Colloidal Nanomaterials for Smart Applications

Results

Project Information

COMPASS

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Project website

DOI
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Project closed

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Coordinated by
FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA
Italy

CORDIS provides links to public deliverables and publications of HORIZON projects.

Links to deliverables and publications from FP7 projects, as well as links to some specific result types such as dataset and software, are dynamically retrieved from OpenAIRE.

Deliverables

Other (1)

Mid Project Workshop
Workshop including project partners and external speakers

Publications

Peer reviewed articles (58)

Multifunctional Magnetic and Upconverting Nanobeads as Dual Modal Imaging Tools
Author(s): Maria Elena Materia, Manuel Pernia Leal, Marco Scotto, Preethi Bala Balakrishnan, Sahitya Kumar Avugadda, María L. García-Martín, Bruce E. Cohen, Emory M. Chan, Teresa Pellegrino
Published in: Bioconjugate Chemistry, Issue 28/11, 2017, Page(s) 2707-2714, ISSN 1043-1802
Publisher: American Chemical Society
DOI: 10.1021/acs.bioconjchem.7b00432

Fluorescent Alloy CsPb x Mn 1− x I 3 Perovskite Nanocrystals with High Structural and Optical Stability
Author(s): Quinten A. Akkerman, Daniele Meggiolaro, Zhiya Dang, Filippo De Angelis, Liberato Manna
Published in: ACS Energy Letters, Issue 2/9, 2017, Page(s) 2183-2186, ISSN 2380-8195
Publisher: ACS Energy Letters
DOI: 10.1021/acsenergylett.7b00707

Bright-Emitting Perovskite Films by Large-Scale Synthesis and Photoinduced Solid-State Transformation of CsPbBr 3 Nanoplatelets
Author(s): Javad Shamsi, Prachi Rastogi, Vincenzo Caligiuri, Ahmed L. Abdelhady, Davide Spirito, Liberato Manna, Roman Krahne
Published in: ACS Nano, Issue 11/10, 2017, Page(s) 10206-10213, ISSN 1936-0851
Publisher: American Chemical Society
DOI: 10.1021/acsnano.7b04761

A Library of Selenourea Precursors to PbSe Nanocrystals with Size Distributions near the Homogeneous Limit
Author(s): Michael P. Campos, Mark P. Hendricks, Alexander N. Beecher, Willem Walravens, Robert A. Swain, Gregory T. Cleveland, Zeger Hens, Matthew Y. Sfeir, Jonathan S. Owen
Published in: Journal of the American Chemical Society, Issue 139/6, 2017,

Page(s) 2296-2305, ISSN 0002-7863
Publisher: American Chemical Society
DOI: 10.1021/jacs.6b11021

Nearly Monodisperse Insulator Cs 4 PbX 6 (X = Cl, Br, I) Nanocrystals, Their Mixed Halide Compositions, and Their Transformation into CsPbX 3 Nanocrystals
Author(s): Quinten A. Akkerman, Sungwook Park, Eros Radicchi, Francesca Nunzi, Edoardo Mosconi, Filippo De Angelis, Rosaria Brescia, Prachi Rastogi, Mirko Prato, Liberato Manna
Published in: Nano Letters, Issue 17/3, 2017, Page(s) 1924-1930, ISSN 1530-6984
Publisher: American Chemical Society
DOI: 10.1021/acs.nanolett.6b05262

Reversible Concentration-Dependent Photoluminescence Quenching and Change of Emission Color in CsPbBr 3 Nanowires and Nanoplatelets
Author(s): Francesco Di Stasio, Muhammad Imran, Quinten A. Akkerman, Mirko Prato, Liberato Manna, Roman Krahne
Published in: The Journal of Physical Chemistry Letters, Issue 8/12, 2017, Page(s) 2725-2729, ISSN 1948-7185
Publisher: American Chemical Society
DOI: 10.1021/acs.jpclett.7b01305

Changing the Dimensionality of Cesium Lead Bromide Nanocrystals by Reversible Postsynthesis Transformations with Amines
Author(s): Francisco Palazon, Guilherme Almeida, Quinten A. Akkerman, Luca De Trizio, Zhiya Dang, Mirko Prato, Liberato Manna
Published in: Chemistry of Materials, Issue 29/10, 2017, Page(s) 4167-4171, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.7b00895

