J|A|C|S
EDITORIAL
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124 Years of Publishing Original and Primary Chemical Research: 135,149 Publications, 573,453 Pages, and a Century of Excellence

With this issue we commence the 125th volume of the *Journal of the American Chemical Society* (*JACS*), the premier venue for the publication, worldwide, of the results of fundamental research in all areas of the chemical sciences and the flagship scientific publication of the American Chemical Society (ACS). This auspicious occasion and jubilee year calls for a brief historical perspective, a celebration, and some prognostication.

As the title indicates, *JACS* has had an extensive and distinguished record since the first volume was published in 1879, just a couple of years after the founding of ACS itself in 1876. Volume 1 had but 621 pages, whereas Volume 124 had over 15,000 pages of published fundamental chemical research. The growth of *JACS*, in scientific publications (Figure 1) and in published pages (Figure 2), is a consequence of the still increasing vitality, diversity, creativity, and significance of contemporary chemical research, particularly since the Second World War.

This accomplishment, as well as impressive growth, is, of course, the result of the dedicated efforts of tens of thousands of researchers and authors. *JACS*, with the aid of formal peer review, first introduced by the then Editor Arthur Lamb in 1918, has captured and offered its readers the highest quality contemporary research for nearly a century. The *JACS* "impact factor" for the period 1989−2001 is shown in Figure 3, and the total citations data for the same period is displayed in Figure 4. The impact factor measures the citation frequency of Articles and Communications over a two-year period following publication. The "all-time 125 most cited" publications in *JACS*, in terms of total numbers of citations, are given in Table 1. Moreover, the distinction of having the most publications that appeared in *JACS* with 100 or more citations per publication belongs to E. J. Corey.

The Editors of *JACS* over its 125 years of existence are listed in Chart 1.

The Editor, together with the Board of Editors and the Editorial Advisory Board, whose members are leading academic and industrial chemists representing all the chemical disciplines, are ultimately responsible for the excellence of the Journal. The Editors are aided in their task by an able, dedicated staff.

JACS would not have existed for well over a century without the full and prominent support of its publisher, the American Chemical Society. Over the decades, the many individual leaders and members of the ACS Publications Division, both in Washington, DC, and in Columbus, OH, were and are the most committed, exemplary professionals in the scientific publications world. We thank them all, past and present, for their dedication and outstanding efforts in the production of *JACS*.

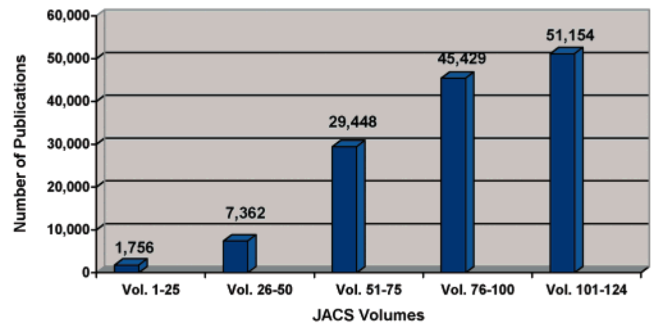

Figure 1. 124 volumes of published Articles and Communications for the *Journal of the American Chemical Society*, 1879−2002. Totals include all abstracted material. Total number of publications represented is 135,149.

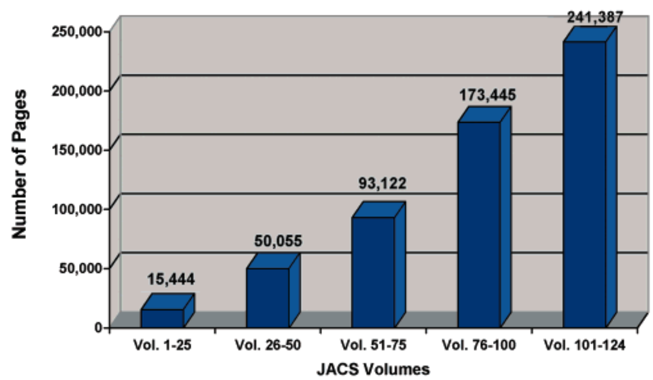

Figure 2. 124 volumes of published pages of the *Journal of the American Chemical Society*, 1879−2002. Totals include all abstracted material. Total number of pages represented is 573,453.

Some additional historical and contemporary facts and details about *JACS* are given in the accompanying *JACS* profile on the adjacent page.

