Paul S Weiss

List of Publications by Citations

284 papers	20,976 citations	71 h-index	135 g-index
514 ext. papers	23,794 ext. citations	12.3 avg, IF	6.84 L-index

#	Paper	IF	Citations
284	Conductance switching in single molecules through conformational changes. *Science*, **2001**, 292, 2303-7	33.3	1133
283	Are Single Molecular Wires Conducting?. *Science*, **1996**, 271, 1705-1707	33.3	1085
282	Diverse Applications of Nanomedicine. *ACS Nano*, **2017**, 11, 2313-2381	16.7	714
281	Patterning self-assembled monolayers. *Progress in Surface Science*, **2004**, 75, 1-68	6.6	665
280	Cluster-assembled materials. *ACS Nano*, **2009**, 3, 244-55	16.7	528
279	Visibly transparent polymer solar cells produced by solution processing. *ACS Nano*, **2012**, 6, 7185-90	16.7	434
278	Chemistry and physics of a single atomic layer: strategies and challenges for functionalization of graphene and graphene-based materials. *Chemical Society Reviews*, **2012**, 41, 97-114	58.5	432
277	Viologen-mediated assembly of and sensing with carboxylatopillar[5]arene-modified gold nanoparticles. *Journal of the American Chemical Society*, **2013**, 135, 1570-6	16.4	402
276	Electron Transfer through Organic Molecules. *Journal of Physical Chemistry B*, **1999**, 103, 8122-8127	3.4	350
275	Controlling Motion at the Nanoscale: Rise of the Molecular Machines. *ACS Nano*, **2015**, 9, 7746-68	16.7	339
274	Fused silver nanowires with metal oxide nanoparticles and organic polymers for highly transparent conductors. *ACS Nano*, **2011**, 5, 9877-82	16.7	326
273	Insertion, Conductivity, and Structures of Conjugated Organic Oligomers in Self-Assembled Alkanethiol Monolayers on Au{111}. *Journal of the American Chemical Society*, **1998**, 120, 2721-2732	16.4	313
272	Aptamer-field-effect transistors overcome Debye length limitations for small-molecule sensing. *Science*, **2018**, 362, 319-324	33.3	287
271	Surface defects on plate-shaped silver nanoparticles contribute to its hazard potential in a fish gill cell line and zebrafish embryos. *ACS Nano*, **2012**, 6, 3745-59	16.7	279
270	Nanotools for neuroscience and brain activity mapping. *ACS Nano*, **2013**, 7, 1850-66	16.7	248
269	Reversible photo-switching of single azobenzene molecules in controlled nanoscale environments. *Nano Letters*, **2008**, 8, 1644-8	11.5	244
268	Imaging Xe with a low-temperature scanning tunneling microscope. *Physical Review Letters*, **1991**, 66, 1189-1192	7.4	238

267	Ring-Opening Metathesis Polymerization from Surfaces. *Journal of the American Chemical Society*, **1999**, 121, 4088-4089	16.4	237
266	Site dependence of the apparent shape of a molecule in scanning tunneling micoscope images: Benzene on Pt{111}. *Physical Review Letters*, **1993**, 71, 3139-3142	7.4	227
265	A mechanical actuator driven electrochemically by artificial molecular muscles. *ACS Nano*, **2009**, 3, 291-300	16.7	220
264	Electrode Degradation in Lithium-Ion Batteries. *ACS Nano*, **2020**, 14, 1243-1295	16.7	209
263	Porous Multishelled Ni2P Hollow Microspheres as an Active Electrocatalyst for Hydrogen and Oxygen Evolution. *Chemistry of Materials*, **2017**, 29, 8539-8547	9.6	195
262	Active molecular plasmonics: controlling plasmon resonances with molecular switches. *Nano Letters* , **2009**, 9, 819-25	11.5	191
261	The state of nanoparticle-based nanoscience and biotechnology: progress, promises, and challenges. *ACS Nano*, **2012**, 6, 8468-83	16.7	188
260	Directing substrate morphology via self-assembly: ligand-mediated scission of gallium-indium microspheres to the nanoscale. *Nano Letters*, **2011**, 11, 5104-10	11.5	188
