Sélection d'articles en didactique de la chimie

à ajouter :


Liens rapides :

- [http://pubs.acs.org/toc/jceda8/current](http://pubs.acs.org/toc/jceda8/current) : numéro courant de *Journal of Chemical Education* où vous avez la possibilité de consulter les résumés. Si vous souhaitez recevoir la table des matières à chaque nouveau numéro, il vous suffit de prendre l'option "register" ([https://account.acs.org/ssoamweb/account/signUp](https://account.acs.org/ssoamweb/account/signUp)), et ensuite de demander les "E-Mail Alerts" pour les journaux choisis. Pour les étudiants et le personnel UMONS, vous pouvez accéder aux textes complets sur le réseau de l'UMONS ou en activant le VPN, ou via le bureau à distance.
  - Fil RSS des derniers articles parus dans *Journal of Chemical Education*
- [Chemistry Education Research and Practice](http://www.rsc.org/Publishing/Journals/forms/V5profile.asp) : *journal de la Royal Society of Chemistry*, accessible sur inscription. Vous pouvez obtenir des alertes via la page [http://www.rsc.org/Publishing/Journals/forms/V5profile.asp](http://www.rsc.org/Publishing/Journals/forms/V5profile.asp), ainsi que pour *Education in chemistry*.
  - Fil RSS des derniers articles parus dans *Chemistry Education Research and Practice*
- [The Chemical Educator - table of contents](https://dvillers.umons.ac.be/wiki/)
- Publications intéressantes (résumés) (sélections d'articles discutés lors de séminaires internes, sur ce wiki)
- Publications intéressantes de chimie-physique, pour travaux personnels d'étudiants,...

Dans les listes qui suivent, certains articles concernent l'enseignement supérieur et présentent donc un intérêt relatif par rapport au secondaire.

**Articles de Journal of Chemical Education**

**ASAP and/or ACS Editors Choice articles**

- ...

**Virtual Issues**

- [Journal of Chemical Education - Resources for Teaching Your Chemistry Class Online: A Free to Read Collection from the American Chemical Society & the ACS Division of Chemical Education](https://dvillers.umons.ac.be/wiki/)
- [Laboratory Learning](https://dvillers.umons.ac.be/wiki/)

*Cf.* aussi le lien [virtual collections](https://dvillers.umons.ac.be/wiki/).

**2021**

- *Journal of Chemical Education* - Vol 98, No 7
Improving Learning Outcomes and Metacognitive Monitoring: Replacing Traditional Textbook Readings with Question-Embedded Videos
Do Social Chemophobic Attitudes Influence the Opinions of Secondary School Students?
Assessment of Technological Setup for Teaching Real-Time and Recorded Laboratories for Online Learning: Implications for the Return to In-Person Learning
Conversation among Physical Chemists: Strategies and Resources for Remote Teaching and Learning Catalyzed by a Global Pandemic
MoleculARweb: A Web Site for Chemistry and Structural Biology Education through Interactive Augmented Reality out of the Box in Commodity Devices
Calculating Soft-Sphere Ionic Radii for Solid-State Arrangements from Solution Measurements
Introducing Undergraduates to Primary Research Literature
Interactive Lecture in Redox Chemistry: Analysis of the Impact of the Dissemination of University Scientific Research among High School Students
Educational Videogame to Learn the Periodic Table: Design Rationale and Lessons Learned
Escape from Quant Lab: Using Lab Skill Progression and a Final Project to Engage Students
Educational Escape Room: Break Dalton's Code and Escape!
Liquid–Liquid Demonstrations: Phase Equilibria and the Lever Rule
Liquid–Liquid Demonstrations: Critical Opalescence
Liquid–Liquid Demonstrations: Spinodal Decomposition
Integrating Artificial Intelligence to Chemistry Experiment: Carbon Dioxide Fountain
Inexpensive Alkaline Fuel Cell for Introductory Chemistry Classes

Journal of Chemical Education - Vol 98, No 6
Mimicking Students’ Behavior during a Titration Experiment: Designing a Digital Student-Centered Experimental Environment | Journal of Chemical Education
Designing and 3D Printing an Improved Method of Measuring Contact Angle in the Middle School Classroom | Journal of Chemical Education
Polysketch Pen: Drawing from Materials Chemistry to Create Interactive Art and Sensors Using a Polyaniline Ink | Journal of Chemical Education
Exploring Chemical Kinetics at Home in Times of Pandemic: Following the Bleaching of Food Dye Allura Red Using a Smartphone | Journal of Chemical Education
Advantages and Disadvantages of Using the Answer-Until-Correct Multiple-Choice Test Format for a Class of Non-STEM Majors | Journal of Chemical Education

