Bruce H Robinson

List of Publications by Year in descending order

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133 papers 7,704 citations

44069 48 h-index 84 g-index

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133 docs citations

133 times ranked 4403 citing authors

#	Article	IF	Citations
1	Design and synthesis of chromophores with enhanced electro-optic activities in both bulk and plasmonic–organic hybrid devices. Materials Horizons, 2022, 9, 261-270.	12.2	34
2	Bis(4-dialkylaminophenyl)heteroarylamino donor chromophores exhibiting exceptional hyperpolarizabilities. Journal of Materials Chemistry C, 2021, 9, 2721-2728.	5.5	28
3	Birefringence, dimensionality, and surface influences on organic hybrid electro-optic performance. , 2021, , .		1
4	New paradigms in materials and devices for hybrid electro-optics and optical rectification., 2021,,.		6
5	Electroâ€Optic Activity in Excess of 1000 pm V ^{â^'1} Achieved via Theoryâ€Guided Organic Chromophore Design. Advanced Materials, 2021, 33, e2104174.	21.0	49
6	Ultrahigh Electro-Optic Coefficients, High Index of Refraction, and Long-Term Stability from Diels–Alder Cross-Linkable Binary Molecular Glasses. Chemistry of Materials, 2020, 32, 1408-1421.	6.7	98
7	Advances in high-performance hybrid electro-optics. , 2020, , .		3
8	Molecular Engineering of Structurally Diverse Dendrimers with Large Electro-Optic Activities. ACS Applied Materials & Dendrimers with Large Electro-Optic Activities. ACS Applied Materials & Dendrimers with Large Electro-Optic Activities. ACS Applied Materials & Dendrimers with Large Electro-Optic Activities.	8.0	34
9	The Importance of Assay Imprecision near the Screen Cutoff for Newborn Screening of Lysosomal Storage Diseases. International Journal of Neonatal Screening, 2019, 5, 17.	3.2	9
10	DANPY (dimethylaminonaphthylpyridinium): an economical and biocompatible fluorophore. Organic and Biomolecular Chemistry, 2019, 17, 3765-3780.	2.8	2
11	Next-generation materials for hybrid electro-optic systems (Conference Presentation). , 2019, , .		4
12	Detection of mucopolysaccharidosis III-A (Sanfilippo Syndrome-A) in dried blood spots (DBS) by tandem mass spectrometry. Molecular Genetics and Metabolism, 2018, 125, 59-63.	1.1	13
13	Optimization of Plasmonic-Organic Hybrid Electro-Optics. Journal of Lightwave Technology, 2018, 36, 5036-5047.	4.6	41
14	Multi-scale theory-assisted nano-engineering of plasmonic-organic hybrid electro-optic device performance. , 2018, , .		1
15	Poling-induced birefringence in OEO materials under nanoscale confinement. , 2018, , .		5
16	Silicon–Organic and Plasmonic–Organic Hybrid Photonics. ACS Photonics, 2017, 4, 1576-1590.	6.6	123
17	Simple Model for the Benzene Hexafluorobenzene Interaction. Journal of Physical Chemistry B, 2017, 121, 6184-6188.	2.6	7
18	Effect of Rigid Bridge-Protection Units, Quadrupolar Interactions, and Blending in Organic Electro-Optic Chromophores. Chemistry of Materials, 2017, 29, 6457-6471.	6.7	76