To celebrate our 125th Anniversary, as well as the 80th Anniversary of *Chemical & Engineering News*, the preeminent weekly chemical magazine, there will be an all-day Special Anniversary Symposium on Sunday, September 7, 2003, in New York at the 226th National ACS Meeting, followed by a public reception in honor of *JACS* and *C&EN*. Further details will be forthcoming in both *C&EN* and *JACS*. Moreover, *C&EN* will feature monthly write-ups of some of the important, pioneering 125 most-cited *JACS* publications.

The past and present are, of course, but prologues to the future. What is the future of *JACS*? The mission of *JACS* is unique among primary chemical research journals: To

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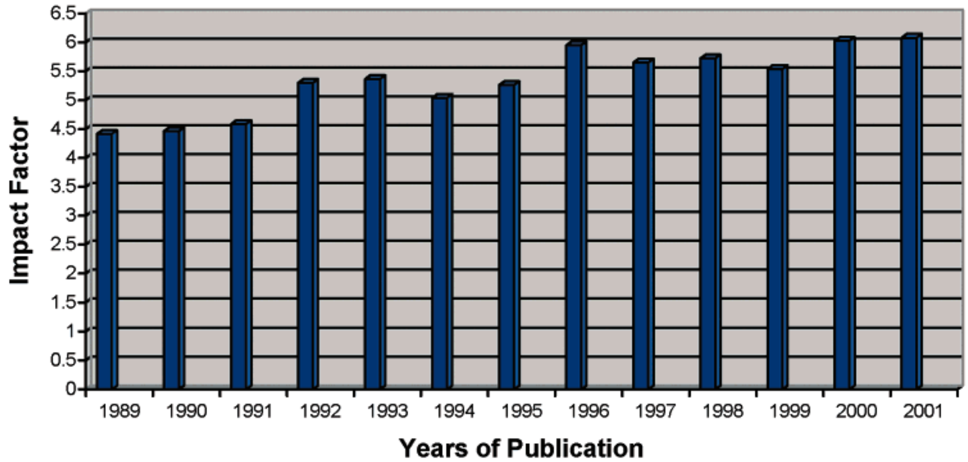

Figure 3. Impact factors for the *Journal of the American Chemical Society*, 1989−2001, based on the ISI Journal Citation Reports.

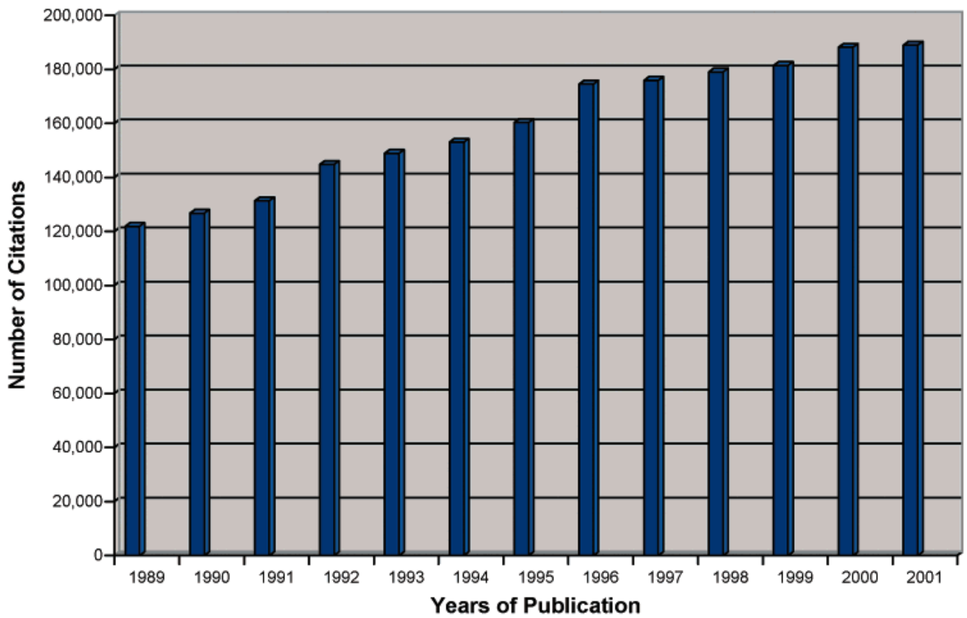

Figure 4. Total citations of the *Journal of the American Chemical Society*, 1989−2001, based on the ISI Journal Citation Reports.

