

RACHID BENHIDA

Directeur de Recherche CNRS
Institut de Chimie de Nice, UMR CNRS 7272. Université Côte d'Azur
E-mail : Rachid.Benhida@univ-cotedazur.fr & Rachid.Benhida@cnrs.fr



Evaluation of the efficiency of multilayer biofilters for organic pollutants and nutrient removal from raw, diluted, and pretreated olive mill wastewater

N.Asdiou, S.B.Alaoui, S.Elamraoui, E.Lamy, R.Benhida, M.Achak
Journal of Water Process Engineering 77, 108456, 2025

Green innovations in mineral flotation for enhancing sustainability through enzymatically synthesized sugar and fatty alcohol biosurfactants–A comprehensive review

A.Oulkhir, K.Lyamlouli, A.Bounaga, M.Danouche, A.Etahiri, R.Benhida
Minerals Engineering 230, 109415, 2025

Innovative Dual Flotation Process Using Algal Sodium Alginate as a Calcite Depressant for Enhancing Phosphate Recovery

A.Oulkhir, S.Akhtach, K.Homir, N.Bilal, A.Etahiri, K.Lyamlouli, R.Benhida
ACS Applied Polymer Materials, 2025

Integrative Transcriptomic Profiling of NK Cells and Monocytes: Advancing Diagnostic and Therapeutic Strategies for COVID-19

S.Loukman, BEN.Redha, N.Bouchmaa, H.Hboub, R.El Fatimy, R.Benhida
Computational and Structural Biotechnology Reports, 100059, 2025

Unveiling the Adsorptive Potential of Natural Biopolymers for Olive Mill Wastewater Treatment: A Synergistic Approach Using RSM-BBD, Mixture Design, Kinetics, and Mechanistic Analysis

S.Elamraoui, N.Asdiou, R.El kaim Billah, M.El Achaby, S.Kounbach, R.Benhida, M.Achak
International Journal of Molecular Sciences 26, 7738, 2025

Advances in microbial biosurfactants for mineral flotation: Towards sustainable phosphate ore beneficiation A.Ou-douaou, S.Akhtach, A.Oulkhir, R.Benhida, M.Danouche

Journal of Water Process Engineering 76, 108267, 2025

The precipitation control of rare earth elements: Significance of hydrometallurgical parameters and assessment of environmental impact

H.Chanouri, K.Khaless, R.Benhida
Process Safety and Environmental Protection, 107666, 2025

A Remarkable Catalyst-Free Photochemical Alkene Hydrophosphination with Bis (trimethylsilyl) phosphonite

E.Br  ger, J.Dussart-Gautheret, R.Taakili, F.Fontaine-Vive, CC.Cummins, R. Benhida
JACS Au 2025, 5, 6, 2861–2870 (IF 8.5)

Optimised arylbiamidine derivative as potent in vivo antimelanoma agent: Drug-to-target approach reveals nanomolar GSK3  inhibition

O.Grytsai, N.Hamouda-Tekaya, LCP.Gon  alves, R.Bardovskyi, P.Abbe, R.Benhida, S.Rocchi, C.Ronco
Bioorganic Chemistry 158, 108315, 2025

Remarkable Effect of Sugar Waste Pyrolysis Oil as a Calcite Collector for Enhanced Phosphate Beneficiation via Reverse Flotation

A.Oulkhir, K.Lyamlouli, H.Elfaqmy, MR.Benmansour, S.Tayibi, D.Elalami, N.Taarji, A.Etahiri, R.Benhida
ACS Sustainable Chemistry & Engineering 13, 6706-6719, 2025

Comparative study of raw *Pinus sylvestris* sawdust and its activated carbon for chemical oxygen demand and polyphenols removal from Olive Mill Wastewater

S.Elamraoui, N.Asdiou, W.Boumya, R.Elkaïm Billah, M.El Achaby, N.Barka, E.Lamy, F.Alaoui, Y.Chhiti, R.Benhida, M.Achak

Biomass Conversion and Biorefinery, 1-29, 2025

Exploring the influential factors of granular fertilizer caking: a comprehensive review

A.Benzaouia, H.Belbsir, S.Kounbach, S.Laassiri, A.Laamaoui, R.Labiad, R.Benhida

Chemical Papers 79, 1269-1301, 2025

Efficient flotation separation approach of apatite from calcite for phosphate up-grading using phosphorylated starch macromolecules as a selective depressant

A. Oulkhir, K. Lyamlouli, A. Oussfan, F. Orange, A. Etahiri, R. Benhida,

Carbohydrate Polymers 348, 122878, 2025. (IF 12.5)

Exploring the influential factors of granular fertilizer caking: a comprehensive review

A. Benzaouia, H. Belbsir, S. Kounbach, S. Laassiri, A. Laamaoui, R. Labiad, et R. Benhida

Chemical Papers, 1-33, 2024.

Development of a simple and fast ultrasound-assisted extraction method for iodine determination in phosphate rock and phosphogypsum by-product using titrimetric method

K. Benali, S. Kounbach, R. Boulif, R. Benhida, K. Khaless,

International Journal of Environmental Analytical Chemistry 104, 16, 3742-3758, 2024.

Occurrence, distribution and fate of iodine during phosphate ore beneficiation process

K. Benali, M. El Mahdi, R. Benhida, K. Khaless,

Process Safety and Environmental Protection 191, 930-941, 2024.

Advances in active solar water stills for sustainable brine and wastewater treatment: A comprehensive review

A. Faddouli, A. Bouazza, K. Khaless, R. Benhida, M. Achak,

Solar Energy 280, 112852, 2024.

Efficient removal of heavy metals from aqueous solutions using ion flotation technique

M.R. Benmansour, R. Taakili, M. Gaysinski, F. Orange, M. Makan, A. Etahiri, H. Mazouz, R. Benhida

Minerals Engineering 216, 108857, 2024.

Salsoline derivatives, genistein, semisynthetic derivative of kojic acid, and naringenin as inhibitors of A42R profilin-like protein of monkeypox virus: in silico studies

M. Chebaibi, M. Bourhia, F. Amrati, M. Slighoua, I. Mssillou, M. AM Aboul-Soud, A. Khalid, R. Hassani, D. Boust, S.

Achour, R. Benhida, R. Daoud

Frontiers in Chemistry 12, 1445606, 2024.

Kainite crystallization from RO bittern: A novel approach using discontinuous evaporation

A. Bouazza, S.A. Hak, A. Faddouli, K. Khaless, and R. Benhida

Desalination 582, 117652, 2024

Beneficiation of rare earth elements contained in phosphogypsum using sequenced treatment process

H. Chanouri, S. Amal, R. Benhida, and K. Khaless

Journal of Environmental Chemical Engineering 12, 4, 113148, 2024.

Mechanistic study on the growth of Sn-doped polyaniline synthesized by one-step electropolymerization

Y. Koumya, E.H. Boutrouia, T. El Assimi, K. Khaless, S. El Houssame, R. Benhida, M. Lahcini, A. Almaggoussi

Journal of Solid-State Electrochemistry, 1-15, 2024.

Extraction of rare earth elements using a chelating amino methyl phosphonic acid resin

A. Sraidi, S. Kounbach, K. Khaless, and R. Benhida

Journal of Molecular Liquids 402, 124758, 2024.

Elemental sulfur biorecovery from phosphogypsum using an oxygen-membrane biofilm reactor: Bioreactor parameters optimization, metagenomic analysis, and metabolic prediction

A. Bounaga, A. Alsanea, M. Danouche, B.E. Rittmann, C. Zhou, R. Boulif, Y. Zeroual, R. Benhida, K. Lyamlouli
Bioresource Technology 400, 130680, 2024.

Optimization of the reaction temperature during phosphoric acid production using Fibonacci numbers and golden section methods

M. Abdelouahhab, S. Manar, and R. Benhida
Chemistry Africa, 1-13, 2024.

A potent solution for tumor growth and angiogenesis suppression via an ELR+CXCL-CXCR1/2 pathway inhibitor

O. Grytsai, M. Dufies, J. Le Du, O. Rastoin, L.C. Pires Gonçalves, L. Mateo, S. Lacas-Gervais, Y. Cao, L. Demange, G. Pagès, R. Benhida, C. Ronco
ACS Med. Chem. Lett. 2024, 15, 6, 845–856

Unveiling CXCR2 as a promising therapeutic target in renal cell carcinoma: Exploring the immunotherapeutic paradigm shift through its inhibition by RCT001

C. Montemagno, A. Jacquiel, C. Pandiani, O. Rastoin, R. Dawaliby, T. Schmitt, M. Bourgoïn, H. Palenzuela, A. Rossi, D. Ambrosetti, J. Durivault, F. Luciano, D. Borchellini, J. Le Du, L. Gonçalves, P. Auberger, R. Benhida, L. Kinget, B. Beuselinck, C. Ronco, G. Pagès, M. Dufies
Journal of Experimental & Clinical Cancer Research 43, 1, 86, 2024.

Advances in bio/chemical approaches for sustainable recycling and recovery of rare earth elements from secondary resources

M. Danouche, A. Bounaga, A. Oulakhir, R. Boulif, Y. Zeroual, R. Benhida, K. Lyamlouli
Science of The Total Environment 912, 168811, 2024.

Anaerobic bioremediation of acid phosphogypsum stacks leachates: Assessment of leachate's biochemical changes and microbial community dynamics

A. Bounaga, M. Danouche, Y. Zeroual, R. Boulif, R. Benhida, and K. Lyamlouli
Environmental Technology & Innovation 33, 103535, 2024.

Design, synthesis, and biological evaluation of novel anticancer amidinourea analogues via unexpected 1,3,5-triazin-2-one ring opening

O. Grytsai, N. Hamouda-Tekaya, T. Botton, S. Rocchi, R. Benhida, and C. Ronco
ChemMedChem 19 (3), e202300493, 2024.

Prediction and study of the industrial performances of phosphate rock before valorization to phosphoric acid

M. Abdelouahhab, S. Manar, and R. Benhida
Chemical Papers 78 (4), 2247-2262, 2024.

Magnetically separable new Fe₃O₄@AgZr₂(PO₄)₃ nanocomposite catalyst for the synthesis of novel isoxazole/isoxazoline-linked 1,2,3-triazoles in water under ultrasound

L. Mokhi, A. Moussadik, M. Driowya, A. El Mahmoudi, H. Tachallait, R. Benhida, A. El Hamidi, K. Bougrin
Journal of Molecular Liquids 395, 123763, 2024.

