

Nabil SAFFAJ

Marocain,

Né le 31 janvier 1976 à Rabat

✉ **Boulevard Mohammed V**, Residence Borj Al
Yaqout Appt N° 29, Ouarzazate, 45000-Maroc



(GSM1) : 0663323683

(GSM2) : 0661995280

(DOM) : 0522606681

E-mail : n.saffaj@uiz.ac.ma

saffaj@gmail.com



Doyen à la Faculté Polydisciplinaire de Ouarzazate

Docteur en Science des Matériaux et Génie des Procédés

Axes de recherche développés

Axe1 : Élaboration des membranes céramique et organique application aux traitement des eaux usées

Axe2 : Énergie renouvelable et Environnement : développement des Green House basé sur l'énergie solaire pour le traitement des rejets industrielles et des eaux saumâtre.

Axe3 : La Catalyse Hétérogène (Elaboration de nouveaux supports catalytique), Synthèse organique, Hémisynthèse.

Axe4 : La chimiométrie

Expertise scientifique :

◆ **Expert scientifique auprès de l'UM6B. 2021**

◆ **Expert scientifique auprès de CNRST. (deux mandats : 2019-2022 et 2023-2026)**

* Évaluateur des Appel à projets de recherche et développement multithématique

* Évaluateur des Appel Programme de Coopération Scientifique et Technique Maroc-Italienne

* Évaluateur des Appel TOUBKAL (PHC).

* Évaluateur des projets dans le cadre du Programme OMARANINNOV

◆ **Reviewer pour un plusieurs journaux scientifiques.**

Les champs d'expertise :(nanomatériaux, DFT, Membrane, Génie des procédés, Énergie et Environnement, Traitement des eaux, Chimiométrie, Catalyse hétérogène,).

◆ **Rapporteur et Examineur d'Habilitation Universitaire**

◆ **Rapporteur et Examineur de Thèse de Doctorat**

◆ **Membre de plusieurs Jury de recrutement des enseignant chercheur.**

Activités de Recherches

- Membre de l'équipe de Biotechnologie, Matériaux et Environnement (**4ans**) **2022-2026**
- Membre du Laboratoire de Biotechnologie, Matériaux et Environnement (**2ans**) **2020-2021**

- Membre de l'équipe de Catalyse, Matériaux et valorisation des ressources naturelles et Environnement (**6ans**) **2014-2019**
- Plus que 90 publications indexés.
- 4 brevets Nationaux
- 4 livres Scientifiques.
- 3 livres pédagogiques.
- Plus que 150 communications dans des congrès Nationaux et Internationaux.

BREVET

⇒ **BREVET1**

Inventeur(s) :

Saïd EL ANTRI ; R. SLIMANI ; R. MAMOUNI ; Y. RIADI ; A. OUASIF ; M. EL HADDAD ; **N. SAFFAJ** ; S. LAZAR

Titre : L'OS: NOUVEAU SUPPORT CATALYTIQUE EN SYNTHÈSE ORGANIQUE HÉTÉROGÈNE SOLIDE-LIQUIDE

N° de publication : **MA 32845 B1**

Date de publication : **01.12.2011**

Numéro de dépôt de la demande : 32343

Date de dépôt : 12 Novembre 2009

Office Marocaine de la Propriété Industrielle et Commerciale

⇒ **BREVET2**

Inventeur(s) : REGTI Abdelmajid ; **SAFFAJ Nabil** ; MOHAMMADINE EL Haddad ; LAAMARI My Rachid ; EL QOBRY Mohamed; LAZAR Saïd ; SLIMANI Rachid ; EL ANTRI Saïd; MAMOUNI Rachid

Titre: Élaboration d'un procédé d'élimination des fluorures contenus dans les solutions aqueuses par biosorption