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19	Systematic Generation of Anisotropic Coarse-Grained Lennard-Jones Potentials and Their Application to Ordered Soft Matter. Journal of Chemical Theory and Computation, 2016, 12, 4362-4374.	5.3	22
20	Structure–function relationship exploration for enhanced thermal stability and electro-optic activity in monolithic organic NLO chromophores. Journal of Materials Chemistry C, 2016, 4, 3119-3124.	5.5	65
21	Toward optimal EO response from ONLO chromophores: a statistical mechanics study of optimizing shape. Journal of the Optical Society of America B: Optical Physics, 2016, 33, E121.	2.1	20
22	Relation of System Dimensionality and Order Parameters. Journal of Physical Chemistry B, 2015, 119, 3205-3212.	2.6	9
23	Dielectric and Phase Behavior of Dipolar Spheroids. Journal of Physical Chemistry B, 2015, 119, 5240-5250.	2.6	10
24	Benzocyclobutene barrier layer for suppressing conductance in nonlinear optical devices during electric field poling. Applied Physics Letters, 2014, 104, .	3.3	56
25	Cross-conjugation as a Motif for Organic Non-Linear Optical Molecules. Materials Research Society Symposia Proceedings, 2014, 1698, 14.	0.1	0
26	Modeling Chromophore Order: A Guide For Improving EO Performance. Materials Research Society Symposia Proceedings, 2014, 1698, 26.	0.1	11
27	Matrix-Assisted Poling of Monolithic Bridge-Disubstituted Organic NLO Chromophores. Chemistry of Materials, 2014, 26, 872-874.	6.7	86
28	Optimum Exchange for Calculation of Excitation Energies and Hyperpolarizabilities of Organic Electro-optic Chromophores. Journal of Chemical Theory and Computation, 2014, 10, 3821-3831.	5.3	99
29	Optimizing Calculations of Electronic Excitations and Relative Hyperpolarizabilities of Electrooptic Chromophores. Accounts of Chemical Research, 2014, 47, 3258-3265.	15.6	164
30	Direct Simulation of Magnetic Resonance Relaxation Rates and Line Shapes from Molecular Trajectories. Journal of Physical Chemistry B, 2012, 116, 6233-6249.	2.6	9
31	Nanoâ€Engineering Lattice Dimensionality for a Soft Matter Organic Functional Material. Advanced Materials, 2012, 24, 3263-3268.	21.0	25
32	Measuring Order in Contact-Poled Organic Electrooptic Materials with Variable-Angle Polarization-Referenced Absorption Spectroscopy (VAPRAS). Journal of Physical Chemistry B, 2011, 115, 231-241.	2.6	18
33	Systematic Nanoengineering of Soft Matter Organic Electro-optic Materials. Chemistry of Materials, 2011, 23, 430-445.	6.7	129
34	Solvents Level Dipole Moments. Journal of Physical Chemistry B, 2011, 115, 12566-12570.	2.6	10
35	Dielectric Dependence of the First Molecular Hyperpolarizability for Electro-Optic Chromophores. Journal of Physical Chemistry B, 2011, 115, 3505-3513.	2.6	36
36	Organic Electro-Optic Materials. ACS Symposium Series, 2010, , 13-33.	0.5	7

