

PUBLICATIONS

40. ***Current Transients in Blocking Electrochemistry Experiments Modeled by Analog Simulation of Diffusion***
A. Langlard*, C. Thobie-Gautier, M. Boujtita, **E. Lebègue***
The Journal of Physical Chemistry A, 2025, 129 (26), 5881–5888.
DOI: <https://doi.org/10.1021/acs.jpca.5c02279>
39. ***Computer-Assisted Processing of Current Step Signals in Single Blocking Impact Electrochemistry***
A. Langlard, H. Smida, R. Chevalet, C. Thobie-Gautier, M. Boujtita, **E. Lebègue***
ACS Measurement science Au, 2024, 4 (5), 585–592.
DOI: <https://doi.org/10.1021/acsmesuresciau.4c00046>
38. ***Understanding the behavior of phenylurazole-tyrosine-click electrochemical reaction using hybrid electroanalytical techniques***
R. C.T. Temgoua, F. T. Dontsi, **E. Lebègue**, C. Thobie-Gautier, I. K. Tonlé, M. Boujtita
Journal of Pharmaceutical and Biomedical Analysis, 2024, 245, 116147.
DOI: <https://doi.org/10.1016/j.jpba.2024.116147>
37. ***Exploring the effect of Shewanella oneidensis outer membrane redox proteins in the electrochemical response of single blocking impact events***
H. Smida, A. Langlard, L. Thomas, C. Thobie-Gautier, M. Boujtita, R. O. Louro, C. M. Paquete, **E. Lebègue***
Electrochimica Acta, 2024, 488, 144235.
DOI: <https://doi.org/10.1016/j.electacta.2024.144235>
36. ***Allen J. Bard, Larry. R. Faulkner, Henry S. White: Electrochemical Methods: Fundamentals and Applications, 3rd edition, Wiley***
E. Lebègue*
Transition Metal Chemistry, 2023, 48, 433–436.
DOI: <https://doi.org/10.1007/s11243-023-00555-6>
35. ***Trends in single-impact electrochemistry for bacteria analysis***
H. Smida, A. Langlard, D. Ameline, C. Thobie-Gautier, M. Boujtita, **E. Lebègue***
Analytical and Bioanalytical Chemistry, 2023, 415 (18), 3717–3725.
DOI: <https://doi.org/10.1007/s00216-023-04568-z>
34. ***Single Electrochemical Impacts of Shewanella oneidensis MR-1 Bacteria for Living Cells Adsorption onto a Polarized Ultramicroelectrode Surface***
H. Smida, F.-X. Lefèvre, C. Thobie-Gautier, M. Boujtita, C. M. Paquete, **E. Lebègue***
ChemElectroChem, 2023, 10 (1), e202200906.
DOI: <https://doi.org/10.1002/celec.202200906>
33. ***Recent Advances in Single Liposome Electrochemistry***
H. Smida, C. Thobie-Gautier, M. Boujtita, **E. Lebègue***
Current Opinion in Electrochemistry, 2022, 36, 101141.
DOI: <https://doi.org/10.1016/j.coelec.2022.101141>
32. ***Introducing... Estelle Lebègue (author profile)***
E. Lebègue*
Angewandte Chemie International Edition, 2022, 61 (6), e202116549.
DOI: <https://doi.org/10.1002/anie.202116549>

