Andrea Nitti, PhD

Junior Researcher (Ricercatore a Tempo Determinato A – RTDA) in Organic Chemistry (Settore Scientifico Disciplinare CHIM/06) at Department of Chemistry – University of Pavia

Scientific National Qualification to Associate Professor (Abilitazione Scientifica Nazionale a Professore Universitario di seconda fascia, Settore concorsuale 03/C1 – Chimica Organica) awarded on 08/02/2023

Research experience, proven by the publication of original works in indexed international journals, in the fields of Organic Chemistry (Organic Synthesis), Materials Chemistry (Organic Electronics, Organic Photovoltaics) Supramolecular Chemistry (Aggregation Induced Emission), Polymer Science (Living Controlled Polimerization).

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PERSONAL INFORMATION

Dr. Andrea Nitti (AN) was born in Bari[redacted]. He married to Jessika Santodomingo since 2018, with whom he has a daughter. Dr. AN dance Argentine tango from 2013, he performs with his wife in shows organized by cultural associations and has danced in several theater productions, including performances at Teatro Arcimboldi (Zotto Tango Accademy) and Teatro Guanella (A. s. D. Pole Art Center). Dr. AN spoken three languages: Italian (mother tongue), Spanish (good) and English (good).

EDUCATION

Feb 2017

PhD in Chemistry at University of Pavia

Thesis title: Innovative Macromolecular Systems for Photovoltaic Applications.

Fund: Scholarship of Dr. AN was fully funded by Eni.

Supervisor: Prof. Dario Pasini (UNIPV) and Dott. Gabriele Bianchi (Eni).

Output: Development of new polymeric donor materials for OPVs (*J. Polym. Sci. Part A Polym. Chem.* **2017**). Development of DHA-cross aldol cascade processes for the rapid synthesis of monomers and polymers with reduced synthetic complexity and E-factor values (*JOC* **2016**, *JACS* **2017**, *Molecules* **2017**). Development of novel solid-state luminophores that exhibiting aggregation-induced emission phenomena *(J. Mater. Chem. C* **2016**, *Faraday Discuss.* **2017**). Development of novel binaphtyl-based macrocycles for sensing applications (*Chem. Commun.* **2016**, *Chirality* **2016**, *Nanomaterials* **2017**). As a result of his research activities, Dr. AN has published three original review papers (two as first author and one as last author) and five original research papers (one article as second author, one article as sixth author, and four articles as first author).

As a result of his activities, Dr AN has acquired skills and knowledge in bibliographic research using chemical databases (Web of Science (WoS), Scopus, SciFinder, Google Scholar, etc.), problem solving and developing new projects, original manuscript writing. Knowledge of advanced reaction set-up, lab management and safety. Advanced skills in the characterisation of organic compounds using mass spectrometry (GC-MS, DEP, FIA (ESI or APCI), MALDI-ToF, HPLC-HRMS), spectroscopic techniques (NMR, IR, UV-VIS, PL) and thermal analysis (TGA, DSC). Lecturing activity for organic chemistry courses (Organic Chemistry First Course for Chemists and Organic Chemistry Course for Biologists).

Nov. 2015 (6 month)

Visiting PhD Student at Massachusetts Institute of Technology (MIT)

Visiting PhD at MIT of Boston (Chemistry Dept.) under the supervision of Prof. Timothy M. Swager. Recipient of grant 'Progetto Pavia-Boston' funded by University of Pavia and MIUR.

Sep. 2013

M.Sc. in Chemistry at University of Bologna (110/110 cum laude)

Thesis title: Reazioni Domino Asimmetriche Organocatalizzate Michael–Michael per la Sintesi di Strutture Carbocicliche Spirofuse Con Nuclei 2-Ossindolici.

Supervisor: Prof. Claudio Trombini.

Output: During his experimental thesis Dr. AN has developed a domino organocatalytic process that combining an initial Henry reaction followed by an intramolecular Michael reaction using isatin-based starting materials (*Chem. Eur. J.* **2015**). As a result of his research activities, Dr. AN has published one original paper (Dr. AN is present as third author).