Ultrathin Orthorhombic PbS Nanosheets
Author(s): Quinten A. Akkerman, Beatriz Martín-García, Joka Buha, Guilherme Almeida, Stefano Toso, Sergio Marras, Francesco Bonaccorso, Urko Petralanda, Ivan Infante, Liberato Manna
Published in: Chemistry of Materials, Issue 31/19, 2019, Page(s) 8145-8153, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.9b02914

Stereoelectronic Effects on the Binding of Neutral Lewis Bases to CdSe Nanocrystals
Author(s): Nicholas C. Anderson, Peter. E. Chen, Aya K. Buckley, Jonathan De Roo, Jonathan S. Owen

Published in: Journal of the American Chemical Society, Issue 140/23, 2018, Page(s) 7199-7205, ISSN 0002-7863
Publisher: American Chemical Society
DOI: 10.1021/jacs.8b02927

Direct Quantification of Cu Vacancies and Spatial Localization of Surface Plasmon Resonances in Copper Phosphide Nanocrystals
Author(s): Giovanni Bertoni, Quentin Ramasse, Rosaria Brescia, Luca De Trizio, Francesco De Donato, Liberato Manna
Published in: ACS Materials Letters, Issue 1/6, 2019, Page(s) 665-670, ISSN 2639-4979
Publisher: ACS Publication
DOI: 10.1021/acsmaterialslett.9b00412

Exciton-phonon coupling in InP quantum dots with ZnS and (Zn , Cd) Se shells
Author(s): Annalisa Brodu, Mariana V. Ballottin, Jonathan Buhot, Dorian Dupont, Mickael Tessier, Zeger Hens, Freddy T. Rabouw, Peter C. M. Christianen, Celso de Mello Donega, Daniel Vanmaekelbergh
Published in: Physical Review B, Issue 101/12, 2020, ISSN 2469-9950
Publisher: APS Physics
DOI: 10.1103/physrevb.101.125413

Angle and Polarization Selective Spontaneous Emission in Dye-Doped Metal/Insulator/Metal Nanocavities
Author(s): Vincenzo Caligiuri, Giulia Biffi, Milan Palei, Beatriz Martín-García, Renuka Devi Pothuraju, Yann Bretonnière, Roman Krahne
Published in: Advanced Optical Materials, Issue 8/1, 2020, Page(s) 1901215, ISSN 2195-1071
Publisher: Advanced Optical Materials
DOI: 10.1002/adom.201901215

Planar Double-Epsilon-Near-Zero Cavities for Spontaneous Emission and Purcell Effect Enhancement
Author(s): Vincenzo Caligiuri, Milan Palei, Muhammad Imran, Liberato Manna, Roman Krahne
Published in: ACS Photonics, Issue 5/6, 2018, Page(s) 2287-2294, ISSN 2330-4022
Publisher: American Chemical Society
DOI: 10.1021/acsphotonics.8b00121

Boosting Tunable Blue Luminescence of Halide Perovskite Nanoplatelets through Postsynthetic Surface Trap Repair
Author(s): Bernhard J. Bohn, Yu Tong, Moritz Gramlich, May Ling Lai, Markus Döblinger, Kun Wang, Robert L. Z. Hoye, Peter Müller-Buschbaum, Samuel D.

Stranks, Alexander S. Urban, Lakshminarayana Polavarapu, Jochen Feldmann
Published in: Nano Letters, Issue 18/8, 2018, Page(s) 5231-5238, ISSN 1530-6984
Publisher: American Chemical Society
DOI: 10.1021/acs.nanolett.8b02190

Exciton Fine Structure and Lattice Dynamics in InP/ZnSe Core/Shell Quantum Dots
Author(s): Annalisa Brodu, Mariana V. Ballottin, Jonathan Buhot, Elleke J. van Harten, Dorian Dupont, Andrea La Porta, P. Tim Prins, Mickael D. Tessier, Marijn A. M. Versteegh, Val Zwiller, Sara Bals, Zeger Hens, Freddy T. Rabouw, Peter C. M. Christianen, Celso de Mello Donega, Daniel Vanmaekelbergh
Published in: ACS Photonics, Issue 5/8, 2018, Page(s) 3353-3362, ISSN 2330-4022
Publisher: American Chemical Society
DOI: 10.1021/acsphotonics.8b00615