N° de publication : **MA 35687 B1**

Date de publication : **01.12.2014**

N° Dépôt : **35836**

Date de Dépôt : **18.04.2013**

⇒ **BREVET3**

Inventeur(s) : **N.SAFFAJ**, N. El Baraka, R. Mamouni, M. El Haddad, A. Laknifli, S. AlamiYounssi, M. Aboulkacem, A. Roudani

Titre : Élaboration des Bio- Supports Membranaires à Base d'Os Animal pour le Traitement des Eaux Usées

N° de publication : **MA 20150227 A1**

Date de publication : **31.07.2015**

Numéro de dépôt de la demande : **36569**

Date de dépôt : **13.12.2013**

Office Marocaine de la Propriété Industrielle et Commerciale

⇒ **BREVET4**

Inventeur : **Abdelhamid Bakka**, Rachid Mamouni, Khalid Aziz, Nabil Saffaj, Aziza Roudani, Ahmed Azrrar, Bouthayna Kjidaa

Titre : Les coquilles de Charonia lampas : Nouveau nano-support catalytique en synthèse organique hétérogène et sa nouvelle application comme biosorbant des pesticides et des colorants de textiles

N° de publication :

Date de publication :

Numéro de dépôt de la demande : **53059**

Date de dépôt :

- [P6] Adam Abdeljalil, Saffaj Nabil, Mamouni Rachid **The steps to implement an environmental management program as an approach to minimize detrimental environmental issues by industrial sites**, Bulletin of Environment, Pharmacology and Life Science, [https://bepls.com/special_issue\(1\)2022/50.pdf](https://bepls.com/special_issue(1)2022/50.pdf) Special Issue (1)2022: 315-320
- [P7] M. Addich, N. El Baraka, A. Laknifli, K. Abbiche, N. Saffaj, R. Mamouni, A. Ait Taleb, A. El Hammadi, **Optimization of elaboration conditions of ceramic membranes from animal bone through Design of Experiment (DoE) approach**, J. Mater. Environ. Sci., Volume 13, 151-161, 2022. https://www.jmaterenvironsci.com/Document/vol13/vol13_N2/JMES-2022-13012-Addich.pdf
- [P8] Adam Abdeljalil, Saffaj Nabil, Mamouni Rachid, **Towards A Guideline of A Spill Management: Industrial Sites As A Case Study**, International Journal of Ecosystems and Ecology Science (IJEES), Vol. 12 (1): 141-148 (2022) <https://doi.org/10.31407/ijees12.117>
- [P9] Adam Abdeljalil, Saffaj Nabil, Mamouni Rachid, **A comprehensive Industrial Environmental Crisis Response approach**, International Journal for Innovative Research In Multidisciplinary Field, Volume - 8, Issue - 1, JAN – 2022, [DOIs:10.2015/IJIRMF/202201002](https://doi.org/10.2015/IJIRMF/202201002)
- [P10] Adam Abdeljalil, Saffaj Nabil, Mamouni Rachid, **Feasibility and sustainability of evaporation ponds as final basins for industrial wastewater: statistical evaluation of gross parameters**, Desalination and water treatment, 257 (2022) 41–54, [doi: 10.5004/dwt.2022.28276](https://doi.org/10.5004/dwt.2022.28276)
- [P11] Adam Abdeljalil, Saffaj Nabil, Mamouni Rachid, **Contribution to developing a new environmental risk management methodology for industrial sites**, Journal of Applied and Natural Science, 14(1), 9 - 16.2022, <https://doi.org/10.31018/jans.v14i1.3205>
- [P12] M. Ait Baih, H. Saffaj, A. Adam, A. Bakka, N. El baraka, H. Zidouh, R. Mamouni & N. Saffaj, **Application of the Experimental Design for the Optimization of Microfiltration Membrane**, J. Applied Membrane Science & Technology, Vol. 26, No. 1, April 2022, 95–106, DOI: <https://doi.org/10.11113/amst.v26n1.235>
- [P13] M. Ait Baih , H. Saffaj, K. Aziz , A. Bakka , N. El baraka , H. Zidouh, R. Mamouni, N. Saffaj, **Statistical optimization of the elaboration of ceramic membrane support using Plackett-Burman and response surface methodology**, Materials Today: Proceedings, Volume 52, Part 1, 2022, Pages 128-136 <https://doi.org/10.1016/j.matpr.2021.11.269>
- [P14] Khalid Aziz , Faissal Aziz, Rachid Mamouni, Layla Aziz , Nabil Saffaj, **Engineering of highly Brachychiton populneus shells@polyaniline bio-sorbent for efficient removal of pesticides from wastewater: Optimization using BBD-RSM approach**, Journal of Molecular Liquids, Volume 346, 15 January 2022, 117092, <https://doi.org/10.1016/j.molliq.2021.117092>
- [P15] Khalid Aziz , Rachid Mamouni, Ahmed Azrrar, Bouthayna Kjidaa, Nabil Saffaj, Faissal Aziz, **Enhanced biosorption of bisphenol A from wastewater using hydroxyapatite elaborated from fish scales and camel bone meal: A RSM@BBD optimization approach**, Ceramics International, Volume 48, Issue 11, 1 June 2022, Pages 15811-15823 <https://doi.org/10.1016/j.ceramint.2022.02.119>
- [P16] A. Adam, N. Saffaj, R. Mamouni, **Characterization of Industrial Wastewater Physico-Chemical Properties**, International Journal on Technical and Physical Problems of Engineering, March

