



## Dr Nadine MOFADDEL



Teacher researcher

Chemistry and Bioorganic team

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### PROFESSIONNAL EXPERIENCES

1992- Teacher researcher; Rouen Normandy University, France.

### EDUCATION

2009 Accreditation to supervise research (H.D.R)

1985-1989 Ph.D. Inorganic Chemistry, University of Rouen, France.

### ADMINISTRATIVE & INSTITUTIONAL RESPONSIBILITIES

2013- Head of the branch of the Sciences and Techniques UFR (Campus d'Evreux) – Rouen Normandy University, France.

1985- Educational supervisor for the life sciences license (Campus d'Evreux) – University of Rouen, France.

### RESEARCH INTERESTS

- Analytical and separation techniques
- Determination of the physicochemical constants
- Capillary electrophoresis
- Experimental Design
- Analytical electrochemistry
- Biosensors

### SCIENTIFIC ACHIEVEMENTS

#### Academic record (h-index: 12)

32 publications, 1 patent

## TEACHING ACTIVITIES

- Inorganic chemistry
- Experimental design
- Analytical chemistry

## PUBLICATIONS

1. Investigation of chromate and nitrate removal by adsorption at the surface of an amine-modified cocoa shell adsorbent  
Fotsing, PN.; Bouazizi, N.; Djoufac Woumfo, E.; Mofaddel, N.; Le Derf, F.; Vieillard, J. *Journal of Environmental Chemical Engineering* (2020), 104618
2. Surface modification of biomaterials based on cocoa shell with improved nitrate and Cr (VI) removal  
Fotsing, PN.; Djoufac Woumfo, E.; Mezghich, S.; Mignot, M.; Mofaddel, N.; Le Derf, F.; Vieillard, J. *RSC Advances* (2020), 10 (34), 20009-20019
3. Cobalt nanoparticles embedded into polydimethylsiloxane-grafted cocoa shell: functional agrowaste for CO<sub>2</sub> capture  
Vieillard, J.; Bouazizi, N.; Fiorese, F.; Bargougui, R.; Brun, N.; Nkuigue Fotsing, P.; Djoufac Woumfo, E.; Thoumire, O.; Atmani, H.; Mofaddel, N.; Le Derf, F. *Journal of Materials Science: Materials in Electronics* (2019), 30 (4), 3942-3951
4. Electrografting of diazonium salt for SPR application  
Fiorese, F.; Rouleau, A.; Maximova, K.; Vieillard, J.; Boireau, W.; Elie Caille, C.; Soulignac, C.; Zeggari, R.; Clamens, T.; Lesouhaitier, O.; Mofaddel, N.; Le Derf, F. *Materials Today: Proceedings* (2019), 6, 340-344
5. Metal-inorganic-organic core–shell material as efficient matrices for CO<sub>2</sub> adsorption: Synthesis, properties and kinetic studies  
Vieillard, J.; Bouazizi, N.; Bargougui, R.; Nkuigue Fotsing, P.; Thoumire, O.; Ladam, G.; Brun, N.; Hocheplid, J.-F.; Djoufac Woumfo, E.; Mofaddel, N.; Le Derf, F.; Azzouz, A. *Journal of the Taiwan Institute of Chemical Engineers* (2019), 95, 452-465
6. Entrapment and stabilization of iron nanoparticles within APTES modified graphene oxide sheets for catalytic activity improvement  
Bouazizi, N.; Vieillard, J.; Bargougui, R.; Couvrat, N.; Thoumire, O.; Morin, S.; Ladam, G.; Mofaddel, N.; Brun, N.; Azzouz, A.; Le Derf, F. *Journal of Alloys and Compounds* (2019), 771, 1090-1102