259	Interplay between materials and microfluidics. *Nature Reviews Materials*, **2017**, 2,	73.3	179
258	Emergence of Liquid Metals in Nanotechnology. *ACS Nano*, **2019**, 13, 7388-7395	16.7	169
257	Bottom-up graphene-nanoribbon fabrication reveals chiral edges and enantioselectivity. *ACS Nano*, **2014**, 8, 9181-7	16.7	169
256	Neuroscience. The brain activity map. *Science*, **2013**, 339, 1284-5	33.3	147
255	Supramolecular Assemblies on Surfaces: Nanopatterning, Functionality, and Reactivity. *ACS Nano*, **2018**, 12, 7445-7481	16.7	146
254	Hybrid strategies in nanolithography. *Reports on Progress in Physics*, **2010**, 73, 036501	14.4	144
253	Fabrication, assembly, and characterization of molecular electronic components. *Proceedings of the IEEE*, **2003**, 9, 1785-1802	14.3	144
252	Atomic-scale dynamics of a two-dimensional gas-solid interface. *Science*, **1994**, 266, 99-102	33.3	142
251	Directed Self-Assembly to Create Molecular Terraces with Molecularly Sharp Boundaries in Organic Monolayers. *Journal of the American Chemical Society*, **1999**, 121, 8017-8021	16.4	137
250	From the bottom up: dimensional control and characterization in molecular monolayers. *Chemical Society Reviews*, **2013**, 42, 2725-45	58.5	136

249	Phase Separation within a Binary Self-Assembled Monolayer on Au{111} Driven by an Amide-Containing Alkanethiol. *Journal of Physical Chemistry B*, **2001**, 105, 1119-1122	3.4	128
248	The Future of Layer-by-Layer Assembly: A Tribute to ACS Nano Associate Editor Helmuth Möwald. *ACS Nano*, **2019**, 13, 6151-6169	16.7	127
247	Molecular engineering and measurements to test hypothesized mechanisms in single molecule conductance switching. *Journal of the American Chemical Society*, **2006**, 128, 1959-67	16.4	125
246	Molecular engineering of the polarity and interactions of molecular electronic switches. *Journal of the American Chemical Society*, **2005**, 127, 17421-6	16.4	119
245	Fabrication of High-Performance Ultrathin In2O3 Film Field-Effect Transistors and Biosensors Using Chemical Lift-Off Lithography. *ACS Nano*, **2015**, 9, 4572-82	16.7	117
244	Cluster-assembled materials: toward nanomaterials with precise control over properties. *ACS Nano*, **2010**, 4, 235-40	16.7	117
243	Subtractive patterning via chemical lift-off lithography. *Science*, **2012**, 337, 1517-21	33.3	115
242	Adsorption and accommodation of Xe on Pt{111}. *Physical Review Letters*, **1992**, 69, 2240-2243	7.4	115
241	Interactions and dynamics of benzene on Cu{111} at low temperature. *Surface Science*, **1995**, 338, 41-59	1.8	113
240	Molecular switches and motors on surfaces. *Annual Review of Physical Chemistry*, **2013**, 64, 605-30	15.7	107
239	Printable Ultrathin Metal Oxide Semiconductor-Based Conformal Biosensors. *ACS Nano*, **2015**, 9, 12174-81	16.7	105
238	Structures and displacement of 1-adamantanethiol self-assembled monolayers on Au{111}. *Journal of the American Chemical Society*, **2005**, 127, 8697-704	16.4	105
237	Tools for the Microbiome: Nano and Beyond. *ACS Nano*, **2016**, 10, 6-37	16.7	99
236	Nanometer-scale phase separation in mixed composition self-assembled monolayers. *Nanotechnology*, **1996**, 7, 438-442	3.4	97
235	Mediating stochastic switching of single molecules using chemical functionality. *Journal of the American Chemical Society*, **2004**, 126, 12214-5	16.4	97
234	Molecular plasmonics for biology and nanomedicine. *Nanomedicine*, **2012**, 7, 751-70	5.6	96
233	Incident-angle-modulated molecular plasmonic switches: a case of weak exciton-plasmon coupling. *Nano Letters*, **2011**, 11, 2061-5	11.5	96