[P17] M. Ait Baih, H. Saffaj, A. Adam, A. Bakka, H. Zidouh, R. Mamouni & N. Saffaj, **Processing and Characterization of Titania ultrafiltration ceramic membrane: response surface methodology optimization**, *Desalination and Water treatment*, 257 (2022) 96–102, DOI: [doi: 10.5004/dwt.2022.28493](https://doi.org/10.5004/dwt.2022.28493)

[P18] M. Addich, N. El Baraka, N. Saffaj, A. Laknifli, A. Karim, K. Sbihi & A. El Hammadi, **Elaboration of innovative ceramic microfiltration from natural Moroccan sand for wastewater treatment**, *Desalination and Water treatment*, 260 (2022) 299–308, DOI: [doi: 10.5004/dwt.2022.28550](https://doi.org/10.5004/dwt.2022.28550)

[P19] M. Addich, N. El Baraka, A. Laknifli, N. Saffaj, A. Fatni, A. El Hammadi, A. Alrashdi, H. Lgaz, **New low-cost tubular ceramic microfiltration membrane based on natural sand for tangential urban wastewater treatment**, *Journal of Saudi Chemical Society*, 26 (2022) 101512, DOI: [doi: https://doi.org/10.1016/j.jscs.2022.101512](https://doi.org/10.1016/j.jscs.2022.101512)

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[P22] A. Adam, N. Saffaj, R. Mamouni, **Incorporating a viable Renewable-energy System towards Industrial Effluent Treatment & Reuse: A Short Review**, *British Journal of Environmental Studies*, 2022, ISSN: 2755-0982, <https://al-kindipublisher.com/index.php/bjes/article/view/4354/3627>, DOI: [10.32996/bjes.2022.2.2.4](https://doi.org/10.32996/bjes.2022.2.2.4),

[P23] Khalid Aziz, Faissal Aziz, Rachid Mamouni, Layla Aziz, Zakaria Anfar4, Ahmed Azrarr, Bouthayna Kjidaa, **Nabil Saffaj**, Abdellatif Laknifli, **High thiabendazole fungicide uptake using Cellana tramoserica shells modified by copper: characterization, adsorption mechanism, and optimization using CCD-RSM approach**, *Environmental Science and Pollution Research* **2022**, 29(57) pp.86020-86035 Sep 7. [doi: 10.1007/s11356-021-16340-w](https://doi.org/10.1007/s11356-021-16340-w)