Journal of Chemical Education - Vol 98, No 5
Combining Jigsaws, Rule-Based Learning, and Retrieval Practice Improves IUPAC Nomenclature Competence | Journal of Chemical Education
Using Classical Test Theory and Rasch Modeling to Improve General Chemistry Exams on a Per Instructor Basis | Journal of Chemical Education
Sample Plan for Easy, Inexpensive, Safe, and Relevant Hands-On, At-Home Wet Organic Chemistry Laboratory Activities | Journal of Chemical Education
"Ethics against Chemistry": Solving a Crime Using Chemistry Concepts and Storytelling in a History of Science-Based Interactive Game for Middle School Students | Journal of Chemical Education
Formation of a Water Ball in a Water Bottle to Learn the Chemistry of Surfactants | Journal of Chemical Education
Using Classic Movie Chemistry Scenes to Introduce Classroom Activities | Journal of Chemical Education

Journal of Chemical Education - Vol 98, No 4
Design, Implementation, and Evaluation of a Scientific Modeling Course on Concentration
Sélection d'articles en didactique de la chimie

- **Journal of Chemical Education - Vol 98, No 3**
  - Utilizing Unexpected Results in Water Electrolysis to Engage Students in Scientific Inquiry | Journal of Chemical Education
  - Tactile Models for the Visualization, Conceptualization, and Review of Intermolecular Forces in the College Chemistry Classroom | Journal of Chemical Education
  - Computational Chemistry Activities with Avogadro and ORCA | Journal of Chemical Education
  - Facile Method for Constructing Lewis (Electron Dot) Structures | Journal of Chemical Education

- **Journal of Chemical Education - Vol 98, No 2**
  - Dimensions of Variation in Chemistry Instructors’ Approaches to the Evaluation and Grading of Student Responses
  - Epistemological Profile of Chemical Bonding: Evaluation of Knowledge Construction in High School
  - Using Games to Build and Improve 10th Grade Students’ Understanding of the Concept of Chemical Bonding and the Representation of Molecules
  - What Is in a Prerequisite? An Observational Study on the Effect of General Chemistry on Organic Chemistry Performance
  - Teaching Cheminformatics through a Collaborative Intercollegiate Online Chemistry Course (OLCC)
  - Determining University Students’ Familiarity and Understanding of Laboratory Safety Knowledge—A Case Study

- Modular Science Kit as a support platform for STEM learning in primary and secondary school
- Exploring Chemistry with Wireless, PC-Less Portable Virtual Reality Laboratories
- CheMakers: Playing a Collaborative Board Game to Understand Organic Chemistry
- ChemistDice: A Game for Organic Functional Groups
- Introducing Students to the Periodic Table Using a Descriptive Approach of Superheroes, Meats, and Fruits and Nuts
- Discovering the Chemical Mechanism of Common Heating Agents: A Stepwise Inquiry with Student-Designed Experiments in a High School Laboratory Course
- Building a Raspberry Pi Spectrophotometer for Undergraduate Chemistry Classes
- From Abstract to Manipulatable: The Hybridization Explorer, A Digital Interactive for Studying Orbitals
- 360° Virtual Laboratory Tour with Embedded Skills Videos
- Clarity on Cronbach’s Alpha Use
- A Creative Commons Textbook for Teaching Scientific Computing to Chemistry Students with Python and Jupyter Notebooks
- Resuscitating the Mercury Beating Heart: An Improvement on the Classic Demo
- Journal of Chemical Education | Vol 98, No 1 - Special Issue on Chemical Safety Education: Methods, Culture, and Green Chemistry
  - Safety Moments in Chemical Safety Education | Journal of Chemical Education
  - RAMP: A Safety Tool for Chemists and Chemistry Students | Journal of Chemical Education
  - Building Strong Cultures with Chemical Safety Education | Journal of Chemical Education
  - An Engaging and Fun Breakout Activity for Educators and Students about Laboratory Safety | Journal of Chemical Education
  - Reinterpreting Popular Demonstrations for Use in a Laboratory Safety Session That Engages Students in Observation, Prediction, Record Keeping, and Problem Solving | Journal of Chemical Education
  - Open Digital Educational Resources for Self-Training Chemistry Lab Safety Rules | Journal of Chemical Education
  - Using Virtual Reality to Demonstrate Glove Hygiene in Introductory Chemistry Laboratories | Journal of Chemical Education
  - Developing Risk Assessment Competencies in Preservice K–12 Teachers | Journal of Chemical Education
  - Safe Handling of Gas Generating Experiments Using Disposable Plastic Syringes | Journal of Chemical Education

2020

- Journal of Chemical Education | Vol 97, No 12
  - Will 2020 Be an Inflection Point in the Trajectory of Chemistry Teaching and Learning? | Journal of Chemical Education
  - Examining the Psychometric Properties of the Redox Concept Inventory: A Rasch Approach | Journal of Chemical Education
    - cf. Are you making the most of formative assessment? David Read, education in chemistry, RSC, 2021
  - Teaching an Introductory Organic Chemistry Class for High School Students | Journal of Chemical Education
  - Derivation of the Theoretical Minimum Energy of Separation of Desalination Processes |
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- Fun with Flags and Chemistry | Journal of Chemical Education
- Race to the Reactor and Other Chemistry Games: Game-Based and Experiential Learning Experiences in Materials and Polymer Chemistry | Journal of Chemical Education
- A Photographic Process Using Easily Available Reagents | Journal of Chemical Education
- How Should Apples Be Prepared for a Fruit Salad? A Guided Inquiry Physical Chemistry Experiment | Journal of Chemical Education
- Structural Chemistry 2.0: Combining Augmented Reality and 3D Online Models | Journal of Chemical Education
- Social Distancing During the COVID-19 Pandemic: An Analogy to Explain Collision Cross-Sections in Chemical Kinetics | Journal of Chemical Education