232	Functional molecules and assemblies in controlled environments: formation and measurements. *Accounts of Chemical Research*, **2008**, 41, 1772-81	24.3	95

231	On the issue of transparency and reproducibility in nanomedicine. *Nature Nanotechnology*, **2019**, 14, 629-635	28.7	92
230	Substrate-mediated interactions and intermolecular forces between molecules adsorbed on surfaces. *Accounts of Chemical Research*, **2003**, 36, 945-53	24.3	91
229	Surface-enhanced Raman spectroscopy to probe reversibly photoswitchable azobenzene in controlled nanoscale environments. *Nano Letters*, **2011**, 11, 3447-52	11.5	89
228	The Role of Buried Hydrogen Bonds in Self-Assembled Mixed Composition Thiols on Au{111}. *Journal of Physical Chemistry B*, **2001**, 105, 10630-10636	3.4	82
227	Adsorbate-substrate vibrational modes of benzene on Ag(110) resolved with scanning tunneling spectroscopy. *Physical Review Letters*, **2001**, 86, 1050-3	7.4	81
226	Electrons, photons, and force: quantitative single-molecule measurements from physics to biology. *ACS Nano*, **2011**, 5, 693-729	16.7	79
225	Creating favorable geometries for directing organic photoreactions in alkanethiolate monolayers. *Science*, **2011**, 331, 1312-5	33.3	79
224	Emerging Trends in Micro- and Nanoscale Technologies in Medicine: From Basic Discoveries to Translation. *ACS Nano*, **2017**, 11, 5195-5214	16.7	78
223	Relative conductances of alkaneselenolate and alkanethiolate monolayers on Au{111}. *Journal of Physical Chemistry B*, **2005**, 109, 20343-9	3.4	78
222	Self-assembly of carboranethiol isomers on Au111: intermolecular interactions determined by molecular dipole orientations. *ACS Nano*, **2009**, 3, 527-36	16.7	77
221	Precision-Guided Nanospears for Targeted and High-Throughput Intracellular Gene Delivery. *ACS Nano*, **2018**, 12, 4503-4511	16.7	76
220	Imaging Substrate-Mediated Interactions. *Science*, **1996**, 274, 118-119	33.3	76
219	Interface control in organic electronics using mixed monolayers of carboranethiol isomers. *Nano Letters*, **2014**, 14, 2946-51	11.5	75
218	Tuning interactions between ligands in self-assembled double-decker phthalocyanine arrays. *Journal of the American Chemical Society*, **2006**, 128, 10984-5	16.4	75
217	Controlling the band gap energy of cluster-assembled materials. *Accounts of Chemical Research*, **2013**, 46, 2385-95	24.3	73
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214	Surface Dipole Control of Liquid Crystal Alignment. *Journal of the American Chemical Society*, **2016**, 138, 5957-67	16.4	71

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210	Microdisplacement printing. *Nano Letters*, **2005**, 5, 1834-7	11.5	69
209	Self-Assembly Strategy for Fabricating Connected Graphene Nanoribbons. *ACS Nano*, **2015**, 9, 12035-44	16.7	68
208	Scanning electron microscopy of nanoscale chemical patterns. *ACS Nano*, **2007**, 1, 191-201	16.7	68
207	Matrix-Mediated Control of Stochastic Single Molecule Conductance Switching. *Japanese Journal of Applied Physics*, **2002**, 41, 4871-4877	1.4	68
206	Molecular, Supramolecular, and Macromolecular Motors and Artificial Muscles. *MRS Bulletin*, **2009**, 34, 671-681	3.2	67
205	Electronic substrate-mediated interactions. *Surface Science Reports*, **2012**, 67, 19-81	12.9	65
204	Multiple-Patterning Nanosphere Lithography for Fabricating Periodic Three-Dimensional Hierarchical Nanostructures. *ACS Nano*, **2017**, 11, 10384-10391	16.7	63
203	Benzene on Au[111] at 4 K: monolayer growth and tip-induced molecular cascades. *Journal of the American Chemical Society*, **2004**, 126, 10787-93	16.4	63
