Miklos Orban

List of Publications by Year
in descending order

72 papers	2,674 citations	172207 29 h-index	189595 50 g-index
72 all docs	72 docs citations	72 times ranked	795 citing authors

#	Article	IF	Citations
1	Systematic design of chemical oscillators. Part 8. Batch oscillations and spatial wave patterns in chlorite oscillating systems. The Journal of Physical Chemistry, 1982, 86, 170-171.	2.9	147
2	Oscillating Chemical Reactions. Scientific American, 1983, 248, 112-123.	1.0	134
3	Systematic design of chemical oscillators. 64. Design of pH-regulated oscillators. Accounts of Chemical Research, 1990, 23, 258-263.	7.6	120
4	Chemical oscillations during the uncatalyzed reaction of aromatic compounds with bromate. 1. Search for chemical oscillators. The Journal of Physical Chemistry, 1978, 82, 1672-1674.	2.9	114
5	Systematic design of chemical oscillators. Part 13. Complex periodic and aperiodic oscillation in the chlorite-thiosulfate reaction. The Journal of Physical Chemistry, 1982, 86, 3907-3910.	2.9	107
6	A new iodate oscillator: the Landolt reaction with ferrocyanide in a CSTR. Journal of the American Chemical Society, 1986, 108, 2826-2830.	6.6	103
7	Systematic design of chemical oscillators using complexation and precipitation equilibria. Nature, 2005, 433, 139-142.	13.7	102
8	Systematic design of chemical oscillators. 45. Kinetics and mechanism of the oscillatory bromate-sulfite-ferrocyanide reaction. The Journal of Physical Chemistry, 1989, 93, 2722-2727.	2.9	91
9	Chemical oscillation during the uncatalyzed reaction of aromatic compounds with bromates. 4. Stationary and moving structures in uncatalyzed oscillatory chemical reactions. Journal of the American Chemical Society, 1980, 102, 4311-4314.	6.6	82
10	Oscillations and bistability in the copper(II)-catalyzed reaction between hydrogen peroxide and potassium thiocyanate. Journal of the American Chemical Society, 1986, 108, 6893-6898.	6.6	80
11	Systematic design of chemical oscillators. 5. Bistability and oscillations in the autocatalytic chlorite-iodide reaction in a stirred-flow reactor. Journal of the American Chemical Society, 1982, 104, 504-509.	6.6	75
12	Chemical oscillations during the uncatalyzed reaction of aromatic compounds with bromate. 2. A plausible skeleton mechanism. The Journal of Physical Chemistry, 1979, 83, 3056-3057.	2.9	74
13	Mechanistic study of oscillations and bistability in the copper(II)-catalyzed reaction between hydrogen peroxide and potassium thiocyanate. Journal of the American Chemical Society, 1989, 111, 4541-4548.	6.6	74
14	pH-Regulated Chemical Oscillators. Accounts of Chemical Research, 2015, 48, 593-601.	7.6	73
15	Systematic design of chemical oscillators. 39. Chemical oscillators in group VIA: the copper(II)-catalyzed reaction between hydrogen peroxide and thiosulfate ion. Journal of the American Chemical Society, 1987, 109, 101-106.	6.6	68
16	Systematic design of chemical oscillators. 10. Minimal bromate oscillator: bromate-bromide-catalyst. Journal of the American Chemical Society, 1982, 104, 2657-2658.	6.6	67
17	Systematic design of chemical oscillators. 26. A new halogen-free chemical oscillator: the reaction between sulfide ion and hydrogen peroxide in a CSTR. Journal of the American Chemical Society, 1985, 107, 2302-2305.	6.6	64
18	Bromateâ˘1,4-Cyclohexanedioneâ˘Ferroin Gas-Free Oscillating Reaction. 1. Basic Features and Crossing Wave Patterns in a Reactionâ˘Diffusion System without Gel. The Journal of Physical Chemistry, 1996, 100, 5393-5397.	2.9	62