- Journal of Chemical Education - Vol 97, No 11
  - Analyzing Students’ Construction of Graphical Models: How Does Reaction Rate Change Over Time?
  - “The Chemistry of Poisons”: An Interdisciplinary Approach to Integrating Chemical, Toxicological, and Medicinal Principles
  - Interactions 500: Design, Implementation, and Evaluation of a Hybrid Board Game for Aiding Students in the Review of Intermolecular Forces During the COVID-19 Pandemic
  - ChemEscape, Polymer Chemistry: Solving Interactive Puzzles Featuring Scaffolded Learning to Promote Student Understanding of Polymers and Structure–Property Relationships
  - Using Magnet-Embedded Silicone Balls to Construct Stable Models for Close-Packed Crystal Structures
  - All Roads Lead to Rome: Triple Stoichiometry with a Lithium Battery
  - Project-Based Experiment in a Physical Chemistry Teaching Laboratory: Ion Effects on Caffeine Partitioning Thermodynamics

- Octobre - Journal of Chemical Education - Vol 97, No 10
  - Commentary on the Models of Electronegativity
  - Teachers’ Noticing, Interpreting, and Acting on Students’ Chemical Ideas in Written Work
  - Review to Analyze and Compare Virtual Chemistry Laboratories for Their Use in Education
  - Are Heating and Stirring Required to Dissolve Salt in Water? Answers from Quantitative Experimental Evidence
  - Creation of a Phenol/Water Phase Diagram Using a Low-Cost Automated System and Remote Transmission
  - A Hybrid Board Game to Engage Students in Reviewing Organic Acids and Bases Concepts
  - Determining the Energy of Activation of a Salt, Water, and Alcohol Emulsion

- Septembre - Journal of Chemical Education - Vol 97, No 9
  - Introduction to the Journal of Chemical Education Special Issue on Insights Gained While Teaching Chemistry in the Time of COVID-19
  - Remote Interview Methods in Chemical Education Research
  - Attempts, Successes, and Failures of Distance Learning in the Time of COVID-19
  - Modeling Meaningful Chemistry Teacher Education Online: Reflections from Chemistry Preservice Teacher Educators in Australia
  - Experience-Based Learning Approach to Chemical Kinetics: Learning from the COVID-19 Pandemic
  - Reflections on Three Different High School Chemistry Lab Formats during COVID-19 Remote Learning
  - Using Hands-On Chemistry Experiments While Teaching Online
  - Building an Interactive Immersive Virtual Reality Crime Scene for Future Chemists to Learn Forensic Science Chemistry
  - Development and Use of Kitchen Chemistry Home Practical Activities during...
Unanticipated Campus Closures

