Tom Tb Breugelmans

List of Publications by Year
in descending order

89 papers	2,100 citations	236925 25 h-index	289244 40 g-index
92 all docs	92 docs citations	92 times ranked	2460 citing authors

#	Article	IF	Citations
1	Recent advances in industrial CO2 electroreduction. Current Opinion in Green and Sustainable Chemistry, 2019, 16, 47-56.	5.9	158
2	N-doped ordered mesoporous carbons prepared by a two-step nanocasting strategy as highly active and selective electrocatalysts for the reduction of O2 to H2O2. Applied Catalysis B: Environmental, 2015, 176-177, 212-224.	20.2	117
3	Influence of flow and pressure distribution inside a gas diffusion electrode on the performance of a flow-by CO2 electrolyzer. Chemical Engineering Journal, 2019, 378, 122224.	12.7	90
4	High-Pressure Electrochemical Reduction of CO₂ to Formic Acid/Formate: Effect of pH on the Downstream Separation Process and Economics. Industrial & Engineering Chemistry Research, 2019, 58, 22718-22740.	3.7	84
5	Electrochemical Reduction of CO₂: Effect of Convective CO₂ Supply in Gas Diffusion Electrodes. ChemElectroChem, 2019, 6, 5596-5602.	3.4	65
6	An Electrochemical Impedimetric Aptasensing Platform for Sensitive and Selective Detection of Small Molecules Such as Chloramphenicol. Sensors, 2014, 14, 12059-12069.	3.8	58
7	Electrochemical Oxidation of <scp>d</scp>â€Glucose in Alkaline Medium: Impact of Oxidation Potential and Chemical Side Reactions on the Selectivity to <scp>d</scp>â€Gluconic and <scp>d</scp>â€Glucaric Acid. ChemElectroChem, 2020, 7, 86-95.	3.4	57
8	Electrochemical Behavior of Electrodeposited Nanoporous Pt Catalysts for the Oxygen Reduction Reaction. ACS Catalysis, 2016, 6, 5856-5864.	11.2	56
9	Direct Water Injection in Catholyteâ€Free Zeroâ€Gap Carbon Dioxide Electrolyzers. ChemElectroChem, 2020, 7, 3839-3843.	3.4	51
10	Sn-Based Electrocatalyst Stability: A Crucial Piece to the Puzzle for the Electrochemical CO₂ Reduction toward Formic Acid. ACS Energy Letters, 2021, 6, 4317-4327.	17.4	51
11	Surface and electrochemical characterisation of a Pt-Cu/C nano-structured electrocatalyst, prepared by galvanic displacement. Applied Catalysis B: Environmental, 2014, 150-151, 249-256.	20.2	49
12	Odd random phase multisine electrochemical impedance spectroscopy to quantify a non-stationary behaviour: Theory and validation by calculating an instantaneous impedance value. Electrochimica Acta, 2012, 76, 375-382.	5.2	47
13	Cu/CuxO and Pt nanoparticles supported on multi-walled carbon nanotubes as electrocatalysts for the reduction of nitrobenzene. Applied Catalysis B: Environmental, 2014, 147, 330-339.	20.2	46
14	Odd random phase multisine EIS for organic coating analysis. Progress in Organic Coatings, 2010, 69, 215-218.	3.9	42
15	3Dâ€Printed Electrodes with Improved Mass Transport Properties. ChemElectroChem, 2017, 4, 3309-3313.	3.4	40
16	The electrocatalytic behaviour of Pt and Cu nanoparticles supported on carbon nanotubes for the nitrobenzene reduction in ethanol. Electrochimica Acta, 2013, 111, 405-410.	5.2	37
17	Current trends in enzymatic electrosynthesis for CO2 reduction. Current Opinion in Green and Sustainable Chemistry, 2019, 16, 65-70.	5.9	37
18	A Stateâ€ofâ€theâ€Art Update on Integrated CO₂ Capture and Electrochemical Conversion Systems. ChemElectroChem, 2022, 9, .	3.4	37

