

# Michael E Harris

## List of Publications by Year in descending order

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81  
papers

2,588  
citations

126907

33  
h-index

214800

47  
g-index

86  
all docs

86  
docs citations

86  
times ranked

2140  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Specificity and nonspecificity in RNA-protein interactions. <i>Nature Reviews Molecular Cell Biology</i> , 2015, 16, 533-544.   | 37.0 | 216       |
| 2  | RNA editing in kinetoplastid mitochondria.. <i>FASEB Journal</i> , 1993, 7, 54-63.  | 0.5  | 111       |
| 3  | Hidden specificity in an apparently nonspecific RNA-binding protein. <i>Nature</i> , 2013, 502, 385-388.  | 27.8 | 85        |
| 4  | Exploring the Role of a Conserved Class A Residue in the $\Omega$ -Loop of KPC-2 $\beta$ -Lactamase. <i>Journal of Biological Chemistry</i> , 2012, 287, 31783-31793.   | 3.4  | 84        |
| 5  | Evidence that substrate-specific effects of C5 protein lead to uniformity in binding and catalysis by RNase P. <i>EMBO Journal</i> , 2006, 25, 3998-4007.   | 7.8  | 82        |
| 6  | Recognition of the 5' leader of pre-tRNA substrates by the active site of ribonuclease P. <i>Rna</i> , 2003, 9, 734-745.  | 3.5  | 75        |
| 7  | Helix P4 is a divalent metal ion binding site in the conserved core of the ribonuclease P ribozyme. <i>Rna</i> , 2000, 6, 511-519.  | 3.5  | 74        |
| 8  | Evidence for Direct Attack by Hydroxide in Phosphodiester Hydrolysis. <i>Journal of the American Chemical Society</i> , 2002, 124, 10964-10965.   | 13.7 | 73        |
| 9  | Analysis of Solvent Nucleophile Isotope Effects: Evidence for Concerted Mechanisms and Nucleophilic Activation by Metal Coordination in Nonenzymatic and Ribozyme-Catalyzed Phosphodiester Hydrolysis. <i>Biochemistry</i> , 2004, 43, 10547-10559. | 2.5  | 67        |
| 10 | Rational Design of Self-Cleaving pre-tRNA-Ribonuclease P RNA Conjugates. <i>Biochemistry</i> , 1994, 33, 10800-10808.   | 2.5  | 63        |
| 11 | Experimental and computational analysis of the transition state for ribonuclease A-catalyzed RNA 2'- <i>O</i> -phosphorylation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 13002-13007.    | 7.1  | 62        |
| 12 | Identification of Individual Nucleotides in the Bacterial Ribonuclease P Ribozyme Adjacent to the Pre-tRNA Cleavage Site by Short-Range Photo-Cross-Linking. <i>Biochemistry</i> , 1998, 37, 17618-17628.   | 2.5  | 57        |
| 13 | Evidence for a polynuclear metal ion binding site in the catalytic domain of ribonuclease P RNA. <i>EMBO Journal</i> , 2002, 21, 2253-2262.   | 7.8  | 50        |
| 14 | Recent insights into the structure and function of the ribonucleoprotein enzyme ribonuclease P. <i>Current Opinion in Structural Biology</i> , 2003, 13, 325-333.   | 5.7  | 50        |
| 15 | The Pre-tRNA Nucleotide Base and 2'-Hydroxyl at N(1) Contribute to Fidelity in tRNA Processing by RNase P. <i>Journal of Molecular Biology</i> , 2005, 345, 969-985.  | 4.2  | 50        |
| 16 | Rules of RNA specificity of hnRNP A1 revealed by global and quantitative analysis of its affinity distribution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 2206-2211.                      | 7.1  | 50        |
| 17 | Characterization of the Reaction Path and Transition States for RNA Transphosphorylation Models from Theory and Experiment. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 647-651.   | 13.8 | 49        |
| 18 | Understanding the transition states of phosphodiester bond cleavage: Insights from heavy atom isotope effects. <i>Biopolymers</i> , 2004, 73, 110-129.  | 2.4  | 47        |

