

HORIZON
2020

Advanced hybrid theranostic nanoplateforms for an active drug delivery in the cancer treatment

Resultados

Información del proyecto

NANO4TARMED

Identificador del acuerdo de subvención:
952063

[Sitio web del proyecto](#)

DOI
[10.3030/952063](https://doi.org/10.3030/952063)

Proyecto cerrado

Fecha de la firma de la CE
10 Junio 2020

Fecha de inicio
1 Enero 2021

Fecha de
finalización
30 Junio 2024

Financiado con arreglo a
Twinning of research institutions

Coste total
€ 744 898,75

Aportación de la
UE
€ 744 898,75

Coordinado por
UNIVERZITA PALACKEHO V
OLOMOUCI
 Czechia

Este proyecto figura en...



Fomento del desarrollo de competencias en la Unión Europea para lograr sociedades más sostenibles, resilientes y justas

CORDIS proporciona enlaces a los documentos públicos y las publicaciones de los proyectos de los programas marco HORIZONTE.

Los enlaces a los documentos y las publicaciones de los proyectos del Séptimo Programa Marco, así como los enlaces a algunos tipos de resultados específicos, como conjuntos de datos y «software», se obtienen dinámicamente de [OpenAIRE](#) .

Resultado final

Websites, patent fillings, videos etc. (2)

[Web platform set up](#)

Development of the online sharing platform in the form of a complex web application designed for researchers employees of joined institutions and public The platform will provide a information regarding the project details b online learningtutorials and workshops and c communication for all connected researchers

[Project website set up](#)

The project website will be established by the coordinator to publicize the goals of the project introduce NANO4TARMED and disseminate progresses into the wider scientific community industry and the general public The website will have both the public and NANO4TARMEDonly sections The NANO4TARMEDonly section will include a central repository of all relevant project documentations including reports minutes of meetings drafts of publications awaiting presubmission approvals to support proper handling of IP and cooperation among partners Social media channels will be used to address the young generation

Publicaciones

Peer reviewed articles (37)



[Perspectives of DCDR-GERS in the analysis of amino acids](#)

Autores: Václav Ranc, Zuzana Chaloupková

Publicado en: The Analyst, Edición 145/23, 2020, Página(s) 7701-7708, ISSN 0003-2654

Editor: Royal Society of Chemistry

DOI: 10.1039/d0an01564d

[Shape-Assisted 2D MOF/Graphene Derived Hybrids as Exceptional Lithium-Ion Battery Electrodes](#)

Autores: Kolleboyina Jayaramulu, Deepak P. Dubal, Andreas Schneemann, Václav Ranc, Cecilia Perez-Reyes, Jana Stráská, Štěpán Kment, Michal Otyepka, Roland A. Fischer, Radek Zbořil

Publicado en: Advanced Functional Materials, Edición 29/38, 2019, Página(s) 1902539, ISSN 1616-301X

Editor: John Wiley & Sons Ltd.

DOI: 10.1002/adfm.201902539

[Label-free determination of prostate specific membrane antigen in human whole blood at nanomolar levels by magnetically assisted surface enhanced Raman spectroscopy](#)

Autores: Zuzana Chaloupková, Anna Balzerová, Jitka Bařínková, Zdenka Medříková, Pavel Šácha, Petr Beneš, Václav Ranc, Jan Konvalinka, Radek Zbořil

Publicado en: Analytica Chimica Acta, Edición 997, 2018, Página(s) 44-51, ISSN 0003-2670

Editor: Elsevier BV

DOI: 10.1016/j.aca.2017.10.008

[Carbon Dot Fluorescence-Lifetime-Encoded Anti-Counterfeiting](#)

Autores: Sergii Kalytchuk, Yu Wang, Kateřina Poláková, Radek Zbořil

Publicado en: ACS Applied Materials & Interfaces, Edición 10/35, 2018, Página(s) 29902-29908, ISSN 1944-8244

Editor: American Chemical Society

DOI: 10.1021/acsami.8b11663

[Purple-emissive carbon dots enhance sensitivity of Si photodetectors to ultraviolet range](#)