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19	Electroreduction of CO₂/CO to C₂ Products: Process Modeling, Downstream Separation, System Integration, and Economic Analysis. Industrial & Engineering Chemistry Research, 2021, 60, 17862-17880.	3.7	35
20	Multistage counter-current solvent extraction in a flat membrane microcontactor. Chemical Engineering Journal, 2015, 273, 138-146.	12.7	31
21	Odd random phase multisine EIS as a detection method for the onset of corrosion of coated steel. Electrochemistry Communications, 2010, 12, 2-5.	4.7	29
22	Pure and Alloyed Copperâ€Based Nanoparticles Supported on Activated Carbon: Synthesis and Electrocatalytic Application in the Reduction of Nitrobenzene. ChemElectroChem, 2014, 1, 1198-1210.	3.4	28
23	Mapping Compositionâ€“Selectivity Relationships of Supported Sub-10 nm Cuâ€“Ag Nanocrystals for High-Rate CO₂ Electroreduction. ACS Nano, 2021, 15, 14858-14872.	14.6	28
24	Electrodeposition of Highly Porous Pt Nanoparticles Studied by Quantitative 3D Electron Tomography: Influence of Growth Mechanisms and Potential Cycling on the Active Surface Area. ACS Applied Materials & Interfaces, 2017, 9, 16168-16177.	8.0	27
25	Cutting the Gordian Knot of electrodeposition via controlled cathodic corrosion enabling the production of supported metal nanoparticles below 5â€¯nm. Applied Catalysis B: Environmental, 2018, 226, 396-402.	20.2	27
26	Mass transfer and hydrodynamic characterization of structured 3D electrodes for electrochemistry. Chemical Engineering Journal, 2020, 384, 123283.	12.7	27
27	Ferrite@TiO2-nanocomposites as Z-scheme photocatalysts for CO2 conversion: Insight into the correlation of the Co-Zn metal composition and the catalytic activity. Journal of CO2 Utilization, 2020, 36, 177-186.	6.8	26
28	The inhibition of the proton donor ability of bicarbonate promotes the electrochemical conversion of CO2 in bicarbonate solutions. Journal of CO2 Utilization, 2021, 48, 101521.	6.8	26
29	Two-steps synthesis of D-glucaric acid via D-gluconic acid by electrocatalytic oxidation of D-glucose on gold electrode: Influence of operational parameters. Electrochimica Acta, 2021, 374, 137852.	5.2	25
30	Modeling of mass and charge transfer in an inverted rotating disk electrode (IRDE) reactor. Journal of Electroanalytical Chemistry, 2008, 622, 44-50.	3.8	24
31	Ligand-Mode Directed Selectivity in Cuâ€“Ag Coreâ€“Shell Based Gas Diffusion Electrodes for CO₂ Electroreduction. ACS Catalysis, 2020, 10, 13468-13478.	11.2	24
32	Potentiodynamic EIS investigation of the 2-methyl-5-mercapto-1,3,4-thiadiazole adsorption on copper. Electrochimica Acta, 2008, 53, 7451-7459.	5.2	23
33	A high aspect ratio membrane reactor for liquidâ€“liquid extraction. Journal of Membrane Science, 2013, 436, 154-162.	8.2	23
34	Bifunctional Nickelâ€“Nitrogen-Doped-Carbon-Supported Copper Electrocatalyst for CO₂Reduction. Journal of Physical Chemistry C, 2020, 124, 1369-1381.	3.1	23
35	A novel active-passive sampling approach for measuring time-averaged concentrations of pollutants in water. Chemosphere, 2018, 209, 363-372.	8.2	22
36	The reduction of benzylbromide at Ag-Ni deposits prepared by galvanic replacement. Electrochimica Acta, 2016, 196, 756-768.	5.2	21