31. ***Electrografted anthraquinone to monitor pH at the biofilm-anode interface in a wastewater microbial fuel cell***
N. L. Costa, G. Olorounto, **E. Lebègue**, F. Barrière
Colloids and Surfaces B: Biointerfaces, 2022, 210, 112274.
DOI: <https://doi.org/10.1016/j.colsurfb.2021.112274>
30. ***Detection of Bacterial Rhamnolipid Toxin by Redox Liposome Single Impact Electrochemistry***
J. Luy, D. Ameline, C. Thobie-Gautier, M. Boujtita, **E. Lebègue***
Angewandte Chemie International Edition, 2022, 61 (6), e202111416.
DOI: <https://doi.org/10.1002/anie.202111416>
29. ***Conjuring up a ghost: structural and functional characterization of FhuF, a ferric siderophore reductase from E. coli***
I. B. Trindade, G. Hernandez, **E. Lebègue**, F. Barrière, T. Cordeiro, M. Piccioli, R. O. Louro
Journal of Biological Inorganic Chemistry, 2021, 26, 313-326.
DOI: <https://doi.org/10.1007/s00775-021-01854-y>
28. ***Electrochemical Single Nano-Impacts of Electroactive Shewanella Oneidensis Bacteria Onto Carbon Ultramicroelectrode***
E. Lebègue*, N. L. Costa, R. O. Louro, F. Barrière*
Journal of The Electrochemical Society, 2020, 167, 105501.
DOI: <https://doi.org/10.1149/1945-7111/ab9e39>
27. ***Assisted lipid deposition by reductive electrochemical aryldiazonium grafting and insertion of the antiport NhaA protein in this stable biomimetic membrane***
T. Flinois, **E. Lebègue**, A. Zebda, J.-P. Alcaraz, D.K. Martin, F. Barrière
Colloids and Surfaces B: Biointerfaces, 2020, 190, 110924.
DOI: <https://doi.org/10.1016/j.colsurfb.2020.110924>
26. ***Lipid Membrane Permeability of Synthetic Redox DMPC Liposomes Investigated by Single Electrochemical Collisions***
E. Lebègue, F. Barrière, A. J. Bard
Analytical Chemistry, 2020, 92 (3), 2401–2408.
DOI: <https://doi.org/10.1021/acs.analchem.9b02809>
25. ***Electrochemical properties of pH-dependent flavocytochrome c₃ from Shewanella putrefaciens adsorbed onto unmodified and catechol-modified edge plane pyrolytic graphite electrode***
E. Lebègue*, N. L. Costa, B. M. Fonseca, R. O. Louro, F. Barrière*
Journal of Electroanalytical Chemistry, 2019, 847, 113232.
DOI: <https://doi.org/10.1016/j.jelechem.2019.113232>
24. ***Redox active films of salicylic acid-based molecules as pH and ion sensors for monitoring ionophore activity in supported lipid deposits***
T. Flinois, **E. Lebègue**, F. Barrière
Electrochimica Acta, 2019, 313, 261-270.
DOI: <https://doi.org/10.1016/j.electacta.2019.05.023>
23. ***Current trends for water treatment with microbial electrodes***
T. Philippon, T. Flinois, **E. Lebègue**, N. L. Costa, F. Barrière, J. Rogińska, M. Etienne
Chapter 13 in Bioelectrochemistry Design and Applications of Biomaterials Ed. Serge Cosnier, 2019 Walter de Gruyter GmbH, Berlin/Boston.
DOI: <https://doi.org/10.1515/9783110570526-013>

22. **Editorial: Special issue of BES 2017**
N. Jaffrezic-Renault*, **E. Lebègue***
Bioelectrochemistry, 2019, 127, 35-36.
DOI: <https://doi.org/10.1016/j.bioelechem.2018.07.016>
21. **Corrigendum to “Reductive electrografting of in situ produced diazopyridinium cations: Tailoring the interface between carbon electrodes and electroactive bacterial films” [Bioelectrochem. 120 (2018) 157–165]**
H. Smida, **E. Lebègue**, M. Cortes, J.F. Bergamini, F. Barrière, C. Lagrost
Bioelectrochemistry, 2019, 125, 70.
DOI: <https://doi.org/10.1016/j.bioelechem.2018.07.012>
20. **Biomimetic vesicles for electrochemical sensing**
E. Lebègue*, C. Farre, C. Jose, J. Saulnier, F. Lagarde, C. Chaix, N. Jaffrezic-Renault*
Current Opinion in Electrochemistry, 2018, 12, 101-106.
DOI: <https://doi.org/10.1016/j.coelec.2018.06.005>
19. **Electrochemical Detection of pH-Responsive Grafted Catechol and Immobilized Cytochrome c onto Lipid Deposit-Modified Glassy Carbon Surface**
E. Lebègue*, R. O. Louro, F. Barrière*
ACS Omega, 2018, 3 (8), 9035-9042.
DOI: <https://doi.org/10.1021/acsomega.8b01425>
18. **Responsive Polydiacetylene Vesicles for Biosensing Microorganisms**
E. Lebègue*, C. Farre, C. Jose, J. Saulnier, F. Lagarde, Y. Chevalier, C. Chaix, N. Jaffrezic-Renault*
Sensors, 2018, 18, 599-615.
DOI: <http://www.mdpi.com/1424-8220/18/2/599>
17. **Reductive electrografting of in situ produced diazopyridinium cations: tailoring the interface between carbon electrodes and electroactive bacterial films**
H. Smida, **E. Lebègue**, J.F. Bergamini, F. Barrière, C. Lagrost
Bioelectrochemistry, 2018, 120, 157-165.
DOI: <https://doi.org/10.1016/j.bioelechem.2017.12.006>
16. **An optimal surface concentration of pure cardiolipin deposited onto glassy carbon electrode promoting the direct electron transfer of cytochrome-c**
E. Lebègue*, H. Smida, T. Flinois, V. Vié, C. Lagrost, F. Barrière*
Journal of Electroanalytical Chemistry, 2018, 808, 286-292.
DOI: <https://doi.org/10.1016/j.jelechem.2017.12.024>
15. **Electrochemical Behavior of Pyridinium and N-Methyl Pyridinium Cations in Aqueous Electrolyte for CO₂ Reduction**
E. Lebègue, J. Agullo, D. Bélanger
ChemSusChem, 2018, 11, 219-228.
DOI: <https://doi.org/10.1002/cssc.201701745>
14. **Microbial fuel cells – Wastewater utilization**
H. Smida, T. Flinois, **E. Lebègue**, C. Lagrost, F. Barrière
Reference Module in Chemistry, Molecular Sciences and Chemical Engineering
Encyclopedia of Interfacial Chemistry: Surface Science and Electrochemistry
K. Wandelt (Ed.), *Encyclopedia of Interfacial Chemistry*,
Elsevier, Oxford, 2018, pp. 328-336.
DOI: <https://doi.org/10.1016/B978-0-12-409547-2.13465-1>