Autores: Sergii Kalytchuk, Lukáš Zdražil, Magdalena Scheibe, Radek Zbořil

Publicado en: Nanoscale, Edición 12/15, 2020, Página(s) 8379-8384, ISSN 2040-3364

Editor: Royal Society of Chemistry

DOI: 10.1039/d0nr00505c

[Ultrathin Hierarchical Porous Carbon Nanosheets for High-Performance Supercapacitors and Redox Electrolyte Energy Storage](#) 

Autores: Kolleboyina Jayaramulu, Deepak P. Dubal, Bhawna Nagar, Vaclav Ranc, Ondrej Tomanec, Martin Petr, Kasibhatta Kumara Ramanatha Datta, Radek Zboril, Pedro Gómez-Romero, Roland A. Fischer

Publicado en: Advanced Materials, Edición 30/15, 2018, Página(s) 1705789, ISSN 0935-9648

Editor: United Nations Industrial Development Organization

DOI: 10.1002/adma.201705789

[Flow induced HeLa cell detachment kinetics show that oxygen-containing functional groups in graphene oxide are potent cell adhesion enhancers](#) 

Autores: Jakub Vlček, Lubomír Lapčík, Markéta Havrdová, Kateřina Poláková, Barbora Lapčíková, Tomáš Opletal, Jens P. Froning, Michal Otyepka

Publicado en: Nanoscale, Edición 11/7, 2019, Página(s) 3222-3228, ISSN 2040-3364

Editor: Royal Society of Chemistry

DOI: 10.1039/c8nr08994a

[Intrinsic photoluminescence of amine-functionalized graphene derivatives for bioimaging applications](#) 

Autores: Georgia Potsi, Athanasios B. Bourlinos, Vasilios Mouselimis, Kateřina Poláková, Nikolaos Chalmes, Dimitrios Gournis, Sergii Kalytchuk, Ondřej Tomanec, Piotr Błoński, Miroslav Medved', Petr Lazar, Michal Otyepka, Radek Zbořil

Publicado en: Applied Materials Today, Edición 17, 2019, Página(s) 112-122, ISSN 2352-9407

Editor: ELSEVIER

DOI: 10.1016/j.apmt.2019.08.002

[The Effect of Rhodamine-Derived Superparamagnetic Maghemite Nanoparticles on the Motility of Human Mesenchymal Stem Cells and Mouse Embryonic Fibroblast Cells](#) 

Autores: Larisa Baiazitova, Josef Skopalik, Jiri Chmelik, Inna Zumberg, Vratislav Cmiel, Katerina Polakova, Ivo Provaznik

Publicado en: Molecules, Edición 24/7, 2019, Página(s) 1192, ISSN 1420-3049

Editor: Multidisciplinary Digital Publishing Institute (MDPI)

DOI: 10.3390/molecules24071192

[Click Pt\(IV\)-Carbohydrates Pro-Drugs for Treatment of Osteosarcoma](#) 

Autores: Eoin Moynihan, Giada Bassi, Andrea Ruffini, Silvia Panseri, Monica Montesi, Trinidad Velasco-Torrijos, Diego Montagner

Publicado en: Frontiers in Chemistry, Edición 07 December 2021, 2021, ISSN 2296-2646

Editor: Frontiers Media S.A.

DOI: 10.3389/fchem.2021.795997

[New Limits for Stability of Supercapacitor Electrode Material Based on Graphene Derivative](#)

Autores: Veronika Šedajová, Petr Jakubec, Aristides Bakandritsos, Václav Ranc, Michal Otyepka

Publicado en: Nanomaterials, Edición 10/9, 2020, Página(s) 1731, ISSN 2079-4991

Editor: MDPI

DOI: 10.3390/nano10091731

[Dual Drug Delivery in Cancer Therapy Using Graphene Oxide-Based Nanoplatfoms](#)

Autores: Ludmila Žárská, Eoin Moynihan, Arianna Rossi, Giada Bassi, Pavlína Balatková, Elisabetta Campodoni, Maria Galiana Cameo, Monica Montesi, Diego Montagner, Vaclav Ranc, Silvia Panseri