202	Real-time measurements of conductance switching and motion of single oligo(phenylene ethynylene) molecules. *Journal of the American Chemical Society*, **2007**, 129, 10352-3	16.4	62
201	Scanning Probe Studies of Single Nanostructures. *Chemical Reviews*, **1999**, 99, 1983-1990	68.1	62
200	Evolution of Strategies for Self-Assembly and Hookup of Molecule-Based Devices. *Annals of the New York Academy of Sciences*, **1998**, 852, 349-370	6.5	60
199	Long-range electronic interactions at a high temperature: bromine adatom islands on Cu(111). *Physical Review Letters*, **2007**, 98, 206108	7.4	60
198	Control of alkanethiolate monolayer structure using vapor-phase annealing. *Journal of the American Chemical Society*, **2003**, 125, 11462-3	16.4	60
197	Controlling band gap energies in cluster-assembled ionic solids through internal electric fields. *ACS Nano*, **2010**, 4, 5813-8	16.7	59
196	Observation and manipulation of subsurface hydride in Pd[111] and its effect on surface chemical, physical, and electronic properties. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 17907-11	11.5	59

195	Analyzing Spin Selectivity in DNA-Mediated Charge Transfer via Fluorescence Microscopy. *ACS Nano* , **2017**, 11, 7516-7526	16.7	57
194	Cage molecules for self-assembly. *Materials Science and Engineering Reports*, **2010**, 70, 188-208	30.9	56
193	Nano Day: Celebrating the Next Decade of Nanoscience and Nanotechnology. *ACS Nano*, **2016**, 10, 9093-9103	13.7	56
192	NaTiO Nanoplatelets and Nanosheets Derived from a Modified Exfoliation Process for Use as a High-Capacity Sodium-Ion Negative Electrode. *ACS Applied Materials & Interfaces*, **2017**, 9, 1416-1423	8.5	54
191	Identifying reactive intermediates in the Ullmann coupling reaction by scanning tunneling microscopy and spectroscopy. *Journal of Physical Chemistry A*, **2009**, 113, 13167-72	2.8	54
190	Photoresponsive molecules in well-defined nanoscale environments. *Advanced Materials*, **2013**, 25, 302-12	24	53
189	Hierarchically Patterned Polydopamine-Containing Membranes for Periodontal Tissue Engineering. *ACS Nano*, **2019**, 13, 3830-3838	16.7	52
188	Lithium-Ion Insertion Properties of Solution-Exfoliated Germanane. *ACS Nano*, **2017**, 11, 7995-8001	16.7	48
187	Functional and spectroscopic measurements with scanning tunneling microscopy. *Annual Review of Analytical Chemistry*, **2008**, 1, 857-82	12.5	48
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184	Heads and tails: simultaneous exposed and buried interface imaging of monolayers. *ACS Nano*, **2009**, 3, 3115-21	16.7	47
183	Substrate-mediated intermolecular interactions: a quantitative single molecule analysis. *Journal of the American Chemical Society*, **2005**, 127, 7255-60	16.4	47
182	Double-ink dip-pen nanolithography studies elucidate molecular transport. *Journal of the American Chemical Society*, **2006**, 128, 1648-53	16.4	47
181	A double lamellae dropoff etching procedure for tungsten tips attached to tuning fork atomic force microscopy/scanning tunneling microscopy sensors. *Review of Scientific Instruments*, **2003**, 74, 1027-1030	1.7	47
180	Probing Electronic Properties of Conjugated and Saturated Molecules in Self-Assembled Monolayers. *Annals of the New York Academy of Sciences*, **1998**, 852, 145-168	6.5	44
179	Self-assembled monolayers of 2-Adamantanethiol on Au{111}: control of structure and displacement. *Journal of Physical Chemistry A*, **2009**, 113, 3895-903	2.8	42
178	1-Adamantanethiolate monolayer displacement kinetics follow a universal form. *Journal of the American Chemical Society*, **2007**, 129, 10741-6	16.4	42