- Determination of a Kinetic Law of Phosphorescence Decay Using a Conventional Photo Camera and Free Image Processing Software
- Use of 3D Printing to Manufacture Document Camera Mounts in Support of Online Education Shifts during the COVID-19 Pandemic
- Benefits of Simulations as Remote Exercises During the COVID-19 Pandemic: An Enzyme Kinetics Case Study
- Re-flipping in the Remote Classroom: The Surprising Uptake of Video-Recorded Worked Examples
- Escape the (Remote) Classroom: An Online Escape Room for Remote Learning
- Physical and Digital Educational Escape Room for Teaching Chemical Bonding] *
  *[[https://pubs.acs.org/doi/10.1021/acs.jchemed.0c00739|A Course of History of Chemistry and Chemical Education Completely Delivered in Distance Education Mode during Epidemic COVID-19]]
- Online Data Generation in Quantitative Analysis: Excel Spreadsheets and an Online HPLC Simulator Using a Jupyter Notebook on the Chem Compute Web site
- At-Home Colorimetric and Absorbance-Based Analyses: An Opportunity for Inquiry-Based, Laboratory-Style Learning
- A Community Springs to Action to Enable Virtual Laboratory Instruction
- Plans vs Reality: Reflections on Chemical Crystallography Online Teaching During COVID-19
- Chemistry in the Kitchen Laboratories at Home
- Developing Engaging Remote Laboratory Activities for a Nonmajors Chemistry Course During COVID-19
- Setting Up an Educational Column Chromatography Experiment from Home
- Choose Your Own “Labventure”: A Click-Through Story Approach to Online Laboratories during a Global Pandemic
- Stay at Home Laboratories for Chemistry Courses
- When the Kitchen Turns into a Physical Chemistry Lab
- The Sudden Switch to Online Teaching of an Upper-Level Experimental Physical Chemistry Course: Challenges and Solutions
- Using Student Insights for Ideas on Video Creation for Chemistry Classes
- Insights Gained During COVID-19: Refocusing Laboratory Assessments Online
- Assessing Student Learning in a Rapidly Changing Environment: Laboratories and Exams
- Designing a Hybrid Biopharmaceutical Laboratory Course to Enhance Content Flexibility and Access
- Remote Teaching and Learning in a Pandemic: Reflections from Chemistry Instructors at a Pharmacy School in Jordan
- Implications for the Use of PowerPoint, Classroom Response Systems, Teams, and Whiteboard to Enhance Online Teaching of Chemistry Subjects in Community College
- Remote Teaching of General Chemistry for Nonscience Majors during COVID-19
- Asynchronous Online Assessment of Physical Chemistry Concepts in the Time of COVID-19
- Using Familiar and New Assessment Tools in Physical Chemistry Courses During COVID-19
- An Applied Research-Based Approach to Support Chemistry Teachers during the COVID-19 Pandemic
- Online Experimentation during COVID-19 Secondary School Closures: Teaching Methods and Student Perceptions
- Gamification of ChemDraw during the COVID-19 Pandemic: Investigating How a Serious, Educational-Game Tournament (Molecule Madness) Impacts Student Wellness and Organic Chemistry Skills while Distance Learning
- Going Remote: How Teaching During a Crisis is Unique to Other Distance Learning
Experiences
- Challenges in General Chemistry: The Effect of Moving Online in the Middle of the Semester
- Minimize Online Cheating for Online Assessments During COVID-19 Pandemic
- Strategies for Effective Assessments while Ensuring Academic Integrity in General Chemistry Courses during COVID-19
- Revisiting Distance Learning Resources for Undergraduate Research and Lab Activities during COVID-19 Pandemic
- Experiences

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- A Review of Biochemistry Education Research
- Factors Influencing Student Learning in Semi-Flipped General Chemistry Courses
- Short Course on Sustainable Polymers for High School Students
- Demonstrating Basic Properties and Application of Polarimetry Using a Self-Constructed Polarimeter
- Go Fischer: An Introductory Organic Chemistry Card Game
- Rapid Formation of Copper Patinas: A Simple Chemical Demonstration of Why the Statue of Liberty Is Green
- Construction of a Room-Temperature Eutectic Binary Phase Diagram by Use of Differential Scanning Calorimetry
- Organic Fanatic: A Quiz-Based Mobile Application Game to Support Learning the Structure and Reactivity of Organic Compounds
- CHIMACTIV: An Open-Access Website for Student-Centered Learning in Analytical Chemistry
- Practical Decomposition of Irreducible Representations: Applications to Molecular Vibrations and Molecular Orbitals
- SeparateDuino: Design and Fabrication of a Low-Cost Arduino-Based Microcentrifuge Using the Recycled Parts of a Computer DVD Drive
- Clickers versus Plickers: Comparing Two Audience Response Systems in a Smartphone-Free Teaching Environment
- Preliminary Evidence on the Effect of an Open-Source Textbook in Second-Year Undergraduate Analytical Chemistry Courses
- Matching Five White Solids to Common Chemicals: A Dissolution Calorimetry and Acid–Base Titration Experiment
- Modified Method for Extraction of Photosynthetic Plant Pigments for Microcolumn Chromatography
- Experiences