Core/Shell CdSe/CdS Bone-Shaped Nanocrystals with a Thick and Anisotropic Shell as Optical Emitters
Author(s): Andrea Castelli, Balaji Dhanabalan, Anatolii Polovitsyn, Vincenzo Caligiuri, Francesco Di Stasio, Alice Scarpellini, Rosaria Brescia, Milan Palei, Beatriz Martín-García, Mirko Prato, Liberato Manna, Iwan Moreels, Roman Krahne, Milena P. Arciniegas
Published in: Advanced Optical Materials, Issue 8/1, 2020, Page(s) 1901463, ISSN 2195-1071
Publisher: Advanced Optical Materials
DOI: 10.1002/adom.201901463

Dephasing and Quantum Beating of Excitons in Methylammonium Lead Iodide Perovskite Nanoplatelets
Author(s): Bernhard J. Bohn, Thomas Simon, Moritz Gramlich, Alexander F. Richter, Lakshminarayana Polavarapu, Alexander S. Urban, Jochen Feldmann
Published in: ACS Photonics, Issue 5/2, 2017, Page(s) 648-654, ISSN 2330-4022
Publisher: American Chemical Society
DOI: 10.1021/acsphotonics.7b01292

Hybridization of epsilon-near-zero modes via resonant tunneling in layered metal-insulator double nanocavities
Author(s): Vincenzo Caligiuri, Milan Palei, Giulia Biffi, Roman Krahne
Published in: Nanophotonics, Issue 8/9, 2019, Page(s) 1505-1512, ISSN 2192-8614
Publisher: De Gruyter
DOI: 10.1515/nanoph-2019-0054

A Semi-Classical View on Epsilon-Near-Zero Resonant Tunneling Modes in Metal/Insulator/Metal Nanocavities

Author(s): Vincenzo Caligiuri, Milan Palei, Giulia Biffi, Sergey Artyukhin, Roman Krahne
Published in: Nano Letters, Issue 19/5, 2019, Page(s) 3151-3160, ISSN 1530-6984
Publisher: American Chemical Society
DOI: 10.1021/acs.nanolett.9b00564

The Impact of Core/Shell Sizes on the Optical Gain Characteristics of CdSe/CdS Quantum Dots

Author(s): Suzanne Bisschop, Pieter Geiregat, Tangi Aubert, Zeger Hens
Published in: ACS Nano, Issue 12/9, 2018, Page(s) 9011-9021, ISSN 1936-0851
Publisher: American Chemical Society
DOI: 10.1021/acsnano.8b02493

Size Tunable Synthesis and Surface Chemistry of Metastable TiO 2 - Bronze Nanocrystals

Author(s): Jonas Billet, Wouter Dujardin, Katrien De Keukeleere, Klaartje De Buysser, Jonathan De Roo, Isabel Van Driessche
Published in: Chemistry of Materials, Issue 30/13, 2018, Page(s) 4298-4306, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.8b01296

Synthesis of Phosphonic Acid Ligands for Nanocrystal Surface Functionalization and Solution Processed Memristors

Author(s): Jonathan De Roo, Zimu Zhou, Jiaying Wang, Loren Deblock, Alfred J. Crosby, Jonathan S. Owen, Stephen S. Nonnenmann
Published in: Chemistry of Materials, Issue 30/21, 2018, Page(s) 8034-8039, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.8b03768

Anthracene Diphosphate Ligands for CdSe Quantum Dots; Molecular Design for Efficient Upconversion

Author(s): Jonathan De Roo, Zhiyuan Huang, Nathaniel J. Schuster, Leslie S. Hamachi, Daniel N. Congreve, Zihao Xu, Pan Xia, Dmitry A. Fishman, Tianquan Lian, Jonathan S. Owen, Ming Lee Tang
Published in: Chemistry of Materials, Issue 32/4, 2020, Page(s) 1461-1466, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.9b04294

Stabilization of Colloidal Ti, Zr, and Hf Oxide Nanocrystals by Protonated Tri- n -octylphosphine Oxide (TOPO) and Its Decomposition Products

Author(s): Katrien De Keukeleere, Sofie Coucke, Els De Canck, Pascal Van Der Voort, Fabien Delpech, Yannick Coppel, Zeger Hens, Isabel Van Driessche, Jonathan S. Owen, Jonathan De Roo
Published in: Chemistry of Materials, Issue 29/23, 2017, Page(s) 10233-10242, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.7b04580