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19	Systematic design of chemical oscillators. Part 7. An iodine-free chlorite-based oscillator. The chlorite-thiosulfate reaction in a continuous flow stirred tank reactor. The Journal of Physical Chemistry, 1982, 86, 431-433.	2.9	54
20	Systematic design of chemical oscillators. 11. Chlorite oscillators: new experimental examples, tristability, and preliminary classification. Journal of the American Chemical Society, 1982, 104, 5911-5918.	6.6	52
21	General model for the chlorite ion based chemical oscillators. The Journal of Physical Chemistry, 1993, 97, 5935-5939.	2.9	52
22	Systematic design of chemical oscillators. 77. A model for the pH-regulated oscillatory reaction between hydrogen peroxide and sulfide ion. The Journal of Physical Chemistry, 1992, 96, 5414-5419.	2.9	48
23	Photosensitive, Bubble-free, Bromateâˆ'1,4-Cyclohexanedione Oscillating Reactions. Illumination Control of Pattern Formation. Journal of Physical Chemistry A, 1997, 101, 6827-6829.	1.1	40
24	Systematic design of chemical oscillators. 40. A mechanism for dynamical behavior in the Landolt reaction with ferrocyanide. Journal of the American Chemical Society, 1987, 109, 4876-4880.	6.6	36
25	Generation of pH-Oscillations in Closed Chemical Systems: Method and Applications. Journal of the American Chemical Society, 2011, 133, 7174-7179.	6.6	35
26	Systematic design of chemical oscillators. 12. Bistability in the oxidation of iron(II) by nitric acid. Journal of the American Chemical Society, 1982, 104, 5918-5922.	6.6	34
27	Model for the oscillatory reaction between hydrogen peroxide and thiosulfate catalysed by copper(II) ions. Journal of the Chemical Society, Faraday Transactions, 1996, 92, 2851-2855.	1.7	34
28	Dynamics and Mechanism of Bromate Oscillators with 1,4-Cyclohexanedione. Journal of Physical Chemistry A, 2003, 107, 10074-10081.	1.1	34
29	Systematic design of chemical oscillators. 62. The minimal permanganate oscillator and some derivatives: oscillatory oxidation of S2O32-, SO32-, and S2- by permanganate in a CSTR. Journal of the American Chemical Society, 1990, 112, 1812-1817.	6.6	32
30	Mechanistic studies of oscillatory copper(II) catalyzed oxidation reactions of sulfur compounds. Chemical Engineering Science, 2000, 55, 267-273.	1.9	30
31	Systematic design of chemical oscillators. 15. A new type of bromate oscillator: the bromate-iodide reaction in a stirred-flow reactor. Journal of the American Chemical Society, 1983, 105, 2641-2643.	6.6	29
32	New family of homogeneous chemical oscillators: chloriteâ€"iodateâ€"substrate. Nature, 1981, 292, 816-818.	13.7	28
33	Chemical oscillations during the uncatalyzed reaction of aromatic compounds with bromate. 3. Effect of one-electron redox couples on uncatalyzed bromate oscillators. The Journal of Physical Chemistry, 1980, 84, 559-560.	2.9	27
34	Systematic design of chemical oscillators. Part 16. Inorganic bromate oscillators. Bromate-manganous-reductant. The Journal of Physical Chemistry, 1983, 87, 3725-3728.	2.9	25
35	Systematic design of chemical oscillators. 72. A transition-metal oscillator: oscillatory oxidation of manganese(II) by periodate in a CSTR. Journal of the American Chemical Society, 1991, 113, 1978-1982.	6.6	24
36	New Indicators for Visualizing Pattern Formation in Uncatalyzed Bromate Oscillatory Systems. Journal of the American Chemical Society, 1998, 120, 1146-1150.	6.6	24

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37	Pattern Formation during Polymerization of Acrylamide in the Presence of Sulfide Ions. Journal of Physical Chemistry B, 1999, 103, 36-40.	1.2	23
38	Systematic design of chemical oscillators. 59. Minimal permanganate oscillator: the Guyard reaction in a CSTR. Journal of the American Chemical Society, 1989, 111, 8543-8544.	6.6	22
39	Periodic Pulses of Calcium Ions in a Chemical System. Journal of Physical Chemistry A, 2006, 110, 7588-7592.	1.1	22
40	Systematic design of chemical oscillators. 48. Chemical oscillators in group VIA: the copper(II)-catalyzed reaction between thiosulfate and peroxodisulfate ions. Journal of the American Chemical Society, 1989, 111, 2891-2896.	6.6	20
41	Systematic design of chemical oscillators. 74. Newly designed permanganate-reductant chemical oscillators. Journal of the American Chemical Society, 1991, 113, 7484-7489.	6.6	20
42	Oscillations and bistability in hydrogen-platinum-oxyhalogen systems. Journal of the American Chemical Society, 1981, 103, 3723-3727.	6.6	19
43	Systematic design of chemical oscillators. Part 9. Kinetics and mechanism of the oxidation of iodine by chlorite ion. Inorganic Chemistry, 1982, 21, 2192-2196.	1.9	19
44	A new chemical system for studying pattern formation: Bromateâ€“hypophosphiteâ€“acetoneâ€“dual catalyst. Faraday Discussions, 2002, 120, 11-19.	1.6	18
45	Cu(II)-catalyzed oscillatory chemical reactions. Reaction Kinetics and Catalysis Letters, 1990, 42, 343-353.	0.6	17
46	Novel type of oscillatory chemical reactions. Reaction Kinetics and Catalysis Letters, 1978, 8, 273-276.	0.6	16
47	Mechanistic studies on the bromateâ€“1,4-cyclohexanedioneâ€“ferroin oscillatory system. Physical Chemistry Chemical Physics, 2002, 4, 1271-1275.	1.3	16
48	Oscillations in the Concentration of Fluoride Ions Induced by a pH Oscillator. Journal of Physical Chemistry A, 2008, 112, 4271-4276.	1.1	16
49	Systematic design of chemical oscillators. Part 14. Inorganic bromate oscillators. Bromate-chlorite-reductant. The Journal of Physical Chemistry, 1983, 87, 3212-3219.	2.9	13
50	Hydrogen-bonded complexes between pyridine and phenol in carbon tetrachloride solutions. Journal of the Chemical Society Faraday Transactions I, 1977, 73, 1326.	1.0	12
51	Generation of spatiotemporal calcium patterns by coupling a pH-oscillator to a complexation equilibrium. Chemical Communications, 2014, 50, 4158-4160.	2.2	12
52	pH-oscillations in the bromateâ€“sulfite reaction in semibatch and in gel-fed batch reactors. Chaos, 2015, 25, 064602.	1.0	12
53	A new type of oxyhalogen oscillator: the bromite-iodide reaction in a continuous flow reactor. Journal of the American Chemical Society, 1992, 114, 1252-1256.	6.6	11
54	On the nature of patterns arising during polymerization of acrylamide in the presence of the methylene blue-sulfide-oxygen oscillating reaction. Chemical Physics Letters, 1998, 295, 70-74.	1.2	11

