Dots: Toward Nanoscale Heterostructures with Tunable Interfacial Energetic Offsets for Charge Transfer. *Chemistry of Materials*, **2015**, 27, 2468-2479	9.6	17
26	Synthesis, Characterization, and Photochemistry of a Dinuclear Cyanide-Bridged Iron(II)-Platinum(IV) Mixed-Valence Compound and Its Implications for the Corresponding Iron(II)-Platinum(IV)-Iron(II) Complex. *Inorganic Chemistry*, **1999**, 38, 2941-2946	5.1	17
25	Linker-assisted attachment of CdSe quantum dots to TiO2: Time- and concentration-dependent adsorption, agglomeration, and sensitized photocurrent. *Langmuir*, **2014**, 30, 13293-300	4	16
24	Effects of surface-anchoring mode and aggregation state on electron injection from chalcogenorhodamine dyes to titanium dioxide. *Journal of Photochemistry and Photobiology A: Chemistry*, **2013**, 264, 18-25	4.7	15
23	Quantum dots exhibit less bioaccumulation than free cadmium and selenium in the earthworm Eisenia andrei. *Environmental Toxicology and Chemistry*, **2013**, 32, 1288-94	3.8	15
22	Probing the Energetic Distribution of Injected Electrons at Quantum Dot–linker–TiO2 Interfaces. *Journal of Physical Chemistry C*, **2012**, 116, 19215-19224	3.8	13
21	Aminoalkanoic Acids as Alternatives to Mercaptoalkanoic Acids for the Linker-Assisted Attachment of Quantum Dots to TiO2. *Langmuir*, **2016**, 32, 9206-15	4	12
20	Influence of Complex-Formation Equilibria on the Temporal Persistence of Cysteinate-Functionalized CdSe Nanocrystals in Water. *Chemistry of Materials*, **2011**, 23, 3546-3555	9.6	12
19	Excited-state electronic coupling and photoinduced multiple electron transfer in two related ligand-bridged hexanuclear mixed-valence compounds. *Inorganic Chemistry*, **2002**, 41, 4389-95	5.1	12
18	Influence of solvation and the persistence of adsorbed linkers on the attachment of CdSe quantum dots to TiO2 via linker-assisted assembly. *Langmuir*, **2012**, 28, 15598-605	4	11
17	TiO2-catalyzed photodegradation of porphyrins: mechanistic studies and application in monolayer photolithography. *Langmuir*, **2009**, 25, 5398-403	4	10
16	The effects of electronic coupling and solvent broadening on the intervalent electron transfer of a centrosymmetric mixed-valence complex. *Coordination Chemistry Reviews*, **2001**, 211, 177-194	23.2	10
15	Temporal evolution of the composition of mixed monolayers on TiO2 surfaces: evidence for a dimerization-induced chelate effect. *Langmuir*, **2008**, 24, 5249-52	4	9
14	Programming Interfacial Energetic Offsets and Charge Transfer in Pb0.33V2O5/Quantum-Dot Heterostructures: Tuning Valence-Band Edges to Overlap with Midgap States. *Journal of Physical Chemistry C*, **2016**, 120, 28992-29001	3.8	9
13	Partitioning behavior and stabilization of hydrophobically coated HfO2, ZrO2 and Hfx Zr 1-x O2 nanoparticles with natural organic matter reveal differences dependent on crystal structure. *Journal of Hazardous Materials*, **2011**, 196, 302-10	12.8	8

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12	Influence of dispersion forces and ordering on the compositions of mixed monolayers of alkanoic acids on nanocrystalline TiO2 films. *Langmuir*, **2013**, 29, 13797-807	4	7
11	Photochemical image generation in a cyanogel system synthesized from tetrachloropalladate(II) and the trimetallic mixed-valence complex [(NC)(5)Fe(II)-CN-Pt(IV)(NH(3))(4)-NC-Fe(II)(CN)(5)](4-): consideration of photochemical and dark mechanistic pathways of Prussian blue formation. *Inorganic Chemistry*, **2002**, 41, 2408-16	5.1	7
10	Raman Excitation Profiles with Self-Consistent Excited-State Displacements *Journal of Physical Chemistry B*, **2000**, 104, 10909-10914	3.4	6
9	Excited-State Charge Transfer within Covalently Linked Quantum Dot Heterostructures. *Journal of Physical Chemistry C*, **2015**, 119, 27737-27748	3.8	5
8	Photoinduced electron transfer from quantum dots to TiO2: elucidating the involvement of excitonic and surface states. *Physical Chemistry Chemical Physics*, **2016**, 18, 20466-75	3.6	5
7	Synthesis and photoelectrochemical performance of chalcogenopyrylium monomethine dyes bearing phosphonate/phosphonic acid substituents. *Journal of Organic Chemistry*, **2013**, 78, 8885-91	4.2	4
6	Type-II heterostructures of VO nanowires interfaced with cadmium chalcogenide quantum dots: Programmable energetic offsets, ultrafast charge transfer, and photocatalytic hydrogen evolution. *Journal of Chemical Physics*, **2019**, 151, 224702	3.9	3
5	Excited-State Charge Transfer and Extended Charge Separation within Covalently Tethered Type-II CdSe/CdTe Quantum Dot Heterostructures: Colloidal and Multilayered Systems. *ACS Applied Materials & Interfaces*, **2021**, 13, 30980-30991	9.5	2
4	Lone but Not Alone: Precise Positioning of Lone Pairs for the Design of Photocatalytic Architectures. *Chemistry of Materials*,	9.6	1
3	Influence of donor-to-acceptor ratio on excited-state electron transfer within covalently tethered CdSe/CdTe quantum dot colloidal heterostructures.. *Journal of Chemical Physics*, **2022**, 156, 054706	3.9	0
2	Interfacial Photoannealing: The Light Driven Alteration of the Surface-Binding Geometry of a Mixed-Valence Complex Capable of Multielectron Charge Transfer on Colloidal TiO2 *Journal of Physical Chemistry B*, **2000**, 104, 10940-10948	3.4	
1	In memory of Michael R. Detty, PhD.. *Nanotheranostics*, **2022**, 6, 118-120	5.6	