Probing Solvent–Ligand Interactions in Colloidal Nanocrystals by the NMR Line Broadening

Author(s): Jonathan De Roo, Nuri Yazdani, Emile Drijvers, Alessandro Lauria, Jorick Maes, Jonathan S. Owen, Isabel Van Driessche, Markus Niederberger, Vanessa Wood, Jose C. Martins, Ivan Infante, Zeger Hens
Published in: Chemistry of Materials, Issue 30/15, 2018, Page(s) 5485-5492, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.8b02523

Efficient Endocytosis of Inorganic Nanoparticles with Zwitterionic Surface Functionalization

Author(s): Emile Drijvers, Jing Liu, Aranit Harizaj, Ulrich Wiesner, Kevin Braeckmans, Zeger Hens, Tangi Aubert
Published in: ACS Applied Materials & Interfaces, Issue 11/42, 2019, Page(s) 38475-38482, ISSN 1944-8244
Publisher: American Chemical Society
DOI: 10.1021/acsami.9b12398

Simple fabrication of layered halide perovskite platelets and enhanced photoluminescence from mechanically exfoliated flakes

Author(s): Balaji Dhanabalan, Andrea Castelli, Milan Palei, Davide Spirito, Liberato Manna, Roman Krahne, Milena Arciniegas
Published in: Nanoscale, Issue 11/17, 2019, Page(s) 8334-8342, ISSN 2040-3364
Publisher: Royal Society of Chemistry
DOI: 10.1039/c9nr00638a

Ligand Displacement Exposes Binding Site Heterogeneity on CdSe Nanocrystal Surfaces

Author(s): Emile Drijvers, Jonathan De Roo, José C. Martins, Ivan Infante, Zeger Hens
Published in: Chemistry of Materials, Issue 30/3, 2018, Page(s) 1178-1186, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.7b05362

Light Absorption Coefficient of CsPbBr 3 Perovskite Nanocrystals

Author(s): Jorick Maes, Lieve Balcaen, Emile Drijvers, Qiang Zhao, Jonathan De Roo, André Vantomme, Frank Vanhaecke, Pieter Geiregat, Zeger Hens
Published in: The Journal of Physical Chemistry Letters, Issue 9/11, 2018, Page(s) 3093-3097, ISSN 1948-7185
Publisher: American Chemical Society
DOI: 10.1021/acs.jpclett.8b01065

Kinetic Control over CdS Nanocrystal Nucleation Using a Library of Thiocarbonates, Thiocarbamates, and Thioureas

Author(s): Leslie S. Hamachi, Ilan Jen-La Plante, Aidan C. Coryell, Jonathan De Roo, Jonathan S. Owen
Published in: Chemistry of Materials, Issue 29/20, 2017, Page(s) 8711-8719, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.7b02861

Composition-, Size-, and Surface Functionalization-Dependent Optical Properties of Lead Bromide Perovskite Nanocrystals

Author(s): Palvasha Ijaz, Muhammad Imran, Márcio M. Soares, Hélio C. N. Tolentino, Beatriz Martín-García, Cinzia Giannini, Iwan Moreels, Liberato Manna, Roman Krahne
Published in: The Journal of Physical Chemistry Letters, Issue 11/6, 2020, Page(s) 2079-2085, ISSN 1948-7185
Publisher: American Chemical Society
DOI: 10.1021/acs.jpclett.0c00266

Emissive Bi-Doped Double Perovskite Cs 2 Ag 1− x Na x InCl 6 Nanocrystals

Author(s): Federico Locardi, Emanuela Sartori, Joka Buha, Juliette Zito, Mirko Prato, Valerio Pinchetti, Matteo L. Zaffalon, Maurizio Ferretti, Sergio Brovelli, Ivan Infante, Luca De Trizio, Liberato Manna
Published in: ACS Energy Letters, Issue 4/8, 2019, Page(s) 1976-1982, ISSN 2380-8195
Publisher: ACS Publications
DOI: 10.1021/acsenergylett.9b01274

Solution-processed silver sulphide nanocrystal film for resistive switching memories

Author(s): Beatriz Martín-García, Davide Spirito, Roman Krahne, Iwan Moreels
Published in: Journal of Materials Chemistry C, Issue 6/48, 2018, Page(s) 13128-13135, ISSN 2050-7534
Publisher: Royal Society of Chemistry
DOI: 10.1039/c8tc04068k