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- [P27] K. Aziz, M. El Achaby, R. Mammouni, N. Saffaj, F. Aziz, **A novel hydrogel beads based copper-doped Cerastoderma edule shells@Alginate biocomposite for high fungicide sorption from aqueous medium**, Chemosphere 311, Part 1, 2023, 136932, <https://doi.org/10.1016/j.chemosphere.2022.136932>.
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- [P29] A. Adam, N. Saffaj, R. Mamouni, **Sustainable solar still system coupled with renewable power for industrial wastewater recycling: A review**, Materials Today Proceedings, In press 2023, <https://doi.org/10.1016/j.matpr.2023.03.416>
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- [P31] M. Lahyaoui, H. El Idrissi, T. Saffaj, B. Ihssane, N. Saffaj, R. Mamouni, Y. Kandri Rodi, **QSAR modeling, molecular docking and molecular dynamic simulation of phosphorus-substituted quinoline derivatives as topoisomerase I inhibitors**, Arabian Journal of Chemistry, 16(6), June 2023, 104783, <https://doi.org/10.1016/j.arabjc.2023.104783>
- [P32] A. Adam, N. Saffaj, R. Mamouni, **Enhancement of adjusted solar still integrated with renewable energy: An experimental approach to recycling industrial wastewater**, Materials Today:Proceedings, 2023, in press, <https://doi.org/10.1016/j.matpr.2023.07.056>
- [P33] B.Kjidaa, R. Mamouni, K. Aziz, T. Saffaj, I. Adraoui, Z. Mchich, N. Saffaj, **Green Synthesis of Biomateril Compsite Based on Fish Scales for Anionic Dye Removal: Characterisation and Optimisation by RSM@BBD Approach**, Water, Air, & Soil Pollution 234(6), 352, 2023, <https://doi.org/10.1007/s11270-023-06341-5>
- [P34] I. Adraoui, R. Mamouni, N. Saffaj, F. Achemchem, **Eco-friendly synthesis of zinc oxide nanoparticles using saffron extract and their photocatalytic and antibacterial activities**, Journal of Materials Research 38, 2874-2884, 2023, <https://doi.org/10.1557/s43578-023-01024-7>
- [P35] A. Adam, N. Saffaj, R. Mamouni, **A sustainable concept for recovering industrial wastewater using adjustable green resources**, Environmental Sciences Proceedings, 25(1), 60, 2023, <https://doi.org/10.3390/ECWS-7-14302>
- [P36] Abdelhamid Bakka, Hamza Saffaj, Khalid Aziz, Hamid Zidouh, Taoufiq Saffaj, Faissal Aziz, Imane Adraoui, Rachid Mamouni, Nabil Saffaj, **Modeling of pesticide adsorption on fixed-bed column using biomaterials: response surface methodology optimization.** " DESALINATION AND WATER TREATMENT 286 (2023): 217-227. [doi: 10.5004/dwt.2023.29338](https://doi.org/10.5004/dwt.2023.29338)
- [P37] H. Aaziz, T. Saffaj, N. Saffaj, R. Mamouni, B. Ihssane, **An Overall Validation Approach Based on β -Content, γ -Confidence Tolerance Interval, and Uncertainty Profile: Application to LC-MS/MS Quantification of Carbendazim in Drinking Water**, Journal of AOAC International, 106, Issue 4, 1048 – 1055, 17 July 2023, [10.1093/jaoacint/qsad033](https://doi.org/10.1093/jaoacint/qsad033).

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[P40] A. Adam, N. Saffaj, R. Mamouni, **Development and characterization of sustainable ceramic production methods using treated industrial wastewater sludge** , Procedia Computer Science, 2023, in press,

[P41] H. El-Idrissi, A. Diane, M. Driouch, M. Lahyaoui, N. Saffaj, R. mamouni, B. Ihssane, T. Saffaj, A. Haoudi, A. Mazzah, M. Sfaira, A. Zarrouk, **Insights into corrosion inhibition development through QSAR and machine learning: Application to benzimidazole derivatives**, Int. J. Corros. Scale Inhib., 12, N°4, 2101-2128, 2023