juillet
- A Walk in the Clouds: Cautionary Tales from a Century of Chemical Agent Work
- Ricin and Saxitoxin: Two Natural Products That Became Chemical Weapons
- Security of Chemical Laboratories in Schools and Universities in Slovakia
- A Proposed Integrated Framework for Chemical Safety and Chemical Security
- Experimenting with At-Home General Chemistry Laboratories During the COVID-19 Pandemic
- Chemistry and Mathematics of the Belousov–Zhabotinsky Reaction in a School Laboratory
- Illustrating the Concepts of Entropy, Free Energy, and Thermodynamic Equilibrium with a Lattice Model
- Establishing a Connection for Students between the Reacting System and the Particle Model with Games and Stochastic Simulations of the Arrhenius Equation
- Mock Urinalysis Demonstration: Making Connections among Acid–Base Chemistry, Redox Reactions, and Healthcare in an Undergraduate Nursing Course
- Fabricating a Low-Cost, Simple, Screen Printed Paper Towel-Based Experimental Device to Demonstrate the Factors Affecting Chemical Equilibrium and Chemical Equilibrium
- Constant, $K_c$
- Interactive Unit Cell Visualization Tool for Crystal Lattice Structures
- **juin**
  - Establishing the Laboratory as the Place to Learn How to Do Chemistry
  - Johnstone’s Triangle as a Pedagogical Framework for Flipped-Class Instructional Videos in Introductory Chemistry
  - Introduction to Medicinal Chemistry: A Five-Day Course for High School Students
  - Comprehensive Training of Undergraduates Majoring in Chemical Education by Designing and Implementing a Simple Thread-Based Microfluidic Experiment
  - Simulating the Effects of Excluded-Volume Interactions in Polymer Solutions
  - Sizzle and Fizzle of Bath Bombs: An Inexpensive and Accessible Kinetics Experiment
  - Teaching Principal Component Analysis Using a Free and Open Source Software Program and Exercises Applying PCA to Real-World Examples
  - An Arduino-Based Talking Calorimeter for Inclusive Lab Activities
  - A Closer Examination of the Mechanism of the Hydrogen Peroxide Iodine-Clock Reaction with Respect to the Role of Hypoiodite Species
- **mai**
  - Design of Culinary Transformations: A Chemistry Course for Nonscience Majors | Journal of Chemical Education
  - Introducing Nonscience Majors to Science Literacy via a Laboratory and Lecture Beer Brewing Course
  - Property Information in Substance Records in Major Web-Based Chemical Information and Data Retrieval Tools: Understanding Content, Search Opportunities, and Application to Teaching
  - Using Augmented Reality to Stimulate Students and Diffuse Escape Game Activities to Larger Audiences
  - Playing a Board Game to Learn Bioenergy and Biofuels Topics in an Interactive, Engaging Context
  - Relating $\Delta H_{\text{vap}}$ of Organic Liquids to Intermolecular Forces: Simple Modifications of a Classic General Chemistry Experiment
  - Visualizing 3D Molecular Structures Using an Augmented Reality App
  - Monte Carlo Uncertainty Propagation with the NIST Uncertainty Machine
- **avril**
  - Exploring Students’ Understanding of Resonance and Its Relationship to Instruction
  - Didaktik Models in Chemistry Education
  - Probing the Mechanism of Bubble Nucleation in and the Effect of Atmospheric Pressure on the Candy–Cola Soda Geyser
  - Designing and Using an Atomic Model Kit with H, C, N, and O Model Atoms Having a Mass Ratio of 1:12:14:16 to Teach the Concept of Mole and Associated Stoichiometric Relationships
  - Interactive 3D Visualization of Chemical Structure Diagrams Embedded in Text to Aid Spatial Learning Process of Students
  - Platonic Solids and Their Programming: A Geometrical Approach
  - Constructing, Troubleshooting, and Using Absorption Colorimeters to Integrate Chemistry and Engineering
  - Curve Fitting, Linear Algebra, and Solver in an Analytical Chemistry Course: A Facile and Safe Activity Suitable for the Classroom Setting
  - Elephant’s Toothpaste Used as a Qualitative Demonstration of Rate versus Temperature
  - Phosphate in Soils: An Undergraduate Exploration of Soil Texture, Chemistry, and Amendment
  - Lab Cooked MOF for CO2 Capture: A Sustainable Solution to Waste Management
- Low-Cost 3D-Printed Polarimeter
- Data Functionalization for Gas Chromatography in Python
- Leavening Agents: The Chemistry of Baking Discovered with a Computer-Based Learning
- Changes of CO2 Concentration and Heat Illustrate Why the Flame Is Extinguished in the Candle-and-Cylinder Experiment
- The Blue Bottle Experiment Revisited: How Much Oxygen?
- Comment on “Should Organic Chemistry Be Taught as Science?”

- mars
  - The Emerging Role of Prepublication in Chemistry Education
  - Analysis of Two Definitions of the Mole That Are in Simultaneous Use, and Their Surprising Consequences
  - Impact of Representations in Assessments on Student Performance and Equity
  - Restructuring a General College Chemistry Sequence Using the ACS Anchoring Concepts Content Map
  - Innovative Food Laboratory for a Chemistry of Food and Cooking Course
  - Team-Based Learning for Scientific Computing and Automated Experimentation: Visualization of Colored Reactions
  - Using Image Recognition and Processing Technology to Measure the Gas Volume in a Miniature Water Electrolysis Device Constructed with Simple Materials
  - Invisibility Cloaks and Hot Reactions: Applying Infrared Thermography in the Chemistry Education Laboratory
  - That’s Pretty Cool. Using Work to Freeze Water. The Vapor-Compression Refrigerator and How It Works
  - That’s So Cool. Using a Flame to Freeze Water. The Vapor-Absorption Refrigerator and How It Works
  - Teaching Thermodynamics with the Quantum Volume
  - Using Elementary Calculus and Dimensional Analysis to Prepare Students for Physical Chemistry
  - Reactions: An Innovative and Fun Hybrid Game to Engage the Students Reviewing Organic Reactions in the Classroom
  - Rolling the Dice: Modeling First- and Second-Order Reactions via Collision Theory Simulations in an Undergraduate Laboratory
  - AIRduino: On-Demand Atmospheric Secondary Organic Aerosol Measurements with a Mobile Arduino Multisensor
  - Simple Visual-Aided Automated Titration Using the Python Programming Language