177	Hybrid Approaches to Nanolithography: Photolithographic Structures with Precise, Controllable Nanometer-Scale Spacings Created by Molecular Rulers. *Advanced Materials*, **2006**, 18, 1020-1022	24	41
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175	Spin Selectivity in Photoinduced Charge-Transfer Mediated by Chiral Molecules. *ACS Nano*, **2019**, 13, 4928-4946	16.7	40
174	Spectral diffusion in the tunneling spectra of ligand-stabilized undecagold clusters. *Journal of the American Chemical Society*, **2006**, 128, 9266-7	16.4	40
173	Effects of Hindered Internal Rotation on Packing and Conductance of Self-Assembled Monolayers. *Journal of Physical Chemistry B*, **2004**, 108, 16761-16767	3.4	39
172	Interaction of CO molecules with surface state electrons on Ag(111). *Surface Science*, **2005**, 590, L253-L258	1.8	39
171	Surface-enhanced Raman spectroscopy to probe photoreaction pathways and kinetics of isolated reactants on surfaces: flat versus curved substrates. *Nano Letters*, **2012**, 12, 5362-8	11.5	38
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169	Silver nanoparticles boost charge-extraction efficiency in microbial fuel cells. *Science*, **2021**, 373, 1336-1340	33.3	38
168	Patients, Here Comes More Nanotechnology. *ACS Nano*, **2016**, 10, 8139-42	16.7	37
167	Cross-step place-exchange of oligo(phenylene-ethynylene) molecules. *Nano Letters*, **2005**, 5, 2292-7	11.5	37
166	Bio-Inspired NanoVilli Chips for Enhanced Capture of Tumor-Derived Extracellular Vesicles: Toward Non-Invasive Detection of Gene Alterations in Non-Small Cell Lung Cancer. *ACS Applied Materials & Interfaces*, **2019**, 11, 13973-13983	9.5	36
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164	Manipulating double-decker molecules at the liquid-solid interface. *Journal of the American Chemical Society*, **2010**, 132, 16460-6	16.4	36
163	Acoustofluidic sonoporation for gene delivery to human hematopoietic stem and progenitor cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 10976-10982	11.5	35
162	Stealth Immune Properties of Graphene Oxide Enabled by Surface-Bound Complement Factor H. *ACS Nano*, **2016**, 10, 10161-10172	16.7	35
161	Exchange reactions between alkanethiolates and alkaneselenols on Au{111}. *Journal of the American Chemical Society*, **2014**, 136, 8110-21	16.4	35
160	Effects of Embedded Dipole Layers on Electrostatic Properties of Alkanethiolate Self-Assembled Monolayers. *Journal of Physical Chemistry C*, **2017**, 121, 15815-15830	3.8	35

159	Dynamics of Solution Displacement in 1-Adamantanethiolate Self-Assembled Monolayers. *Journal of Physical Chemistry C*, **2007**, 111, 6740-6746	3.8	35
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157	Nanoelectronic Investigation Reveals the Electrochemical Basis of Electrical Conductivity in Shewanella and Geobacter. *ACS Nano*, **2016**, 10, 9919-9926	16.7	34
156	Native serotonin membrane receptors recognize 5-hydroxytryptophan-functionalized substrates: enabling small-molecule recognition. *ACS Chemical Neuroscience*, **2010**, 1, 495-504	5.7	34
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153	Exploiting intermolecular interactions and self-assembly for ultrahigh resolution nanolithography. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2002**, 20, 2739		34
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151	Differentiating amino acid residues and side chain orientations in peptides using scanning tunneling microscopy. *Journal of the American Chemical Society*, **2013**, 135, 18528-35	16.4	33