Ultrasound-assisted extraction of vegetable dyes and mordants from wool dyed with Curcuma longa and Reseda luteola

F.E. Mesrar, H. Tachallait, K. Bougrin, and R. Benhida
Industrial Crops and Products 208, 117807, 2024.

Staged purification of phosphogypsum using a pH-dependent separation process

H. Chanouri, K. Agayr, E.M. Mounir, R. Benhida, and K. Khaless
Environmental Science and Pollution Research 31 (7), 9920-9934, (11) 2024.

Integrative transcriptomic profiling of NK cells and monocytes: Advancing diagnostic and therapeutic strategies for COVID-19

S. Loukman, R. Benmrid, N. Bouchmaa, H. Hboub, R. El Fatimy, and R. Benhida
in bioRxiv 2024.

Optimization of parameters during phosphoric acid production using response surface methodology: Toward a biomimetic process

M. Abdelouahhab, S. Manar, and R. Benhida
React. Chem. Eng., 2024,9, 2436-2451

Topical treatment for age-related macular degeneration: Where are we now?

M Pierre, D Lamaa, M Fabre, C Ronco, R Benhida, L Demange, C Charrueau
Medecine Sciences M/S 39 (12), 958-966, 2023

Effect of alkaline leaching of phosphogypsum on sulfate reduction activity and bacterial community composition using different sources of anaerobic microbial inoculum

A Bounaga, A Alsanea, M Danouche, BE Rittmann, C Zhou, R Boulif, Y Zeroual, R Benhida, K Lyamlouli
Science of the Total Environment 904, 166296, (7) 2023

Traitement topique de la dégénérescence maculaire liée à l'âge-Où en sommes-nous ?

M Pierre, D Lamaa, M Fabre, C Ronco, R Benhida, L Demange, C Charrueau
Médecine/sciences 39 (12), 958-966, 2023

Synthesis, characterization and uptake studies of diglycolamic acid and diglycolamide analogs adsorbents for extraction of rare earth elements

R Bardovskyi, C Ronco, R Benhida
Minerals Engineering 204, 108313, (4) 2023

Green synthesis and anti-biofilm activities of 3, 5-disubstituted isoxazoline/isoxazole-linked secondary sulfonamide derivatives on *Pseudomonas aeruginosa*

A El Mahmoudi, AS Tareau, M Barreau, S Chevalier, C Hourma, L Demange, R Benhida, K Bougrin
Bioorganic & Medicinal Chemistry Letters 96, 129517, (3) 2023

Two steps leaching process for recovery of rare earths from moroccan phosphogypsum

SA Hak, A Sraidi, K Khaless, R Benhida
Journal of Cleaner Production 427, 138976, (15) 2023

Optimization of sulfate leaching from Phosphogypsum for efficient bioreduction in a batch bioreactor using a sulfate-reducing microbial consortium

M Danouche, A Bounaga, R Boulif, Y Zeroual, R Benhida, K Lyamlouli
Chemical Engineering Journal 475, 146072, (14) 2023

Improvement of the characterization uncertainty of a matrix-certified reference material for accurate measurement of H₂SiF₆ mass fraction in industrial fluorosilicic

S Kounbach, S Laassiri, Z Moutaoukil, A Benzaouia, R Benhida
Analytical Sciences 39 (11), 1865-1873, 2023

Bacterial glycobiotecnology: A biosynthetic route for the production of biopharmaceutical glycans

BS Paliya, VK Sharma, MG Tuohy, HB Singh, M Koffas, R Benhida, B K. Tiwari,
D M. Kalaskar , B N. Singh, V K. Gupta
Biotechnology Advances 67, 108180, (4) 2023

Biosorption of a cationic dye using raw and functionalized *Chenopodium quinoa* pericarp biomass after saponin glycosides extraction

A Oulakhir, K Lyamlouli, M Danouche, R Benhida
Journal of Environmental Chemical Engineering 11 (5), 110419, (14) 2023

A novel and complete process for iodine extraction and recovery from industrial wet-process phosphoric acid based on chemical oxidation and solvent extraction

K Benali, R Benhida, K Khaless

Process Safety and Environmental Protection 176, 332-345, (5) 2023

A critical review on natural surfactants and their potential for sustainable mineral flotation

A Oulakhir, K Lyamlouli, M Danouche, J Ouazzani, R Benhida

Environmental Science and BioTechnology 22 (1), 105-131, (25) 2023

Synthesis, photophysics, and theoretical calculations of styryl-based fluorophores harboring substituted benzothiazole acceptors

M Safir Filho, ES Moraes, LC Da Luz, F da Silveira Santos, AR Martin, R Benhida, L Gustavo T Alves Duarte, F Severo Rodembusch.

Journal of Photochemistry and Photobiology A: Chemistry 435, 114287, (3) 2023

MCB-613 exploits a collateral sensitivity in drug resistant EGFR-mutant non-small cell lung cancer through covalent inhibition of KEAP1

CF Bassil, GR Anderson, B Mayro, KN Askin, PS Winter, S Gruber, T M Hall, J P Hoj, C Cerda-Smith, H M Hutchinson, S T Killarney, K R Singleton, Li Qin, K Jubien-Girard, C Favreau, A R Martin, G Robert, R Benhida, P Auberger, A Marie Pendergast, D M Lonard, A Puissant, Kris C Wood.

bioRxiv 2023, doi: 10.1101/2023.01.17.524094.

Green and sustainable dyeing of wool with madder plant of the Moroccan flora

FE Mesrar, H Tachallait, O Cherkaoui, K Bougrin, R Benhida

Materials Science and Engineering 1266 (1), 012015, (3) 2023

Ultrasound-Assisted Green Synthesis of 3,5-Disubstituted Isoxazole Secondary Sulfonamides via One-Pot Five-Component Reaction using $\text{CaCl}_2/\text{K}_2\text{CO}_3$ as Pre-Catalyst in Water

AE Mahmoudi, H Tachallait, Z Moutaoukil, S Arshad, K Karrouchi, R. Benhida, K. Bougrin

ChemistrySelect 7 (45), e202203072, (5) 2022

Targeting of the ELR+ CXCL/CXCR1/2 Pathway Is a Relevant Strategy for the Treatment of Paediatric Medulloblastomas

M Penco-Campillo, C Molina, P Piris, N Soufi, M Carré, M. Pagnuzzi-Boncompagni, V. Picco, M. Dufies, C. Ronco, R. Benhida, S. Martial, G. Pagès

Cells 11 (23), 3933, (4) 2022

Optimization and evaluation of the effect of impurities on phosphoric acid process performance using design of experiments

M Abdelouahhab, S Manar, R Benhida

Results in Engineering 15, 100501, (13) 2022

Study on the kinetics of the conversion of Moroccan phosphogypsum into X_2SO_4 ($\text{X} = \text{Na}, \text{NH}_4$)

K Agayr, H Chanouri, B Achiou, R. Benhida, K Khaless

Journal of Material Cycles and Waste Management 24 (5), 2015-2029, (17) 2022

Recent advances in age-related macular degeneration therapies

M Fabre, L Mateo, D Lamaa, S Baillif, G Pagès, L Demange, C Ronco, R. Benhida

Molecules 27 (16), 5089, (47) 2022

Photochemical alkene hydrophosphination with bis (trichlorosilyl) phosphine

MB Geeson, K Tanaka, R Taakili, R Benhida, CC Cummins

Journal of the American Chemical Society 144 (32), 14452-14457, (18) 2022

Wet process phosphoric acid purification using functionalized organic nanofiltration membrane

K Khaless, H Chanouri, S Amal, A Ouattou, EM Mounir, H Haddar, R. Benhida

Separations 9 (4), 100, (14) 2022

Simultaneous determination of H₂SiF₆, HF and total fluoride in fluorosilicic acid recovered from wet phosphoric acid production by potentiometric titration

S Kounbach, MB Embarek, L Mahi, R Boulif, R Beniazza, R Benhida
Microchemical Journal 175, 107152, (23) 2022

Kinetics and mechanisms of leaching of rare earth elements from secondary resources

JA Brahim, SA Hak, B Achiou, R Boulif, R Beniazza, R Benhida
Minerals Engineering 177, 107351, (72) 2022

Selective silver (I)-catalyzed four-component gram-scale synthesis of novel 1, 4-disubstituted 1, 2, 3-triazole-sulfonamides under heterogeneous catalysis and microwave irradiation

A El Mahmoudi, H El Masaoudi, H Tachallait, A Talha, S Arshad, R Benhida, B Jaber, M Benaissa, K Bougrin
Results in Chemistry 4, 100552, 2022

One-pot synthesis of dihydropyrimidines via eco-friendly phosphorus derivatives catalysis

Z Moutaoukil, C Ronco, R Benhida
Journal of Saudi Chemical Society 26 (1), 101398, (8) 2022

Preparation and characterization of low-cost zirconia/clay membrane for removal of acid orange 74 dye

H Elomari, B Achiou, D Beqqour, K Khaless, R Beniazza, M Ouammou, A Aaddane, S Alami Younssi, R Benhida
Materials Today: Proceedings 51, 1948-1956, (21) 2022

Energy-resolved mass spectrometry to investigate nucleobase triplexes—a study applied to triplex-forming artificial nucleobases

M Safir Filho, L Massi, A Millet, D Michel, W Moussa, C Ronco, R Benhida
New Journal of Chemistry 46 (17), 8112-8121, 2022

Mild Biamidine-Transfer Conditions for the Synthesis of Aliphatic Biguanides

R Bardovskyi, M Fabre, C Ronco, R Benhida
SynOpen 5 (04), 314-320, (1) 2021

Biguanides drugs: past success stories and promising future for drug discovery

O Grytsai, I Myrgorodska, S Rocchi, C Ronco, R Benhida
European Journal of Medicinal Chemistry 224, 113726, (32) 2021