Publicado en: Advanced NanoBiomed Research, 2024, ISSN 2699-9307

Editor: Wiley online library

DOI: 10.1002/anbr.202400026

[Label-free determination and multiplex analysis of DNA and RNA in tumor tissues](#)

Autores: Zuzana Chaloupková, Anna Balzerová, Zdenka Medříková, Josef Srovnal, Marián Hajdúch, Klára Čépe, Václav Ranc, Radek Zbořil

Publicado en: Applied Materials Today, Edición 12, 2018, Página(s) 85-91, ISSN 2352-9407

Editor: ELSEVIER

DOI: 10.1016/j.apmt.2017.12.012

[A carbon dot-based tandem luminescent solar concentrator](#)

Autores: Lukáš Zdražil, Sergii Kalytchuk, Kateřina Holá, Martin Petr, Oldřich Zmeškal, Štěpán Kment, Andrey L. Rogach, Radek Zbořil

Publicado en: Nanoscale, Edición 12/12, 2020, Página(s) 6664-6672, ISSN 2040-3364

Editor: Royal Society of Chemistry

DOI: 10.1039/c9nr10029f

[2D and 3D anticancer properties of C2-functionalised glucosamine-Pt \(IV\) prodrugs based on cisplatin scaffold](#)

Autores: Eoin Moynihan, Maria Galiana-Cameo, Monica Sandri, Andrea Ruffini, Silvia Panseri, Trinidad Velasco-Torrijos, Monica Montesi, Diego Montagner

Publicado en: Frontiers in Chemistry, Edición 12, 2024, ISSN 2296-2646

Editor: Frontiers

DOI: 10.3389/fchem.2024.1388332

[Covalent Graphene-MOF Hybrids for High-Performance Asymmetric Supercapacitors](#)

Autores: Kolleboyina Jayaramulu, Michael Horn, Andreas Schneemann, Haneesh Saini, Aristides Bakandritsos, Vaclav Ranc, Martin Petr, Vitalie Stavila, Chandrabhas Narayana, Błażej Scheibe, Štěpán Kment, Michal Otyepka, Nunzio Motta, Deepak Dubal, Radek Zbořil, Roland A. Fischer

Publicado en: Advanced Materials, Edición 33/4, 2021, Página(s) 2004560, ISSN 0935-9648

Editor: United Nations Industrial Development Organization

DOI: 10.1002/adma.202004560

[Ultrathin 2D Cobalt Zeolite-Imidazole Framework Nanosheets for Electrocatalytic Oxygen Evolution](#)

Autores: Kolleboyina Jayaramulu, Justus Masa, Dulce M. Morales, Ondrej Tomanec, Vaclav Ranc, Martin Petr, Patrick Wilde, Yen-Ting Chen, Radek Zboril, Wolfgang Schuhmann, Roland A. Fischer

Publicado en: Advanced Science, Edición 5/11, 2018, Página(s) 1801029, ISSN 2198-3844

Editor: WILEY

DOI: 10.1002/advs.201801029

[Chiral discrimination of amino acids using phosphorene assisted graphene-enhanced Raman spectroscopy](#)

Autores: Václav Ranc, Zuzana Chaloupková

Publicado en: Analytica Chimica Acta, Edición 1129, 2020, Página(s) 69-75, ISSN 0003-2670

Editor: Elsevier BV

DOI: 10.1016/j.aca.2020.06.067

[Carboxymethylcellulose-based magnetic Au or Ag nanosystems: Eminent candidates in catalysis, sensing applications based on SERS, and electrochemistry](#)

Autores: Zdenka Medříková, Petr Jakubec, Václav Ranc, Aristides Bakandritsos, Josef Kašlík, Radek Zbořil

Publicado en: Applied Materials Today, Edición 14, 2019, Página(s) 143-150, ISSN 2352-9407

Editor: ELSEVIER SCIENCE

DOI: 10.1016/j.apmt.2018.12.001

[Graphene Oxide Nanoplatfoms to Enhance Cisplatin-Based Drug Delivery in Anticancer Therapy](#)