Chart 1. Editors of the *Journal of the American Chemical Society*

Hermann Endemann	1879
Gideon E. Moore	1880
Hermann Endemann	1881
Editorial Committee	1882−1883
Abram A. Breneman	1884−1892
Edward Hart	1893−1901
William A. Noyes	1902−1917
Arthur B. Lamb	1918−1949
W. Albert Noyes, Jr.	1950−1962
Marshall Gates	1963−1969
Martin Stiles	1970−1974
Cheves Walling	1975−1981
Allen J. Bard	1982−2001
Peter J. Stang	2002−

capture the very best in original fundamental research in **all** areas of the chemical and molecular sciences. Contemporary chemistry is such a broad, all-encompassing discipline that even its definition is a challenge. Webster's Dictionary defines chemistry as "the science that treats the composition of substances, and of the transformations which they undergo." Broadly speaking, this means understanding matter and the material universe from single atoms and molecules to complex living organisms. In a real sense, chemistry impacts everything from astronomy to zoology. Recent advances in technology and, in particular, modern instrumentation and computational capabilities, coupled with contemporary chemical and scientific insights, have opened up vistas in chemical research unimagined but a decade or two, let alone a century or more, ago. Bringing these advances and insights that are at the cutting edge of our discipline to our readers, our primary constituents, in a style and manner both understandable and meaningful to students and experts alike, will be the real challenge of *JACS* in the years to come. This task will be fostered, as well as complicated, by the revolution in information technology that has occurred in the last third of the 20th century and which shows no signs of abating.

To paraphrase Charles Dickens, it is the best of times in publishing, it is the worst of times in publishing. It is the best of times because electronic publishing, afforded by the spectacular advances in information technology and the

Internet, allows rapid, easy, and mass distribution of information by essentially anyone and everyone with a PC. Electronic publishing and the World Wide Web represent the biggest revolution in publishing and the dissemination of ideas since Johannes Gutenberg invented the modern printing press in 1455. None of us envisioned or even dreamed just a score of years ago that we could have instant access to billions of documents with just a few clicks on our laptop. As an example of this remarkable development, *JACS* is one of the very first scientific journals to have all of the volumes in its vast archive retrospectively digitized and accessible online. These tools and capabilities have already altered the manner in which scholarship and research are conducted, processed, and disseminated and the way in which students learn.

It is the worst of times in publishing because we are overwhelmed with information and by the rapid changes afforded by modern technology in this “information age”. Much of it is unwanted and intrusive, certainly in our everyday lives and often even in our scientific endeavors. Moreover, the speed of change at times taxes our ability to deal with it in a deliberate, thoughtful manner. Specifically, the problem with the “information glut”, including potential unrestricted online publication, is separating the valuable, reliable, and useful results from the mountain of data and information. To put it in scientific terms, how do we extract the signal from the large amount of ever-present noise?

This is the true challenge and task of *JACS* authors, Editors, reviewers, editorial advisors, and publications staff in the years to come. Our authors, worldwide, need to be ever more discriminating and selective in sending *JACS* only their very best fundamental chemical research results and work. Authors need to cast and present these results in a style and in such a way that is useful and of value to the readers of *JACS*, both the serious student of chemistry and the expert in the field. In other words, manuscripts must describe cutting-edge research of broad, general appeal presented in a cogent, didactic, erudite, yet pithy way: a Herculean task, indeed! It will continue to be the duty of *JACS* Editors, with the invaluable assistance of highly knowledgeable, expert peers as confidential reviewers, to carefully and equitably select for publication, from the ever-increasing numbers of manuscripts received, only those truly outstanding and most appropriate ones that best meet these criteria. It is both the privilege and the responsibility of the members of the Editorial Advisory Board to aid and advise Editors in this important task.

It is incumbent upon the publisher (ACS) and the publications staff to provide the latest and best that modern technology and electronic publishing has to offer in a complex, rapidly changing world to aid the authors, Editors, and reviewers, for the benefit of the readers, to accomplish all of the above. In this electronic age, authors, Editors, reviewers, publishers, and readers will need to avail themselves of the best that information technology and electronic publishing has to offer. Then the fruits of the many dedicated chemists laboring in the vineyards of science will be disseminated faster, better, and less expensively and will be distributed more widely, for the sake of knowledge itself, as well as for the benefit of society, than ever before.

Given the 125 years of experience and the excellence of *JACS*, I am confident that its future is not only secure and healthy but also bright and prosperous. However, just as in the past, so in the future each generation must reinvent and retool *JACS* to meet the needs of the times. For *JACS* at the end of the 21st century will be even more different than the current Journal is from its inaugural issue in 1879.