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55	Oscillatory concentration pulses of some divalent metal ions induced by a redox oscillator. Physical Chemistry Chemical Physics, 2010, 12, 1248-1252.	1.3	11
56	Formation of hydrogen-bonded complexes between phenol and some heterocyclic bases in carbon tetrachloride. Journal of the Chemical Society Perkin Transactions II, 1987, , 1815-1817.	0.9	10
57	Some General Features in the Autocatalytic Reaction between Sulfite Ion and Different Oxidants. International Journal of Chemical Kinetics, 2013, 45, 462-468.	1.0	9
58	Simple and Complex pH Oscillations and Bistability in the Phenol-Perturbed Bromite-Hydroxylamine Reaction. The Journal of Physical Chemistry, 1994, 98, 2930-2935.	2.9	8
59	A New Bromite Oscillator. Large-Amplitude pH Oscillations in the Bromite-Thiosulfate-Phenol Flow System. The Journal of Physical Chemistry, 1995, 99, 2358-2362.	2.9	7
60	Oscillatory Chemical Reactions in Heterogeneous Systems:â€‰ Oxidation of Hydrogen on Platinum Surface by Strong Oxidants in Aqueous Solutions. The Journal of Physical Chemistry, 1996, 100, 19141-19147.	2.9	7
61	New Experimental Data and Mechanistic Studies on the Bromateâˆ’Dual Substrateâˆ’Dual Catalyst Batch Oscillator. Journal of Physical Chemistry A, 2006, 110, 6067-6072.	1.1	7
62	Modelling pH oscillators in open, semi-batch and batch reactors. Reaction Kinetics, Mechanisms and Catalysis, 2012, 106, 257-266.	0.8	7
63	Adsorptionâ€“desorption oscillations of nanoparticles on a honeycomb-patterned pH-responsive hydrogel surface in a closed reaction system. Physical Chemistry Chemical Physics, 2014, 16, 25296-25305.	1.3	7
64	Reply to â€œMechanism of the Oscillatory Bromate Oxidation of Sulfite and Ferrocyanide in a CSTRâ€. The Journal of Physical Chemistry, 1996, 100, 16443-16443.	2.9	5
65	Periodic Changes in the Distribution of Species Observed in the Ni²⁺â€“Histidine Equilibrium Coupled to the BrO₃^{â€“}â€“SO₃^{2â€“} pH Oscillator. Journal of Physical Chemistry A, 2014, 118, 6749-6756.	1.1	5
66	Oscillations in the Permanganate Oxidation of Glycine in a Stirred Flow Reactor. Journal of Physical Chemistry A, 2013, 117, 9023-9027.	1.1	4
67	Chemical Oscillations With Sodium Perborate as Oxidant. Frontiers in Chemistry, 2020, 8, 561788.	1.8	4
68	New Heterogeneous Chemical Oscillators:Â Reduction of Manganese Species by Hypophosphite on a Pt Surface. Journal of Physical Chemistry B, 2004, 108, 7352-7358.	1.2	3
69	Chemical origin of the sustained-like pattern formation observed in the bromate â€" Dual substrate â€" Dual catalyst oscillatory batch system. Reaction Kinetics and Catalysis Letters, 2007, 90, 405-411.	0.6	2
70	Periodic changes in the oxidation states of the center ion in the cobalt-histidine complex induced by the BrO3âˆ' â€" SO32âˆ' pH-oscillator. Chaos, 2018, 28, 053114.	1.0	2
71	A New Type of Chemical Oscillatior: Potential Oscillation and Bistability on a Platinum Electrode in some Aqueous Hydrogen-Halogen (ATE) Pumped Systems. Springer Series in Synergetics, 1981, , 197-200.	0.2	1
72	Recent advances in the temporal and spatiotemporal dynamics induced by bromateâ€“sulfite-based pH-oscillators. Reaction Kinetics, Mechanisms and Catalysis, 2022, 135, 1299-1311.	0.8	1