

# Erzsebet Takacs

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

90  
papers

1,942  
citations

24  
h-index

39  
g-index

96  
ext. papers

2,418  
ext. citations

4.8  
avg. IF

5.63  
L-index

| #  | Paper  | IF   | Citations |
|----|--|------|-----------|
| 90 | Matrix effect in the hydroxyl radical induced degradation of $\beta$ -lactam and tetracycline type antibiotics. <i>Radiation Physics and Chemistry</i> , <b>2022</b> , 193, 109980   | 2.5  | 0         |
| 89 | Elimination of oxacillin, its toxicity and antibacterial activity by using ionizing radiation. <i>Chemosphere</i> , <b>2022</b> , 286, 131467  | 8.4  | 2         |
| 88 | Abatement of antibiotics and antimicrobial resistance genes from cephalosporin fermentation residues by ionizing radiation: From lab-scale study to full-scale application. <i>Journal of Cleaner Production</i> , <b>2021</b> , 325, 129334                     | 10.3 | 0         |
| 87 | Rate constants of dichloride radical anion reactions with molecules of environmental interest in aqueous solution: a review. <i>Environmental Science and Pollution Research</i> , <b>2021</b> , 28, 41552-41575   | 5.1  | 11        |
| 86 | Antibiotics in a wastewater matrix at environmentally relevant concentrations affect coexisting resistant/sensitive bacterial cultures with profound impact on advanced oxidation treatment. <i>Science of the Total Environment</i> , <b>2021</b> , 754, 142181 | 10.2 | 9         |
| 85 | Treatment of pharmaceutical wastewater by ionizing radiation: Removal of antibiotics, antimicrobial resistance genes and antimicrobial activity. <i>Journal of Hazardous Materials</i> , <b>2021</b> , 415, 125724   | 12.8 | 15        |
| 84 | Advanced treatment of antibiotic wastewater by ionizing radiation combined with peroxymonosulfate/H <sub>2</sub> O <sub>2</sub> oxidation. <i>Journal of Cleaner Production</i> , <b>2021</b> , 321, 128921  | 10.3 | 1         |
| 83 | The effect of hydrogen peroxide on the biochemical oxygen demand (BOD) values measured during ionizing radiation treatment of wastewater. <i>Radiation Physics and Chemistry</i> , <b>2021</b> , 189, 109773   | 2.5  | 3         |
| 82 | Rate constants of carbonate radical anion reactions with molecules of environmental interest in aqueous solution: A review. <i>Science of the Total Environment</i> , <b>2020</b> , 717, 137219  | 10.2 | 36        |
| 81 | Comparison of hydrogen atom and hydroxyl radical reactions with simple aromatic molecules in aqueous solution. <i>Chemical Physics</i> , <b>2020</b> , 534, 110754   | 2.3  | 8         |
| 80 | The effect of combined cometabolism and gamma irradiation treatment on the biodegradability of diclofenac and sulfamethoxazole. <i>Radiation Physics and Chemistry</i> , <b>2020</b> , 170, 108642   | 2.5  | 8         |
| 79 | Application of coumarin and coumarin-3-carboxylic acid for the determination of hydroxyl radicals during different advanced oxidation processes. <i>Radiation Physics and Chemistry</i> , <b>2020</b> , 170, 108610  | 2.5  | 9         |
| 78 | Occurrence and fate of antibiotics, antibiotic resistant genes (ARGs) and antibiotic resistant bacteria (ARB) in municipal wastewater treatment plant: An overview. <i>Science of the Total Environment</i> , <b>2020</b> , 744, 140997                          | 10.2 | 184       |
| 77 | Photocatalytic, photolytic and radiolytic elimination of imidacloprid from aqueous solution: Reaction mechanism, efficiency and economic considerations. <i>Applied Catalysis B: Environmental</i> , <b>2019</b> , 250, 429-439                                  | 21.8 | 26        |
| 76 | Transformation of atrazine by photolysis and radiolysis: kinetic parameters, intermediates and economic consideration. <i>Environmental Science and Pollution Research</i> , <b>2019</b> , 26, 23268-23278   | 5.1  | 3         |
| 75 | Radiation induced degradation of ciprofloxacin and norfloxacin: Kinetics and product analysis. <i>Radiation Physics and Chemistry</i> , <b>2019</b> , 158, 68-75   | 2.5  | 21        |
| 74 | Rate constants of sulfate radical anion reactions with organic molecules: A review. <i>Chemosphere</i> , <b>2019</b> , 220, 1014-1032  | 8.4  | 84        |