Autores: Elena Giusto, Ludmila Žárská, Darren Fergal Beirne, Arianna Rossi, Giada Bassi, Andrea Ruffini, Monica Montesi, Diego Montagner, Vaclav Ranc, Silvia Panseri

Publicado en: Nanomaterials, Edición 12, 2024, Página(s) 2372, ISSN 2079-4991

Editor: Nanomaterials

DOI: 10.3390/nano12142372

[Formic Acid, a Ubiquitous but Overlooked Component of the Early Earth Atmosphere](#)

Autores: Elmira Mohammadi, Lukáš Petera, Homa Saeidfirozeh, Antonín Knížek, Petr Kubelík, Roman Dudžák, Miroslav Krůs, Libor Juha, Svatopluk Civiš, Rémi Coulon, Ondřej Malina, Juri Ugolotti, Václav Ranc, Michal Otyepka, Jiří Šponer, Martin Ferus, Judit E. Šponer

Publicado en: Chemistry – A European Journal, Edición 26/52, 2020, Página(s) 12075-12080, ISSN 0947-6539

Editor: John Wiley & Sons Ltd.

DOI: 10.1002/chem.202000323

[Carbon Dots and \[FeFe\] Hydrogenase Biohybrid Assemblies for Efficient Light-Driven Hydrogen Evolution](#)

Autores: Kateřina Holá, Mariia V. Pavliuk, Brigitta Németh, Ping Huang, Lukáš Zdražil, Henrik Land, Gustav Berggren, Haining Tian

Publicado en: ACS Catalysis, Edición 10/17, 2020, Página(s) 9943-9952, ISSN 2155-5435

Editor: American Chemical Society

DOI: 10.1021/acscatal.0c02474

[Size-Selected Graphene Oxide Loaded with Photosensitizer \(TMPyP\) for Targeting Photodynamic Therapy In Vitro](#)

Autores: Kateřina Bartoň Tománková, Ariana Opletalová, Kateřina Poláková, Sergii Kalytchuk, Jana Jiravová, Jakub Malohlava, Lukáš Malina, Hana Kolářová

Publicado en: Processes, Edición 8/2, 2020, Página(s) 251, ISSN 2227-9717

Editor: MDPI

DOI: 10.3390/pr8020251

[Label-Free Determination of PSA and Free PSA Using MA-SERS](#)

Autores: Zuzana Chaloupková, Zdenka Medříková, Milan Král, Veronika Šedajová and Václav Ranc

Publicado en: Frontiers in Analytical Science, Edición 22 March 2022, 2022, ISSN 2673-9283

Editor: Frontiers

DOI: 10.3389/frans.2022.847730

[Discrimination of resected glioma tissues using surface enhanced Raman spectroscopy and Au@ZrO₂ plasmonic nanosensor](#)

Autores: Vaclav Ranc, Ondrej Pavlacka, Ondrej Kalita, Miroslav Vaverka

Publicado en: Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Edición 305, 2024, Página(s) 123521, ISSN 1386-1425

Editor: Pergamon Press Ltd.

DOI: 10.1016/j.saa.2023.123521

[Imaging of growth factors on a human tooth root canal by surface-enhanced Raman spectroscopy](#)

Autores: Václav Ranc, Radovan Žížka, Zuzana Chaloupková, Juraj Ševčík, Radek Zbořil

Publicado en: Analytical and Bioanalytical Chemistry, Edición 410/27, 2018, Página(s) 7113-7120, ISSN 1618-2642

Editor: Springer Verlag

DOI: 10.1007/s00216-018-1311-4

[The Differential Effect of Carbon Dots on Gene Expression and DNA Methylation of Human Embryonic Lung Fibroblasts as a Function of Surface Charge and Dose](#) 

Autores: Michal Sima, Kristyna Vrbova, Tana Zavodna, Katerina Honkova, Irena Chvojková, Antonin Ambroz, Jiri Klema, Andrea Rossnerova, Katerina Polakova, Tomas Malina, Jan Belza, Jan Topinka, Pavel Rossner

Publicado en: International Journal of Molecular Sciences, Edición 21/13, 2020, Página(s) 4763, ISSN 1422-0067

Editor: Multidisciplinary Digital Publishing Institute (MDPI)