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37	Dielectric Constants of Simple Liquids: Stockmayer and Ellipsoidal Fluids. Journal of Physical Chemistry B, 2010, 114, 8431-8440.	2.6	25
38	Reduced Dimensionality in Organic Electro-Optic Materials: Theory and Defined Order. Journal of Physical Chemistry B, 2010, 114, 11949-11956.	2.6	47
39	Hyperfine Coupling in Colloidal n-Type ZnO Quantum Dots: Effects on Electron Spin Relaxation. Journal of Physical Chemistry C, 2010, 114, 14467-14472.	3.1	32
40	Modeling the Optical Behavior of Complex Organic Media: From Molecules to Materials. Journal of Physical Chemistry B, 2009, 113, 15581-15588.	2.6	22
41	Conformational Equilibria of Bulged Sites in Duplex DNA Studied by EPR Spectroscopy. Journal of Physical Chemistry B, 2009, 113, 2664-2675.	2.6	19
42	Frequency and Solvent Dependence of Nonlinear Optical Properties of Molecules. Journal of Physical Chemistry C, 2008, 112, 8016-8021.	3.1	37
43	Rational Enhancement of Second-Order Nonlinearity: Bis-(4-methoxyphenyl) <i>hetero</i> -aryl-amino Donor-Based Chromophores: Design, Synthesis, and Electrooptic Activity. Journal of the American Chemical Society, 2008, 130, 10565-10575.	13.7	186
44	Molecular Self-Assembly of Mixed High-Beta Zwitterionic and Neutral Ground-State NLO Chromophores. Chemistry of Materials, 2008, 20, 1778-1787.	6.7	31
45	Laser-Assisted Poling of Binary Chromophore Materials. Journal of Physical Chemistry C, 2008, 112, 7983-7988.	3.1	48
46	Theory for Spinâ^'Lattice Relaxation of Spin Probes on Weakly Deformable DNA. Journal of Physical Chemistry B, 2008, 112, 9219-9236.	2.6	6
47	Rigid spin-labeled nucleoside Ç: a nonperturbing EPR probe of nucleic acid conformation. Nucleic Acids Research, 2008, 36, 5946-5954.	14.5	80
48	Room-Temperature Electron Spin Dynamics in Free-Standing ZnO Quantum Dots. Physical Review Letters, 2007, 98, 186804.	7.8	119
49	Comparison of Static First Hyperpolarizabilities Calculated with Various Quantum Mechanical Methods. Journal of Physical Chemistry A, 2007, 111, 1319-1327.	2.5	125
50	Orientation of Electro-optic Chromophores under Poling Conditions:  A Spheroidal Model. Journal of Physical Chemistry C, 2007, 111, 18765-18777.	3.1	46
51	Theory-Guided Design and Synthesis of Multichromophore Dendrimers:  An Analysis of the Electro-optic Effect. Journal of the American Chemical Society, 2007, 129, 7523-7530.	13.7	149
52	Ab Initio Diradical/Zwitterionic Polarizabilities and Hyperpolarizabilities in Twisted Double Bonds. Journal of Physical Chemistry A, 2006, 110, 7189-7196.	2.5	30
53	Single-Molecule Microscopy Studies of Electric-Field Poling in Chromophoreâ^'Polymer Composite Materials. Journal of Physical Chemistry B, 2006, 110, 75-82.	2.6	21
54	Influence of Isomerization on Nonlinear Optical Properties of Molecules. Journal of Physical Chemistry B, 2006, 110, 13512-13522.	2.6	60

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55	Linear and Nonlinear Optical Properties of a Macrocyclic Trichromophore Bundle with Parallel-Aligned Dipole Moments. Journal of Physical Chemistry B, 2006, 110, 5434-5438.	2.6	45
56	Electro-Optical Properties of Polymers Containing Alternating Nonlinear Optical Chromophores and Bulky Spacers. Chemistry of Materials, 2006, 18, 1062-1067.	6.7	62
57	Antiparallel-Aligned Neutral-Ground-State and Zwitterionic Chromophores as a Nonlinear Optical Material. Journal of the American Chemical Society, 2006, 128, 6847-6853.	13.7	85
58	The spherical tensor formalism applied to relaxation in magnetic resonance. Concepts in Magnetic Resonance Part A: Bridging Education and Research, 2006, 28A, 270-290.	0.5	9
59	Identification of Amino Acids that Promote Specific and Rigid TAR RNA-Tat Protein Complex Formation. Chemistry and Biology, 2005, 12, 329-337.	6.0	34
60	Explanation of Spinâ-'Lattice Relaxation Rates of Spin Labels Obtained with Multifrequency Saturation Recovery EPR. Journal of Physical Chemistry A, 2005, 109, 4049-4061.	2.5	53
61	A Ruler for Determining the Position of Proteins in Membranes. Journal of the American Chemical Society, 2005, 127, 6430-6442.	13.7	64
62	Systematic Study of the Structureâ^'Property Relationship of a Series of Ferrocenyl Nonlinear Optical Chromophores. Journal of the American Chemical Society, 2005, 127, 2758-2766.	13.7	168
63	Simulation of the Loading Parameter in Organic Nonlinear Optical Materialsâ€. Journal of Physical Chemistry B, 2004, 108, 8659-8667.	2.6	48
64	The effect of field modulation on a simple resonance line shape. Concepts in Magnetic Resonance, 2004, 23A, 38-48.	1.3	7
65	Novel applications of 2-cyanoethylanilines in the synthesis of conjugated primary and secondary anilines. Tetrahedron Letters, 2004, 45, 1473-1475.	1.4	1
66	Influence of Conformation on the EPR Spectrum of 5,5-Dimethyl-1-hydroperoxy-1-pyrrolidinyloxyl:Â A Spin Trapped Adduct of Superoxide. Journal of Organic Chemistry, 2004, 69, 1321-1330.	3.2	50
67	A Novel Lattice-Hardening Process To Achieve Highly Efficient and Thermally Stable Nonlinear Optical Polymers. Macromolecules, 2004, 37, 688-690.	4.8	85
68	Proton ENDOR Studies of Soliton Wave Functions and Dynamics in Polyacetylenesâ€. Journal of Physical Chemistry B, 2004, 108, 8682-8688.	2.6	2
69	A Novel Relaxation Equation of Motion. Journal of Physical Chemistry A, 2004, 108, 1589-1600.	2.5	4
70	Systematic development of high bandwidth, low drive voltage organic electro-optic devices and their applications. Optical Materials, 2003, 21, 19-28.	3.6	79
71	Esters of 5-Carboxyl-5-methyl-1-pyrrolineN-Oxide:Â A Family of Spin Traps for Superoxide. Journal of Organic Chemistry, 2003, 68, 7811-7817.	3.2	64
72	Unusual Mode of Binding of Human Group IIA Secreted Phospholipase A2 to Anionic Interfaces as Studied by Continuous Wave and Time Domain Electron Paramagnetic Resonance Spectroscopy. Journal of Biological Chemistry, 2002, 277, 30984-30990.	3.4	49