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|----|---|------|----|
| 73 | Degradation of fluoroquinolone antibiotics during ionizing radiation treatment and assessment of antibacterial activity, toxicity and biodegradability of the products. <i>Radiation Physics and Chemistry</i> , <b>2018</b> , 147, 101-105                     | 2.5  | 26 |
| 72 | Radiolysis of sulfonamide antibiotics in aqueous solution: Degradation efficiency and assessment of antibacterial activity, toxicity and biodegradability of products. <i>Science of the Total Environment</i> , <b>2018</b> , 622-623, 1009-1015               | 10.2 | 20 |
| 71 | Electron beam treatment for eliminating the antimicrobial activity of piperacillin in wastewater matrix. <i>Journal of Industrial and Engineering Chemistry</i> , <b>2018</b> , 58, 24-32   | 6.3  | 13 |
| 70 | Critical evaluation of rate coefficients for hydroxyl radical reactions with antibiotics: A review. <i>Critical Reviews in Environmental Science and Technology</i> , <b>2018</b> , 48, 575-613   | 11.1 | 22 |
| 69 | The impact of H <sub>2</sub> O <sub>2</sub> and the role of mineralization in biodegradation or ecotoxicity assessment of advanced oxidation processes. <i>Radiation Physics and Chemistry</i> , <b>2018</b> , 144, 361-366                                     | 2.5  | 14 |
| 68 | Applicability evaluation of advanced processes for elimination of neurophysiological activity of antidepressant fluoxetine. <i>Chemosphere</i> , <b>2018</b> , 193, 489-497   | 8.4  | 6  |
| 67 | Transformation of Z-thiacloprid by three advanced oxidation processes: Kinetics, intermediates and the role of reactive species. <i>Catalysis Today</i> , <b>2017</b> , 284, 187-194  | 5.3  | 9  |
| 66 | Synthesis and characterization of superabsorbent hydrogels based on hydroxyethylcellulose and acrylic acid. <i>Carbohydrate Polymers</i> , <b>2017</b> , 166, 300-308   | 10.3 | 40 |
| 65 | Electron beam treatment for tackling the escalating problems of antibiotic resistance: Eliminating the antimicrobial activity of wastewater matrices originating from erythromycin. <i>Chemical Engineering Journal</i> , <b>2017</b> , 321, 314-324            | 14.7 | 19 |
| 64 | Mechanistic study on thiachloprid transformation: Free radical reactions. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , <b>2017</b> , 343, 17-25   | 4.7  | 5  |
| 63 | Use of bovine catalase and manganese dioxide for elimination of hydrogen peroxide from partly oxidized aqueous solutions of aromatic molecules Unexpected complications. <i>Radiation Physics and Chemistry</i> , <b>2017</b> , 139, 147-151                    | 2.5  | 6  |
| 62 | A Microbiological Assay for Assessing the Applicability of Advanced Oxidation Processes for Eliminating the Sublethal Effects of Antibiotics on Selection of Resistant Bacteria. <i>Environmental Science and Technology Letters</i> , <b>2017</b> , 4, 251-255 | 11   | 8  |
| 61 | Synthesis of carboxymethylcellulose/starch superabsorbent hydrogels by gamma-irradiation. <i>Chemistry Central Journal</i> , <b>2017</b> , 11, 46   |      | 53 |
| 60 | On the complex OH/O-induced free radical chemistry of arylalkylamines with special emphasis on the contribution of the alkylamine side chain. <i>Free Radical Research</i> , <b>2017</b> , 51, 124-140  | 4    | 4  |
| 59 | Radiation Induced Degradation of Organic Pollutants in Waters and Wastewaters. <i>Topics in Current Chemistry Collections</i> , <b>2017</b> , 1-35  | 1.8  | 1  |
| 58 | Hydrogen peroxide formation during radiolysis of aerated aqueous solutions of organic molecules. <i>Radiation Physics and Chemistry</i> , <b>2017</b> , 134, 8-13   | 2.5  | 10 |
| 57 | Hydroxyl radical induced transformation of phenylurea herbicides: A theoretical study. <i>Radiation Physics and Chemistry</i> , <b>2017</b> , 132, 16-21  | 2.5  | 7  |
| 56 | Wastewater treatment with ionizing radiation. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , <b>2017</b> , 311, 973-981  | 1.5  | 29 |