DOI: 10.3390/ijms21134763

[In vivo theranostics with near-infrared-emitting carbon dots—highly efficient photothermal therapy based on passive targeting after intravenous administration](#) 

Autores: Xin Bao, Ye Yuan, Jingqin Chen, Bohan Zhang, Di Li, Ding Zhou, Pengtao Jing, Guiying Xu, Yingli Wang, Kateřina Holá, Dezhen Shen, Changfeng Wu, Liang Song, Chengbo Liu, Radek Zbořil, Songnan Qu

Publicado en: Light: Science & Applications, Edición 7/1, 2018, ISSN 2047-7538

Editor: CHINESE ACAD SCIENCES

DOI: 10.1038/s41377-018-0090-1

[The environmental fate of graphene oxide in aquatic environment—Complete mitigation of its acute toxicity to planktonic and benthic crustaceans by algae](#) 

Autores: Tomáš Malina, Eliška Maršálová, Kateřina Holá, Radek Zbořil, Blahoslav Maršálek

Publicado en: Journal of Hazardous Materials, Edición 399, 2020, Página(s) 123027, ISSN 0304-3894

Editor: Elsevier BV

DOI: 10.1016/j.jhazmat.2020.123027

[Polymer-Based Graphene Derivatives and Microwave-Assisted Silver Nanoparticles Decoration as a Potential Antibacterial Agent](#) 

Autores: Angelo Nicosia, Fabiana Vento, Anna Lucia Pellegrino, Václav Ranc, Anna Piperno, Antonino Mazzaglia, Placido Mineo

Publicado en: Nanomaterials, Edición 10/11, 2020, Página(s) 2269, ISSN 2079-4991

Editor: MDPI

DOI: 10.3390/nano10112269

[Zigzag sp 2 Carbon Chains Passing through an sp 3 Framework: A Driving Force toward Room-Temperature Ferromagnetic Graphene](#) 

Autores: Jiří Tuček, Kateřina Holá, Giorgio Zoppellaro, Piotr Błoński, Rostislav Langer, Miroslav Medved', Toma Susi, Michal Otyepka, Radek Zbořil

Publicado en: ACS Nano, Edición 12/12, 2018, Página(s) 12847-12859, ISSN 1936-0851

Editor: American Chemical Society

DOI: 10.1021/acsnano.8b08052

[High frequency acoustic emission monitoring in nano-impact of alumina and partially stabilised zirconia](#) 

Autores: Ben D. Beake, Radim Ctvrtlik, Adrian J. Harris, Alberto Sanchez Martin, Lukas Vaclavek, Jan Manak, Vaclav Ranc

Publicado en: Materials Science and Engineering: A, Edición 780, 2020, Página(s) 139159, ISSN 0921-5093

Editor: Elsevier BV

DOI: 10.1016/j.msea.2020.139159

[Development of Novel Pt\(IV\)-Carbohydrate Derivatives as Targeted Anticancer Agents against Osteosarcoma](#) 

Autores: Eoin Moynihan, Silvia Panzeri, Giada Bassi, Arianna Rossi, Elisabetta Campodoni, Eithne Dempsey, Monica Montesi, Trinidad Velasco-Torrijos, Diego Montagner

Publicado en: International Journal of Molecular Sciences, Edición 24, 2023, Página(s) 6028, ISSN 1422-0067

Editor: Multidisciplinary Digital Publishing Institute (MDPI)

DOI: 10.3390/ijms24076028

[Toxicity of graphene oxide against algae and cyanobacteria: Nanoblade-morphology-induced mechanical injury and self-protection mechanism](#) 

Autores: Tomáš Malina, Eliška Maršálková, Kateřina Holá, Jiří Tuček, Magdalena Scheibe, Radek Zbořil, Blahoslav Maršálek

Publicado en: Carbon, Edición 155, 2019, Página(s) 386-396, ISSN 0008-6223

Editor: Pergamon Press Ltd.

