

Denis Jacquemin: Publication list 1995–2025 (as 04/2025)

A Articles in peer-reviewed journals

1. D. Jacquemin, B. Champagne and J. M. André*
Molecular Orbital Expressions for Approximate Uncoupled Hartree-Fock Second Hyperpolarizabilities. A Pariser-Parr-Pople Assessment for Model Polyacetylene Chains
Chem. Phys. (IF=2.053), **197** (1995) 107–127 [doi](#).
2. D. Jacquemin, B. Champagne*, J. M. André and B. Kirtman
Exploratory Pariser-Parr-Pople Investigation of the Static Longitudinal First Hyperpolarizability of Polymethineimine Chains
Chem. Phys. (IF=2.005), **213** (1996) 217–228 [doi](#).
3. D. Jacquemin*, B. Champagne and J. M. André
Electronic First Hyperpolarizability of Polymethineimine Chains with Donor and Acceptor Groups
Synth. Met. (IF=1.256), **80** (1996) 205–210 [doi](#).
4. B. Champagne*, D. Jacquemin, J. M. André and B. Kirtman
Ab Initio Coupled Hartree-Fock Investigation of the Static First Hyperpolarizability of Model All-Trans Polymethineimine Oligomers of Increasing Size
J. Phys. Chem. A (IF=3.392), **101** (1997) 3158–3165 [doi](#).
5. D. Jacquemin*, B. Champagne and J. M. André
Electron Correlation Effects upon the Static (Hyper)polarizabilities of Push-Pull Conjugated Polyenes and Polyynes
Int. J. Quantum Chem. (IF=1.341), **65** (1997) 679–688 [doi](#).
6. D. Jacquemin*, B. Champagne and B. Kirtman
Ab Initio Static Polarizability and First Hyperpolarizability of Model Polymethineimine Chains. 2. Effects of Conformation and of Substitution by Donor/Acceptor End Groups
J. Chem. Phys. (IF=3.247), **107** (1997) 5076–5087 [doi](#).
7. D. Jacquemin*, J. A. Morales, E. Deumens and Y. Öhrn
Electron Nuclear Dynamics of Proton Collisions with Methane at 30 eV
J. Chem. Phys. (IF=3.247), **107** (1997) 6146–6155 [doi](#).
8. D. Jacquemin*, B. Champagne and J. M. André
Ab Initio Band Structure of Polymethineimine Isomers
J. Chem. Phys. (IF=3.147), **108** (1998) 1023–1030 [doi](#).
9. D. Jacquemin*, B. Champagne and J. M. André
Static First Hyperpolarizability of Small All-Trans Polymethineimine Oligomers. Basis Set and Electron Correlation Effects
J. Mol. Struct. (THEOCHEM) (IF=1.048), **425** (1998) 69–79 [doi](#).
10. D. Jacquemin*, B. Champagne and J. M. André
Møller-Plesset Evaluation of the Static First Hyperpolarizability of Polymethineimine
Chem. Phys. Lett. (IF=2.257), **284** (1998) 24–30 [doi](#).
11. B. Champagne*, E. A. Perpète, T. Legrand, D. Jacquemin and J. M. André
Ab Initio Determination of the Vibrational and Electronic First Hyperpolarizabilities of Reference Compounds for Non-Linear Optical (NLO) Applications: 3-Methyl 4-Nitropyridine 1-Oxide (POM) and N-(4-Nitrophenyl)-(L)-Prolinol (NPP)
J. Chem. Soc. Faraday Trans. (IF=1.757), **94** (1998) 1547–1553 [doi](#).
12. D. Jacquemin*, J. M. André and B. Champagne
Long-Range Effects in Optimizing the Geometry of Stereoregular Polymers. I. Formalism
J. Chem. Phys. (IF=3.289), **111** (1999) 5306–5323 [doi](#).
13. D. Jacquemin*, J. M. André and B. Champagne
Long-Range Effects in Optimizing the Geometry of Stereoregular Polymers. II. Hydrogen Fluoride Chains as a Working Example
J. Chem. Phys. (IF=3.289), **111** (1999) 5324–5330 [doi](#).