Last, but not least, I wish to thank everyone who has ever been involved with *JACS* (authors, Editors, advisors, reviewers, staff, and readers, as well as publications leaders and personnel and the publisher) for their dedication and efforts on behalf of the Journal. It is a personal privilege, honor, and, at most times, a genuine pleasure for me to be the Editor of the *Journal of the American Chemical Society* during its 125th Anniversary year and its sojourn into the future at the beginning of a new century, when the molecular sciences and chemistry will continue to increase in importance and significance in the lives of every human being.

Peter J. Stang, Editor

January 2, 2003

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Table 1. The 125 Most-Cited *JACS* Publications

rank	citations	author(s)	title	year, volume, pages
1	10638	Lineweaver, H.; Burk, D.	The Determination of Enzyme Dissociation Constants	**1934**, *56*, 658−666
2	7623	Dewar, M. J. S.; Zoebisch, E. G.; Healy, E. F.; Stewart, J. J. P.	AM1: A New General Purpose Quantum Mechanical Molecular Model	**1985**, *107*, 3902−3909
3	5373	Dewar, M. J. S.; Thiel, W.	Ground States of Molecules. 38. The MNDO Method. Approximations and Parameters	**1977**, *99*, 4899−4907
4	4808	Brunauer, S.; Emmett, P. H.; Teller, E.	Adsorption of Gases in Multimolecular Layers	**1938**, *60*, 309−319
5	4450	Merrifield, R. B.	Solid Phase Peptide Synthesis. I. The Synthesis of a Tetrapeptide	**1963**, *85*, 2149−2154
6	2920	Onsager, L.	Electric Moments of Molecules in Liquids	**1936**, *58*, 1486−1493
7	2799	Binkley, J. S.; Pople, J. A.; Hehre, W. J.	Self-Consistent Molecular Orbital Methods. 21. Small Split-Valence Basis Sets for First-Row Elements	**1980**, *102*, 939−947
8	2720	Allinger, N. L.	Conformational Analysis. 130. MM2. A Hydrocarbon Force Field Utilizing V1 and V2 Torsional Terms	**1977**, *99*, 8127−8134
9	2698	Sweeley, C. C.; Bentley, R.; Makita, M.; Wells, W. W.	Gas−Liquid Chromatography of Trimethylsilyl Derivatives of Sugars and Related Substances	**1963**, *85*, 2497−2507
10	2673	Weiner, S. J.; Kollman, P. A.; Case, D. A.; Singh, U. C.; Ghio, C.; Alagona, G.; Profeta, S., Jr.; Weiner, P.	A New Force Field for Molecular Mechanical Simulation of Nucleic Acids and Proteins	**1984**, *106*, 765−784
11	2648	Benesi, H. A.; Hildebrand, J. H.	A Spectrophotometric Investigation of the Interaction of Iodine with Aromatic Hydrocarbons	**1949**, *71*, 2703−2707