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|----|---|------|-----------|
| 19 | Identification of Adenosine Functional Groups Involved in Substrate Binding by the Ribonuclease P Ribozyme. <i>Biochemistry</i> , 1999, 38, 1873-1883.  | 2.5  | 46        |
| 20 | Kinetic Isotope Effects for RNA Cleavage by 2'-O- Transphosphorylation: Nucleophilic Activation by Specific Base. <i>Journal of the American Chemical Society</i> , 2010, 132, 11613-11621.   | 13.7 | 46        |
| 21 | Evidence that binding of C5 protein to P RNA enhances ribozyme catalysis by influencing active site metal ion affinity. <i>Rna</i> , 2007, 13, 1505-1515.   | 3.5  | 45        |
| 22 | RNA Crosslinking Methods. <i>Methods in Enzymology</i> , 2009, 468, 127-146.  | 1.0  | 45        |
| 23 | An Ontology for Facilitating Discussion of Catalytic Strategies of RNA-Cleaving Enzymes. <i>ACS Chemical Biology</i> , 2019, 14, 1068-1076.   | 3.4  | 45        |
| 24 | Analysis of substrate recognition by the ribonucleoprotein endonuclease RNase P. <i>Methods</i> , 2002, 28, 307-322.  | 3.8  | 43        |
| 25 | The P4 metal binding site in RNase P RNA affects active site metal affinity through substrate positioning. <i>Rna</i> , 2006, 12, 1463-1467.  | 3.5  | 43        |
| 26 | Conservation of Helical Structure Contributes to Functional Metal Ion Interactions in the Catalytic Domain of Ribonuclease P RNA. <i>Journal of Molecular Biology</i> , 2002, 324, 429-442.   | 4.2  | 42        |
| 27 | Exploring the Role of Residue 228 in Substrate and Inhibitor Recognition by VIM Metallo- $\beta$ -lactamases. <i>Biochemistry</i> , 2015, 54, 3183-3196.  | 2.5  | 41        |
| 28 | The Track of the Pre-tRNA 5' Leader in the Ribonuclease P Ribozyme-Substrate Complex. <i>Biochemistry</i> , 1999, 38, 12629-12638.  | 2.5  | 40        |
| 29 | Pre-steady-state and stopped-flow fluorescence analysis of Escherichia coli ribonuclease III: insights into mechanism and conformational changes associated with binding and catalysis. <i>Journal of Molecular Biology</i> , 2002, 317, 21-40. | 4.2  | 40        |
| 30 | Activation of Oxygen Nucleophiles in Enzyme Catalysis. <i>Chemical Reviews</i> , 2006, 106, 3236-3251.  | 47.7 | 37        |
| 31 | RNA-dependent Folding and Stabilization of C5 Protein During Assembly of the E. coli RNase P Holoenzyme. <i>Journal of Molecular Biology</i> , 2006, 360, 190-203.  | 4.2  | 37        |
| 32 | Protein Precursor tRNA Contact Leads to Sequence-Specific Recognition of 5' Leaders by Bacterial Ribonuclease P. <i>Journal of Molecular Biology</i> , 2010, 396, 195-208.  | 4.2  | 37        |
| 33 | NAIM and Site-Specific Functional Group Modification Analysis of RNase P RNA: Magnesium Dependent Structure within the Conserved P1-P4 Multihelix Junction Contributes to Catalysis. <i>Biochemistry</i> , 2002, 41, 4533-4545.                 | 2.5  | 34        |
| 34 | Altered (transition) states: mechanisms of solution and enzyme catalyzed RNA 2'-O-transphosphorylation. <i>Current Opinion in Chemical Biology</i> , 2014, 21, 96-102.  | 6.1  | 34        |
| 35 | Interpretation of pH Activity Profiles for Acid-Base Catalysis from Molecular Simulations. <i>Biochemistry</i> , 2015, 54, 1307-1313.   | 2.5  | 33        |
| 36 | Characterization of the Structure and Dynamics of the HDV Ribozyme in Different Stages Along the Reaction Path. <i>Journal of Physical Chemistry Letters</i> , 2011, 2, 2538-2543.  | 4.6  | 30        |