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| 55 | Degradation of Triton X-100 surfactant/lipid regulator systems by ionizing radiation in water. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , <b>2017</b> , 314, 1189-1196  | 1.5  | 1  |
| 54 | Drugs with susceptible sites for free radical induced oxidative transformations: the case of a penicillin. <i>Free Radical Research</i> , <b>2016</b> , 50, 26-38  | 4    | 13 |
| 53 | Synthesis of carboxymethylcellulose/acrylic acid hydrogels with superabsorbent properties by radiation-initiated crosslinking. <i>Radiation Physics and Chemistry</i> , <b>2016</b> , 124, 135-139   | 2.5  | 25 |
| 52 | Synthesis of cellulose-based superabsorbent hydrogels by high-energy irradiation in the presence of crosslinking agent. <i>Radiation Physics and Chemistry</i> , <b>2016</b> , 118, 114-119  | 2.5  | 39 |
| 51 | Radiation Induced Degradation of Organic Pollutants in Waters and Wastewaters. <i>Topics in Current Chemistry</i> , <b>2016</b> , 374, 50  | 7.2  | 6  |
| 50 | Effect of mild alkali/ultrasound treatment on flax and hemp fibres: the different responses of the two substrates. <i>Cellulose</i> , <b>2016</b> , 23, 2117-2128  | 5.5  | 12 |
| 49 | Enhancing the biological degradability of sulfamethoxazole by ionizing radiation treatment in aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>2016</b> , 124, 179-183  | 2.5  | 25 |
| 48 | Ionizing radiation induced degradation of monuron in dilute aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>2016</b> , 124, 191-197  | 2.5  | 11 |
| 47 | Change in hydrophilicity of penicillins during advanced oxidation by radiolytically generated OH compromises the elimination of selective pressure on bacterial strains. <i>Science of the Total Environment</i> , <b>2016</b> , 551-552, 393-403                          | 10.2 | 23 |
| 46 | OH and e-aq are yet good candidates for demolishing the $\beta$ -lactam system of a penicillin eliminating the antimicrobial activity. <i>Radiation Physics and Chemistry</i> , <b>2016</b> , 124, 84-90   | 2.5  | 20 |
| 45 | The influence of radical transfer and scavenger materials in various concentrations on the gamma radiolysis of phenol. <i>Radiation Physics and Chemistry</i> , <b>2016</b> , 124, 52-57   | 2.5  | 16 |
| 44 | One-electron oxidation of molecules with aromatic and thioether functions: Cl <sub>2</sub> /Br <sub>2</sub> and OH induced oxidation of penicillins studied by pulse radiolysis. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , <b>2016</b> , 326, 50-59 | 4.7  | 19 |
| 43 | Comparison of catalysis and high energy irradiation for the intensification of wet oxidation as process wastewater pretreatment. <i>Reaction Kinetics, Mechanisms and Catalysis</i> , <b>2015</b> , 116, 95-103  | 1.6  | 2  |
| 42 | Analytical approaches to the OH radical induced degradation of sulfonamide antibiotics in dilute aqueous solutions. <i>Journal of Pharmaceutical and Biomedical Analysis</i> , <b>2015</b> , 106, 52-60  | 3.5  | 37 |
| 41 | One-Electron Reduction of Penicillins in Relation to the Oxidative Stress Phenomenon. <i>International Journal of Molecular Sciences</i> , <b>2015</b> , 16, 29673-81  | 6.3  | 5  |
| 40 | Study on the Microstructure of Polyester Polyurethane Irradiated in Air and Water. <i>Polymers</i> , <b>2015</b> , 7, 1755-1766  | 4.5  | 21 |
| 39 | Ionizing radiation induced degradation of diuron in dilute aqueous solution. <i>Chemistry Central Journal</i> , <b>2015</b> , 9, 21  |      | 11 |
| 38 | Determination of the rate constant of hydroperoxyl radical reaction with phenol. <i>Radiation Physics and Chemistry</i> , <b>2014</b> , 102, 135-138   | 2.5  | 24 |