7. Cocoa shell-deriving hydrochar modified through aminosilane grafting and cobalt particle dispersion as potential carbon dioxide adsorbent  
Vieillard, J.; Bouazizi, N.; Bargougui, R.; Brun, N.; Fotsing, P. Nkuigue; Oliviero, E.; Thoumire, O.; Couvrat, N.; Djoufac Woumfo, E.; Ladam, G.; Mofaddel, N.; Azzouz, A.; Le Derf, F. *Chemical Engineering Journal* (Amsterdam, Netherlands) (2018), 342, 420-428
8. Improvement in CO<sub>2</sub> adsorption capacity of cocoa shell through functionalization with amino groups and immobilization of cobalt nanoparticles  
Bargougui, R.; Bouazizi, N.; Brun, N.; Fotsing, P. Nkuigue; Thoumire, O.; Ladam, G.; Djoufac Woumfo, E.; Mofaddel, N.; Le Derf, F.; Vieillard, J. *Journal of Environmental Chemical Engineering* (2018), 6(1), 325-331
9. Development of a novel functional core-shell-shell nanoparticles: From design to anti-bacterial applications  
Bouazizi, N.; Bargougui, R.; Thebault, P.; Clamens, T.; Desriac, F.; Fiorese, F.; Ladam, G.; Morin-Grognat, S.; Mofaddel, N.; Lesouhaitier, O.; Le Derf, F.; Vieillard, J. *Journal of Colloid and Interface Science* (2018), 513, 726-735
10. Silver nanoparticle embedded copper oxide as an efficient core–shell for the catalytic reduction of 4-nitrophenol and antibacterial activity improvement Bouazizi, N.; Vieillard, J.; Thebault, P.; Desriac, F.; Clamens, T.; Bargougui, R.; Couvrat, N.; Thoumire, O.; Brun, N.; Ladam, G.; Morin, S.; Mofaddel, N.; Lesouhaitier, O.; Azzouz, A.; Le Derf, F. *Dalton Transactions*, 2018, 47(27):9143–9155
11. Chemical modification of the cocoa shell surface using diazonium salts  
Fiorese, F.; Vieillard, J.; Bargougui, R.; Bouazizi, N.; Fotsing, P. Nkuigue; Woumfo, E. Djoufac; Brun, N.; Mofaddel, N.; Le Derf, F. *Journal of Colloid and Interface Science* (2017), 494, 92-97
12. Ionic liquids and cyclodextrin inclusion complexes: limitation of the affinity capillary electrophoresis technique  
Mofaddel, N.; Fourmentin, S.; Guillen, F.; Landy, D.; Gouhier, G. *Analytical and Bioanalytical Chemistry* (2016), 408(28), 8211-8220
13. Atmospheric Solid Analysis Probe-Ion Mobility Mass Spectrometry: An Original Approach to Characterize Grafting on Cyclic Olefin Copolymer Surfaces  
Vieillard, J.; Hubert-Roux, M.; Brisset, F.; Soulignac, C.; Fiorese, F.; Mofaddel, N.; Morin-Grognat, S.; Afonso, C.; Le Derf, F. *Langmuir* (2015), 31(48), 13138-13144

14. Structure-Binding Effects: Comparative Binding of 2-Anilino-6-naphthalenesulfonate by a Series of Alkyl- and Hydroxyalkyl-Substituted  $\beta$ -Cyclodextrins  
Favrelle, A.; Gouhier, G.; Guillen, F.; Martin, C.; Mofaddel, N.; Petit, S.; Mundy, K. M.; Pitre, S.P.; Wagner, B.D. *Journal of Physical Chemistry B* (2015), 119(40), 12921-12930
15. Molecular modeling of complexes between two amino acids and copper(II): Correlation with Ligand Exchange Capillary Electrophoresis  
Mofaddel, N.; Ait Adoubel, A.; Morin, C.; Desbene, P.L.; Dupas, G. *Journal of Molecular Structure* (2010), 975(1-3), 220-226
16. A new example of reversal of the order of migration of enantiomers, as a function of cyclodextrin concentration and pH, by cyclodextrin-modified capillary zone electrophoresis: enantioseparation of 6,6'-dibromo-1,1'-binaphthyl-2,2'-diol  
Krajian, H.; Mofaddel, N.; Villemin, D.; Desbene, P. L. *Analytical and Bioanalytical Chemistry* (2009), 394(8), 2193-2201
17. Ionic liquids and analytical sciences  
Krajian, H.; Mofaddel, N.; Desbene, P.L. *Spectra Analyse* (2009), 38(268), 34-41
18. Enantioseparation of underivatised amino acids by ligand exchange capillary electrophoresis in a counter-electroosmotic mode  
Ait Adoubel, A.; Morin, C.; Mofaddel, N.; Dupas, G.; Desbene, P.L. *Analytical and Bioanalytical Chemistry* (2009), 394(2), 597-608
19. Enantioseparation of binaphthol and its monoderivatives by cyclodextrin-modified capillary zone electrophoresis: A mathematical approach  
Mofaddel, N.; Krajian, H.; Villemin, D.; Desbene, P. L. *Talanta* (2009), 78(2), 631- 637
20. New ionic liquid for inorganic cations analysis by capillary electrophoresis: 2-hydroxy-N,N,N-trimethyl-1-phenylethanaminium bis(trifluoromethylsulfonyl)imide (phenylcholin NTf<sub>2</sub>)  
Mofaddel, N.; Krajian, H.; Villemin, D.; Desbene, P. L. *Analytical and Bioanalytical Chemistry* (2009), 393(5), 1545-1554
21. Enantioseparation of binaphthol and its mono derivatives by cyclodextrin-modified capillary zone electrophoresis  
Mofaddel, N.; Krajian, H.; Villemin, D.; Desbene, P. L. *Journal of Chromatography A* (2008), 1211(1-2), 142-150