In these period Dr. AN has acquired knowledge of the fundamental concepts operating in the field of organocatalysis with a focus on H-bond activation, domino and cascade strategies. Knowledge of Witting, H-W-E and olefination reactions. Knowledge of NMR and HPLC equipped with chiral column and UV-Vis as detector. Manipulation of cryogenic liquids.

Oct 2011

B.Sc. in Chemistry at University of Bari (107/110)

Thesis title: Sintesi di sistemi 1,2,3-triazolici fusi con diidroisochinoline.

Supervisor: Prof. Angela Punzi.

Output: Development of 1,2,3-triazole fused to arenes. Knowledge of Sonogashira cross-coupling, Huisgen-Sharpless cycloaddition (CuAAC), direct arylation cross-coupling and halodesylilation reactions. Knowledge of basic purification techniques (extraction, flash chromatography, recrystallisation), reaction set-up in inert and air atmospheres, and analytical methods for monitoring a reactions (TLC, GCMS, NMR).

WORK EXPERIENCE

Dec. 2022 – Today

Ricercatore a tempo determinato ai sensi dell'art. 24, comma 3, lett. a) della Legge 240/2010 (RTDA PNRR, fixed term) at the Department of Chemistry – University of Pavia.

Fund: Fellowship fully funded by PNRR (Piano Nazionale di Ripresa e Resilienza, Missione 4 "Istruzione e Ricerca" – Componente 2 "Dalla ricerca all'impresa" adottato con Decreto Direttoriale 19 agosto 2022, n. 247, Capo III, "Finanziamento di giovani ricercatori che abbiano ottenuto un Seal of Excellence a seguito della partecipazione a bandi relativi alle Azioni MSCA emanati nell'ambito dei programmi quadro Horizon 2020 ed Horizon Europe). Grant of **150 K€**.

Scientific Supervisor: Dr. Andrea Nitti.

Title: Soft 3D Printable Actuators (3DPRINTACT)

Project: The 3DPRINTACT proposal will address the design and realization of novel 3D printable organic conjugated materials, capable of approaching and solving one of the most important goals of contemporary materials design: the possibility of achieving 3D printed multimaterial objects for 'organic soft robotics'. 3D printing techniques play a dominant role in the design and fabrication of soft robots due to increased printing rates, high resolution, and a wide range of starting materials. We will control the 3D printing using newly designed electroactive resins, in combination with novel arylazo sulfones that act as single photoinitiators for orthogonal radical and cationic curing depending on the irradiation wavelength used. The project will produce a library of conjugated crosslinkers by modifying the acrylate-based end-capping groups and synthesizing novel EDOT monomers for combination with commercially available EDOT monomers. Printed objects will be tested for different mechanical actuations.

Output: Development of new resin formulation containing PEDOT-based cross-linkers for the fabrication of soft actuators (*Patent pending*) in collaboration with the research group of Riccardo Po (Eni Donegani, Novara) and the group of Prof. Daniele Dondi (University of Pavia). Dr. AN also worked on parallel projects concerning the development of novel conjugated compounds and polymers for organic electronics (*New J. Chem.* **2022**, *Materials* **2023**, *Mater. Adv.* **2023**, *Chem. Eur. J.* **2023**), as well as the synthesis of novel hyperbranched polymers (*Int. J. Mol. Sci.* **2023**). Knowledge in the chemistry of acenes (book chapter "*Chiral Acenes: Synthesis and Applications*"). As a result of his activities, Dr AN has acquired knowledge of the fundamental concepts in the field of 3D printing, soft materials and actuation (*Mater. Today* **2022**, *Materials* **2023**). Knowledge in the synthesis of PEDOT monomers and materials. Knowledge resin formulation for 3D printing. To date, Dr. AN has published four original research papers (one article as first author, one article as seventh author, and four articles as second author), two original review papers (both as second author) and one book chapter on the acene's chemistry ("*Chiral Acenes: Synthesis and Applications*") as corresponding author.

Dec. 2021 – Dec. 2022

Ricercatore a tempo determinato ai sensi dell'art. 24, comma 3, lett. a) della Legge 240/2010 (RTDA PON, fixed term) at the department of Chemistry – University of Pavia.