Ultrasound-assisted one-pot three-component synthesis of new isoxazolines bearing sulfonamides and their evaluation against hematological malignancies

A Talha, C Favreau, M Bourgoïn, G Robert, P Auberger, L EL Ammari, M Saadi, R Benhida, A R. Martin, K Bougrin
Ultrasonics Sonochemistry 78, 105748, (14) 2021

Green one-pot four-component synthesis of 3, 5-disubstituted isoxazoles-sulfonates and sulfonamides using a combination of NaDCC as metal-free catalyst and ultrasonic irradiation

A Talha, H Tachallait, R Benhida, K Bougrin
Tetrahedron Letters 81, 153366, (12) 2021

In vivo monitoring of the therapeutic efficacy of a CXCR1/2 inhibitor with 18F-FDG PET/CT imaging in experimental head and neck carcinoma: A feasibility study

Par C Montemagno, B Serrano, J Durivault, V Nataf, F Mocquot, R Amblard, V Vial, C Ronco, R Benhida, M Dufies, M Faraggi, G Pagès
Biochemistry and Biophysics Reports 27, 101098, (2) 2021

A simple and fast spectroscopy-based technique for Covid-19 diagnosis

DL Kitane, S Loukman, N Marchoudi, A Fernandez-Galiana, FZ El Ansari, F Jouali, J Badir, J-Luc Gala, D Bertsimas, N Azami, O Lakbita, O Moudam, R Benhida, Jamal Fekkak
Scientific reports 11 (1), 16740, (52) 2021

Dual covalent inhibition of PKM and IMPDH targets metabolism in cutaneous metastatic melanoma

M Zerhouni, AR Martin, N Furstoss, VS Gutierrez, E Jaune, N Tekaya, Guillaume E. Beranger, P Abbe, C Regazzetti, H Amdouni, M Driowya, P Dubreuil, F Luciano, A Jacquiel, M K. Tulic, T Cluzeau, B P. O'Hara, I Ben-Sahra, T Passeron, R Benhida, G Robert, P Auberger, Stéphane Rocchi
Cancer Research 81 (14), 3806-3821, (12) 2021

Development and In Vivo Evaluation of Fused Benzazole Analogs of Anti-Melanoma Agent HA15

A Millet, MS Filho, N Hamouda-Tekaya, E Cavazza, P Abbe, J Rüdiger, M Plaisant, J Mayen, S Rocchi, C Ronco, R Benhida
Future Medicinal Chemistry 13 (14), 1157-1173, (3) 2021

Recycling of spent reverse osmosis membranes for second use in the clarification of wet-process phosphoric acid

K Khaless, B Achiou, R Boulif, R Benhida
Minerals 11 (6), 637, (20) 2021

Synthetic accesses to biguanide compounds

O Grytsai, C Ronco, R Benhida
Beilstein Journal of Organic Chemistry 17 (1), 1001-1040, (24) 2021

Optimization of phosphate/kaolinite microfiltration membrane using Box–Behnken design for treatment of industrial wastewater

A Belgada, FZ Charik, B Achiou, TN Kambuyi, SA Younssi, R Beniazza, A Dani, R Benhida, M Ouammou
Journal of Environmental Chemical Engineering 9 (1), 104972, (64) 2021

Low-cost ceramic microfiltration membrane made from natural phosphate for pretreatment of raw seawater for desalination

A Belgada, B Achiou, SA Younssi, FZ Charik, M Ouammou, JA Cody, R Benhida, K Khaless
Journal of the European Ceramic Society 41 (2), 1613-1621, (67) 2021

Development of in-House Industrial Fluosilicic Acid Certified Reference Material: Certification of H₂SiF₆ Mass Fraction

S Kounbach, M Ben Embarek, A Chemaa, R Boulif, R Benhida, R Beniazza
Minerals 11 (1), 92, (5) 2021

Discovery of a new molecule inducing melanoma cell death: dual AMPK/MELK targeting for novel melanoma therapies

E Jaune, E Cavazza, C Ronco, O Grytsai, P Abbe, N Tekaya, M Zerhouni, G Beranger, L Kaminski, F Bost, M Gesson, M Tulic, P Hofman, R Ballotti, T Passeron, T Botton, R Benhida, S Rocchi
Cell Death & Disease 12 (1), 64 (21) 2021

Recycling of Spent Reverse Osmosis Membranes for Second Use in the Clarification of Wet-Process Phosphoric Acid.

K Khaless, B Achiou, R Boulif, R Benhida
Minerals 2021, 11, 637

Straightforward synthetic route to gold (I)-thiolato glycoconjugate complexes bearing NHC ligands (NHC= N-heterocyclic carbene) and their promising anticancer activity

M Safir Filho, T Scattolin, P Dao, NV Tzouras, R Benhida, M Saab, K Van Hecke, P Lippmann, A R. Martin, I Ott, S P Nolan
New Journal of Chemistry 45 (22), 9995-10001, (28) 2021

Arylbiamidines: synthesis and structural studies en route to anticancer applications

O Grytsai, LCP Gonçalves, R Bardovskyi, N Hamouda-Tekaya, S Rocchi, C Ronco, R Benhida
New Journal of Chemistry 45 (27), 11893-11897, (2) 2021

Synthesis and biological evaluation of 3-amino-1, 2, 4-triazole derivatives as potential anticancer compounds

O Grytsai, O Valiashko, M Penco-Campillo, M Dufies, A Hagege, L Demange, S Martial, G Pagès, C Ronco, R Benhida
Bioorganic chemistry 104, 104271, (74) 2020

Poly (ϵ -caprolactone)-g-guar gum and poly (ϵ -caprolactone)-g-halloysite nanotubes as coatings for slow-release DAP fertilizer

T El Assimi, M Chaib, M Raihane, A El Meziane, M Khouloud, R Benhida, R Beniazza, M Lahcini
Journal of Polymers and the Environment 28, 2078-2090, (30) 2020

SARS-CoV-2 genome sequence from Morocco, obtained using Ion AmpliSeq Technology

F Jouali, N Marchoudi, FZ El Ansari, Y Kasmi, M Chenaoui, A El Aliani, N Azami, S Loukman, MM Ennaji, R Benhida, J Fekkak.
Microbiology Resource Announcements 9 (31), 10.1128/mra. 00690-20, (5) 2020

Sulfonylguanidine derivatives as potential antimelanoma agents

T Baladi, N Hamouda-Tekaya, LCP Gonçalves, S Rocchi, C Ronco, R Benhida
ChemMedChem 15 (13), 1113-1117, (11) 2020

Nitroreductase sensitive styryl-benzothiazole profluorescent probes for the visualization of mitochondria under normoxic conditions

M Safir Filho, P Dao, AR Martin, R Benhida
Journal of Photochemistry and Photobiology A: Chemistry 396, 112528, (5) 2020

Probing of nucleic acid structures, dynamics, and interactions with environment-sensitive fluorescent labels

Michel, D Dziuba, R Benhida, AP Demchenko, A Burger
Frontiers in Chemistry 8, 112, (97) 2020

Synthesis and characterization of new heterocycles related to aryl [e][1, 3] diazepinediones. rearrangement to 2, 4-diamino-1, 3, 5-triazine derivatives

R Bardovskyi, O Grytsai, C Ronco, R Benhida
New Journal of Chemistry 44 (20), 8171-8175, (13) 2020

Synthesis, 3D-structure and stability analyses of NRPa-308, a new promising anti-cancer agent

E Brachet, A Dumond, WQ Liu, M Fabre, M Selkti, F Raynaud, O Hermine, R Benhida
P Belmont, C Garbay, Y Lepelletier, C Ronco, G Pagès, L Demange
Bioorganic & Medicinal Chemistry Letters 29 (24), 126710, (12) 2019

GAPDH overexpression in the T cell lineage promotes angioimmunoblastic T cell lymphoma through an NF- κ B-dependent mechanism

L Mondragón, R Mhaidly, GM De Donatis, M Tosolini, P Dao, AR Martin, C Pons, J Chiche, M Jacquin, V Imbert, E Proics, L Boyer, Anne Doye, F Luciano, J G Neels, F Coutant, N Fabien, L Sormani, C R Patino, J P. Bossowski, F Muller, S Marchetti, E Villa, J-F Peyron, P Gaulard, F Lemonnier, V Asnafi, L Genestier, R Benhida
Cancer Cell 36 (3), 268-287. e10, (54) 2019

Visualization of intracellular lipid droplets using lipophilic benzothiazole-based push-pull fluorophores at ultralow concentration

M Safir Filho, P Dao, AR Martin, R Benhida
Dyes and Pigments 167, 68-76, (13) 2019

Water Promoted One-pot Three-Step Synthesis of Novel N-Saccharin Isoxazolines/Isoxazoles Using KI/Oxone Under Ultrasonic Activation

H Tachallait, M Driowya, E Álvarez, R Benhida, K Bougrin
Current Organic Chemistry 23 (11), 1270-1281, (18) 2019

Mechanisms of resistance to targeted therapies in melanoma and myelodysplastic syndromes: characterization and validation of innovative covalent inhibitor

M Zerhouni, A Martin, R Benhida, S Rocchi, G Robert, P Auberger

Functionalized C-nucleosides as remarkable RNA binders: targeting of prokaryotic ribosomal A-site RNA

JP Joly, M Gaysinski, L Zara, M Duca, R Benhida
Chemical Communications 55 (70), 10432-10435, (6) 2019

A straightforward and versatile FeCl₃ catalyzed Friedel–Crafts C-glycosylation process. Application to the synthesis of new functionalized C-nucleosides

H Tachallait, M Safir Filho, H Marzag, K Bougrin, L Demange, AR Martin, R Benhida
New Journal of Chemistry 43 (14), 5551-5558, (9) 2019

New CXCR1/CXCR2 inhibitors represent an effective treatment for kidney or head and neck cancers sensitive or refractory to reference treatments

M Dufies, O Grytsai, C Ronco, O Camara, D Ambrosetti, A Hagege, J Parola, L Mateo, M Ayrault, S Giuliano, R Grépin, N Lagarde, M Montes, P Auberger, L Demange, R Benhida, G Pagès
Theranostics 9 (18), 5332, (43) 2019