Cs 3 Cu 4 In 2 Cl 13 Nanocrystals: A Perovskite-Related Structure with Inorganic Clusters at A Sites

Author(s): Roman Kaiukov, Guilherme Almeida, Sergio Marras, Zhiya Dang, Dmitry Baranov, Urko Petralanda, Ivan Infante, Enrico Mugnaioli, Andrea Griesi, Luca De Trizio, Mauro Gemmi, Liberato Manna
Published in: Inorganic Chemistry, Issue 59/1, 2019, Page(s) 548-554, ISSN 0020-1669
Publisher: American Chemical Society
DOI: 10.1021/acs.inorgchem.9b02834

The Surface Chemistry of Colloidal HgSe Nanocrystals, toward Stoichiometric Quantum Dots by Design

Author(s): Valeriia Grigel, Laxmi Kishore Sagar, Kim De Nolf, Qiang Zhao, André Vantomme, Jonathan De Roo, Ivan Infante, Zeger Hens
Published in: Chemistry of Materials, Issue 30/21, 2018, Page(s) 7637-7647, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.8b02908

Polymer Nanoreactors Shield Perovskite Nanocrystals from Degradation

Author(s): Verena A. Hintermayr, Carola Lampe, Maximilian Löw, Janina Roemer, Willem Vanderlinden, Moritz Gramlich, Anton X. Böhm, Cornelia Sattler, Bert Nickel, Theobald Lohmüller, Alexander S. Urban
Published in: Nano Letters, Issue 19/8, 2019, Page(s) 4928-4933, ISSN 1530-6984
Publisher: American Chemical Society
DOI: 10.1021/acs.nanolett.9b00982

Role of Nonradiative Defects and Environmental Oxygen on Exciton Recombination Processes in CsPbBr 3 Perovskite Nanocrystals

Author(s): Monica Lorenzon, Luca Sortino, Quinten Akkerman, Sara Accornero, Jacopo Pedrini, Mirko Prato, Valerio Pinchetti, Francesco Meinardi, Liberato Manna, Sergio Brovelli
Published in: Nano Letters, Issue 17/6, 2017, Page(s) 3844-3853, ISSN 1530-6984
Publisher: American Chemical Society
DOI: 10.1021/acs.nanolett.7b01253

Early Formation Pathways of Surfactant Micelle Directed Ultrasmall Silica Ring and Cage Structures

Author(s): Kai Ma, Katherine A. Spoth, Ying Cong, Duhan Zhang, Tangi Aubert, Melik Z. Turker, Lena F. Kourkoutis, Eduardo Mendes, Ulrich Wiesner
Published in: Journal of the American Chemical Society, Issue 140/50, 2018, Page(s) 17343-17348, ISSN 0002-7863

Publisher: American Chemical Society
DOI: 10.1021/jacs.8b08802

Self-assembly of highly symmetrical, ultrasmall inorganic cages directed by surfactant micelles
Author(s): Kai Ma, Yunye Gong, Tangi Aubert, Melik Z. Turker, Teresa Kao, Peter C. Doerschuk, Ulrich Wiesner
Published in: Nature, Issue 558/7711, 2018, Page(s) 577-580, ISSN 0028-0836
Publisher: Nature Publishing Group
DOI: 10.1038/s41586-018-0221-0

The Many “Facets” of Halide Ions in the Chemistry of Colloidal Inorganic Nanocrystals
Author(s): Sandeep Ghosh, Liberato Manna
Published in: Chemical Reviews, Issue 118/16, 2018, Page(s) 7804-7864, ISSN 0009-2665
Publisher: American Chemical Society
DOI: 10.1021/acs.chemrev.8b00158

Giant-Shell CdSe/CdS Nanocrystals: Exciton Coupling to Shell Phonons Investigated by Resonant Raman Spectroscopy
Author(s): Miao-Ling Lin, Mario Miscuglio, Anatolii Polovitsyn, Yu-Chen Leng, Beatriz Martín-García, Iwan Moreels, Ping-Heng Tan, Roman Krahne
Published in: The Journal of Physical Chemistry Letters, Issue 10/3, 2019, Page(s) 399-405, ISSN 1948-7185
Publisher: American Chemical Society
DOI: 10.1021/acs.jpclett.8b03211