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  - Green Chemistry Coverage in Organic Chemistry Textbooks | Journal of Chemical Education
  - Evaluating Feedstocks, Processes, and Products in the Teaching Laboratory: A Framework for Students To Use Metrics to Design Greener Chemistry Experiments | Journal of Chemical Education
  - Teaching Kinetics and Equilibrium Topics Using Interlocking Building Bricks in Hands-on Activities | Journal of Chemical Education
  - A Homemade Smart Phone Microscope for Single-Particle Fluorescence Microscopy | Journal of Chemical Education
  - Making Acids and Bases MORE Basic: Supporting Students’ Conceptualization of Acid–Base Chemistry through a Laboratory Exercise That Connects Molecular-Level Representations to Symbolic Representations and Experimentally Derived Evidence | Journal of Chemical Education
  - Manipulating Dendritic Growth: An Undergraduate Laboratory Experience with the Interplay between Mass Transport, Supersaturated Solutions, and Dendrite Structure |
Journal of Chemical Education

- Exploring Chemical Equilibrium for Alcohol-Based Cobalt Complexation through Visualization of Color Change and UV–vis Spectroscopy | Journal of Chemical Education
- Determination of Zinc Oxide in Pharmaceutical Preparations by EDTA Titration: A Practical Class for a Quantitative Analysis Course | Journal of Chemical Education
- Fast, Easy, Reproducible Method for Planting Fingerprints for Ninhydrin, Iodine Development | Journal of Chemical Education

- janvier
  - Problem-Solving Behaviors of Different Achievement Groups on Multiple-Choice Questions in General Chemistry Melonie A. Teichert, Maria J. Schroeder, Shirley Lin, Debra K. Dillner, Regis Komperda, Diane M. Bunce, J. Chem. Educ. 2020, 97, 1, 3-15 DOI: 10.1021/acs.jchemed.9b00774
  - Dissecting the Flipped Classroom: Using a Randomized Controlled Trial Experiment to Determine When Student Learning Occurs Matthew D. Casselman, Kinnari Atit, Grace Henbest, Cybill Guregyan, Kiana Mortezaei, Jack F. Eichler, J. Chem. Educ. 2020, 97, 1, 27-35 DOI: 10.1021/acs.jchemed.9b00767
  - A Study To Reduce Chemical Waste Generated in Chemistry Teaching Laboratories Hui Yi Goh, Wei Wen, Clarence Wong, Yue Ying Ong, J. Chem. Educ. 2020, 97, 1, 87-96 DOI: 10.1021/acs.jchemed.9b00632
  - ChemEscape: Educational Battle Box Puzzle Activities for Engaging Outreach and Active Learning in General Chemistry Marissa L. Clapson, Brian Gilbert, Vivian J. Mozol, Shauna Schechtel, Judy Tran, Stephen White, J. Chem. Educ. 2020, 97, 1, 125-131 DOI: 10.1021/acs.jchemed.9b00612
  - Microplastics Outreach Program: A Systems-Thinking Approach To Teach High School Students about the Chemistry and Impacts of Plastics Jamie M. Schiffer, Johnnie Lyman, Debra Byrd, Hercules Silverstein, Mathew D. Halls, J. Chem. Educ. 2020, 97, 1, 137-142 DOI: 10.1021/acs.jchemed.9b00249
  - Teaching Electrochemistry with Common Objects: Electrocatalytic Hydrogenation of Acetol with U.S. Coins Chun Ho Lam, James E. Jackson, J. Chem. Educ. 2020, 97, 1, 172-177 DOI: 10.1021/acs.jchemed.9b00431
  - Quick and Easy Electroless Deposition and Alkanethiol Treatment To Form a Superhydrophobic Surface Fabian Dauzvardis, Alexander Knapp, Kaung Nan Dar Shein, George Lisensky, J. Chem. Educ. 2020, 97, 1, 184-189 DOI: 10.1021/acs.jchemed.9b00639
  - Basics of Fourier Transform Applied to NMR Spectroscopy: An Interactive Open-Source
2019

- décembre

- novembre

- octobre
  - Assessing College Students’ Risk Perceptions of Hazards in Chemistry Laboratories Clara Rosalía Álvarez-Chávez, Luz S. Marín, Karla Perez-Gamez, Mariona Portell, Luis Velazquez,


A Complementary Laboratory Exercise: Introducing Molecular Structure–Function Topics to Undergraduate Nursing Health Professions Students Angela L. Mahaffey, J. Chem. Educ. 2019, 96(10), 2188-2193 DOI: 10.1021/acs.jchemed.9b00388


It’s All Relative! Engaging Nursing and Exercise Science Students in Chemical Education Using Medical Case Studies Angela L. Mahaffey, J. Chem. Educ., 2019, 96(10), 2253-2260 DOI: 10.1021/acs.jchemed.9b00329