Concise synthesis and antibacterial evaluation of novel 3-(1,4-disubstituted-1,2,3-triazolyl) uridine nucleosides

H Tachallait, A Bouyahya, A Talha, Y Bakri, N Dakka, L Demange, R Benhida, L Dumange
Archiv der Pharmazie 351 (11), 1800204, (13) 2018

Photoactivatable oligonucleotide probes to trap single-stranded DNA binding proteins: Updating the potential of 4-thiothymidine from a comparative study

T G-Hirne, F Thiebaut, E Sachon, A Désert, T Drujon, V Guérineau, B Y Michel, R Benhida, S Coulon, C Saintomé, D Guianvarc'h
Biochimie 154, 164-175, (9) 2018

The GRP78/BiP inhibitor HA15 synergizes with mitotane action against adrenocortical carcinoma cells through convergent activation of ER stress pathways

C Ruggiero, M Doghman-Bouguerra, C Ronco, R Benhida, S Rocchi, E Lalli
Molecular and Cellular Endocrinology 474, 57-64, (36) 2018

Modular synthesis of new C-aryl-nucleosides and their anti-CML activity

H Marzag, M Zerhouni, H Tachallait, L Demange, G Robert, K Bougrin, P Auberger, R Benhida
Bioorganic & Medicinal Chemistry Letters 28 (10), 1931-1936 (10) 2018

Cyanoguanidine as a versatile, eco-friendly and inexpensive reagent for the synthesis of 2-aminobenzoxazoles and 2-guanidinobenzoxazoles

O Grytsai, T Druzenko, L Demange, C Ronco, R Benhida
Tetrahedron Letters 59 (17), 1642-1645 (13) 2018

Expression level of GRP78/BiP as a predictor of favorable or unfavorable outcomes in cancer patients

C Ronco, S Rocchi, R Benhida
Mediastinum 2 (3) (5) 2018

One-pot synthesis of 1-monosubstituted 1,2,3-triazoles from propargyl alcohol

C Han, S Dong, W Zhang, Z Chen
Synlett 29 (05), 673-677 2018

NRPa-308, a new neuropilin-1 antagonist, exerts in vitro anti-angiogenic and anti-proliferative effects and in vivo anti-cancer effects in a mouse xenograft model

WQ Liu, Y Lepelletier, M Montès, L Borriello, R Jarray, R Grépin, B Leforban, A Loukaci, R Benhida, O Hermine, S Dufour, G Pages, C Garbay, F Raynaud, R Hadj-Slimane, L Demange
Cancer Letters 414, 88-98 (42) 2018

Recherche et développement : Du diabète au mélanome : découverte d'une famille de molécules actives aux pouvoirs surprenants

C Ronco, S Rocchi, R Benhida
L'Actualité Chimique 2018

A high-throughput screening of a chemical compound library in ovarian cancer stem cells

F Ricci, L Carrassa, MS Christodoulou, D Passarella, B Michel, R Benhida, N Martinet, A Hunyadi, E Ioannou, V Roussis, L Musso, S Dallavalle, R Silvestri, N Westwood, M Mori, C Ingallina, B Botta, E Kavetsou, A Detsi, Z Majer, Ferenc Hudecz, S Bosze, B Kaminska, TV Hansen, Pierre Bertrand, CM Athanassopoulos, G Damia
Combinatorial Chemistry & High Throughput Screening 21 (1), 50-56, (5) 2018

Development of highly sensitive fluorescent probes for the detection of β -galactosidase activity—application to the real-time monitoring of senescence in live cells

M Safir Filho, P Dao, M Gesson, AR Martin, R Benhida
Analyst 143 (11), 2680-2688, (41) 2018

Ultrasound-assisted facile one-pot sequential synthesis of novel sulfonamide-isoxazoles using cerium (IV) ammonium nitrate (CAN) as an efficient oxidant in aqueous medium

S Alaoui, M Driowya, L Demange, R Benhida, K Bougrin
Ultrasonics Sonochemistry 40, 289-297, (45) 2018

Structure activity relationship and optimization of N-(3-(2-aminothiazol-4-yl) aryl) benzenesulfonamides as anti-cancer compounds against sensitive and resistant cells

C Ronco, A Millet, M Plaisant, P Abbe, N Hamouda-Tekaya, S Rocchi, R Benhida
Bioorganic & Medicinal Chemistry Letters 27 (10), 2192-2196, (13) 2017

Synthesis and anti-cancer activities of new sulfonamides 4-substituted-triazolyl nucleosides

S Alaoui, M Dufies, M Driowya, L Demange, K Bougrin, G Robert, P Auberger, G Pagès, R Benhida
Bioorganic & Medicinal Chemistry Letters 27 (9), 1989-1992, (60) 2017

Assessment of new triplet forming artificial nucleobases as RNA ligands directed towards HCV IRES IIIId loop

M Safir Filho, AR Martin, R Benhida
Bioorganic & Medicinal Chemistry Letters 27 (8), 1780-1783, (5) 2017

In vitro and in vivo evaluation of fully substituted (5-(3-Ethoxy-3-oxopropynyl)-4-(ethoxycarbonyl)-1,2,3-triazolyl-glycosides as original nucleoside analogues to circumvent Resistance in Myeloid Malignancies

H Amdouni, G Robert, M Driowya, N Furstoss, C Métier, A Dubois, M Dufies, M Zerhouni, F Orange, S Lacas-Gervais, K Bougrin, A R Martin, P Auberger, R Benhida
Journal of Medicinal Chemistry 60 (4), 1523-1533, (46) 2017

Metastatic melanoma: insights into the evolution of treatments and future challenges

A Millet, AR Martin, C Ronco, S Rocchi, R Benhida
Medicinal research reviews 37 (1), 98-148, (123) 2017

Hypoxia inducible factor down-regulation, cancer and cancer stem cells (CSCs): ongoing success stories

AR Martin, C Ronco, L Demange, R Benhida
MedChemComm 8 (1), 21-52, (25) 2017

ATM, ATR, CHK1, CHK2 and WEE1 inhibitors in cancer and cancer stem cells

C Ronco, AR Martin, L Demange, R Benhida
Medchemcomm 8 (2), 295-319, (121) 2017

Design, synthesis and photophysical studies of styryl-based push–pull fluorophores with remarkable solvatochromism

M Safir Filho, S Fiorucci, AR Martin, R Benhida
New Journal of Chemistry 41 (22), 13760-13772, (18) 2017

Discovery and Optimization of N-(4-(3-Aminophenyl) thiazol-2-yl)acetamide as a Novel Scaffold Active against Sensitive and Resistant Cancer Cells

A Millet, M Plaisant, C Ronco, M Cerezo, P Abbe, E Jaune, E Cavazza, S Rocchi, R Benhida
Journal of Medicinal Chemistry 59 (18), 8276-8292, (25) 2016

Microwave-assisted syntheses of bioactive seven-membered, macro-sized heterocycles and their fused derivatives

M Driowya, A Saber, H Marzag, L Demange, K Bougrin, R Benhida
Molecules 21 (8), 1032, (40) 2016

Compounds triggering ER stress exert anti-melanoma effects and overcome BRAF inhibitor resistance

M Cerezo, A Lehraiki, A Millet, F Rouaud, M Plaisant, E Jaune, T Botton, C Ronco, P Abbe, H Amdouni, T Passeron, V Hofman, B Mograbi, A Dabert-Gay, D Debayle, D Alcor, N Rabhi, J-S Annicotte, L Hélot, M Gonzalez-Pisfil, C Robert, S Moréra, A Vigouroux, P Gual, M MU Ali, C Bertolotto, P Hofman, R Ballotti, R Benhida, S Rocchi
Cancer Cell 29 (6), 805-819, (258) 2016

Differentiation inducing factor 3 mediates its anti-leukemic effect through ROS-dependent DRP1-mediated mitochondrial fission and induction of caspase-independent cell death

A Dubois, C Ginet, N Furstoss, A Belaid, MA Hamouda, W El Manaa, T Cluzeau, S Marchetti, J Ehrland Ricci, A Jacquél, F Luciano, M Driowya, R Benhida, P Auberger, G Robert
Oncotarget 7 (18), 26120, (20) 2016

Microwave-assisted synthesis of bioactive six-membered heterocycles and their fused analogues

M Driowya, A Saber, H Marzag, L Demange, R Benhida, K Bougrin
Molecules 21 (4), 492, (51) 2016

Oncogenic microRNAs biogenesis as a drug target: structure–activity relationship studies on new aminoglycoside conjugates

DD Vo, TPA Tran, C Staedel, R Benhida, F Darfeuille, A Di Giorgio, M Duca
Chemistry–A European Journal 22 (15), 5350-5362, (54) 2016

Dual emissive analogue of deoxyuridine as a sensitive hydration-reporting probe for discriminating mismatched DNA and DNA/DNA from DNA/RNA duplexes

NPF Barthes, K Gavvala, D Dziuba, D Bonhomme, J Karpenko, A S Dabert-Gay, D Debayle, A P Demchenko, R Benhida, B Y Michel, Y Mély, A Burger
Journal of Materials Chemistry C 4 (14), 3010-3017 (25) 2016

Solvent-Free Regioselective Synthesis of Novel Isoxazoline and Pyrazoline N-Substituted Saccharin Derivatives Under Microwave Irradiation

A Saber, M Driowya, S Alaoui, H Marzag, L Demange, E Álvarez, R Benhida, K Bougrin
Chemistry of Heterocyclic Compounds 52, 31-40 (24) 2016

Targeting BIP to induce Endoplasmic Reticulum stress and cancer cell death

M Cerezo, R Benhida, S Rocchi
Oncoscience 3 (11-12), 306 (10) 2016

Resistance to sunitinib in renal clear cell carcinoma results from sequestration in lysosomes and inhibition of the autophagic flux

S Giuliano, Y Cormerais, M Dufies, R Grépin, P Colosetti, A Belaid, J Parola, A Martin, S Lacas-Gervais, N M Mazure, R Benhida, P Auberger, B Mograbi, G Pages
Autophagy 11 (10), 1891-1904 (137) 2015

