Erzsebet Takacs

List of Publications by Year
in descending order

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93 papers	2,905 citations	185998 28 h-index	189595 50 g-index
96 all docs	96 docs citations	96 times ranked	2856 citing authors

#	Article	IF	Citations
1	Occurrence and fate of antibiotics, antibiotic resistant genes (ARGs) and antibiotic resistant bacteria (ARB) in municipal wastewater treatment plant: An overview. Science of the Total Environment, 2020, 744, 140997.	3.9	480
2	Irradiation treatment of azo dye containing wastewater: An overview. Radiation Physics and Chemistry, 2008, 77, 225-244.	1.4	164
3	Rate constants of sulfate radical anion reactions with organic molecules: A review. Chemosphere, 2019, 220, 1014-1032.	4.2	156
4	Hydroxyl radical induced degradation of ibuprofen. Science of the Total Environment, 2013, 447, 286-292.	3.9	100
5	Ketoprofen removal by O3 and O3/UV processes: Kinetics, transformation products and ecotoxicity. Science of the Total Environment, 2014, 472, 178-184.	3.9	87
6	Rate constants of carbonate radical anion reactions with molecules of environmental interest in aqueous solution: A review. Science of the Total Environment, 2020, 717, 137219.	3.9	84
7	Synthesis of carboxymethylcellulose/starch superabsorbent hydrogels by gamma-irradiation. Chemistry Central Journal, 2017, 11, 46.	2.6	83
8	Rate coefficients of hydroxyl radical reactions with pesticide molecules and related compounds: A review. Radiation Physics and Chemistry, 2014, 96, 120-134.	1.4	61
9	Radiation induced degradation of pharmaceutical residues in water: Chloramphenicol. Radiation Physics and Chemistry, 2012, 81, 1489-1494.	1.4	58
10	Cellulose functionalization via high-energy irradiation-initiated grafting of glycidyl methacrylate and cyclodextrin immobilization. Radiation Physics and Chemistry, 2011, 80, 1358-1362.	1.4	57
11	Synthesis and characterization of superabsorbent hydrogels based on hydroxyethylcellulose and acrylic acid. Carbohydrate Polymers, 2017, 166, 300-308.	5.1	57
12	Synthesis of cellulose-based superabsorbent hydrogels by high-energy irradiation in the presence of crosslinking agent. Radiation Physics and Chemistry, 2016, 118, 114-119.	1.4	56
13	Synthesis of cellulose derivative based superabsorbent hydrogels by radiation induced crosslinking. Cellulose, 2014, 21, 4157-4165.	2.4	54
14	Elimination of diclofenac from water using irradiation technology. Chemosphere, 2011, 85, 603-608.	4.2	50
15	Analytical approaches to the OH radical induced degradation of sulfonamide antibiotics in dilute aqueous solutions. Journal of Pharmaceutical and Biomedical Analysis, 2015, 106, 52-60.	1.4	48
16	Treatment of pharmaceutical wastewater by ionizing radiation: Removal of antibiotics, antimicrobial resistance genes and antimicrobial activity. Journal of Hazardous Materials, 2021, 415, 125724.	6.5	45
17	Photocatalytic, photolytic and radiolytic elimination of imidacloprid from aqueous solution: Reaction mechanism, efficiency and economic considerations. Applied Catalysis B: Environmental, 2019, 250, 429-439.	10.8	42
18	Structure dependence of the rate coefficients of hydroxyl radical+aromatic molecule reaction. Radiation Physics and Chemistry, 2013, 87, 82-87.	1.4	41