14. D. Jacquemin and B. Champagne*
Comment on “Calculation of Ab Initio Hyperpolarizabilities of Polymers” [J. Chem. Phys. 110, 2717 (1999)]
J. Chem. Phys. (IF=3.301), **112** (2000) 1616–1617 [doi](#).
15. D. Jacquemin*, B. Champagne and C. Hättig
Correlated Frequency-Dependent Electronic First Hyperpolarizability of Small Push-Pull Conjugated Chains
Chem. Phys. Lett. (IF=2.364), **319** (2000) 327–334 [doi](#).
16. B. Champagne*, E. A. Perpète, D. Jacquemin, S. van Gisbergen, E. V. Baerends, C. Soubra-Ghaoui, K. A. Robins and B. Kirtman
Assessment of Conventional Density Functional Schemes for Computing the Polarizabilities and First Hyperpolarizabilities of Push-Pull π -Conjugated Systems
J. Phys. Chem. A (IF=2.754), **104** (2000) 4755–4763 [doi](#).
17. M. Spassova, T. Kolev, I. Kanev, D. Jacquemin and B. Champagne*
Structure and Nonlinear Electrical Properties of Squaric Acid Derivatives: A Theoretical Study of the Conformation and Deprotonation Effects
J. Mol. Struct. (THEOCHEM) (IF=0.961), **528** (2000) 151–159 [doi](#).
18. E. A. Perpète*, B. Champagne and D. Jacquemin
Electronic and Vibrational First Hyperpolarizability of Polymethineimine
J. Mol. Struct. (THEOCHEM) (IF=0.961), **529** (2000) 65–71 [doi](#).
19. D. Jacquemin* and B. Champagne
Optimizing the Geometry of Stereoregular Polymers. III. Polyyne and the Problem of Basis Set Linear Dependences
Int. J. Quantum Chem. (IF=1.317), **80** (2000) 863–870 [doi](#).
20. T. D. Poulsen*, K. V. Mikkelsen, J. G. Fripiat, D. Jacquemin and B. Champagne
MP2 Correlation Effects upon the Electronic and Vibrational Properties of Polyyne
J. Chem. Phys. (IF=3.147), **114** (2001) 5917–5922 [doi](#).
21. D. Jacquemin*, B. Champagne, E. A. Perpète, J. M. Luis and B. Kirtman
Second-Order Møller-Plesset Study of Optimum Chain Length for Total (Electronic plus Vibrational) $\beta(-\omega_\sigma; \omega_1, \omega_2)$ of a Prototype Push-Pull Polyene
J. Phys. Chem. A (IF=2.630), **105** (2001) 9748–9755 [doi](#).
22. D. Jacquemin*, D. Beljonne, B. Champagne, V. Geskin, J. L. Brédas and J. M. André
Analysis of the Sign Reversal of the Second-Order Molecular Polarizability of Polymethineimine Chains
J. Chem. Phys. (IF=3.147), **115** (2001) 6766–6774 [doi](#).
23. D. Jacquemin* and B. Champagne
Long-Range Effects in Optimizing the Geometry of Stereoregular Polymers-IV: Explicit Determination of the Helical Angle
Int. J. Quantum Chem. (IF=1.249), **85** (2001) 539–545 [doi](#).
24. D. Jacquemin*, E. A. Perpète and B. Champagne
First Hyperpolarizability of H-(BN)N-H Oligomers: Analysis of Geometry, Asymmetry and Delocalization Effects
Phys. Chem. Chem. Phys. (IF=1.838), **4** (2002) 432–440 [doi](#).
25. D. Jacquemin*, J. G. Fripiat and B. Champagne
Convergence of Exchange Lattice Summations in Direct-Space Polymer Calculations
Int. J. Quantum Chem. (IF=1.514), **89** (2002) 452–463 [doi](#).
26. M. Yang, D. Jacquemin and B. Champagne*
Intramolecular Charge Transfer and First-Order Hyperpolarizability of Planar and Twisted Sesquifulvalenes
Phys. Chem. Chem. Phys. (IF=1.838), **4** (2002) 5566–5571 [doi](#).