FeCl₃-promoted and ultrasound-assisted synthesis of resveratrol O-derived glycoside analogs

H Marzag, G Robert, M Dufies, K Bougrin, P Auberger, R Benhida
Ultrasonics Sonochemistry 22, 15-21 (25) 2015

Efficient and selective azidation of per-O-acetylated sugars using ultrasound activation: application to the one-pot synthesis of 1, 2, 3-triazole glycosides

H Marzag, S Alaoui, H Amdouni, AR Martin, K Bougrin, R Benhida

New Journal of Chemistry 39 (7), 5437-5444 (24) 2015

Development of environmentally sensitive fluorescent and dual emissive deoxyuridine analogues

NPF Barthes, J Karpenko, D Dziuba, M Spadafora, J Auffret, AP Demchenko, Y Mély, R Benhida, BY Michel, A Burger
RSC Advances 5 (42), 33536-33545 (42) 2015

Microwave-assisted cycloaddition reactions in carbo-and heterocyclic chemistry

A Saber, H Marzag, R Benhida, K Bougrin
Current Organic Chemistry 18 (16), 2139-2180 (13) 2014

Targeting the production of oncogenic microRNAs with multimodal synthetic small molecules

DD Vo, C Staedel, L Zehnacker, R Benhida, F Darfeuille, M Duca
ACS chemical biology 9 (3), 711-721 (118) 2014

Rational design of a solvatochromic fluorescent uracil analogue with a dual-band ratiometric response based on 3-hydroxychromone

D Dziuba, IA Karpenko, NPF Barthes, BY Michel, AS Klymchenko, R Benhida, A P Demchenko, Y Mély, A Burger
Chemistry–A European Journal 20 (7), 1998-2009 (55) 2014

Artificial nucleobase–amino acid conjugates: a new class of TAR RNA binding agents

JP Joly, G Mata, P Eldin, L Briant, F Fontaine-Vive, M Duca, R Benhida
Chemistry–A European Journal 20 (7), 2071-2079 (46) 2014

Natural polyphenols as potent inhibitors of DNA methyltransferases

H Marzag, P Warnault, K Bougrin, N Martinet, R Benhida
Studies in Natural Products Chemistry 41, 195-223 (10) 2014

Can we use the epigenetic bioactivity of caloric restriction and phytochemicals to promote healthy ageing?

MS Christodoulou, A Thomas, S Poulain, M Vidakovic, M Lahtela-Kakkonen, D Matulis, P Bertrand, E Bartova, C Blanquart, E Mikros, N Fokialakis, D Passarella, R Benhida, N Martinet
MedChemComm 5 (12), 1804-1820 (7) 2014

Sono-transition-metal catalysis of one-pot three-step synthesis of glycosyl-1, 2, 3-triazoles

M Driowya, K Bougrin, R Benhida
Synthetic Communications 43 (13), 1808-1817, (8) 2013

Recent advances in drug design of epidermal growth factor receptor inhibitors

P Warnault, A Yasri, M Coisy-Quivy, G Cheve, C Bories, B Fauvel, R Benhida
Current medicinal chemistry 20 (16), 2043-2067 (40) 2013

Microwave-assisted cycloaddition reactions

K Bougrin, R Benhida
Microwaves in Organic Synthesis, 737-809 (12) 2012

Ultrasound-assisted one-pot synthesis of anti-CML nucleosides featuring 1, 2, 3-triazole nucleobase under iron-copper catalysis

M Driowya, A Puissant, G Robert, P Auberger, R Benhida, K Bougrin
Ultrasonics sonochemistry 19 (6), 1132-1138 (72) 2012

A universal nucleoside with strong two-band switchable fluorescence and sensitivity to the environment for investigating DNA interactions

D Dziuba, VY Postupalenko, M Spadafora, AS Klymchenko, V Guérineau, Y Mély, R Benhida, A Burger
Journal of the American Chemical Society 134 (24), 10209-10213 (101) 2012

Sequence-specific base pair mimics are efficient topoisomerase IB inhibitors

P Vekhoff, M Duca, D Guianvarc'h, R Benhida, PB Arimondo

Biochemistry 51 (1), 43-51 (8) 2012

Small molecules DNA methyltransferases inhibitors

N Martinet, BY Michel, P Bertrand, R Benhida

MedChemComm 3 (3), 263-273 (41) 2012

A mild and efficient protocol for the protection of 3-hydroxychromones under phase-transfer catalysis

D Dziuba, R Benhida, A Burger

Synthesis 2011 (13), 2159-2164 (8) 2011

Targeting DNA base pair mismatch with artificial nucleobases. Advances and perspectives in triple helix strategy

V Malnuit, M Duca, R Benhida

Organic & Biomolecular Chemistry 9 (2), 326-336 (84) 2011

Microwave-assisted and efficient solvent-free Knoevenagel condensation. A sustainable protocol using porous calcium hydroxyapatite as catalyst

S Mallouk, K Bougrin, A Laghzizil, R Benhida

Molecules 15 (2), 813-823 (83) 2010

Microwave-assisted and efficient solvent-free Knoevenagel condensation. A sustainable protocol using porous calcium hydroxyapatite as catalyst

S. Mallouk, K. Bougrin, A. Laghzizil, R. Benhida

Molecules 15 (2), 813-823, (83) 2010

Design of novel RNA ligands that bind stem-bulge HIV-1 TAR RNA

M. Duca, V. Malnuit, F. Barbault, R. Benhida

Chemical Communications 46 (33), 6162-6164, (45) 2010

1-(3-p-Tolylisoxazol-5-yl) cyclohexanol

O. Khalil, K. Bougrin, R. Benhida, M. Soufiaoui, L.E. Ammari

Acta Crystallographica Section E: Structure Reports Online 65 (12), o2971-o2971, 2009

Efficient synthesis of ratiometric fluorescent nucleosides featuring 3-hydroxychromone nucleobases

M. Spadafora, V.Y. Postupalenko, V.V. Shvadchak, A.S. Klymchenko, Y. Mély, R. Benhida

Tetrahedron 65 (37), 7809-7816, (79) 2009

Tandem azide-alkyne 1,3-dipolar cycloaddition/electrophilic addition: A concise three-component route to 4,5-disubstituted triazolyl-nucleosides

V. Malnuit, M. Duca, A. Manout, K. Bougrin, R. Benhida

Synlett 2009 (13), 2123-2126, (64) 2009

From Intriguing Reactivity of 2-Bromothiophene to the First Synthesis of C1'-Disubstituted C-Nucleosides

C. Peyron, R. Benhida

Synlett 2009 (03), 472-476, (10) 2009

A stereo- and regio-controlled synthesis of bromothiophenyl C-nucleosides. Tandem bromination-ribosylation via halogen dance process

C. Peyron, J.M. Navarre, D. Dubreuil, P. Vierling, R. Benhida

Tetrahedron Letters 49 (43), 6171-6174, (26) 2008

Friedel-Crafts and modified Vorbrüggen ribosylation. A short synthesis of aryl and heteroaryl-C-nucleosides

M. Spadafora, M. Mehiri, A. Burger, R. Benhida

Tetrahedron Letters 49 (25), 3967-3971, (35) 2008

Efficient Synthesis of α - and β -2'-Deoxy-heteroaryl-C-nucleosides

M. Spadafora, A. Burger, R. Benhida

Synlett 2008 (08), 1225-1229, (8) 2008

Radical-polar crossover domino reactions involving organozinc reagents and α -(allyloxy)-enoates

S. Giboulot, A. Pérez-Luna, C. Botuha, F. Ferreira, F. Chemla, M. Spadafora, R. Benhida Tetrahedron Letters 49 (25), 2008, pp 3963-3966

Efficient synthesis and in vitro cytostatic activity of 4-substituted triazolyl-nucleosides

K. El Akri, K. Bougrin, J. Balzarini, A. Faraj, R. Benhida
Bioorganic & Medicinal Chemistry Letters 17 (23), 6656-6659, (127) 2007

An efficient one-step regiospecific synthesis of novel isoxazolines and isoxazoles of N-substituted saccharin derivatives through solvent-free microwave-assisted [3+2] cycloaddition

M. Mabrouk, K. Bougrin, R. Benhida, A. Loupy, M. Soufiaoui
Tetrahedron Letters 48 (3), 443-447, (55) 2007

A highly efficient microwave-assisted solvent-free synthesis of α - and β -2'-deoxy-1,2,3-triazolyl-nucleosides

R. Guezguez, K. Bougrin, K. El Akri, R. Benhida
Tetrahedron Letters 47 (28), 4807-4811, (109) 2006

Synthesis and in vitro antileishmanial activity of 5-substituted-2'-deoxyuridine derivatives

C. Peyron, R. Benhida, C. Bories, P.M. Loiseau
Bioorganic Chemistry 33 (6), 439-447, (52) 2005

Bioorganic Chemistry Volume 33, Number 6, December 2005

MA Haidekker, TP Brady, D Lichlyter, EA Theodorakis, W Thomas Shier, Yanbin Lao, T WJ Steele, H K Abbas, C Peyron, R Benhida, C Bories, P M Loiseau, R Martí-Arbona, J B Thoden, H M Holden, F M Raushel, A Maria Timperio, S Rinalducci, L Zolla, Y Li, J Casanovas, A M Namba, R da Silva, C Alemun
Bioorganic Chemistry 33 (6) 2005

Synthesis of mono- and polyhydroxylated cyclobutane nucleoside analogs

Y Marsac, A Nourry, S Legoupy, M Pipelier, D Dubreuil, AM Aubertin, N Bourgougnon, R Benhida, F Huet
Tetrahedron 61 (32), 7607-7612, (15) 2005

The 'fully protected backbone' approach as a versatile tool for a new solid-phase PNA synthesis strategy

G Upert, M Mehiri, ML Goddard, A Di Giorgio, R Benhida, R Condom, N Patino
Tetrahedron letters 46 (23), 4081-4085 (13) 2005

First example of base-promoted tandem alkylation-bromination of 2-bromothiophene via halogen dance process: a remarkable temperature effect

C Peyron, JM Navarre, N Van Craynest, R Benhida
Tetrahedron letters 46 (19), 3315-3318 (23) 2005

The Nazarov cyclization in organic synthesis. Recent advances

AJ Frontier, C Collison, Y Marsac, A Nourry, S Legoupy, M Pipelier, D Dubreuil, A-Marie Aubertin, N Bourgougnon, R Benhida, F Huet, M Alajarin, A Vidal, M-Mar Ortin
Tetrahedron 61 (32), 2005, pp 7577-7606

Synthesis and in vitro antileishmanial activity of 5-substituted-2'-deoxyuridine derivatives

Corinne Peyron, Rachid Benhida, Christian Bories, Philippe M. Loiseau
Bioorganic Chemistry 33, 439-447, 2005

Efficient synthesis of extended guanine analogues designed for recognition of an A-T inverted base pair in triple helix-based strategy

N. Van Craynest, D. Guianvarc'h, C. Peyron, R. Benhida
Tetrahedron Letters 45 (33), 6243-6247, (9) 2004

Ultrasound-accelerated aromatisation of trans-and cis-pyrazolines under heterogeneous conditions using claycop

S. Mallouk, K. Bougrin, H. Doua, R. Benhida, M. Soufiaoui
Tetrahedron Letters 45 (21), 4143-4148, (36) 2004

Efficient Synthesis of Extended Guanine Analogues Designed for Recognition of an A* T Inverted Base Pair in Triple Helix-based Strategy.