Drawing for Assessing Learning Outcomes in Chemistry Stephanie A. C. Ryan, Mike Stieff, J. Chem. Educ. 2019, 96(9), 1813-1820 DOI: 10.1021/acs.jchemed.9b00361


Chemical Exploration with Virtual Reality in Organic Teaching Laboratories Jonathon B. Ferrell, Joseph P. Campbell, Dillon R. McCarthy, Kyle T. McKay, Magenta Hensinger, Ramya

https://dvillers.umons.ac.be/wiki/
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- Août

- Metacognitive Training in Chemistry Tutor Sessions Increases First Year Students' Self-Efficacy Kate J. Graham, Catherine M. Bohn-Gettler, Annette F. Raigoza, J. Chem. Educ. 2019, 96(8), 1539-1547 DOI: 10.1021/acs.jchemed.9b00170


- Simple and Economical Procedure To Assemble pH Glass Membrane Electrodes Used in Chemical Education Fang Yong, Qiuhong Zhu, Guohao Zhang, Guohong Tao, Song Qin, J. Chem. Educ. 2019, 96(8), 1773-1777 DOI: 10.1021/acs.jchemed.9b00254

- juillet


- Systematic Procedure for Drawing Lewis Structures Based on Electron Pairing Priority and


juin


mai

Visualizing Dissolution, Ion Mobility, and Precipitation through a Low-Cost, Rapid-Reaction Activity Introducing Microscale Precipitation Chemistry Bob Worley, Eric M. Villa, Jess M.
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• avril

• mars

• février
- Evidence for the Importance of Laboratory Courses, editorial : Stacey Lowery Bretz, J.
- Detecting Microplastics in Soil and Sediment in an Undergraduate Environmental Chemistry Laboratory Experiment That Promotes Skill Building and Encourages Environmental Awareness Laura Rowe, Maria Kubalewski, Robert Clark, Emily Statza, Thomas Goyne, Katie Leach, and Julie Peller, J. Chem. Educ., 2019, 96 (2), pp 323–328 DOI: 10.1021/acs.jchemed.8b00392

• janvier
- Teaching Boyle’s Law and Charles’ Law through Experiments that Use Novel, Inexpensive

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### 2018

- **décembre**
  - *N.B.* : attention de considérer aussi les critiques à propos de W. Carol Dweck

- **novembre**

- **octobre**
- Incorporating Stories of Sedatives, Spoiled Sweet Clover Hay, and Plants from the Amazon Rainforest into a Pharmaceutical Chemistry Course To Engage Students and Introduce Drug Design Strategies
  DOI: 10.1021/acs.jchemed.8b00063

- How Batteries Store and Release Energy: Explaining Basic Electrochemistry
  DOI: 10.1021/acs.jchemed.8b00479

- Electromotive Force versus Electrical Potential Difference: Approaching (but Not Yet at) Equilibrium
  DOI: 10.1021/acs.jchemed.8b00249

- Buffers in Context: Baby Wipes As a Buffer System
  DOI: 10.1021/acs.jchemed.8b00378

- Comparative Analysis of Fuel Composition and Physical Properties of Biodiesel, Diesel, Kerosene, and Jet Fuel
  DOI: 10.1021/acs.jchemed.8b00216

- Analysis and Identification of Major Organic Acids in Wine and Fruit Juices by Paper Chromatography
  Dulani Samarasekara, Courtney Hill, and Deb Mlsna, J. Chem. Educ., 2018, 95 (9), pp 1621–1625
  DOI: 10.1021/acs.jchemed.8b00129

- Approximate Relations in pH Calculations for Aqueous Solutions of Extremely Weak Acids: A Topic for Problem-Based Learning
  DOI: 10.1021/acs.jchemed.8b00086

- Demonstrating CO2 Sequestration Using Olivine and Carbonated Beverages with Secondary School Students To Investigate pH and Electrical Conductivity Concepts
  Johan A. Linthorst and Johanna van der Wal-Veuger, J. Chem. Educ., 2018, 95 (9), pp 1612–1614
  DOI: 10.1021/acs.jchemed.7b00680

- Easy Illustration of Salt Damage in Stone
  DOI: 10.1021/acs.jchemed.7b00815

- Pedagogical Content Knowledge of Chemical Kinetics: Experiment Selection Criteria To Address Students’ Intuitive Conceptions
  DOI: 10.1021/acs.jchemed.8b00296

- Whether and How Authentic Contexts Using a Virtual Chemistry Lab Support Learning
  DOI: 10.1021/acs.jchemed.8b00048

- Using Writing Assignments as an Intervention to Strengthen Acid–Base Skills
  DOI: 10.1021/acs.jchemed.8b00018

- Chemistry of Candy: A Sweet Approach to Teaching Nonscience Majors
  DOI: 10.1021/acs.jchemed.7b00739

- Sweet, Sweet Science: Addressing the Gender Gap in STEM Disciplines through a One-Day High School Program in Sugar Chemistry
  DOI: 10.1021/acs.jchemed.7b00900

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- **septembre**
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  - pKa Values in the Undergraduate Curriculum: What Is the Real pKa of Water?
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  - Suggestion of a Viewpoint Change for the Classification Criteria of Redox Reactions
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  - Determining a Solubility Product Constant by Potentiometric Titration To Increase Students’ Conceptual Understanding of Potentiometry and Titrations

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Self-Motion of Sodium Benzoate Flakes on a Water Surface: A Demonstration Katherine V.