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73	Phosphate backbone neutralization increases duplex DNA flexibility: A model for protein binding. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 4156-4160.	7.1	56
74	Sequence-Dependent Dynamics of Duplex DNA: The Applicability of a Dinucleotide Model. Biophysical Journal, 2002, 83, 3446-3459.	0.5	62
75	Site-Specific Incorporation of Nitroxide Spin-Labels into Internal Sites of the TAR RNA; Structure-Dependent Dynamics of RNA by EPR Spectroscopy. Journal of the American Chemical Society, 2001, 123, 1527-1528.	13.7	114
76	Sequence-Dependent Dynamics in Duplex DNA. Biophysical Journal, 2000, 78, 2560-2571.	0.5	51
77	Monte Carlo Statistical Mechanical Simulations of the Competition of Intermolecular Electrostatic and Poling-Field Interactions in Defining Macroscopic Electro-Optic Activity for Organic Chromophore/Polymer Materialsâ€. Journal of Physical Chemistry A, 2000, 104, 4785-4795.	2.5	243
78	Low (Sub-1-Volt) Halfwave Voltage Polymeric Electro-optic Modulators Achieved by Controlling Chromophore Shape. Science, 2000, 288, 119-122.	12.6	920
79	Interfacial membrane docking of cytosolic phospholipase A2 C2 domain using electrostatic potential-modulated spin relaxation magnetic resonance. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 6637-6642.	7.1	87
80	Linewidth Analysis of Spin Labels in Liquids. Journal of Magnetic Resonance, 1999, 138, 199-209.	2.1	125
81	Linewidth Analysis of Spin Labels in Liquids. Journal of Magnetic Resonance, 1999, 138, 210-219.	2.1	54
82	From molecules to opto-chips: organic electro-optic materials. Journal of Materials Chemistry, 1999, 9, 1905-1920.	6.7	388
83	Flexibility of Duplex DNA on the Submicrosecond Timescale. Biophysical Journal, 1999, 77, 3256-3276.	0.5	69
84	A Unified Description of the Spinâ^'Spin and Spinâ^'Lattice Relaxation Rates Applied to Nitroxide Spin Labels in Viscous Liquids. Journal of Physical Chemistry B, 1999, 103, 5881-5894.	2.6	33
85	Docking Phospholipase A2 on Membranes Using Electrostatic Potential-Modulated Spin Relaxation Magnetic Resonance. Science, 1998, 279, 1925-1929.	12.6	118
86	Binding of bee venom and human group IIa phospholipases A2 to membranes: a minor role for electrostatics. Biochemical Society Transactions, 1998, 26, 341-345.	3.4	13
87	SITE-SPECIFIC DYNAMICS IN DNA:Experiments. Annual Review of Biophysics and Biomolecular Structure, 1997, 26, 629-658.	18.3	52
88	Synthesis of Duplex DNA Containing a Spin Labeled Analog of 2′ Deoxycytidine. Nucleosides & Nucleotides, 1997, 16, 365-377.	0.5	17
89	Comment on "Diffusional spinning as a probe of DNA fragments conformation―[J. Chem. Phys. 104, 6058 (1996)]. Journal of Chemical Physics, 1997, 106, 815-816.	3.0	12
90	The role of London forces in defining noncentrosymmetric order of high dipole moment-high hyperpolarizability chromophores in electrically poled polymeric thin films. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 4842-4847.	7.1	207