NC Van, D Guianvarc'h, C Peyron, R Benhida
Tetrahedron Letters 45, 6243-6247, 2004

Synthesis and studies of modified oligonucleotides-directed triple helix formation at the purine-pyrimidine interrupted site

M Jazouli, D Guianvarc'h, K Bougrin, M Soufiaoui, P Vierling, R Benhida
Nucleosides, Nucleotides and Nucleic Acids 22 (5-8), 1277-1280, (8) 2003

Synthesis and triplex binding properties of oligonucleotides containing a novel nucleobase

F Lecubin, M Devys, JL Fourrey, JS Sun, R Benhida
Nucleosides, Nucleotides and Nucleic Acids 22 (5-8), 1281-1284 (4) 2003

A short and efficient synthesis of 2'-deoxybenzo-and pyridoimidazole C-nucleosides

M Jazouli, D Guianvarc'h, M Soufiaoui, K Bougrin, P Vierling, R Benhida
Tetrahedron letters 44 (31), 5807-5810 28, (28) 2003

Design of artificial nucleobases for the recognition of the AT inversion by triple-helix forming oligonucleotides:

A structure–stability relationship study and neighbour bases effect
D Guianvarc'h, JL Fourrey, R Maurisse, JS Sun, R Benhida
Bioorganic & medicinal chemistry 11 (13), 2751-2759 (61) 2003

A short and highly stereoselective synthesis of α -(2-aminothiazolyl)-C-nucleosides

JM Navarre, D Guianvarc'h, A Farese-Di Giorgio, R Condom, R Benhida
Tetrahedron letters 44 (10), 2199-2202 (18) 2003

Synthesis, Incorporation into Triplex-Forming Oligonucleotide, and Binding Properties of a Novel 2'-Deoxy-C-Nucleoside Featuring a 6-(Thiazolyl-5)benzimidazole Nucleobase

D Guianvarc'h, JL Fourrey, R Maurisse, JS Sun, R Benhida
Organic Letters 4 (24), 4209-4212 (57) 2002

A short synthesis of aspergillamide B. The marine natural product from Aspergillus sp.

L Rivas, L Quintero, JL Fourrey, R Benhida
Tetrahedron letters 43 (42), 7639-7641 (12) 2002

Stereocontrolled synthesis of heterocyclic C-nucleosides. Protecting group effect and molecular modeling studies

D Guianvarc'h, JL Fourrey, ME Tran Huu Dau, V Guérineau, R Benhida
The Journal of Organic Chemistry 67 (11), 3724-3732 (76) 2002

Binding properties of oligonucleotides containing a modified 2'-deoxyuridine with a thymine ended linker to pair with 2'-deoxyadenosine

P Savy, R Benhida, JL Fourrey, R Maurisse, JS Sun
Bioorganic & medicinal chemistry letters 12 (6), 981-983 (3) 2002

Reactivity of 1, 1'-thiocarbonyldiimidazole with glycosides: a novel and efficient glycosidic activation

S Josse, J Le Gal, M Pipelier, JP Pradère, R Benhida, D Dubreuil
Tetrahedron letters 43 (2), 241-244 (3) 2002

Bicyclic anti-VZV nucleosides: Thieno analogues retain full antiviral activity

A Brancale, C McGuigan, B Algain, P Savy, R Benhida, JL Fourrey, G Andrei, R Snoeck, E De Clercq, Jan Balzarini

Bioorganic & medicinal chemistry letters 11 (18), 2507-2510 (41) 2001

Efficient stereocontrolled synthesis of 2-benzimidazolyl-and 2-indolyl-C-nucleosides

D Guianvarc'h, R Benhida, JL Fourrey
Tetrahedron Letters 42 (4), 647-650 (37) 2001

Incorporation of a novel nucleobase allows stable oligonucleotide-directed triple helix formation at the target sequence containing a purine· pyrimidine interruption

D Guianvarc'h, R Benhida, JL Fourrey, R Maurisse, JS Sun
Chemical Communications, 1814-1815 (54) 2001

DNA triplex structures are stabilized by the incorporation of 3'-endo blocked pyrimidine nucleosides in the Hoogsteen strand

P Savy, R Benhida, JL Fourrey, R Maurisse, JS Sun
Bioorganic & medicinal chemistry letters 10 (20), 2287-2289 (15) 2000

Selective N-Trifluoroacetylation of ortho-Arylenediamines under Ultrasound

K Bougrin, A Loupy, A Petit, R Benhida, JL Fourrey, B Daou, M Soufiaoui
ChemInform 31 (37), no-no (13) 2000

N-Trifluoroacétylation sélective d'ortho-arylenediamines sous ultrasons

K Bougrin, A Loupy, A Petit, R Benhida, JL Fourrey, B Daou, M Soufiaoui
Tetrahedron Letters 41 (25), 4875-4879, 2000

NMR recognition studies of C· G base pairs by new easily accessible heterobicyclic systems

F Lecubin, R Benhida, JL Fourrey, JS Sun
Tetrahedron letters 40 (46), 8085-8088, (19) 1999

Synthesis of 6-allyl and 6-heteroarylindoles by palladium catalyzed Stille cross-coupling reaction

R Benhida, F Lecubin, JL Fourrey, LR Castellanos, L Quintero
Tetrahedron letters 40 (31), 5701-5703, (25) 1999

NMR Studies of Triplex Formation-Recognition of C· G Base Pairs by New Heterocyclic Systems

F Lecubin, JL Fourrey, JS Sun, R Benhida
Nucleosides & nucleotides 18 (6-7), 1609-1613, 1999

Efficient stereoselective synthesis of new C-nucleosides via intramolecular Mitsunobu cyclization

R Benhida, D Guianvarc'h, JL Fourrey, JS Sun
Nucleosides, Nucleotides & Nucleic Acids 18 (4-5), 603-604 (3) 1999

Novel 2'-deoxycytidine analogues as pH independent substitutes of protonated cytosines in triple helix forming oligonucleotides

E Bédu, R Benhida, M Devys, JL Fourrey
Tetrahedron letters 40 (5), 835-838, (10) 1999

Efficient Stereoselective Synthesis of New C-Nucleosides via Intramolecular Mitsunobu Cyclization

R Benhida, D Guianvarc'h, JL Fourrey, JS Sun
Nucleosides and Nucleotides 18 (4), 603-604, 1999

A mild and effective iodination method using iodine in the presence of bis-(trifluoroacetoxy) iodobenzene

R Benhida, P Blanchard, JL Fourrey
Tetrahedron letters 39 (38), 6849-6852, (100) 1998

Incorporation of serinol derived acyclic nucleoside analogues into oligonucleotides: influence on duplex and triplex formation

R Benhida, M Devys, JL Fourrey, F Lecubin, JS Sun
Tetrahedron letters 39 (34), 6167-6170 (31) 1998

First total Synthesis of fungerin an antifungal alkaloid from Fusarium sp.

R Benhida, R Lezama, JL Fourrey
Tetrahedron letters 39 (33), 5963-5964, (22) 1998

Synthesis and anti-HIV activity of novel N-1 side chain-modified analogs of 1-[(2-hydroxyethoxy) methyl]-6-(phenylthio) thymine (HEPT)

R Pontikis, R Benhida, AM Aubertin, DS Grierson, C Monneret
Journal of medicinal chemistry 40 (12), 1845-1854, (116) 1997

A convenient synthesis of 1-ethoxymethyl-5-nitro-6-substituted uracils

R Benhida, AM Aubertin, DS Grierson, C Monneret
Tetrahedron letters 37 (7), 1031-1034, (15) 1996

Bromoalkoxy Addition on N-Azoly Olefins

R Beugelmans, A Lechevallier, T Gharbaoui, T Frinault, R Benhida
Chemistry letters 24 (3), 243-243, (1) 1995

N-1 Oxidation of Adenine Substituted at N-9 by an Olefinic Chain.

R Beugelmans, A Lechevallier, R Benhida, T Gharbaoui, A Morris
ChemInform 26 (3), no-no, 1995

Synthesis of novel functionalized olefins via fragmentation of SRN 1 products with a cyclanone β -ester subunit

AD Morris, T Frinault, R Benhida, T Gharbaoui, A Lechevallier, ...
Bulletin de la Société chimique de France 2 (132), 178-182, (4) 1995

N-Alkylated Purine Derivatives. Synthesis by SRN1 Reaction and Transformation of Functional Groups.

T Gharbaoui, R Benhida, J Chastanet, A Lechevallier
ChemInform 25 (49), no-no, 1994

N-Alkylated Derivatives of 4-Nitroimidazole: Synthesis by Radical Chemistry (SRN1) and Functionalization.