Accelerated Carrier Relaxation through Reduced Coulomb Screening in Two-Dimensional Halide Perovskite Nanoplatelets
Author(s): Verena A. Hintermayr, Lakshminarayana Polavarapu, Alexander S. Urban, Jochen Feldmann
Published in: ACS Nano, Issue 12/10, 2018, Page(s) 10151-10158, ISSN 1936-0851
Publisher: American Chemical Society
DOI: 10.1021/acsnano.8b05029

Precursor reaction kinetics control compositional grading and size of CdSe 1−x S x nanocrystal heterostructures
Author(s): Leslie S. Hamachi, Haoran Yang, Ilan Jen-La Plante, Natalie Saenz, Kevin Qian, Michael P. Campos, Gregory T. Cleveland, Iva Rreza, Aisha Oza, Willem Walravens, Emory M. Chan, Zeger Hens, Andrew C. Crowther, Jonathan S. Owen
Published in: Chemical Science, Issue 10/26, 2019, Page(s) 6539-6552, ISSN 2041-6520

Publisher: Royal Society of Chemistry
DOI: 10.1039/c9sc00989b

How Ligands Affect Resistive Switching in Solution-Processed HfO 2 Nanoparticle Assemblies
Author(s): Jiaying Wang, Satyan Choudhary, Jonathan De Roo, Katrien De Keukeleere, Isabel Van Driessche, Alfred J. Crosby, Stephen S. Nonnenmann
Published in: ACS Applied Materials & Interfaces, Issue 10/5, 2018, Page(s) 4824-4830, ISSN 1944-8244
Publisher: American Chemical Society
DOI: 10.1021/acsami.7b17376

Spontaneous Self-Assembly of Perovskite Nanocrystals into Electronically Coupled Supercrystals: Toward Filling the Green Gap
Author(s): Yu Tong, En-Ping Yao, Aurora Manzi, Eva Bladt, Kun Wang, Markus Döblinger, Sara Bals, Peter Müller-Buschbaum, Alexander S. Urban, Lakshminarayana Polavarapu, Jochen Feldmann
Published in: Advanced Materials, Issue 30/29, 2018, Page(s) 1801117, ISSN 0935-9648
Publisher: United Nations Industrial Developement Organization
DOI: 10.1002/ADMA.201801117

Chemical Cutting of Perovskite Nanowires into Single-Photon Emissive Low-Aspect-Ratio CsPbX 3 (X=Cl, Br, I) Nanorods
Author(s): Yu Tong, Ming Fu, Eva Bladt, He Huang, Alexander F. Richter, Kun Wang, Peter Müller-Buschbaum, Sara Bals, Philippe Tamarat, Brahim Lounis, Jochen Feldmann, Lakshminarayana Polavarapu
Published in: Angewandte Chemie International Edition, Issue 57/49, 2018, Page(s) 16094-16098, ISSN 1433-7851
Publisher: John Wiley & Sons Ltd.
DOI: 10.1002/ANIE.201810110

Ultrafast Carrier Dynamics in Few-Layer Colloidal Molybdenum Disulfide Probed by Broadband Transient Absorption Spectroscopy
Author(s): Pieter Schiettecatte, Pieter Geiregat, Zeger Hens
Published in: The Journal of Physical Chemistry C, Issue 123/16, 2019, Page(s) 10571-10577, ISSN 1932-7447
Publisher: American Chemical Society
DOI: 10.1021/acs.jpcc.9b01494

CsPbX 3 /SiO x (X = Cl, Br, I) monoliths prepared via a novel sol–gel route starting from Cs 4 PbX 6 nanocrystals
Author(s): Sungwook Park, Mai Ngoc An, Guilherme Almeida, Francisco Palazon, Davide Spirito, Roman Krahne, Zhiya Dang, Luca De Trizio, Liberato Manna

Published in: Nanoscale, Issue 11/40, 2019, Page(s) 18739-18745, ISSN 2040-3364
Publisher: Royal Society of Chemistry
DOI: 10.1039/c9nr07766a

Patterned tungsten disulfide/graphene heterostructures for efficient multifunctional optoelectronic devices

Author(s): A. Rossi, D. Spirito, F. Bianco, S. Forti, F. Fabbri, H. Büch, A. Tredicucci, R. Krahne, C. Coletti
Published in: Nanoscale, Issue 10/9, 2018, Page(s) 4332-4338, ISSN 2040-3364
Publisher: Royal Society of Chemistry
DOI: 10.1039/c7nr08703a