12	2645	Pedersen, C. J.	Cyclic Polyethers and Their Complexes with Metal Salts	**1967**, *89*, 7017−7036
13	2603	Pearson, R. G.	Hard and Soft Acids and Bases	**1963**, *85*, 3533−3539
14	2522	Williams, M. L.; Landel, R. F.; Ferry, J. D.	The Temperature Dependence of Relaxation Mechanisms in Amorphous Polymers and Other Glass-forming Liquids	**1955**, *77*, 3701−3707
15	2384	Hammond, G. S.	A Correlation of Reaction Rates	**1955**, *77*, 334−338
16	2362	Cremer, D.; Pople, J. A.	General Definition of Ring Puckering Coordinates	**1975**, *97*, 1354−1358
17	2171	Karplus, M.	Vicinal Proton Coupling in Nuclear Magnetic Resonance	**1963**, *85*, 2870−2871
18	2074	Bingham, R. C.; Dewar, M. J. S.; Lo, D. H.	Ground States of Molecules. XXV. MINDO/3. Improved Version of the MINDO Semiempirical SCF-MO Method	**1975**, *97*, 1285−1293
19	2045	Boyer, P. D.	Spectrophotometric Study of the Reaction of Protein Sulfhydryl Groups with Organic Mercurials	**1954**, *76*, 4331−4337
20	2022	Bax, A.; Summers, M. F.	Proton and Carbon-13 Assignments from Sensitivity-Enhanced Detection of Heteronuclear Multiple-Bond Connectivity by 2D Multiple Quantum NMR	**1986**, *108*, 2093−2094
21	1974	Mulliken, R. S.	Molecular Compounds and their Spectra. II	**1952**, *74*, 811−824
22	1961	Dewar, M. J. S.; Thiel, W.	Ground States of Molecules. 39. MNDO Results for Molecules Containing Hydrogen, Carbon, Nitrogen, and Oxygen	**1977**, *99*, 4907−4917
23	1824	Corey, E. J.; Venkateswarlu, A.	Protection of Hydroxyl Groups as *tert*-Butyldimethylsilyl Derivatives	**1972**, *94*, 6190−6191
24	1636	Cohn, E. J.; Strong, L. E.; Hughes, W. L., Jr.; Mulford, D. J.; Ashworth, J. N.; Melin, M.; Taylor, H. L.	Preparation and Properties of Serum and Plasma Proteins. IV. A System for the Separation into Fractions of the Protein and Lipoprotein Components of Biological Tissues and Fluids	**1946**, *68*, 459−475
25	1631	Peterson, E. A.; Sober, H. A.	Chromatography of Proteins. I. Cellulose Ion-Exchange Adsorbents	**1956**, *78*, 751−755
26	1588	Dale, J. A.; Mosher, H. S.	Nuclear Magnetic Resonance Enantiomer Reagents. Configurational Correlations via Nuclear Magnetic Resonance Chemical Shifts of Diastereomeric Mandelate, *O*-Methylmandelate, and α-Methoxy-α-trifluoromethylphenylacetate (MTPA) Esters	**1973**, *95*, 512−519