R Benhida, T Gharbaoui, A Lechevallier, R Beugelmans
ChemInform 25 (38), no-no, 1994

A Highly Selective and Efficient Access to N-9 Alkylated Purine Derivatives via Radical SRN1 Chemistry

T Gharbaoui, R Benhida, A Lechevallier, P Maillos, R Beugelmans
Nucleosides, Nucleotides & Nucleic Acids 13 (5), 1161-1168, (3) 1994

Selective N1-Alkylation of Pyrimidine Bases via Radical (SRN1) Mechanism

R Benhida, T Gharbaoui, A Lechevallier, R Beugelmans
Nucleosides, Nucleotides & Nucleic Acids 13 (5), 1169-1177, (6) 1994

Tetrasubstituted N-azoly olefins via products from sequential SRN1 reactions

R Beugelmans, A Lechevallier, T Frinault, T Gharbaoui, R Benhida
Synlett 1994 (07), 513-514, (3) 1994

Dérivés N-alkylés du 4-nitroimidazole. Synthèse par chimie radicalaire (SRN1) et aménagements fonctionnels

R Benhida, T GHARBAOUI, A Lechevallier, R Beugelmans
Bulletin de la Société chimique de France 131 (2), 200-209, (8) 1994

Purine n-alkylated derivatives-s (rn) 1 synthesis and functional-group transformations

T Gharbaoui, R Benhida, J Chastanet, A Lechevallier
Bulletin de la Société chimique de France 131 (5), 561-574, 1994

New and straightforward access to olefins, butenolides and β -nitro γ -butyrolactones from precursors obtained via SRN1 reactions

R Beugelmans, ALI AMROLLAH-MADJDABADI, T Frinault, AD Morris, T GHARBAOUI, R BENHIDA
Bulletin de la Société chimique de France 131 (9), 1019-1030, (4) 1994

Dérivés N-alkylés en série purine. Synthèse par chimie radicalaire SRN1 et aménagements fonctionnels

T Gharbaoui, R Benhida, J Chastanet, A Lechevallier, P Maillos
Bulletin de la Société chimique de France 131 (5), 561-574, (9) 1994

N-alkyl-4-nitroimidazole derivatives. Chemistry synthesis and fonctionnalization

R Benhida, T Gharbaoui, A Lechevallier, R Beugelmans
Bulletin de la Société chimique de France 131 (2), 200-209, 1994

Syntheses of α -Substituted Cyclohexenones by Thermolysis of Tertiary Ketosulfoxides.

D barillier, R Benhida, M Vazeux
ChemInform 24 (42), no-no, 1993

Syntheses de cyclohexenones α -substituées via la thermolyse de cetosulfoxydes tertiaires

D Barillier, R Benhida, M Vazeux
Phosphorus, Sulfur, and Silicon and the Related Elements 78 (1-4), 83-95, (3) 1993

N-alcoylation du 4 (5)-nitroimidazole et des bases puriques et pyrimidiques par chimie radicalaire SRN1.

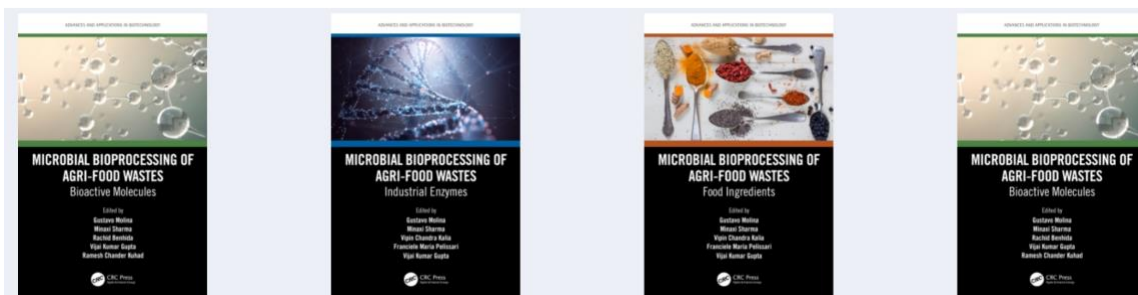
Accès à de nouveaux analogues de nucléosides

R Benhida
Thèse Paris 11 Orsay, 1992.

Microbial Bioprocessing of Agri-Food Wastes, Four-Volume Set (Advances and Applications in Biotechnology) 1st Edition

Edited By: Gustavo Molina, Minaxi Sharma, Rachid Benhida, Vijai Kumar Gupta, Ramesh Chander Kuhad

Abstract. This book set provides an overview of the methodologies of bioprocessing, sustainable production of agri-food waste, the assessment and management of bioactive molecule production from microbial-valorization of agri-food waste, and their industrial applications. This set also provides an overview of the tools and processes that make or modify products and improve plants for specific uses and discusses the utilization of livestock in agricultural systems using microbial approach. The authors examine technical concepts and processes for the enhanced bioproduction of various bio-products for commercial interest. They also discuss the main process conditions needed to overcome the difficulties of using waste as alternative raw materials and cover the main processes for obtaining the relevant enzymes for commercial purpose. They then review the technical-economic details on the advantages and disadvantages of exploring the waste recovery chain. Finally, they explore the main technological advances in the recovery of residues in functional products and encompass solid research to explore the broad potential of future microbial applications. This book is intended for biotechnologists, biologists, bioengineers, biochemists, microbiologists, food technologists, enzymologists, and related researchers.



Références

- Publisher : CRC Press
- Publication date : July 16, 2023
- Edition : 1st
- Language : English
- Print length : 1290 pages
- ISBN-10 : 0367625148
- ISBN-13 : 978-0367625146

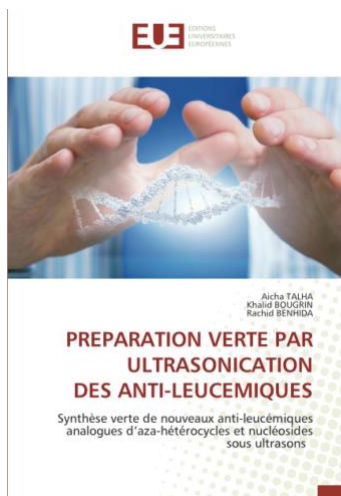
OUVRAGES

Antileucémiques. Synthèse verte de nouveaux anti-leucémiques analogues d'aza-hétérocycles et nucléosides sous ultrasons

French Edition. Paperback – August 23, 2023

French Edition by Aicha TALHA, Khalid Bougrin and Rachid Benhida

Éditions universitaires européennes 2023. August 23, 2023, ISBN-10 : 6206690164 & ISBN-13 : 978-6206690160



Abstract. L'objectif de cet ouvrage est de donner un aperçu sur de nouvelles stratégies éco-compatibles développer au sein du consortium, en accord avec les principes de la chimie verte. Nous nous sommes intéressés à la conception, la synthèse et l'étude de nouveaux aza-hétérocycles sulfonamidiques et nucléosidiques ayant des propriétés antitumorales. Par ailleurs, nous avons pu mettre en évidence une nouvelle méthodologie de synthèse rapide, propre et efficace pour accéder à des isoxazolines-3,5-disubstituées, via une réaction one-pot à trois composantes, sous ultrasons et en présence d'un catalyseur écologique. Nous avons ensuite développé une stratégie de synthèse de nouveaux 1,2,3-triazolyl-sulfonamides analogues d'EICAR, par une réaction tandem à quatre composantes. Ce livre présente également les activités biologiques des nouveaux composés, réalisées en collaboration entre l'ICN (Institut de Chimie de Nice, UMR 7272) et le C3M (centre de médecine moléculaire, INSERM U1065, Nice) ainsi que le fort potentiel de ces dérivés dans le traitement de certaines leucémies (LMC, LAM et MDS).

Sonochimie appliquée à la synthèse verte des molécules bioactives

Rachid Benhida, Hamza Tachallait, Khalid Bougrin, 2021

French Edition. Paperback – August 21, 2021

French Edition by Rachid Benhida, Hamza Tachallait, Khalid Bougrin.

Éditions universitaires européennes 2021. 16 November 2021, ISBN-10 : 6203429449 & ISBN-13 : 978-6203429442 pp. 284 pages.

Cancer du Sang. De nouvelles molécules nucléosidiques aux pouvoirs surprenants

French Edition. Paperback – October 01, 2019

M Driowya, K Bougrin, R Benhida

Éditions universitaires européennes 2019. October 1, 2020, pp. 276 pages. ISBN-10 : 6139528771 & ISBN-13 : 978-6139528776

CHAPITRE DE LIVRE

- H. MARZAG, P. WARNAULT, N. MARTINET K. BOUGRIN, R. BENHIDA, Natural Polyphenols as inhibitors of DNA methyltransferases, In Studies in Natural Products Chemistry, Bioactive Natural Product. Elsevier, Ed, Amsterdam, Netherlands 2014, Volume 41, 2014, Pages 195-223.
- KHALID BOUGRIN, RACHID BENHIDA: Microwave-Assisted Cycloaddition Reactions (Chapter 17) in Microwaves in Organic Synthesis, Third Edition. Edited by Antonio de la Hoz and André Loupy., Wiley-VCH, Weinheim, 2012, pp. 740-813.
- M. DRIOWYA, K. BOUGRIN, R. BENHIDA. Vol.15, 2011, pp. 327-371. Recent advances in microwave-assisted heterocyclic chemistry synthesis of three, four and five-membered heterocycles, in "Targets in Heterocyclic Systems-Chemistry and Properties", Editors: Orazio A. Attanasi and Domenico Spinelli,