Ruthenium-Decorated Cobalt Selenide Nanocrystals for Hydrogen Evolution

Author(s): Mengjiao Wang, Zhiya Dang, Mirko Prato, Urko Petralanda, Ivan Infante, Dipak V. Shinde, Luca De Trizio, Liberato Manna
Published in: ACS Applied Nano Materials, Issue 2/9, 2019, Page(s) 5695-5703, ISSN 2574-0970
Publisher: ACS Publications
DOI: 10.1021/acsanm.9b01205

Planar Aperiodic Arrays as Metasurfaces for Optical Near-Field Patterning

Author(s): Mario Miscuglio, Nicholas J. Borys, Davide Spirito, Beatriz Martín-García, Remo Proietti Zaccaria, Alexander Weber-Bargioni, P. James Schuck, Roman Krahne
Published in: ACS Nano, Issue 13/5, 2019, Page(s) 5646-5654, ISSN 1936-0851
Publisher: American Chemical Society
DOI: 10.1021/acsnano.9b00821

From CsPbBr 3 Nano-Inks to Sintered CsPbBr 3 –CsPb 2 Br 5 Films via Thermal Annealing: Implications on Optoelectronic Properties

Author(s): Francisco Palazon, Sedat Dogan, Sergio Marras, Federico Locardi, Ilaria Nelli, Prachi Rastogi, Maurizio Ferretti, Mirko Prato, Roman Krahne, Liberato Manna
Published in: The Journal of Physical Chemistry C, Issue 121/21, 2017, Page(s) 11956-11961, ISSN 1932-7447
Publisher: American Chemical Society
DOI: 10.1021/acs.jpcc.7b03389

Robust and Bright Photoluminescence from Colloidal Nanocrystal/Al 2 O 3 Composite Films Fabricated by Atomic Layer Deposition

Author(s): Milan Palei, Vincenzo Caligiuri, Stefan Kudera, Roman Krahne
Published in: ACS Applied Materials & Interfaces, Issue 10/26, 2018, Page(s) 22356-22362, ISSN 1944-8244
Publisher: American Chemical Society
DOI: 10.1021/acsami.8b03769

Triggering Cation Exchange Reactions by Doping
Author(s): Urko Petralanda, Luca De Trizio, Graziella Gariano, Roberto Cingolani, Liberato Manna, Sergey Artyukhin
Published in: The Journal of Physical Chemistry Letters, Issue 9/17, 2018, Page(s) 4895-4900, ISSN 1948-7185
Publisher: American Chemical Society
DOI: 10.1021/acs.jpclett.8b02083

Alkyl Phosphonic Acids Deliver CsPbBr 3 Nanocrystals with High Photoluminescence Quantum Yield and Truncated Octahedron Shape
Author(s): Baowei Zhang, Luca Goldoni, Juliette Zito, Zhiya Dang, Guilherme Almeida, Francesco Zaccaria, Jur de Wit, Ivan Infante, Luca De Trizio, Liberato Manna
Published in: Chemistry of Materials, Issue 31/21, 2019, Page(s) 9140-9147, ISSN 0897-4756
Publisher: American Chemical Society
DOI: 10.1021/acs.chemmater.9b03529

Writing on Nanocrystals: Patterning Colloidal Inorganic Nanocrystal Films through Irradiation-Induced Chemical Transformations of Surface Ligands
Author(s): Francisco Palazon, Mirko Prato, Liberato Manna
Published in: Journal of the American Chemical Society, Issue 139/38, 2017, Page(s) 13250-13259, ISSN 0002-7863
Publisher: American Chemical Society
DOI: 10.1021/jacs.7b05888

Compositional tuning of carrier dynamics in Cs 2 Na 1-x Ag x BiCl 6 double perovskite nanocrystals
Author(s): Dongxu Zhu, Juliette Zito, Valerio Pinchetti, Zhia Dang, Andrea Olivati, Lea Pasquale, Aiwei Tang, Matteo Luca Zaffalon, Francesco Meinardi, Ivan Infante, Luca De Trizio, Liberato Manna, Sergio Brovelli
Published in: ACS Energy Letters, 2020, ISSN 2380-8195
Publisher: ACS Energy Letters
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Nanocrystals of Lead Chalcohalides: A Series of Kinetically Trapped Metastable Nanostructures
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