Table 1 (Continued)

rank	citations	author(s)	title	year, volume, pages
27	1469	Pople, J. A.; Gordon, M.	Molecular Orbital Theory of the Electronic Structure of Organic Compounds. I. Substituent Effects and Dipole Moments	**1967**, *89*, 4253−4261
28	1461	Hubbell, W. L.; McConnell, H. M.	Molecular Motion in Spin-Labeled Phospholipids and Membranes	**1971**, *93*, 314−326
29	1458	Borch, R. F.; Bernstein, M. D.; Durst, H. D.	Cyanohydridoborate Anion as a Selective Reducing Agent	**1971**, *93*, 2897−2904
30	1451	Altona, C.; Sundaralingam, M.	Conformational Analysis of the Sugar Ring in Nucleosides and Nucleotides. New Description Using the Concept of Pseudorotation	**1972**, *94*, 8205−8212
31	1431	Bothner-By, A. A.; Stephens, R. L.; Lee, J.; Warren, C. D.; Jeanloz, R. W.	Structure Determination of a Tetrasaccharide: Transient Nuclear Overhauser Effects in the Rotating Frame	**1984**, *106*, 811−813
32	1428	Wilson, G. M.	Vapor−Liquid Equilibrium. XI. A New Expression for the Excess Free Energy of Mixing	**1964**, *86*, 127−130
33	1415	Beck, J. S.; Vartuli, J. C.; Roth, W. J.; Leonowicz, M. E.; Kresge, C. T.; Schmitt, K. D.; Chu, C. T.-W.; Olson, D. H.; Sheppard, E. W.; McCullen, S. B.; Higgins, J. B.; Schlenker, J. L.	A New Family of Mesoporous Molecular Sieves Prepared with Liquid Crystal Templates	**1992**, *114*, 10834−10843
34	1369	Brown, H. C.; Okamoto, Y.	Electrophilic Substituent Constants	**1958**, *80*, 4979−4987
35	1367	Anderson, G. W.; Zimmerman, J. E.; Callahan, F. M.	The Use of Esters of N-Hydroxysuccinimide in Peptide Synthesis	**1964**, *86*, 1839−1842
36	1348	Sheehan, J. C.; Hess, G. P.	A New Method of Forming Peptide Bonds	**1955**, *77*, 1067−1068
37	1310	Hinze, J.; Jaffé, H. H.	Electronegativity. I. Orbital Electronegativity of Neutral Atoms	**1962**, *84*, 540−546
38	1304	Wani, M. C.; Taylor, H. L.; Wall, M. E.; Coggon, P.; McPhail, A. T.	Plant Antitumor Agents. VI. Isolation and Structure of Taxol, a Novel Antileukemic and Antitumor Agent from *Taxus brevifolia*	**1971**, *93*, 2325−2327
39	1299	Fujita, T.; Iwasa, J.; Hansch, C.	A New Substituent Constant, π, Derived from Partition Coefficients	**1964**, *86*, 5175−5180
40	1294	Stork, G.; Brizzolara, A.; Landesman, H.; Szmuszkovicz, J.; Terrell, R.	The Enamine Alkylation and Acylation of Carbonyl Compounds	**1963**, *85*, 207−222
41	1294	Teo, B.-K.; Lee, P. A.	Ab Initio Calculations of Amplitude and Phase Functions for Extended X-ray Absorption Fine Structure Spectroscopy	**1979**, *101*, 2815−2832
42	1276	Langmuir, I.	The Adsorption of Gases on Plane Surfaces of Glass, Mica and Platinum	**1918**, *40*, 1361−1403
43	1274	Porter, M. D.; Bright, T. B.; Allara, D. L.; Chidsey, C. E. D.	Spontaneously Organized Molecular Assemblies. 4. Structural Characterization of *n*-Alkyl Thiol Monolayers on Gold by Optical Ellipsometry, Infrared Spectroscopy, and Electrochemistry	**1987**, *109*, 3559−3568
44	1261	Hansch, C.; Fujita, T.	ρ-σ-π Analysis. A Method for the Correlation of Biological Activity and chemical Structure	**1964**, *86*, 1616−1626
45	1253	Kay, E. R. M.; Simmons, N. S.; Dounce, A. L.	An Improved Preparation of Sodium Desoxyribonucleate	**1952**, *74*, 1724−1726
46	1251	Fuoss, R. M.	Ionic Association. III. The Equilibrium between Ion Pairs and Free Ions	**1958**, *80*, 5059−5061
47	1249	Kosower, E. M.	The Effect of Solvent on Spectra. I. A New Empirical Measure of Solvent Polarity: *Z*-Values	**1958**, *80*, 3253−3260
48	1223	Ammeter, J. H.; Buergi, H.-B.; Thibeault, J. C.; Hoffman, R.	Counterintuitive Orbital Mixing in Semiempirical and ab Initio Molecular Orbital Calculations	**1978**, *100*, 3686−3692
49	1222	Piantini, U.; Sorensen, O. W.; Ernst, R. R.	Multiple Quantum Filters for Elucidating NMR Coupling Networks	**1982**, *104*, 6800−6801
50	1216	Bain, C. D.; Troughton, E. B.; Tao, Y.-T.; Evall, J.; Whitesides, G. M.; Nuzzo, R. G.	Formation of Monolayer Films by the Spontaneous Assembly of Organic Thiols from Solution onto Gold	**1989**, *111*, 321−335
51	1203	Corey, E. J.; Chaykovsky, M.	Dimethyloxosulfonium Methylide ($(CH_3)_2SOCH_2$) and Dimethylsulfonium Methylide ($(CH_3)_2SCH_2$). Formation and Application to Organic Synthesis	**1965**, *87*, 1353−1364

Table 1 (Continued)