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37	Insight in the behavior of bipolar membrane equipped carbon dioxide electrolyzers at low electrolyte flowrates. Chemical Engineering Journal, 2022, 428, 131170.	12.7	21
38	Indirect 3D Printed Electrode Mixers. ChemElectroChem, 2019, 6, 378-382.	3.4	20
39	Improvement of the impedance measurement reliability by some new experimental and data treatment procedures applied to the behavior of copper in neutral chloride solutions containing small heterocycle molecules. Electrochimica Acta, 2006, 51, 1403-1412.	5.2	19
40	Corrosion study on Al-rich metal-coated steel by odd random phase multisine electrochemical impedance spectroscopy. Electrochimica Acta, 2014, 124, 165-175.	5.2	19
41	Influence of the Composition and Preparation of the Rotating Disk Electrode on the Performance of Mesoporous Electrocatalysts in the Alkaline Oxygen Reduction Reaction. ChemElectroChem, 2018, 5, 119-128.	3.4	17
42	Enhanced CO2 electroreduction with metal-nitrogen-doped carbons in a continuous flow reactor. Journal of CO2 Utilization, 2021, 50, 101583.	6.8	17
43	Breakthrough in a flat channel membrane microcontactor. Chemical Engineering Research and Design, 2015, 94, 98-104.	5.6	16
44	Labelâ€Free Impedance Aptasensor for Major Peanut Allergen Ara h 1. Electroanalysis, 2015, 27, 32-37.	2.9	16
45	Strategies to integrate porous layers in microfluidic devices. Microelectronic Engineering, 2015, 132, 1-13.	2.4	16
46	Influence of the support material and the resulting particle distribution on the deposition of Ag nanoparticles for the electrocatalytic activity of benzyl bromide reduction. Applied Catalysis B: Environmental, 2016, 181, 542-549.	20.2	16
47	Covalent triazine framework/carbon nanotube hybrids enabling selective reduction of CO₂ to CO at low overpotential. Green Chemistry, 2020, 22, 3095-3103.	9.0	16
48	Effects of Benzyl-Functionalized Cationic Surfactants on the Inhibition of the Hydrogen Evolution Reaction in CO₂ Reduction Systems. ACS Applied Materials & Interfaces, 2021, 13, 56205-56216.	8.0	15
49	Investigation of the electrosynthetic pathway of the aldol condensation of acetone. Chemical Engineering Journal, 2016, 289, 554-561.	12.7	14
50	Electrochemical reduction of halogenated aromatic compounds at metal cathodes in acetonitrile. Electrochimica Acta, 2020, 332, 135484.	5.2	14
51	Engineering Aspects for the Design of a Bicarbonate Zero-Gap Flow Electrolyzer for the Conversion of CO₂ to Formate. ACS Applied Materials & Interfaces, 2022, 14, 30760-30771.	8.0	14
52	Extraction of a quantitative reaction mechanism from linear sweep voltammograms obtained on a rotating disk electrode. Part II: Application to the redoxcouple. Journal of Electroanalytical Chemistry, 2007, 609, 1-7.	3.8	13
53	Dynamic, in situ study of self-assembling organic phosphonic acid monolayers from ethanolic solutions on aluminium oxides by means of odd random phase multisine electrochemical impedance spectroscopy. Electrochimica Acta, 2013, 106, 342-350.	5.2	13
54	Membrane deflection in a flat membrane microcontactor: Experimental study of spacer features. Journal of Membrane Science, 2016, 504, 153-161.	8.2	13

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55	Increase of electrodeposited catalyst stability via plasma grown vertically oriented graphene nanoparticle movement restriction. Chemical Communications, 2017, 53, 9340-9343.	4.1	13
56	Stability study of silver nanoparticles towards the halide electroreduction. Electrochimica Acta, 2018, 286, 123-130.	5.2	13
57	Nickel-containing N-doped carbon as effective electrocatalysts for the reduction of CO₂ to CO in a continuous-flow electrolyzer. Sustainable Energy and Fuels, 2020, 4, 1296-1311.	4.9	13
58	A Versatile Inâ€Situ Electron Paramagnetic Resonance Spectroâ€electrochemical Approach for Electrocatalyst Research. ChemElectroChem, 2020, 7, 4578-4586.	3.4	12
59	A simple method to clean ligand contamination on TEM grids. Ultramicroscopy, 2021, 221, 113195.	1.9	12
60	Electrocatalysis under a magnetic lens: A combined electrochemistry and electron paramagnetic resonance review. Electrochimica Acta, 2022, 407, 139704.	5.2	11
61	Separation of Co(II)/Ni(II) with Cyanex 272 using a flat membrane microcontactor: Extraction kinetics study. Journal of Membrane Science, 2016, 499, 370-378.	8.2	10
62	Identifying intermediates in the reductive intramolecular cyclisation of allyl 2-bromobenzyl ether by an improved electron paramagnetic resonance spectroelectrochemical electrode design combined with density functional theory calculations. Electrochimica Acta, 2018, 271, 10-18.	5.2	10
63	The combination of surface enhanced Raman spectroscopy and an ionic liquid as a model system to study the adhesion interface between sulfur and brass. Journal of Raman Spectroscopy, 2013, 44, 377-381.	2.5	9
64	Investigation of the Adsorption Mechanism of Heterocyclic Molecules on Copper using Potentiodynamic ORP-EIS and In-situ Ramans pectroscopy. Electrochimica Acta, 2015, 156, 308-315.	5.2	9
65	Separation of Co(II)/Ni(II) with Cyanex 272 using a flat membrane microcontactor: Stripping kinetics study, upscaling and continuous operation. Chemical Engineering Research and Design, 2016, 111, 305-315.	5.6	9
66	Electrochemical characterisation of a microfluidic reactor for cogeneration of chemicals and electricity. Electrochimica Acta, 2016, 210, 337-345.	5.2	9
67	Reactive oxygen species formation at Pt nanoparticles revisited by electron paramagnetic resonance and electrochemical analysis. Electrochemistry Communications, 2021, 122, 106878.	4.7	9
68	Steering Hydrocarbon Selectivity in CO₂ Electroreduction over Soft-Landed CuO_x Nanoparticle-Functionalized Gas Diffusion Electrodes. ACS Applied Materials & Interfaces, 2022, 14, 2691-2702.	8.0	9
69	Measuring the adsorption of ethanol on aluminium oxides using odd random phase multisine electrochemical impedance spectroscopy. Electrochemistry Communications, 2012, 22, 124-127.	4.7	8
70	A continuous in-situ EPR electrochemical reactor as a rapid in-depth mechanistic screening tool for electrocatalysis. Electrochemistry Communications, 2018, 97, 42-45.	4.7	7
71	Field application of a novel active-passive sampling technique for the simultaneous measurement of a wide range of contaminants in water. Chemosphere, 2021, 279, 130598.	8.2	7
72	Chromatography as an inspiration for microreactors. Journal of Chemical Technology and Biotechnology, 2015, 90, 2122-2131.	3.2	5