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|----|--|------|----|
| 37 | Ketoprofen removal by O <sub>3</sub> and O <sub>3</sub> /UV processes: kinetics, transformation products and ecotoxicity. <i>Science of the Total Environment</i> , <b>2014</b> , 472, 178-84                        | 10.2 | 70 |
| 36 | Hydroxyl radical induced degradation of salicylates in aerated aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>2014</b> , 97, 239-245  | 2.5  | 12 |
| 35 | Hydroxyl radical-induced degradation of fenuron in pulse and gamma radiolysis: kinetics and product analysis. <i>Environmental Science and Pollution Research</i> , <b>2014</b> , 21, 12693-700                      | 5.1  | 12 |
| 34 | Oxidative and reductive degradation of sulfamethoxazole in aqueous solutions: decomposition efficiency and toxicity assessment. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , <b>2014</b> , 301, 475-482 | 1.5  | 19 |
| 33 | The Chemical Background of Advanced Oxidation Processes. <i>Israel Journal of Chemistry</i> , <b>2014</b> , 54, 233-244  | 3.1  | 7  |
| 32 | Synthesis of cellulose derivative based superabsorbent hydrogels by radiation induced crosslinking. <i>Cellulose</i> , <b>2014</b> , 21, 4157-4165   | 5.5  | 45 |
| 31 | Rate coefficients of hydroxyl radical reactions with pesticide molecules and related compounds: A review. <i>Radiation Physics and Chemistry</i> , <b>2014</b> , 96, 120-134   | 2.5  | 49 |
| 30 | Reactions of clofibric acid with oxidative and reductive radicals: Products, mechanisms, efficiency and toxic effects. <i>Radiation Physics and Chemistry</i> , <b>2014</b> , 102, 72-78                             | 2.5  | 13 |
| 29 | Structure dependence of the rate coefficients of hydroxyl radical+aromatic molecule reaction. <i>Radiation Physics and Chemistry</i> , <b>2013</b> , 87, 82-87   | 2.5  | 33 |
| 28 | Degradation of organic molecules in advanced oxidation processes: relation between chemical structure and degradability. <i>Chemosphere</i> , <b>2013</b> , 91, 383-9  | 8.4  | 26 |
| 27 | Hydroxyl radical induced degradation of ibuprofen. <i>Science of the Total Environment</i> , <b>2013</b> , 447, 286-92   | 10.2 | 82 |
| 26 | High-energy ionising radiation initiated decomposition of acetovanillone. <i>Radiation Physics and Chemistry</i> , <b>2012</b> , 81, 1495-1498   | 2.5  | 9  |
| 25 | Mineralization of aqueous phenolate solutions: A combination of irradiation treatment and wet oxidation. <i>Radiation Physics and Chemistry</i> , <b>2012</b> , 81, 1484-1488  | 2.5  | 8  |
| 24 | Improvement of pesticide adsorption capacity of cellulose fibre by high-energy irradiation-initiated grafting of glycidyl methacrylate. <i>Radiation Physics and Chemistry</i> , <b>2012</b> , 81, 1389-1392         | 2.5  | 14 |
| 23 | Ionizing radiation induced reactions of 2,6-dichloroaniline in dilute aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>2012</b> , 81, 1499-1502   | 2.5  | 14 |
| 22 | Radiolysis of paracetamol in dilute aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>2012</b> , 81, 1503-1507   | 2.5  | 26 |
| 21 | Radiation induced degradation of ketoprofen in dilute aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>2012</b> , 81, 1479-1483   | 2.5  | 17 |
| 20 | Radiation induced degradation of pharmaceutical residues in water: Chloramphenicol. <i>Radiation Physics and Chemistry</i> , <b>2012</b> , 81, 1489-1494   | 2.5  | 51 |