rank	citations	author(s)	title	year, volume, pages
52	1176	Mayo, F. R.; Lewis, F. M.	Copolymerization. I. A Basis for Comparing the Behavior of Monomers in Copolymerization; The Copolymerization of Styrene and Methyl Methacrylate	**1941**, *66*, 1594−1601
53	1138	Barrett, E. P.; Joyner, L. G.; Halenda, P. P.	The Determination of Pore Volume and Area Distributions in Porous Substances. I. Computations from Nitrogen Isotherms	**1951**, *73*, 373−380
54	1128	Katsuki, T.; Sharpless, K. B.	The First Practical Method for Asymmetric Epoxidation	**1980**, *102*, 5974−5976
55	1112	Vosburgh, W. C.; Cooper, G. R.	Complex Ions. I. The Identification of Complex Ions in Solution by Spectrophotometric Measurements	**1941**, *63*, 437−442
56	1101	Morris, G. A.; Freeman, R.	Enhancement of Nuclear Magnetic Resonance Signals by Polarization Transfer	**1979**, *101*, 760−762
57	1099	Huggins, M. L.	The Viscosity of Dilute Solutions of Long-Chain Molecules. IV. Dependence on Concentration	**1942**, *64*, 2716−2718
58	1093	Cotton, F. A.; Kraihanzel, C. S.	Vibrational Spectra and Bonding in Metal Carbonyls. I. Infrared Spectra of Phosphine-substituted Group VI Carbonyls in the CO Stretching Region	**1962**, *84*, 4432−4438
59	1086	Simon, E. J.; Shemin, D.	The Preparation of S-Succinyl Coenzyme A	**1953**, *75*, 2520−2520
60	1080	Taylor, R.; Kennard, O.	Crystallographic Evidence for the Existence of C−H⋯O, C−H⋯N, and C−H⋯Cl Hydrogen Bonds	**1982**, *104*, 5063−5070
61	1075	Lauher, J. W.; Hoffmann, R.	Structure and Chemistry of Bis(cyclopentadienyl)−MLn Complexes	**1976**, *98*, 1729−1742
62	1073	Gao, Y.; Hanson, R. M.; Klunder, J. M.; Ko, S. Y.; Masamune, H.; Sharpless, K. B.	Catalytic Asymmetric Epoxidation and Kinetic Resolution: Modified Procedures Including *in situ* Derivatization	**1987**, *109*, 5765−5780
63	1071	Swain, C. G.; Lupton, E. C., Jr.	Field and Resonance Components of Substituent Effects	**1968**, *90*, 4328−4337
64	1069	Pulay, P.; Fogarasi, G.; Pang, F.; Boggs, J. E.	Systematic ab Initio Gradient Calculation of Molecular Geometries, Force Constants, and Dipole Moment Derivatives	**1979**, *101*, 2550−2560
65	1067	Kielland, J.	Individual Activity Coefficients of Ions in Aqueous Solutions	**1937**, *59*, 1675−1678
66	1063	Budzikiewicz, H.; Wilson, J. M.; Djerassi, C.	Mass Spectrometry in Structural and Stereochemical Problems. XXXII. Pentacyclic Triterpenes	**1963**, *85*, 3688−3699
67	1056	Flory, P. J.	Statistical Thermodynamics of Liquid Mixtures	**1965**, *87*, 1833−1838
68	1054	Allinger, N. L.; Yuh, Y. H.; Lii, J.-H.	Molecular Mechanics. The MM3 Force Field for Hydrocarbons. 1	**1989**, *111*, 8551−8566
69	1048	Gordon, M. S.; Binkley, J. S.; Pople, J. A.; Pietro, W. J.; Hehre, W. J.	Self-Consistent Molecular-Orbital Methods. 22. Small Split-Valence Basis Sets for Second-Row Elements	**1982**, *104*, 2797−2803
70	1013	Blodgett, K. B.	Films Built by Depositing Successive Monomolecular Layers on a Solid Surface	**1935**, *57*, 1007−1022
71	1012	Lipari, G.; Szabo, A.	Model-Free Approach to the Interpretation of Nuclear Magnetic Resonance Relaxation in Macromolecules. 1. Theory and Range of Validity	**1982**, *104*, 4546−4559
72	1002	Klopman, G.	Chemical Reactivity and the Concept of Charge- and Frontier-Controlled Reactions	**1968**, *90*, 223−234
73	1002	Metcalf, B. W.; Bey, P.; Danzin, C.; Jung, M. J.; Casara, P.; Vevert, J. P.	Catalytic Irreversible Inhibition of Mammalian Ornithine Decarboxylase (E.C. 4.1.1.17) by Substrate and Product Analogs	**1978**, *100*, 2551−2553
74	998	Hughes, E. W.	The Crystal Structure of Melamine	**1941**, *63*, 1737−1752
75	993	Brunauer, S.; Deming, L. S.; Deming, W. E.; Teller, E.	On a Theory of the van der Waals Adsorption of Gases	**1940**, *62*, 1723−1732
76	988	Zachariasen, W. H.	The Atomic Arrangement in Glass	**1932**, *54*, 3841−3851
77	969	Melby, L. R.; Harder, R. J.; Hertler, W. R.; Mahler, W.; Benson, R. E.; Mochel, W. E.	Substituted Quinodimethans. II. Anion-radical Derivatives and Complexes of 7,7,8,8-Tetracyanoquinodimethan	**1962**, *84*, 3374−3387
78	961	Tauster, S. J.; Fung, S. C.; Garten, R. L.	Strong Metal-Support Interactions. Group 8 Noble Metals Supported on Titanium Dioxide	**1978**, *100*, 170−175