150	Controlled Adsorption Orientation for Double-Decker Complexes. *Journal of Physical Chemistry C*, **2007**, 111, 2077-2080	3.8	33
149	Spin-Dependent Ionization of Chiral Molecular Films. *Journal of the American Chemical Society*, **2019** , 141, 3863-3874	16.4	32
148	Copper Ion Binding Site in Amyloid Peptide. *Nano Letters*, **2016**, 16, 6282-6289	11.5	32
147	Reversible lability by in situ reaction of self-assembled monolayers. *Journal of the American Chemical Society*, **2009**, 131, 2252-9	16.4	32
146	Transport rates vary with deposition time in dip-pen nanolithography. *Journal of Physical Chemistry B*, **2005**, 109, 23118-20	3.4	31
145	Footprints of a Surface Chemical Reaction: Dissociative Chemisorption of p-Diiodobenzene on Cu{111} *Journal of Physical Chemistry B*, **2002**, 106, 8005-8008	3.4	31
144	Polymer-Pen Chemical Lift-Off Lithography. *Nano Letters*, **2017**, 17, 3302-3311	11.5	30
143	Advances in nanolithography using molecular rulers. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2003**, 21, 3116		30
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141	The Design and Science of Polyelemental Nanoparticles. *ACS Nano*, **2020**, 14, 6407-6413	16.7	29
140	Holey Graphene as a Weed Barrier for Molecules. *ACS Nano*, **2015**, 9, 10909-15	16.7	28
139	Pillar[5]arene-based tunable luminescent materials via supramolecular assembly-induced Förster resonance energy transfer enhancement. *Materials Chemistry Frontiers*, **2020**, 4, 950-956	7.8	28
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125	Detecting DNA and RNA and Differentiating Single-Nucleotide Variations via Field-Effect Transistors. *Nano Letters*, **2020**, 20, 5982-5990	11.5	24
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121	Intracellular Photothermal Delivery for Suspension Cells Using Sharp Nanoscale Tips in Microwells. *ACS Nano*, **2019**, 13, 10835-10844	16.7	22
120	Effect of Tether Conductivity on the Efficiency of Photoisomerization of Azobenzene-Functionalized Molecules on Au{111}. *Journal of Physical Chemistry Letters*, **2012**, 3, 2388-94	6.4	22
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117	A conversation with Dr. Masakazu Aono: leader in atomic-scale control and nanomanipulation. *ACS Nano*, **2007**, 1, 379-83	16.7	22
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115	Controlling and Measuring the Interdependence of Local Properties in Biomembranes *Langmuir*, **2003**, 19, 1618-1623	4	22
114	Dynamics and spectroscopy of hydrogen atoms on Pd{111}. *Journal of Physical Chemistry B*, **2006**, 110, 7380-4	3.4	20
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112	Advancing Biocapture Substrates via Chemical Lift-Off Lithography. *Chemistry of Materials*, **2017**, 29, 6829-6839	9.6	19
111	Understanding How Sterols Regulate Membrane Remodeling in Supported Lipid Bilayers. *Langmuir*, **2017**, 33, 14756-14765	4	19
110	Photoreaction of matrix-isolated dihydroazulene-functionalized molecules on Au{111}. *Nano Letters*, **2013**, 13, 337-43	11.5	19
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108	Heat-stabilized phospholipid films: film characterization and the production of protein-resistant surfaces. *Langmuir*, **2005**, 21, 11352-6	4	19
107	Mapping Buried Hydrogen-Bonding Networks. *ACS Nano*, **2016**, 10, 5446-51	16.7	19
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104	Influence of quantum size effects on Pb island growth and diffusion barrier oscillations. *Physical Review B*, **2006**, 74,	3.3	18
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