22. Analysis of neutral surfactants by non-aqueous medium capillary electrophoresis hyphenated to mass spectrometry (ion trap)  
Morin, C. J.; Geulin, L.; Mofaddel, N.; Desbene, A. M.; Desbene, P. L. *Journal of Chromatography A* (2008), 1198-1199, 226-231
23. Determination of complexation selectivity of aromatic phosphonic acids by ammonium and potassium cations using CE  
Morin, C. J.; Carli M.; Mofaddel, N.; Al Rifai, R.; Jaffres, P.A.; Villemin, D.; Desbène P.L. *Chromatographia* (2005), 62, 139-143
24. Determination of acidity constants of enolisable compounds by capillary electrophoresis  
Mofaddel, N.; Bar, N.; Villemin, D.; Desbène, P.L. *Analytical and Bioanalytical Chemistry* (2004), 380, 4, 664-668
25. Utilization of fluorescein sodium salt for the indirect fluorimetric detection in micellar electrokinetic chromatography  
Morin, C.J.; Mofaddel, N.; Desbène, A.M.; Desbène, P.L. *Journal of Chromatography A* (2000), 872, Issues 1-2, 247-258
26. L'Électrophorèse Capillaire en milieux non aqueux  
Desbène-Monvernay, A.M.; Mofaddel, N. *Analusis* (1999), 27, 144-148
27. L'Analyse des acides gras en Électrophorèse Capillaire  
Mofaddel, N.; Desbène-Monvernay, A.M. *Analusis* (1999), 27, 120-124
28. Utilization of fluorescein sodium salt in laser-induced indirect fluorimetric detection.  
II. Application to organic anions  
Desbène, A.M.; Morin, C.J.; Mofaddel, N.; Groult,R. *Journal of Chromatography A* (1995), 716, Issues 1-2, 279-290
29. Ternary equilibria between enantiomers and RS fenfluramine  
Petit, M.; Coquerel, G.; Bouaziz, R.; Mofaddel, N. *Calorimetrie et Analyse Thermique* (1991), 22, 389-94
30. Réduction de la consommation en agent chiral lors de la cristallisation fractionnée de sels diastéréoisomères. Cas favorable du camphorate droit de S(+)fenfluramine  
Mofaddel, N.; Bouaziz, R. *Bull. Soc. Chim. Fr.* (1991), 128, 773-786
31. Stoechiométries, comportements et caractérisations de sels diastéréoisomères en milieu fondu. Cas des camphorates (d) de la (+) et (-) fenfluramine  
Coquerel, G.; Mofaddel, N.; Petit, M.N.; Bouaziz, R. *Bull. Soc. Chim. Fr.* (1991), 128, 418-422

32. Le polymorphisme du sulfate de sodium anhydre et les phases intermédiaires, glasérite et aphttalite, dans le binaire Na<sub>2</sub>SO<sub>4</sub> – K<sub>2</sub>SO<sub>4</sub>  
Mofaddel, N.; Bouaziz, R.; Mayer, M. Thermochimica Acta (1991), 185, Issue 1, 21, 141-153

PATENT

Mofaddel N., Bouaziz R. (1993). Procédé de séparation des énantiomères d'un mélange racémique de molécules ou ions présentant une activité optique. Brevet d'invention n° 91 01513 (n° publication: 2 672 285) du 11 Juin 1993.