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19	Degradation of fluoroquinolone antibiotics during ionizing radiation treatment and assessment of antibacterial activity, toxicity and biodegradability of the products. Radiation Physics and Chemistry, 2018, 147, 101-105.	1.4	41
20	Wastewater treatment with ionizing radiation. Journal of Radioanalytical and Nuclear Chemistry, 2017, 311, 973-981.	0.7	38
21	Synthesis of carboxymethylcellulose/acrylic acid hydrogels with superabsorbent properties by radiation-initiated crosslinking. Radiation Physics and Chemistry, 2016, 124, 135-139.	1.4	36
22	The influence of radical transfer and scavenger materials in various concentrations on the gamma radiolysis of phenol. Radiation Physics and Chemistry, 2016, 124, 52-57.	1.4	34
23	Critical evaluation of rate coefficients for hydroxyl radical reactions with antibiotics: A review. Critical Reviews in Environmental Science and Technology, 2018, 48, 575-613.	6.6	34
24	High-energy irradiation treatment of aqueous solutions of azo dyes: steady-state gamma radiolysis experiments. Radiation Physics and Chemistry, 2003, 67, 531-534.	1.4	32
25	Degradation of organic molecules in advanced oxidation processes: Relation between chemical structure and degradability. Chemosphere, 2013, 91, 383-389.	4.2	32
26	Radiation induced degradation of ciprofloxacin and norfloxacin: Kinetics and product analysis. Radiation Physics and Chemistry, 2019, 158, 68-75.	1.4	31
27	Determination of the rate constant of hydroperoxyl radical reaction with phenol. Radiation Physics and Chemistry, 2014, 102, 135-138.	1.4	30
28	Application of coumarin and coumarin-3-carboxylic acid for the determination of hydroxyl radicals during different advanced oxidation processes. Radiation Physics and Chemistry, 2020, 170, 108610.	1.4	29
29	Enhancing the biological degradability of sulfamethoxazole by ionizing radiation treatment in aqueous solution. Radiation Physics and Chemistry, 2016, 124, 179-183.	1.4	28
30	Radiolysis of sulfonamide antibiotics in aqueous solution: Degradation efficiency and assessment of antibacterial activity, toxicity and biodegradability of products. Science of the Total Environment, 2018, 622-623, 1009-1015.	3.9	28
31	Radiolysis of paracetamol in dilute aqueous solution. Radiation Physics and Chemistry, 2012, 81, 1503-1507.	1.4	27
32	Change in hydrophilicity of penicillins during advanced oxidation by radiolytically generated OH compromises the elimination of selective pressure on bacterial strains. Science of the Total Environment, 2016, 551-552, 393-403.	3.9	27
33	The state of water in thermoresponsive poly(acryloyl-l-proline methyl ester) hydrogels observed by DSC and 1H-NMR relaxometry. Radiation Physics and Chemistry, 1999, 55, 209-218.	1.4	26
34	One-electron oxidation of molecules with aromatic and thioether functions: Cl2â˙’/Br2â˙’ and OH induced oxidation of penicillins studied by pulse radiolysis. Journal of Photochemistry and Photobiology A: Chemistry, 2016, 326, 50-59.	2.0	26
35	Rate constants of dichloride radical anion reactions with molecules of environmental interest in aqueous solution: a review. Environmental Science and Pollution Research, 2021, 28, 41552-41575.	2.7	26
36	Re-evaluation of the rate constant for the H atom reaction with tert-butanol in aqueous solution. Radiation Physics and Chemistry, 2004, 69, 217-219.	1.4	25

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37	Mechanism of azo dye degradation in Advanced Oxidation Processes: Degradation of Sulfanilic Acid Azochromotrop and its parent compounds in aqueous solution by ionizing radiation. Radiation Physics and Chemistry, 2011, 80, 462-470.	1.4	24
38	Electron beam treatment for tackling the escalating problems of antibiotic resistance: Eliminating the antimicrobial activity of wastewater matrices originating from erythromycin. Chemical Engineering Journal, 2017, 321, 314-324.	6.6	24
39	â^™OH and e-aq are yet good candidates for demolishing the Î²-lactam system of a penicillin eliminating the antimicrobial activity. Radiation Physics and Chemistry, 2016, 124, 84-90.	1.4	22
40	Radiation induced degradation of ketoprofen in dilute aqueous solution. Radiation Physics and Chemistry, 2012, 81, 1479-1483.	1.4	21
41	Oxidative and reductive degradation of sulfamethoxazole in aqueous solutions: decomposition efficiency and toxicity assessment. Journal of Radioanalytical and Nuclear Chemistry, 2014, 301, 475-482.	0.7	21
42	Study on the Microstructure of Polyester Polyurethane Irradiated in Air and Water. Polymers, 2015, 7, 1755-1766.	2.0	21
43	The impact of H 2 O 2 and the role of mineralization in biodegradation or ecotoxicity assessment of advanced oxidation processes. Radiation Physics and Chemistry, 2018, 144, 361-366.	1.4	19
44	Rate constants for the reaction of hydrated electrons and hydroxyl radicals with acrylate monomers. Macromolecular Rapid Communications, 1996, 17, 353-357.	2.0	17
45	Improvement of pesticide adsorption capacity of cellulose fibre by high-energy irradiation-initiated grafting of glycidyl methacrylate. Radiation Physics and Chemistry, 2012, 81, 1389-1392.	1.4	17
46	Hydroxyl radical induced degradation of salicylates in aerated aqueous solution. Radiation Physics and Chemistry, 2014, 97, 239-245.	1.4	17
47	Reactions of clofibric acid with oxidative and reductive radicalsâ€"Products, mechanisms, efficiency and toxic effects. Radiation Physics and Chemistry, 2014, 102, 72-78.	1.4	16
48	Effect of mild alkali/ultrasound treatment on flax and hemp fibres: the different responses of the two substrates. Cellulose, 2016, 23, 2117-2128.	2.4	16
49	Ionizing radiation induced degradation of monuron in dilute aqueous solution. Radiation Physics and Chemistry, 2016, 124, 191-197.	1.4	16
50	Drugs with susceptible sites for free radical induced oxidative transformations: the case of a penicillin. Free Radical Research, 2016, 50, 26-38.	1.5	16
51	Hydrogen peroxide formation during radiolysis of aerated aqueous solutions of organic molecules. Radiation Physics and Chemistry, 2017, 134, 8-13.	1.4	16
52	Antibiotics in a wastewater matrix at environmentally relevant concentrations affect coexisting resistant/sensitive bacterial cultures with profound impact on advanced oxidation treatment. Science of the Total Environment, 2021, 754, 142181.	3.9	16
53	Ionizing radiation induced reactions of 2,6-dichloroaniline in dilute aqueous solution. Radiation Physics and Chemistry, 2012, 81, 1499-1502.	1.4	15
54	Comparison of hydrogen atom and hydroxyl radical reactions with simple aromatic molecules in aqueous solution. Chemical Physics, 2020, 534, 110754.	0.9	15