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- **A Game-Based Approach To Learning the Idea of Chemical Elements and Their Periodic...**


Correct Use of Helmholtz and Gibbs Function Differences, \( \Delta A \) and \( \Delta G \): The van’ Hoff Reaction Box  Leslie Glasser, J. Chem. Educ., 2016, 93 (5), pp 978–980 DOI: 10.1021/acs.jchemed.5b00925


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Build Your Own Photometer: A Guided-Inquiry Experiment To Introduce Analytical Instrumentation


Integrating Chemistry Laboratory Instrumentation into the Industrial Internet: Building, Programming, and Experimenting with an Automatic Titrator

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Are Noncovalent Interactions an Achilles Heel in Chemistry Education? A Comparison of Instructional Approaches

The Digital Pipetting Badge: A Method To Improve Student Hands-On Laboratory Skills

Implementation of Problem-Based Learning in Environmental Chemistry

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Exploring the Structure and Function of the Chemistry Self-Concept Inventory with High School Chemistry Students

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ChemDuino: Adapting Arduino for Low-Cost Chemical Measurements in Lecture and Laboratory

Assembling and Using an LED-Based Detector To Monitor Absorbance Changes during Acid–Base Titrations

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A Comparison of Carbon Dioxide Emissions from Electric Vehicles to Emissions from Internal Combustion Vehicles

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Implementation and Student Testing of a Web-Based, Student-Centered Stereochemistry Tutorial

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  - Polytomous versus Dichotomous Scoring on Multiple-Choice Examinations: Development of a Rubric for Rating Partial Credit Megan L. Grunert, Jeffrey R. Raker, Kristen L. Murphy,
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- A Guide to the Elements (Stwertka, Albert) Daniel Berger DOI: 10.1021/ed074p627.1
- Opera and Poison: A Secret and Enjoyable Approach To Teaching and Learning Chemistry, João Paulo André DOI: 10.1021/ed300445b
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- **Mistake of Having Students Be Mendeleev for Just a Day**, Brett Criswell, J. Chem. Educ., 2007, 84 (7), p 1140 DOI: 10.1021/ed084p1140

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- An Interdisciplinary Guided Inquiry Laboratory for First Year Undergraduate Forensic Science Students, Sarah L. Cresswell and Wendy A. Loughlin, Journal of Chemical Education 2015 92 (10), 1730-1735 DOI: 10.1021/acs.jchemed.5b00183
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- Inquiry-Based Arson Investigation for General Chemistry Using GC-MS, Maurer, M.; Bukowski, M.; Menachery, M.; Zatorsky, A., Journal of Chemical Education 2010, 87, 311–313 DOI: 10.1021/ed800083b
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  ○ Pre-service chemistry teachers’ pedagogical content knowledge for integrated STEM development with LESMeR model - Chemistry Education Research and Practice (RSC Publishing)
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  ○ Electrolysis: What textbooks don’t tell us - Chemistry Education Research and Practice (RSC Publishing)
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  ○ Student-generated video in chemistry education - Chemistry Education Research and Practice (RSC Publishing)
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- Using student-generated animations: the challenge of dynamic chemical models in states of matter and the invisibility of the particles

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DOI: 10.1039/c6rp00227g
- discuté ici : Triangulation to tame the Triplet Getting your students to think about how they learn

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- Implementation and assessment of Cognitive Load Theory (CLT) based questions in an


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• Learning chemistry in a metacognitive environment. 2008, Richard Pulmones Asia-Pacific Education Researcher, 16(2), 165–183. DOI: 10.3860/taper.v16i2.258 lien RG, lien 2


• The efficiency of worked examples compared to erroneous examples, tutored problem solving, and problem solving in computer-based learning environments Computers in Human Behavior Volume 55, Part A, February 2016, Pages 87-99 DOI: 10.1016/j.chb.2015.08.038


• Improving First-Semester General Chemistry Student Success Through Retrieval Practice Saul R. Trevino, Elizabeth Trevino, and Mary Osterloh - Enhancing Retention in Introductory Chemistry Courses: Teaching Practices and Assessments, Chapter 4, pp 69-75 ACS Symposium Series Vol. 1330 (ACS Publications) DOI: 10.1021/bk-2019-1330.ch004

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- Construction d’outils didactiques pour remédier aux difficultés d’apprentissage du concept de concentration en chimie dans le secondaire supérieur - Appui sur les neurosciences cognitives Bénédicte Willame, Institut de Recherches en Didactiques et Education de l'UNamur, thèse 2017
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