27. D. Jacquemin*, B. Champagne, J. M. André, E. Deumens and Y. Öhrn
Integral Algorithm and Density Matrix Integration Scheme for Ab Initio Band Structure Calculations on Polymeric Systems
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28. D. Jacquemin*, J. M. André and B. Champagne
Analytic Ab Initio Determination of the Elastic Modulus in Stereoregular Polymers. Analytical Integrals Derivatives, Long-Range Effects, Implementation, and Examples
J. Chem. Phys. (IF=2.950), **118** (2003) 373–388 [doi](#).
29. D. Jacquemin*, J. M. André and B. Champagne
Analytic Ab Initio Determination of the IR Intensities in Stereoregular Polymers
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30. D. Jacquemin*, B. Champagne and J. M. André
Copolymerization Effects upon the Second-Order NLO Responses of Polyacetylene/Polymethineimine
Macromolecules (IF=3.621), **36** (2003) 3980–3985 [doi](#).
31. B. Champagne*, D. Jacquemin, F. L. Gu, Y. Aoki, D. M. Bishop and B. Kirtman
Pseudo Linear-Dependence and Long-Range Interaction on the Polarizability and Hyperpolarizabilities of Stereoregular Polymers
Chem. Phys. Lett. (IF=2.438), **373** (2003) 539–549 [doi](#).
32. D. Jacquemin*
Theoretical Study of Dehydrogenation Effects upon the First Hyperpolarizability of Polyphosphinoborane
J. Phys. Chem. A (IF=2.639), **108** (2004) 500–506 [doi](#).
33. D. Jacquemin*, C. Lambert and E. A. Perpète
Structures and Properties of Polyphosphinoborane: an Oligomeric Theoretical Study
Macromolecules (IF=3.898), **37** (2004) 1009–1015 [doi](#).
34. D. Jacquemin*, O. Quinet, B. Champagne and J. M. André
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J. Chem. Phys. (IF=3.105), **120** (2004) 9401–9409 [doi](#).
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36. D. Jacquemin*, J. Preat, M. Charlot, V. Wathelet, J. M. André and E. A. Perpète
Theoretical Investigation of Substituted Anthraquinone Dyes
J. Chem. Phys. (IF=3.105), **121** (2004) 1736–1743 [doi](#).
37. D. Jacquemin*, V. Wathelet and E. A. Perpète
Effects of Chain Substitution on the Structures and Properties of Polyphosphinoborane
Macromolecules (IF=3.898), **37** (2004) 5040–5046 [doi](#).
38. D. Jacquemin*, J. M. André and E. A. Perpète
Geometry, Dipole Moment, Polarizability and First Hyperpolarizability of Polymethineimine: an Assessment of Electron Correlation Contributions
J. Chem. Phys. (IF=3.105), **121** (2004) 4389–4396 [doi](#).
39. D. Jacquemin*
First Hyperpolarizability of Polyaminoborane and Polyiminoborane Oligomers
J. Phys. Chem. A (IF=2.639), **108** (2004) 9260–9266 [doi](#).
40. D. Jacquemin*, E. A. Perpète, V. Wathelet and J. M. André
An Ab Initio Investigation of the Structures and Properties of Polyaminoborane
J. Phys. Chem. A (IF=2.639), **108** (2004) 9616–9624 [doi](#).
41. D. Jacquemin*, X. Assfeld and E. A. Perpète
Solvent Effects on the Geometry and First Hyperpolarizability of Polymethineimine
J. Mol. Struct. (THEOCHEM) (IF=1.007), **710** (2004) 13–17 [doi](#).

42. M. Medved'*, J. Noga, D. Jacquemin and E. A. Perpète
Longitudinal NLO Properties of C₂H₂, HCCF, and C₂F₂: Electron Correlation and Vibration Effects
 Int. J. Quantum Chem. (IF=1.192), **102** (2005) 209–223 [doi](#).
43. D. Jacquemin*
Linear and NonLinear Optics Properties of Polyphosphazene/Polynitrile Copolymers
 J. Chem. Theory Comput. (IF=NA, 2006 FI=3.627), **1** (2005) 307–314 [doi](#).
44. D. Jacquemin, E. A. Perpète, I. Ciofini and C. Adamo*
Assessment of Recently-Developed Density Functional Approaches for the Evaluation of the Bond Length Alternation in Polyacetylene
 Chem. Phys. Lett. (IF=2.438), **405** (2005) 376–381 [doi](#).
45. D. Jacquemin*, J. Preat, V. Wathélet, J. M. André and E. A. Perpète
Substitution Effects on the Visible Spectra of 1,4-diNHPH-9,10-Anthraquinone
 Chem. Phys. Lett. (IF=2.438), **405** (2005) 429–433 [doi](#).
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Linear Phosphorus-Boron Chains: a Model System with Huge Electronic First Hyperpolarizability
 Int. J. Quantum Chem. (IF=1.192), **103** (2005) 226–234 [doi](#).
47. D. Y. Zhang, C. Pouchan, D. Jacquemin* and E. A. Perpète
Ab Initio Studies of the Static Electronic First Hyperpolarizability of Polysilanenitrile
 Chem. Phys. Lett. (IF=2.438), **408** (2005) 226–231 [doi](#).
48. D. Jacquemin*, A. Femenias, H. Chermette*, J. M. André* and E. A. Perpète*
A Second-Order Møller-Plesset Evaluation of the Bond Length Alternation of Linear Oligomers
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50. D. Jacquemin*, J. Preat and E. A. Perpète
A TD-DFT Study of the Absorption Spectra of Fast Dye Salts
 Chem. Phys. Lett. (IF=2.438), **410** (2005) 254–259 [doi](#).
51. D. Jacquemin*, J. Preat, V. Wathélet and E. A. Perpète
Theoretical Investigation of the Absorption Spectrum of Thioindigo Dyes
 J. Mol. Struct. (THEOCHEM) (IF=1.045), **731** (2005) 67–72 [doi](#).
52. J. Preat*, D. Jacquemin and E. A. Perpète
Theoretical Investigation of the UV Spectra of Coumarin Derivatives
 Chem. Phys. Lett. (IF=2.438), **415** (2005) 20–24 [doi](#).