13. **Millisecond Coulometry via Zeptoliter Droplet Collisions on an Ultramicroelectrode**
J. E. Dick⁺, **E. Lebègue**⁺, L. M. Strawsine, A. J. Bard (⁺ = equal contribution)
Electroanalysis, 2016, 28, 2320-2328.
DOI: <https://doi.org/10.1002/elan.201600182>
12. **Preparation of a tetrahydroxyphenazine-modified carbon as cathode material for supercapacitor in aqueous acid electrolyte**
S. Legoupy, **E. Lebègue**, C. Cougnon
Electrochemistry Communications, 2016, 70, 47-50.
DOI: <https://doi.org/10.1016/j.elecom.2016.06.018>
11. **Electrochemical Detection of Single Phospholipid Vesicle Collisions at a Pt Ultramicroelectrode**
E. Lebègue, C. M. Anderson, J. E. Dick, L. J. Webb, A. J. Bard
Langmuir, 2015, 31 (42), 11734-11739.
DOI: <https://doi.org/10.1021/acs.langmuir.5b03123>
10. **Effect of the Porous Texture of Activated Carbons on the Electrochemical Properties of Molecule-Grafted Carbon Products in Organic Media**
E. Lebègue, C. Benoît, T. Brousse, J. Gaubicher, C. Cougnon
Journal of the Electrochemical Society, 2015, 162, A2289-A2295.
DOI: <https://doi.org/10.1149/2.0481512jes>
9. **Increasing the Affinity Between Carbon-Coated LiFePO₄/C Electrodes and Conventional Organic Electrolyte by Spontaneous Grafting of a Benzene-Trifluoromethylsulfonimide Moiety**
N. Delaporte, A. Perea, **E. Lebègue**, S. Ladouceur, K. Zaghbi, D. Bélanger
ACS Applied Materials & Interfaces, 2015, 7 (33), 18519-18529.
DOI: <https://doi.org/10.1021/acsami.5b06184>
8. **Impedance spectroscopy study of a catechol-modified activated carbon electrode as active material in electrochemical capacitor**
C. Cougnon, **E. Lebègue**, G. Pognon
Journal of Power Sources, 2015, 274, 551-559.
DOI: <https://doi.org/10.1016/j.jpowsour.2014.10.091>
7. **The Role of Surface Hydrogen Atoms in the Electrochemical Reduction of Pyridine and CO₂ in Aqueous Electrolyte**
E. Lebègue, J. Agullo, M. Morin, D. Bélanger
ChemElectroChem, 2014, 1, 1013-1017.
DOI: <https://doi.org/10.1002/celec.201402065>
6. **Toward fully organic rechargeable charge storage devices based on carbon electrodes grafted with redox molecules**
E. Lebègue, T. Brousse, J. Gaubicher, R. Retoux, C. Cougnon
Journal of Materials Chemistry A, 2014, 2, 8599-8602.
DOI: <https://doi.org/10.1039/C4TA00853G>
5. **Chemical functionalization of activated carbon through radical and diradical intermediates**
E. Lebègue, T. Brousse, J. Gaubicher, C. Cougnon
Electrochemistry Communications, 2013, 34, 14-17.
DOI: <https://doi.org/10.1016/j.elecom.2013.05.014>

4. ***Spontaneous arylation of activated carbon from aminobenzene organic acids as source of diazonium ions in mild conditions***
E. Lebègue, T. Brousse, J. Gaubicher, C. Cougnon
Electrochimica Acta, 2013, 88, 680-687.
DOI: <https://doi.org/10.1016/j.electacta.2012.10.132>
3. ***Direct introduction of redox centers at activated carbon substrate based on acid-substituent-assisted diazotization***
E. Lebègue, T. Brousse, O. Crosnier, J. Gaubicher, C. Cougnon
Electrochemistry Communications, 2012, 25, 124-127.
DOI: <https://doi.org/10.1016/j.elecom.2012.09.034>
2. ***Modification of activated carbons based on diazonium ions in situ produced from aminobenzene organic acid without addition of other acid***
E. Lebègue, L. Madec, T. Brousse, J. Gaubicher, E. Levillain, C. Cougnon
Journal of Materials Chemistry, 2011, 21, 12221-12223.
DOI: <https://doi.org/10.1039/C1JM11538C>
1. ***Polyol synthesis of nanosized Pt/C electrocatalysts assisted by pulse microwave activation***
E. Lebègue, S. Baranton, C. Coutanceau
Journal of Power Sources, 2011, 196, 920-927.
DOI: <https://doi.org/10.1016/j.jpowsour.2010.08.107>