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|----|--|------|-----------|
| 37 | Efficient Synthesis of [ $^{18}\text{O}$ ]Uridine and Its Incorporation into Oligonucleotides: A New Tool for Mechanistic Study of Nucleotidyl Transfer Reactions by Isotope Effect Analysis. <i>Journal of Organic Chemistry</i> , 2008, 73, 309-311.   | 3.2  | 29        |
| 38 | Mechanistic Insights into RNA Transphosphorylation from Kinetic Isotope Effects and Linear Free Energy Relationships of Model Reactions. <i>Chemistry - A European Journal</i> , 2014, 20, 14336-14343.  | 3.3  | 29        |
| 39 | POT1-TPP1 Binding and Unfolding of Telomere DNA Discriminates against Structural Polymorphism. <i>Journal of Molecular Biology</i> , 2016, 428, 2695-2708.   | 4.2  | 28        |
| 40 | A Two-Metal-Ion-Mediated Conformational Switching Pathway for HDV Ribozyme Activation. <i>ACS Catalysis</i> , 2016, 6, 1853-1869.  | 11.2 | 24        |
| 41 | Binding of C5 Protein to P RNA Enhances the Rate Constant for Catalysis for P RNA Processing of Pre-tRNAs Lacking a Consensus G(+1)/C(+72) Pair. <i>Journal of Molecular Biology</i> , 2010, 395, 1019-1037.   | 4.2  | 23        |
| 42 | A Quantitative Raman Spectroscopic Signal for Metal-Phosphodiester Interactions in Solution. <i>Biochemistry</i> , 2010, 49, 2869-2879.  | 2.5  | 22        |
| 43 | Molecular Simulations of RNA 2'-O- <i>O</i> -Transesterification Reaction Models in Solution. <i>Journal of Physical Chemistry B</i> , 2013, 117, 94-103.  | 2.6  | 21        |
| 44 | Analysis of the RNA Binding Specificity Landscape of C5 Protein Reveals Structure and Sequence Preferences that Direct RNase P Specificity. <i>Cell Chemical Biology</i> , 2016, 23, 1271-1281.  | 5.2  | 21        |
| 45 | Potent competitive inhibition of human ribonucleotide reductase by a nonnucleoside small molecule. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 8241-8246.  | 7.1  | 21        |
| 46 | Synthetic, potentiometric and spectroscopic studies of chelation between Fe(III) and 2,5-DHBA supports salicylate-mode of siderophore binding interactions. <i>Journal of Inorganic Biochemistry</i> , 2015, 145, 1-10.                                  | 3.5  | 20        |
| 47 | Integration of kinetic isotope effect analyses to elucidate ribonuclease mechanism. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2015, 1854, 1801-1808.  | 2.3  | 20        |
| 48 | Assessment of metal-assisted nucleophile activation in the hepatitis delta virus ribozyme from molecular simulation and 3D-RISM. <i>Rna</i> , 2015, 21, 1566-1577.   | 3.5  | 18        |
| 49 | Inaccuracies in selected ion monitoring determination of isotope ratios obviated by profile acquisition: nucleotide $^{18}\text{O}/^{16}\text{O}$ measurements. <i>Analytical Biochemistry</i> , 2007, 367, 28-39.                                       | 2.4  | 17        |
| 50 | Effect of $\text{Zn}^{2+}$ binding and enzyme active site on the transition state for RNA 2'-O-transphosphorylation interpreted through kinetic isotope effects. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2015, 1854, 1795-1800. | 2.3  | 16        |
| 51 | Coordinated Interactions of Multiple POT1-TPP1 Proteins with Telomere DNA*. <i>Journal of Biological Chemistry</i> , 2013, 288, 16361-16370.   | 3.4  | 14        |
| 52 | Alternative Substrate Kinetics of Escherichia coli Ribonuclease P. <i>Journal of Biological Chemistry</i> , 2013, 288, 8342-8354.  | 3.4  | 14        |
| 53 | Identification of Non-nucleoside Human Ribonucleotide Reductase Modulators. <i>Journal of Medicinal Chemistry</i> , 2015, 58, 9498-9509.   | 6.4  | 14        |
| 54 | Structure-guided design of anti-cancer ribonucleotide reductase inhibitors. <i>Journal of Enzyme Inhibition and Medicinal Chemistry</i> , 2019, 34, 438-450.   | 5.2  | 14        |