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55	Electron beam treatment for eliminating the antimicrobial activity of piperacillin in wastewater matrix. Journal of Industrial and Engineering Chemistry, 2018, 58, 24-32.	2.9	14
56	Rate coefficients of the initial steps of radiation induced oligomerization of acrylates in dilute aqueous solution. Radiation Physics and Chemistry, 1999, 55, 639-644.	1.4	13
57	Protonation kinetics of acrylate radical anions. Physical Chemistry Chemical Physics, 2000, 2, 1431-1433.	1.3	13
58	Hydroxyl radical-induced degradation of fenuron in pulse and gamma radiolysis: kinetics and product analysis. Environmental Science and Pollution Research, 2014, 21, 12693-12700.	2.7	13
59	Ionizing radiation induced degradation of diuron in dilute aqueous solution. Chemistry Central Journal, 2015, 9, 21.	2.6	13
60	The effect of combined cometabolism and gamma irradiation treatment on the biodegradability of diclofenac and sulfamethoxazole. Radiation Physics and Chemistry, 2020, 170, 108642.	1.4	13
61	Advanced treatment of antibiotic wastewater by ionizing radiation combined with peroxymonosulfate/H2O2 oxidation. Journal of Cleaner Production, 2021, 321, 128921.	4.6	12
62	Kinetics of the early stages of high-energy radiation initiated polymerization. Macromolecular Chemistry and Physics, 2000, 201, 2170-2175.	1.1	11
63	Rate coefficient for the H atom reaction with acrylate monomers in aqueous solution. Tetrahedron, 2003, 59, 8353-8358.	1.0	11
64	High-energy ionising radiation initiated decomposition of acetovanillone. Radiation Physics and Chemistry, 2012, 81, 1495-1498.	1.4	11
65	Transformation of Z-thiacloprid by three advanced oxidation processes: Kinetics, intermediates and the role of reactive species. Catalysis Today, 2017, 284, 187-194.	2.2	11
66	Abatement of antibiotics and antimicrobial resistance genes from cephalosporin fermentation residues by ionizing radiation: From lab-scale study to full-scale application. Journal of Cleaner Production, 2021, 325, 129334.	4.6	11
67	Thermally reversible gels based on acryloyl-l-proline methyl ester as drug delivery systems. Radiation Physics and Chemistry, 1999, 55, 185-192.	1.4	10
68	Mineralization of aqueous phenolate solutions: A combination of irradiation treatment and wet oxidation. Radiation Physics and Chemistry, 2012, 81, 1484-1488.	1.4	10
69	The Chemical Background of Advanced Oxidation Processes. Israel Journal of Chemistry, 2014, 54, 233-241.	1.0	10
70	Elimination of oxacillin, its toxicity and antibacterial activity by using ionizing radiation. Chemosphere, 2022, 286, 131467.	4.2	10
71	Intelligent drug delivery systems obtained by radiation. Radiation Physics and Chemistry, 1998, 52, 295-299.	1.4	9
72	Radiation Induced Degradation of Organic Pollutants in Waters and Wastewaters. Topics in Current Chemistry, 2016, 374, 50.	3.0	9