- Top 25 Hottest Articles
53. D. Jacquemin*, E. A. Perpète and J. M. André
NLO Response of Polymethineimine and Polymethineimine/Polyacetylene Conformers: Assessment of Electron Correlation Effects
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 Chem. Phys. Lett. (IF=2.438), **416** (2005) 277–281 [doi](#).
55. L. Briquet, D. P. Vercauteren, E. A. Perpète and D. Jacquemin*
Is Solvated Trans-Azobenzene Twisted or Planar?
 Chem. Phys. Lett. (IF=2.462), **417** (2006) 190–195 [doi](#).
56. D. Jacquemin*, J. Preat, V. Wathélet, M. Fontaine and E. A. Perpète
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 J. Am. Chem. Soc. (IF=7.696), **128** (2006) 2072–2083 [doi](#).

57. D. Jacquemin*, J. Preat, V. Wathelet and E. A. Perpète
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J. Chem. Phys. (IF=3.166), **124** (2006) 074104 (12 p.) [doi](#).
58. D. Jacquemin* and E. A. Perpète
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59. E. A. Perpète, V. Wathelet, J. Preat, C. Lambert and D. Jacquemin*
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J. Chem. Theory Comput. (IF=3.627), **2** (2006) 434–440 [doi](#).
60. D. Jacquemin, E. A. Perpète, G. Scalmani, M. J. Frisch, I. Ciofini and C. Adamo*
Absorption and Emission Spectra in Gas-Phase and Solution Using TD-DFT: Formaldehyde and Benzene as Case Studies
Chem. Phys. Lett. (IF=2.462), **421** (2006) 272–276 [doi](#).
61. V. Wathelet, J. Preat, M. Bouhy, M. Fontaine, E. A. Perpète, J. M. André and D. Jacquemin*
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64. D. Jacquemin*, M. Bouhy and E. A. Perpète
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65. J. Preat*, D. Jacquemin, V. Wathelet, J. M. André and E. A. Perpète
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J. Phys. Chem. A (IF=3.047), **110** (2006) 8144–8150 [doi](#).
66. D. Jacquemin*, V. Wathelet and E. A. Perpète
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68. D. Jacquemin*, J. Preat, V. Wathelet and E. A. Perpète
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69. J. de Ruyck*, J. Preat, E. A. Perpète, D. Jacquemin and J. Wouters
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71. J. Preat*, D. Jacquemin and E. A. Perpète
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72. J. Preat*, P. F. Loos, X. Assfeld, D. Jacquemin and E. A. Perpète
DFT and TD-DFT Investigation of IR and UV Spectra of Solvated Molecules: Comparison of two SCRF Continuum Models
Int. J. Quantum Chem. (IF=1.368), **107** (2007) 574–585 [doi](#).
73. D. Jacquemin*, E. A. Perpète, H. Chermette, I. Ciofini and C. Adamo
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J. Mol. Struct. (THEOCHEM) (IF=1.112), **804** (2007) 31–34 [doi](#).
75. L. Briquet, D. P. Vercauteren, J. M. André, E. A. Perpète and D. Jacquemin*
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An Ab Initio Scheme for Quantitative Predictions of the Visible Spectra of Diarylethenes
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Comparison of Theoretical Approaches for Predicting the UV/Vis Spectra of Anthraquinones
Mol. Phys. (IF=1.568), **105** (2007) 325–331 [doi](#).
79. J. Preat*, P. F. Loos, X. Assfeld, D. Jacquemin and E. A. Perpète
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81. D. Jacquemin*, E. A. Perpète, G. Scalmani, M. J. Frisch, R. Kobayashi and C. Adamo*
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Ab Initio Tools for the Accurate Prediction of the Visible Spectra of Anthraquinones
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J. Chem. Phys. (IF=3.044), **126** (2007) 191108 (4 p.) [doi](#).