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|----|---|------|-----------|
| 55 | Experimental analyses of the chemical dynamics of ribozyme catalysis. <i>Current Opinion in Chemical Biology</i> , 2008, 12, 626-639.   | 6.1  | 12        |
| 56 | The contribution of the C5 protein subunit of <i>Escherichia coli</i> ribonuclease P to specificity for precursor tRNA is modulated by proximal 5' leader sequences. <i>Rna</i> , 2017, 23, 1502-1511.  | 3.5  | 12        |
| 57 | Structure-Guided Synthesis and Mechanistic Studies Reveal Sweetspots on Naphthyl Salicyl Hydrazone Scaffold as Non-Nucleosidic Competitive, Reversible Inhibitors of Human Ribonucleotide Reductase. <i>Journal of Medicinal Chemistry</i> , 2018, 61, 666-680. | 6.4  | 12        |
| 58 | Transition State Features in the Hepatitis Delta Virus Ribozyme Reaction Revealed by Atomic Perturbations. <i>Journal of the American Chemical Society</i> , 2015, 137, 8973-8982.  | 13.7 | 11        |
| 59 | Mapping specificity landscapes of RNA-protein interactions by high throughput sequencing. <i>Methods</i> , 2017, 118-119, 111-118.  | 3.8  | 11        |
| 60 | Optimization of high-throughput sequencing kinetics for determining enzymatic rate constants of thousands of RNA substrates. <i>Analytical Biochemistry</i> , 2016, 510, 1-10.  | 2.4  | 10        |
| 61 | Determination of the Specificity Landscape for Ribonuclease P Processing of Precursor tRNA 5' Leader Sequences. <i>ACS Chemical Biology</i> , 2016, 11, 2285-2292.  | 3.4  | 10        |
| 62 | Analysis of the tertiary structure of bacterial RNase P RNA. <i>Molecular Biology Reports</i> , 1996, 22, 115-123.  | 2.3  | 9         |
| 63 | Isotope effect analyses provide evidence for an altered transition state for RNA 2'-O-transphosphorylation catalyzed by Zn <sup>2+</sup> . <i>Chemical Communications</i> , 2016, 52, 4462-4465.  | 4.1  | 8         |
| 64 | Inhibition of soluble guanylyl cyclase by small molecules targeting the catalytic domain. <i>FEBS Letters</i> , 2016, 590, 3669-3680.   | 2.8  | 7         |
| 65 | Nucleoside Analogue Triphosphates Allosterically Regulate Human Ribonucleotide Reductase and Identify Chemical Determinants That Drive Substrate Specificity. <i>Biochemistry</i> , 2016, 55, 5884-5896.  | 2.5  | 7         |
| 66 | Theme and Variation in tRNA 5' End Processing Enzymes: Comparative Analysis of Protein versus Ribonucleoprotein RNase P. <i>Journal of Molecular Biology</i> , 2016, 428, 5-9.  | 4.2  | 7         |
| 67 | Determination of relative rate constants for in vitro RNA processing reactions by internal competition. <i>Analytical Biochemistry</i> , 2014, 467, 54-61.  | 2.4  | 6         |
| 68 | Determination of hepatitis delta virus ribozyme N(1) nucleobase and functional group specificity using internal competition kinetics. <i>Analytical Biochemistry</i> , 2015, 483, 12-20.  | 2.4  | 6         |
| 69 | Deconvolution of Raman spectroscopic signals for electrostatic, H-bonding, and inner-sphere interactions between ions and dimethyl phosphate in solution. <i>Journal of Inorganic Biochemistry</i> , 2011, 105, 538-547.  | 3.5  | 5         |
| 70 | Distributive enzyme binding controlled by local RNA context results in 3' to 5' directional processing of dicistronic tRNA precursors by <i>Escherichia coli</i> ribonuclease P. <i>Nucleic Acids Research</i> , 2019, 47, 1451-1467.                           | 14.5 | 5         |
| 71 | Inhibition of yeast ribonucleotide reductase by Sml1 depends on the allosteric state of the enzyme. <i>FEBS Letters</i> , 2016, 590, 1704-1712.   | 2.8  | 4         |
| 72 | Evidence That Nucleophile Deprotonation Exceeds Bond Formation in the HDV Ribozyme Transition State. <i>Biochemistry</i> , 2018, 57, 3465-3472.   | 2.5  | 4         |

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|----|---|------|-----------|
| 73 | Kinetic Isotope Effect Analysis of RNA 2'-O-Transphosphorylation. <i>Methods in Enzymology</i> , 2017, 596, 433-457.  | 1.0  | 3         |
| 74 | Phylogenetic sequence analysis and functional studies reveal compensatory amino acid substitutions in loop 2 of human ribonucleotide reductase. <i>Journal of Biological Chemistry</i> , 2017, 292, 16463-16476.  | 3.4  | 2         |
| 75 | Co- and Post-Transcriptional Incorporation of Specific Modifications Including Photoreactive Groups into RNA Molecules. , 0, , 75-85.   |      | 1         |
| 76 | Beyond the Plateau: pL Dependence of Proton Inventories as a Tool for Studying Ribozyme and Ribonuclease Catalysis. <i>Biochemistry</i> , 2021, 60, 2810-2823.  | 2.5  | 1         |
| 77 | Understanding the Role of Metal Ions in RNA Folding and Function: Lessons from RNase P, a Ribonucleoprotein Enzyme. <i>Springer Series in Biophysics</i> , 2009, , 183-213.   | 0.4  | 1         |
| 78 | Innenr&uuml;cktitelbild: Characterization of the Reaction Path and Transition States for RNA Transphosphorylation Models from Theory and Experiment ( <i>Angew. Chem.</i> 3/2012). <i>Angewandte Chemie</i> , 2012, 124, 847-847.                           | 2.0  | 0         |
| 79 | Inside Back Cover: Characterization of the Reaction Path and Transition States for RNA Transphosphorylation Models from Theory and Experiment ( <i>Angew. Chem. Int. Ed.</i> 3/2012). <i>Angewandte Chemie - International Edition</i> , 2012, 51, 823-823. | 13.8 | 0         |
| 80 | Effect of pre&uuml;rRNA 5' leader sequence variation on the thermodynamic coupling and shared molecular recognition between RNA and protein components of RNase P. <i>FASEB Journal</i> , 2013, 27, 777.2.  | 0.5  | 0         |
| 81 | Experimental and computational evidence that ribonuclease A alters the transition state for RNA 2'-O-transphosphorylation. <i>FASEB Journal</i> , 2013, 27, 998.6.  | 0.5  | 0         |