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| 19 | Cellulose functionalization via high-energy irradiation-initiated grafting of glycidyl methacrylate and cyclodextrin immobilization. <i>Radiation Physics and Chemistry</i> , <b>2011</b> , 80, 1358-1362   | 2.5 | 49  |
| 18 | Elimination of diclofenac from water using irradiation technology. <i>Chemosphere</i> , <b>2011</b> , 85, 603-8   | 8.4 | 42  |
| 17 | Mechanism of azo dye degradation in Advanced Oxidation Processes: Degradation of Sulfanilic Acid Azochromotrop and its parent compounds in aqueous solution by ionizing radiation. <i>Radiation Physics and Chemistry</i> , <b>2011</b> , 80, 462-470 | 2.5 | 18  |
| 16 | Irradiation treatment of azo dye containing wastewater: An overview. <i>Radiation Physics and Chemistry</i> , <b>2008</b> , 77, 225-244   | 2.5 | 141 |
| 15 | Nucleophilic and electrophilic radical attack on maleic and fumaric acids in aqueous solution. <i>Chemical Physics Letters</i> , <b>2008</b> , 460, 451-456   | 2.5 | 4   |
| 14 | Reaction of 2-hydroxy-2-propyl radical with maleic and fumaric acids in aqueous solution: pH dependence. <i>Chemical Physics Letters</i> , <b>2007</b> , 438, 224-228   | 2.5 | 1   |
| 13 | Letter to the editor   Dyes and Pigments - Volume 75, Issue 2. <i>Dyes and Pigments</i> , <b>2007</b> , 75, 505-506   | 4.6 | 1   |
| 12 | Reaction of the 2-hydroxy-2-propyl radical with acrylate type molecules in aqueous solution: Radical addition or electron transfer. <i>Chemical Physics</i> , <b>2006</b> , 327, 335-343  | 2.3 | 5   |
| 11 | Re-evaluation of the rate constant for the H atom reaction with tert-butanol in aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>2004</b> , 69, 217-219  | 2.5 | 24  |
| 10 | Rate coefficient for the H atom reaction with acrylate monomers in aqueous solution. <i>Tetrahedron</i> , <b>2003</b> , 59, 8353-8358   | 2.4 | 11  |
| 9  | High-energy irradiation treatment of aqueous solutions of azo dyes: steady-state gamma radiolysis experiments. <i>Radiation Physics and Chemistry</i> , <b>2003</b> , 67, 531-534   | 2.5 | 26  |
| 8  | Kinetics of the early stages of high-energy radiation initiated polymerization. <i>Macromolecular Chemistry and Physics</i> , <b>2000</b> , 201, 2170-2175  | 2.6 | 10  |
| 7  | Protonation kinetics of acrylate radical anions. <i>Physical Chemistry Chemical Physics</i> , <b>2000</b> , 2, 1431-1433  | 3.6 | 11  |
| 6  | Thermally reversible gels based on acryloyl-L-proline methyl ester as drug delivery systems. <i>Radiation Physics and Chemistry</i> , <b>1999</b> , 55, 185-192   | 2.5 | 10  |
| 5  | The state of water in thermoresponsive poly(acryloyl-L-proline methyl ester) hydrogels observed by DSC and <sup>1</sup> H-NMR relaxometry. <i>Radiation Physics and Chemistry</i> , <b>1999</b> , 55, 209-218   | 2.5 | 23  |
| 4  | Rate coefficients of the initial steps of radiation induced oligomerization of acrylates in dilute aqueous solution. <i>Radiation Physics and Chemistry</i> , <b>1999</b> , 55, 639-644   | 2.5 | 13  |
| 3  | Intelligent drug delivery systems obtained by radiation. <i>Radiation Physics and Chemistry</i> , <b>1998</b> , 52, 295-299   | 2.5 | 8   |
| 2  | Rate constants for the reaction of hydrated electrons and hydroxyl radicals with acrylate monomers. <i>Macromolecular Rapid Communications</i> , <b>1996</b> , 17, 353-357  | 4.8 | 15  |

- 1 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