DOI: 10.1016/j.carbon.2019.08.086

[Thermally reduced fluorographenes as efficient electrode materials for supercapacitors](#) 

Autores: Martin Petr, Petr Jakubec, Václav Ranc, Veronika Šedajová, Rostislav Langer, Miroslav Medved', Piotr Błoński, Josef Kašík, Vojtěch Kupka, Michal Otyepka, Radek Zbořil

Publicado en: Nanoscale, Edición 11/44, 2019, Página(s) 21364-21375, ISSN 2040-3364

Editor: Royal Society of Chemistry

DOI: 10.1039/c9nr07255a

[Carbon dots for in vivo fluorescence imaging of adipose tissue-derived mesenchymal stromal cells](#) 

Autores: Tomáš Malina, Kateřina Poláková, Josef Skopalík, Věra Milotová, Kateřina Holá, Markéta Havrdová, Kateřina Bartoň Tománková, Vratislav Čmiel, Luděk Šefc, Radek Zbořil

Publicado en: Carbon, Edición 152, 2019, Página(s) 434-443, ISSN 0008-6223

Editor: Pergamon Press Ltd.

DOI: 10.1016/j.carbon.2019.05.061

[Multiplex competitive analysis of HER2 and EpCAM cancer markers in whole human blood using Fe₂O₃@Ag nanocomposite](#) 

Autores: Anna Balzerová, Ariana Opletalová, Václav Ranc, Radek Zbořil

Publicado en: Applied Materials Today, Edición 13, 2018, Página(s) 166-173, ISSN 2352-9407

Editor: ELSEVIER

DOI: 10.1016/j.apmt.2018.08.016

Other (3)

Advanced nanoplatforms for diagnosis and treatment of osteosarcoma

Autores: Vaclav Ranc, Silvia Panseri, Diego Montagner

Publicado en: Innovation NewsNetwork, 2023

Editor: Pan European Networks Ltd

Nanoplatforms to fight cancer

Autores: Magazine editors

Publicado en: Platinum (Il Sole 24 ore), Edición 5, 2022

Editor: Publiscoop Editore S.r.l.

Advanced nanoplatforms for diagnosis and treatment of osteosarcoma

Autores: Vaclav Ranc, Silvia Panseri, Diego Montagner

Publicado en: Innovation News Network, 2024

Editor: Pan European Networks Ltd

Non-peer reviewed articles (1)

Prestížní evropský projekt pro výzkum cílené léčby osteosarkomu odstartoval

Autores: Journal editors

Publicado en: azcasopis.cz (A-Z Elektro), 2021, Página(s) 90-91, ISSN 1805-

Conjuntos de datos

Conjuntos de datos vía OpenAIRE (4)



[Discrimination of resected glioma tissues using surface enhanced Raman spectroscopy and Au@ZrO₂ plasmonic nanosensor](#)

Autores: Ranc, Vaclav; Pavlacka, Ondrej; Kalita, Ondrej; Vaverka, Miroslav
Publicado en: Zenodo

[Dual Drug Delivery in Cancer Therapy Using Graphene Oxide-Based Nanoplatfoms](#)

Autores: Ludmila, Zarska; Moynihan, Eoin; Rossi, Arianna; Bassi, Giada; Balatkova, Pavlina; Campodoni, Elisabetta; Cameo, Maria; Montesi, Monica; Montagner, Diego; Panseri, Silvia; Ranc, Vaclav
Publicado en: Zenodo

[Dual Drug Delivery in Cancer Therapy Using Graphene Oxide-Based Nanoplatfoms](#)

Autores: Ludmila, Zarska; Moynihan, Eoin; Rossi, Arianna; Bassi, Giada; Balatkova, Pavlina; Campodoni, Elisabetta; Cameo, Maria; Montesi, Monica; Montagner, Diego; Panseri, Silvia; Ranc, Vaclav
Publicado en: Zenodo

[Discrimination of resected glioma tissues using surface enhanced Raman spectroscopy and Au@ZrO₂ plasmonic nanosensor](#)

Autores: Ranc, Vaclav; Pavlacka, Ondrej; Kalita, Ondrej; Vaverka, Miroslav
Publicado en: Zenodo

Última actualización: 10 Abril 2025

Permalink: <https://cordis.europa.eu/project/id/952063/results/es>

European Union, 2025