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73	The effect of hydrogen peroxide on the biochemical oxygen demand (BOD) values measured during ionizing radiation treatment of wastewater. Radiation Physics and Chemistry, 2021, 189, 109773.	1.4	9
74	Mechanistic study on thiacloprid transformation: Free radical reactions. Journal of Photochemistry and Photobiology A: Chemistry, 2017, 343, 17-25.	2.0	8
75	Use of bovine catalase and manganese dioxide for elimination of hydrogen peroxide from partly oxidized aqueous solutions of aromatic molecules â€“ Unexpected complications. Radiation Physics and Chemistry, 2017, 139, 147-151.	1.4	8
76	A Microbiological Assay for Assessing the Applicability of Advanced Oxidation Processes for Eliminating the Sublethal Effects of Antibiotics on Selection of Resistant Bacteria. Environmental Science and Technology Letters, 2017, 4, 251-255.	3.9	8
77	Matrix effect in the hydroxyl radical induced degradation of Î²-lactam and tetracycline type antibiotics. Radiation Physics and Chemistry, 2022, 193, 109980.	1.4	8
78	One-Electron Reduction of Penicillins in Relation to the Oxidative Stress Phenomenon. International Journal of Molecular Sciences, 2015, 16, 29673-29681.	1.8	7
79	Hydroxyl radical induced transformation of phenylurea herbicides: A theoretical study. Radiation Physics and Chemistry, 2017, 132, 16-21.	1.4	7
80	On the complex ^{â€¢}OH/^{â€¢}O^{â¯}-induced free radical chemistry of arylalkylamines with special emphasis on the contribution of the alkylamine side chain. Free Radical Research, 2017, 51, 124-140.	1.5	6
81	Applicability evaluation of advanced processes for elimination of neurophysiological activity of antidepressant fluoxetine. Chemosphere, 2018, 193, 489-497.	4.2	6
82	Reaction of the 2-hydroxy-2-propyl radical with acrylate type molecules in aqueous solution: Radical addition or electron transfer. Chemical Physics, 2006, 327, 335-343.	0.9	5
83	Transformation of atrazine by photolysis and radiolysis: kinetic parameters, intermediates and economic consideration. Environmental Science and Pollution Research, 2019, 26, 23268-23278.	2.7	5
84	Rate constants of chlorine atom reactions with organic molecules in aqueous solutions, an overview. Environmental Science and Pollution Research, 2022, 29, 55492-55513.	2.7	5
85	Nucleophilic and electrophilic radical attack on maleic and fumaric acids in aqueous solution. Chemical Physics Letters, 2008, 460, 451-456.	1.2	4
86	Comparison of catalysis and high energy irradiation for the intensification of wet oxidation as process wastewater pretreatment. Reaction Kinetics, Mechanisms and Catalysis, 2015, 116, 95-103.	0.8	3
87	Complex Treatment for the Disposal and Utilization of Process Wastewaters of the Pharmaceutical Industry. Periodica Polytechnica: Chemical Engineering, 2017, , .	0.5	3
88	Degradation of Triton X-100 surfactant/lipid regulator systems by ionizing radiation in water. Journal of Radioanalytical and Nuclear Chemistry, 2017, 314, 1189-1196.	0.7	2
89	Interpenetrating-network formation during electron beam crosslinking of an unsaturated polyester-1,6-hexanediol diacrylate monomer system. International Journal of Radiation Applications and Instrumentation Nuclear Tracks and Radiation Measurements, 1992, 40, 75-79.	0.0	1
90	Reaction of 2-hydroxy-2-propyl radical with maleic and fumaric acids in aqueous solution: pH dependence. Chemical Physics Letters, 2007, 438, 224-228.	1.2	1

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91	Letter to the editor | Dyes and Pigments - Volume 75, Issue 2. Dyes and Pigments, 2007, 75, 505-506.	2.0	1
92	Radiation Induced Degradation of Organic Pollutants in Waters and Wastewaters. Topics in Current Chemistry Collections, 2017, , 1-35.	0.2	1
93	Reply to the comment on â€œDegradation of organic molecules in advanced oxidation processes: Relation between chemical structure and degradability [Homlok et al. Chemosphere 91 (2013) 383â€“389]â€. Chemosphere, 2013, 92, 1579.	4.2	0