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73	The application of an electrochemical microflow reactor for the electrosynthetic aldol reaction of acetone to diacetone alcohol. Chemical Engineering Research and Design, 2017, 128, 205-213.	5.6	5
74	Characterization of the accumulation of metals and organic contaminants on a novel active-passive sampling device under controlled water flow conditions. Chemosphere, 2019, 236, 124400.	8.2	5
75	A new multisine-based impedimetric aptasensing platform. Electrochemistry Communications, 2016, 71, 23-27.	4.7	4
76	An activity scale of cathode materials for the electrochemical cyclisation of allyl 2-bromobenzyl ether. Electrochimica Acta, 2017, 234, 28-36.	5.2	4
77	A membrane microcontactor as a tool for integrated sample preparation. Journal of Separation Science, 2012, 35, 2407-2413.	2.5	3
78	Integration of a photoelectrochemical cell in a flow system for quantification of 4-aminophenol with titanium dioxide. Electrochemistry Communications, 2020, 117, 106767.	4.7	3
79	Size-controlled electrodeposition of Cu nanoparticles on gas diffusion electrodes in methanesulfonic acid solution. Journal of Applied Electrochemistry, 2021, 51, 317-330.	2.9	3
80	IRDE and RDE electrochemical cells evaluation: comparison of electron and mass transfer. WIT Transactions on Engineering Sciences, 2007, , .	0.0	3
81	The importance of target product engineering for long-term operation of CO2 zero-gap electrolysers. Journal of Environmental Chemical Engineering, 2022, 10, 107836.	6.7	3
82	Use of Nanoscale Carbon Layers on Ag-Based Gas Diffusion Electrodes to Promote CO Production. ACS Applied Nano Materials, 2022, 5, 7723-7732.	5.0	3
83	Performance study of a microfluidic reactor for cogeneration of chemicals and electricity. Chemical Engineering Research and Design, 2019, 142, 336-345.	5.6	2
84	Extraction of a quantitative reaction mechanism from linear sweep voltammograms obtained on a rotating disk electrode. WIT Transactions on Engineering Sciences, 2007, , .	0.0	2
85	Ã‰tude de la formation de couches organiques auto assemblÃ©es Ã l'aide de la spectroscopie d'impÃ©dance Ã©lectrochimique "odd random phase multisine". Materiaux Et Techniques, 2007, 95, 411-415.	0.9	1
86	Influence of Growth Mechanism and Potential Cycling on the Active Surface Area of Electrodeposited Highly Porous Pt Nanoparticles. ECS Meeting Abstracts, 2018, , .	0.0	0
87	Design of an Electrocatalytic Flow Reactor for the Electrosynthetic Aldol Reaction of Acetone. ECS Meeting Abstracts, 2018, , .	0.0	0
88	Ordered Three Dimensional Electrodes for Enhanced Mass Transfer. ECS Meeting Abstracts, 2018, , .	0.0	0
89	Detection of Free Oxygen Reduction Reaction Intermediates Generated at Pt Nanoparticles By Electron Paramagnetic Resonance Spectroscopy. ECS Meeting Abstracts, 2019, , .	0.0	0