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91	Encoding of anisotropic diffusion with tetrahedral gradients: A general mathematical diffusion formalism and experimental results. Magnetic Resonance in Medicine, 1996, 35, 399-412.	3.0	276
92	[19] Site-specific dynamics in DNA: Theory and experiment. Methods in Enzymology, 1995, 261, 451-509.	1.0	16
93	Site-Specific Dynamics in DNA: Theory. Annual Review of Biophysics and Biomolecular Structure, 1995, 24, 523-549.	18.3	22
94	A Probe for Sequence-Dependent Nucleic Acid Dynamics. Journal of the American Chemical Society, 1995, 117, 9377-9378.	13.7	53
95	Molecular dynamics in liquids: spin-lattice relaxation of nitroxide spin labels. Science, 1994, 263, 490-493.	12.6	148
96	Using nitroxide spin labels. How to obtain T1e from continuous wave electron paramagnetic resonance spectra at all rotational rates. Biophysical Journal, 1993, 64, 594-604.	0.5	35
97	Direct simulation of continuous wave electron paramagnetic resonance spectra from Brownian dynamics trajectories. Journal of Chemical Physics, 1992, 96, 2609-2616.	3.0	68
98	Analysis of encoding efficiency in MR imaging of velocity magnitude and direction. Magnetic Resonance in Medicine, 1992, 25, 233-247.	3.0	27
99	DNA dynamics from a spin probe: Dependence of probe motion tether length. Tetrahedron Letters, 1990, 31, 593-596.	1.4	37
100	New analysis of soliton dynamics intrans-polyacetylene: Motional effects of dynamic nuclear polarization spectra. Physical Review Letters, 1990, 64, 1773-1776.	7.8	7
101	A theoretical treatment of multiple quantum nuclear spin coherences in electron spin echo studies of polyacetylene. Journal of Chemical Physics, 1990, 92, 978-995.	3.0	11
102	Stimulation of porphyrinogen oxidation by mercuric ion. I. Evidence of free radical formation in the presence of thiols and hydrogen peroxide. Molecular Pharmacology, 1990, 38, 253-60.	2.3	36
103	DNA structural data from a dynamics probe. The dynamic signatures of single stranded, hairpin-looped, and duplex forms of DNA are distinguishable. Journal of the American Chemical Society, 1989, 111, 2303-2305.	13.7	32
104	A rigid and nonperturbing probe for duplex DNA motion. Journal of the American Chemical Society, 1988, 110, 1299-1301.	13.7	96
105	Direct detection of very slow twoâ€jump processes by saturation recovery electron paramagnetic resonance spectroscopy. Journal of Chemical Physics, 1987, 87, 2478-2488.	3.0	9
106	The design of a biochip: a self-assembling molecular-scale memory device. Protein Engineering, Design and Selection, 1987, 1, 295-300.	2.1	156
107	Simulation of double-stranded branch point migration. Biophysical Journal, 1987, 51, 611-626.	0.5	37
108	13C Hyperfine Interactions in t-(13CH)x Studied by Electron Spin echoes. Molecular Crystals and Liquid Crystals, 1985, 117, 455-458.	0.8	5