Table 1 (Continued)

rank	citations	author(s)	title	year, volume, pages
79	950	Pauling, L.	Atomic Radii and Interatomic Distances in Metals	**1947**, *69*, 542−553
80	950	Chen, C.-S.; Fujimoto, Y.; Girdaukas, G.; Sih, C. J.	Quantitative Analyses of Biochemical Kinetic Resolutions of Enantiomers	**1982**, *104*, 7294−7299
81	945	Kalyanasundaram, K.; Thomas, J. K.	Environmental Effects on Vibronic Band Intensities in Pyrene Monomer Fluorescence and Their Application in Studies of Micellar Systems	**1977**, *99*, 2039−2044
82	941	Åkerlöf, G.	Dielectric Constants of Some Organic Solvent−Water Mixtures at Various Temperatures	**1932**, *54*, 4125−4139
83	941	Halverstadt, I. F.; Kumler, W. D.	Solvent Polarization Error and its Elimination in Calculating Dipole Moments	**1942**, *64*, 2988−2992
84	929	Grunwald, E.; Winstein, S.	The Correlation of Solvolysis Rates	**1948**, *70*, 846−854
85	923	Cornell, W. D.; Cieplak, P.; Bayly, C. I.; Gould, I. R.; Merz, K. M., Jr.; Ferguson, D. M.; Spellmeyer, D. C.; Fox, T.; Caldwell, J. W.; Kollman, P. A.	A Second Generation Force Field for the Simulation of Proteins, Nucleic Acids, and Organic Molecules	**1995**, *117*, 5179−5197
86	910	Bodanszky, M.; du Vigneaud, V.	A Method of Synthesis of Long Peptide Chains Using a Synthesis of Oxytocin as an Example	**1959**, *81*, 5688−5691
87	909	Wadsworth, W. S., Jr.; Emmons, W. D.	The Utility of Phosphonate Carbanions in Olefin Synthesis	**1961**, *83*, 1733−1738
88	909	Woodward, R. B.; Hoffmann, R.	Stereochemistry of Electrocyclic Reactions	**1965**, *87*, 395−397
89	904	Ramsay, D. A.	Intensities and Shapes of Infrared Absorption Bands of Substances in the Liquid Phase	**1952**, *74*, 72−80
90	901	Harvey, A. E., Jr.; Manning, D. L.	Spectrophotometric Methods of Establishing Empirical Formulas of Colored Complexes in Solution	**1950**, *72*, 4488−4493
91	897	Schwarz, K.; Foltz, C. M.	Selenium as an Integral Part of Factor 3 Against Dietary necrotic Liver Degeneration	**1957**, *79*, 3292−3293
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94	868	Randić, M.	On Characterization of Molecular Branching	**1975**, *97*, 6609−6615
95	865	Grant, D. M.; Paul, E. G.	Carbon-13 Magnetic Resonance. II. Chemical Shift Data for the Alkanes	**1964**, *86*, 2984−2990
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101	837	DeFord, D. D.; Hume, D. N.	The Determination of Consecutive Formation Constants of Complex Ions from Polarographic Data	**1951**, *73*, 5321−5322
102	835	Hendrickson, J. B.	Molecular Geometry. I. Machine Computation of the Common Rings	**1961**, *83*, 4537−4547
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Table 1 (Continued)

rank	citations	author(s)	title	year, volume, pages
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109	797	Hammett, L. P.; Deyrup, A. J.	A Series of Simple Basic Indicators. I. The Acidity Functions of Mixtures of Sulfuric and Perchloric Acids with Water	**1932**, *54*, 2721−2739
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113	771	Flory, P. J.	Molecular Size Distribution in Three-Dimensional Polymers. I. Gelation	**1941**, *63*, 3083−3090
114	771	Engler, E. M.; Andose, J. D.; Schleyer, P. v. R.	Critical Evaluation of Molecular Mechanics	**1973**, *95*, 8005−8025
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121	751	Swain, C. G.; Scott, C. B.	Quantitative Correlation of Relative Rates. Comparison of Hydroxide Ion with Other Nucleophilic Reagents toward Alkyl Halides, Esters, Epoxides and Acyl Halides	**1953**, *75*, 141−147
122	750	Klotz, I. M.; Walker, F. M.; Pivan, R. B.	The Binding of Organic Ions by Proteins	**1946**, *68*, 1486−1490
123	742	Davis, D. G.; Bax, A.	Assignment of Complex Proton NMR Spectra via Two-Dimensional Homonuclear Hartmann−Hahn Spectroscopy	**1985**, *107*, 2820−2821
124	741	Pearson, R. G.; Songstad, J.	Application of the Principle of Hard and Soft Acids and Bases to Organic Chemistry	**1967**, *89*, 1827−1836
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