BREVETS

1. Patent application No 12 306 391.9 (IT reference CHIM11049), filed under priority on November 9th 2012 co-owned by the Co-Owners of Patent Rights 1 titled NEW BENZENE SULFONAMIDE THIAZOLE COMPOUNDS and quoting Stéphane ROCCHI, Rachid BENHIDA, Michaël CEREZO, Jean-Patrick JOLY, Robert BALLOTTI.
2. Patent application No 15 306 213.8 (IT reference BIO15200), filed under priority on July 24th 2015 co-owned by the Co-Owners of Patent Rights 2 titled NOVEL SUBSTITUTED HYDROPHOBIC BENZENE SULFONAMIDE THIAZOLE COMPOUNDS and quoting Stéphane ROCCHI, Rachid BENHIDA, Cyril RONCO, Robert BALLOTTI, Antoine MILLET and Magali PLAISANT
3. Patent application No 21306869.5 (IT reference CHIM21345), filed under priority on December 21st 2021 co-owned by the Co-Owners of Patent Rights 4 titled BENZENE SULFONAMIDE THIAZOLE COMPOUNDS AND THEIR USE FOR THE TREATMENT OF CANCERS and quoting Stéphane ROCCHI, Rachid BENHIDA and Cyril RONCO.
4. Patent application No EP22306589.7 (IT reference IND1940801), filed on October 20th, 2022, co-owned by Licensee and the Institutional Co-Owners of the New Patent Rights, titled "COMBINATION THERAPY FOR THE TREATMENT OF CANCER". Stéphane ROCCHI, Rachid BENHIDA, Cyril RONCO, Michael CEREZO and Mehdi CHELBI.
5. Patent application No EP 22 306 586.3 (IT reference IND22546), filed on October 20th, 2022, co-owned by Licensee and the Institutional Co-Owners of the New Patent Rights, titled "COMPOSITIONS COMPRISING A BENZENE SULFONAMIDE THIAZOLE COMPOUND" and quoting Stéphane ROCCHI, Rachid BENHIDA, Cyril RONCO and Mehdi CHELBI as inventors
6. Patent application No EP24315195.8 (IT reference IND24264), filed on April 19th, 2024, co-owned by Licensee and the Institutional Co-Owners of the New Patent Rights, titled "Method for combination treatments using alkynylbenzenesulphonamides for cancer therapy" and quoting Stéphane ROCCHI, Rachid BENHIDA, Cyril RONCO, and Mehdi CHELBI as inventors
7. Patent application No EP24305615.7 (IT reference IND24265), filed on April 19th, 2024, co-owned by Licensee and the Institutional Co-Owners of the New Patent Rights, titled "COMPOSITIONS COMPRISING A BENZENE SULFONAMIDE THIAZOLE COMPOUND" and quoting Stéphane ROCCHI, Rachid BENHIDA, Cyril RONCO and Mehdi CHELBI as inventors.
8. Patent application US 17/368,803, (2022). Disease diagnosis using spectroscopy and machine learning. DL Kitane, N Azami, J Fekkak, R Benhida, S Loukman, N Marchoudi
9. Patent application No EP23305589.6 (2023). 3,5-DIAMINOTRIAZOLE DERIVATIVES AND USES THEREOF FOR TREATING OCULAR DISEASES. Maeva Dufies, Gilles Pagès, Rachid Benhida, Cyril Ronco, Marie Fabre, Leticia Pires-Goncalves, Julie Le Du, Olivia Rastoin.
10. Patent application No EP2022/06002 (2022). UREA DERIVATIVES FOR TREATING UVEAL MELANOMA. Maeva Dufies, Gilles Pagès, Rachid Benhida, Cyril Ronco.
11. Patent application No WO2020079184 A2 (2020). BENZAZOLES INHIBITORS WITH APPLICATIONS IN ANGIOGENESIS-DEPENDENT DISEASES. Maeva Dufies, Cyril Ronco, Luc Demange, Oleksandre Grytsai, Gilles Pagès, Rachid Benhida.
12. Patent application No EP17735589.8 (2017) granted EP3481806 (2023). 4-ANILINO-QUINOLINE COMPOUNDS AS ANTI-CANCER AGENTS. PASSERON Thierry, BENHIDA Rachid, DAO Pascal, DE DONATIS Gian Marco, MARTIN Anthony.
13. Patent application EP19700065.6, WO WO134969 (2020). SUBSTITUTED HALO-QUINOLINE DERIVATIVES FOR USE IN THE TREATMENT OF LYMPHOMAS AND LEUKEMIA. PASSERON Thierry, BENHIDA Rachid, DAO Pascal, DE DONATIS Gian Marco, MARTIN Anthony, VERHOYEN Els.
14. Patent FR3113050A1, WO2022025742A1 (2022). PROCÉDÉ DE FABRICATION DE SULFATE D'AMMONIUM ET DE CARBONATE DE CALCIUM A PARTIR DE PHOSPHOGYPSE. Hicham HASSOUNE, Adil LACHEHAB, Rachid BOULIF

15. Patent FR3117103A1, WO2022124874A1 (2022). METHOD FOR DETERMINING MIXING PARAMETERS FOR THE PREPARATION OF A PHOSPHORIC ACID SOLUTION COMPRISING A CONTROLLED CONTENT OF ONE OR MORE OF ITS CONSTITUENTS. BOULIF Rachid, HAFNAOUI Anass, KHALESS Khaoula
16. Patent FR3116269A1, WO2022108434A1 (2022), METHOD FOR MANUFACTURING ZINC PHOSPHATE ($Zn_3(PO_4)_2$). BENHIDA Rachid, BOULIF Rachid, KHALESS Khaoula
17. Patent FR3133766, WO2023182878A1 (2023), Process for absorbing carbon dioxide by phosphogypsum, BENHIDA Rachid, BOULIF Rachid, DHIBA Driss, HASSOUNE Hicham, LACHEHAB Adil
18. Patent WO2024076226A1 (2024). Process for recovering phosphorus from wastewater containing orthophosphate ions. BENHIDA Rachid, BOULIF Rachid, HASSOUNE Hicham, LACHEHAB Adil
19. Patent FR3140379B1, WO2024072201A1 (2024), Method for recovering rare earths and calcium sulfate from phosphogypsum, AIT HAK Sara, BENHIDA Rachid, EL MAHDI MOUNIR, KHALESS Khaoula
20. Patent FR3146604A1, WO2024191280A1 (2024), Method for treating phosphoric acid by ionic flotation. BENHIDA Rachid, BENMANSOUR Mohammed Rida, ETAHIRI ABDERAHMAN, MAKAN Mohammed, MAZOUZ Hamid
21. Patent FR3151032A1, WO2025014350A1 (2025), Process for the removal of heavy metals from phosphoric acid solutions. BENHIDA Rachid, KHALESS Khaoula, SRAIDI Anasse
22. Patent EP4417314A1, WO2024172639A1 (2025), Method for treating phosphate ores containing heavy metals by reverse flotation. BENHIDA Rachid, HAFID ZOUHAIR, JOUTI MOULAY BRAHIM, MOUTAOUKIL Zakaria, RONCO CYRIL
23. Patent WO2024191279A1 (2024) Method for recovering rare earths and coproducts from phosphogypsum and phosphoric acid sludge. BENHIDA Rachid, CHANOURI Hamza, KHALESS Khaoula
24. Patent application FR2407087 (2024), Procédé d'extraction et de concentration des terres rares à partir du phosphogypse. BENHIDA Rachid, CHANOURI Hamza, KHALESS Khaoula
25. Patent application FR2312035 (2023) Procédé de préparation de bitartrate de potassium par traitement d'une saumure. AMAL Saïd, BENHIDA Rachid, BOULIF Rachid, KHALESS Khaoula
26. Patent application FR2304880 (2023) Process for upgrading metals present in a phosphoric acid solution. BENHIDA Rachid, MAKAN Mohammed, MAZOUZ Hamid, MOUTAOUKIL Zakaria, TAMIN Abdelilah
27. Patent application FR2312731 (2023) Procédé de traitement d'une solution d'acide phosphorique contenant des terres rares et du vanadium. BENHIDA Rachid, EL MAHDI MOUNIR, KHALESS Khaoula, SRAIDI Anasse
28. Patent application FR2312030 (2023) Procédé de valorisation d'une saumure issue d'une usine de dessalement, BENHIDA Rachid, BOUAZZA AYOUB, KHALESS Khaoula
29. Patent application FR2411847 (2024) Procédé de fabrication de phosphate de zinc, AMAL SAID, BENHIDA Rachid, KHALESS Khaoula
30. Patent application FR2312028 (2023) Procédé de valorisation d'une saumure issue du dessalement d'eau de mer. BENHIDA Rachid, BOUAZZA AYOUB, BOULIF Rachid, KHALESS Khaoula
31. Patent application FR2407067 (2024) Procédé de Valorisation des boues de phosphate pour la production des terres rares, du carbonate de calcium et des silicates. AIT HAK Sara, BENHIDA Rachid, KHALESS Khaoula
32. Patent application FR2407245 (2024) Procédé d'élimination d'arsenic, de cadmium et de cuivre, de l'acide phosphorique. BENHIDA Rachid, KHALESS Khaoula, TACHALLAIT Hamza
33. Patent application EP24186050.1 (2024) Phosphate salts as mordants for dyeing. BENHIDA Rachid, BOUGRIN KHALID, MESRAR Fatim Ezahra ; TACHALLAIT Hamza
34. Patent application FR2501416 (2025) PROCEDE DE PREPARATION D'UNE SOLUTION D'ACIDE SULFURIQUE A PARTIR DE PHOSPHOGYPSE. AGAYR Khalid, BENHIDA Rachid, KHALESS Khaoula
35. Patent application FR2413108 (2024) Engrais minéraux NPK et leur procédé de préparation. BENHIDA Rachid, KHOULOUD Mehdi, KOUNBACH SAID
36. Patent application MA71206 (2025) ENROBANT NATUREL ANTI-POUSSIÈRE. Rachid BENHIDA, Abderrahim BENZAOUIA, Abdelghani LAAMAOUI, Mohamed AGGOUZAL, Abderrahim MOAATASSIM

37. Patent application FR11/01204, Extension PCT en 2012 WO/2012/143624. Products and Compositions including same, therapeutic uses thereof and methods for synthesizing same. R. BENHIDA, P. AUBERGER, M. DRIOWYA, A. PUISSANT, V. MALNUIT.
38. Patent application FR12/0650. 2012 - Délivré en 2014. Nucleoside derivatives, methods of preparation and the composition comprising thereof. Rachid BENHIDA. R. Benhida,
39. A. Faraj. Patent application US 9173892 (2015). Acadesine derivatives, products and compositions including same, therapeutic uses thereof, and methods for synthesizing same. R Benhida, P Auberge, V Malnuit, M Driowya, A Puissant, G Robert.