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109	Computerâ€controlled pulsed electronâ€paramagneticâ€resonance spectrometer. Review of Scientific Instruments, 1985, 56, 1917-1925.	1.3	33
110	The Temperature Dependence of Electron Spin-Lattice Relaxation Data in Trans-Polyacetylene and the Evidence for a Soliton-Phonon Interaction. Molecular Crystals and Liquid Crystals, 1985, 117, 421-429.	0.8	6
111	Interactions and spatial arrangement of spin-labeled NAD+ bound to glyceraldehyde-3-phosphate dehydrogenase. Comparison of EPR and X-ray modeling data. Journal of Biological Chemistry, 1984, 259, 9717-28.	3.4	28
112	Phase-independent Ratio Parameters for Saturation Transfer EPR. Biophysical Journal, 1983, 41, 399-400.	0.5	3
113	Effects of overmodulation on saturation transfer EPR signals. Journal of Chemical Physics, 1983, 78, 2268-2273.	3.0	12
114	Study of polyacetylene and composites of polyacetylene/polyethylene by electron nuclear double resonance, electron nuclear nuclear triple resonance, and electron spin echo spectroscopies. Journal of Applied Physics, 1983, 54, 5583-5591.	2.5	27
115	15N- and 2H-substituted maleimide spin labels: Improved sensitivity and resolution for biological EPR studies. Proceedings of the National Academy of Sciences of the United States of America, 1981, 78, 967-971.	7.1	47
116	Electron Paramagnetic Resonance Applied to Biological Systems. Journal of Computer Assisted Tomography, 1981, 5, 304.	0.9	0
117	Structural and motional changes in glyceraldehyde-3-phosphate dehydrogenase upon binding to the band-3 protein of the erythrocyte membrane examined with [15N,2H]maleimide spin label and electron paramagnetic resonance Proceedings of the National Academy of Sciences of the United States of America, 1981, 78, 4955-4959.	7.1	35
118	A simple model for internal motion of DNA based upon EPR studies in the slow motion region. Journal of Chemical Physics, 1980, 73, 4688-4692.	3.0	22
119	Anisotropic rotational diffusion studied by passage saturation transfer electron paramagnetic resonance. Journal of Chemical Physics, 1980, 72, 1312-1324.	3.0	111
120	Crossed TM110bimodal cavity for measurement of dispersion electron paramagnetic resonance and saturation transfer electron paramagnetic resonance signals for biological materials. Review of Scientific Instruments, 1980, 51, 1714-1721.	1.3	25
121	Analysis of double-helix motions with spin-labeled probes: Binding geometry and the limit of torsional elasticity. Journal of Molecular Biology, 1980, 139, 19-44.	4.2	63
122	EPR and saturation transfer EPR spectra at high microwave field intensities. Chemical Physics, 1979, 36, 207-237.	1.9	29
123	Approximate methods for the fast computation of EPR and ST-EPR spectra. II. Gaussian preconvolution followed by Runge-Kutta solution of the master supe. Chemical Physics, 1978, 30, 461-468.	1.9	12
124	The relation between orbital SCF energies and total SCF energies in molecules. Journal of Chemical Physics, 1977, 67, 4616-4617.	3.0	22
125	DNA packing in single crystals inferred from freeze-fracture-etch replicas. Journal of Molecular Biology, 1976, 108, 271-293.	4.2	43
126	Saturation transfer spectroscopy: signals sensitive to very slow molecular reorientation. Chemical Physics, 1976, 16, 393-404.	1.9	40

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127	Endor induced electron paramagnetic resonance: Application to the resolution of overlapping spectra. Chemical Physics, 1976, 18, 321-332.	1.9	12
128	Rapid computer simulation of E.S.R. spectra. Molecular Physics, 1976, 31, 1703-1715.	1.7	25
129	Rapid computer simulation of ESR spectra. Conventional ESR of axially symmetric 14N-nitroxide spin labels. Chemical Physics Letters, 1975, 35, 360-366.	2.6	20
130	Theory of nonlinear spin response: Rapid passage for very slow molecular reorientation. Physical Review A, 1975, 11, 488-498.	2.5	33
131	Theory of modulation effects in electron electron double resonance. Chemical Physics Letters, 1974, 28, 169-175.	2.6	18
132	Fast computer calculation of ESR and nonlinear spin response spectra from the fast motion to the rigid lattice limits. Chemical Physics Letters, 1974, 29, 56-64.	2.6	30
133	Electronic energy approximated as the sum of orbital energies of aZâ€scaled model. Journal of Chemical Physics, 1973, 59, 6189-6190.	3.0	14