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87. C. Michaux, J. Wouters, D. Jacquemin* and E. A. Perpète
A Theoretical Investigation of the Hydrated Glycine Cation Energetics and Structures
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88. D. Jacquemin*, E. A. Perpète, O. A. Vydrov, G. E. Scuseria and C. Adamo*
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90. A. D. Laurent, J. M. André, E. A. Perpète and D. Jacquemin*
Photochromic Properties of Dithienylazoles and Other Conjugated Diarylethenes
 J. PhotoChem. PhotoBiol. A: Chem. (IF=1.911), **192** (2007) 211–219 doi.

91. D. Jacquemin*, E. A. Perpète, G. Scalmani, M. J. Frisch, I. Ciofini and C. Adamo*
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96. J. Preat, C. Michaux, A. Lewalle, E. A. Perpète and D. Jacquemin*
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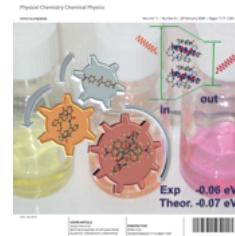
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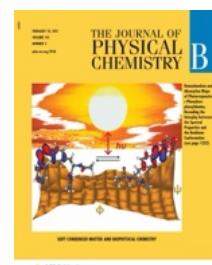
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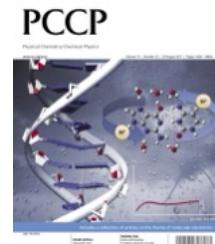
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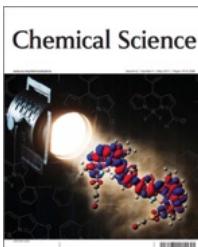
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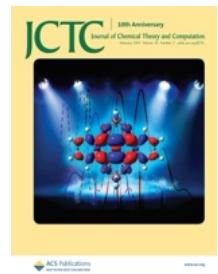
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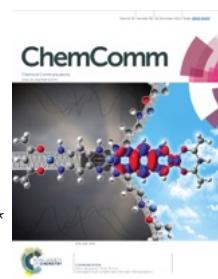
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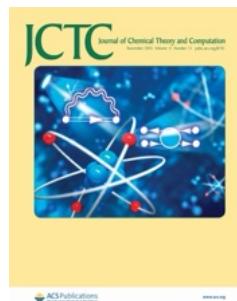
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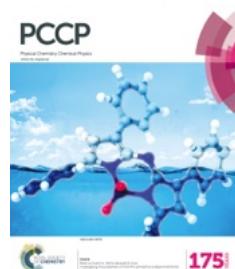
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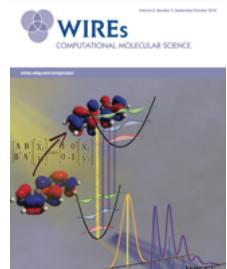
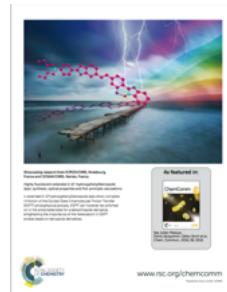
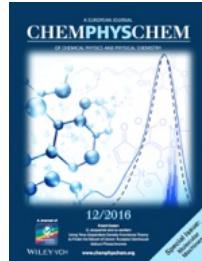


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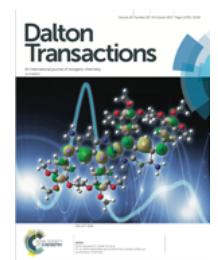


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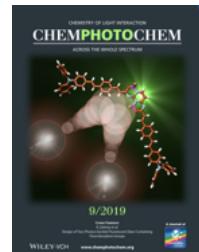


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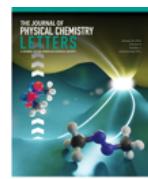
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