Fund: Fellowship funded by PON (Programma Operativo Nazionale "Ricerca e Innovazione" 2014-2020 CCI2014IT16M2OP005) and Eni Spa.

Scientific Supervisor: Prof. Dario Pasini.

Title: Processi Sostenibili di Sintesi di Strutture Polimeriche Derivanti da Materie Prime Rinnovabili, e Relativo Utilizzo Come Additivi e/o Componenti per Bitumi, Lubrificanti e Carburanti.

Project: The project aims to develop innovative organic and polymeric materials that can provide a real alternative to additives and/or components traditionally used in the downstream supply chain. The design aspects are in line with the goals of the 2030 Agenda for Sustainable Development in terms of using sustainable synthesis technologies and obtaining widely used products that are biodegradable and biodispersible (mainly goals 9 and 12). Using a bottom-up approach, the research will include the design and synthesis of oligomeric and polymeric materials from renewable resources. Particular emphasis will be placed on polymers derived from lactic acid, polyhydroxyalkanoates, estolides, and their use as additives and/or components for bitumen, lubricants and fuels.

Output: Development of new star-shape polymeric materials with biodegradable arms as lubricant oil (*Patent pending*) in collaboration with research group of Marcello Notari (Eni San Donato, San Donato Milanese) and the group of Prof. Alessandro Casnati (University of Parma). During this period, Dr AN has acquired knowledge of the fundamental concepts in the field of lubricant oil with a focus on the control of the tribological threshold parameters necessary for industrial applications. Knowledge of the fundamental concepts in the field of Single Chain Polymer Nanoparticles (SCPNs, *ACS Appl. Nano Mater.* **2022**). Knowledge of controlled polymerization techniques such as ring-opening polymerization (ROP) and Reversible Addition Fragmentation chain Transfer (RAFT) polymerization. Dr. AN also worked on parallel projects concerning the development of novel conjugated compounds and polymers for organic electronics (*Solar RRL* **2022**, *Chemistry* **2022**, *New J. Chem.* **2022**, book chapter "*Push-Pull AIEgens*"). In this period, Dr. AN has published two original research papers (one article as corresponding author, one article as third author), two original review paper (first one as corresponding author, and the second one as second author) and one book chapter on AIE luminophores ("Push-Pull AIEgens") as corresponding author.

Dec. 2019 – Dec. 2021 (2 years)

Postdoctoral Fellowship at the Department of Chemistry – University of Pavia.

Fund: Fellowship was funded by PRIN2017 grant (Project of Relevant National Interest PRIN 2017-BOOSTER. (Boosting Sustainability in Organic Electronics: The Key Role of Functional Surfactants as Reaction Media and Dispersing Agents - BOOSTER).

Scientific Supervisor: Prof. Dario Pasini.

Title: Sintesi Sostenibili, Caratterizzazione ed Applicazioni di Composti π-Coniugati.

Project: Printable electronics has played a major role in academic and industrial research over the past 30 years. While performance is rapidly closing the gap with market needs, printable semiconductors require syntheses that are too complex to be sustainable beyond showing industrial levels. In addition, active materials cannot be processed using 'green' solvents and generate unacceptable levels of organic waste. In this research we aim to introduce a paradigm shift in the way organic semiconductors are selected, synthesized and processed. We will synthesize and convert both established and novel materials in hydroalcoholic solvents. The key strategy for achieving such ambitious goals will be the development of cascade synthesis methodologies that incorporate scalable and efficient cross-coupling reactions, such as DHA, Stille and Suzuki, and the use of solubilizing chains such as low-molecular-weight polyethylene glycols of linear or branched types to improve their solubility in hydroalcoholic solvents.

Output: During these two years Dr. AN has developed new ADT-based, NT-based and BDT-based materials for organic electronics (*Org. Lett.* **2020**, *Adv. Energy Sustainability Res.* **2021**, *J. Mater. Chem. C* **2021**), and novel solid-state luminophores that exhibiting aggregation-induced emission phenomena (*Adv. Mater.* **2020**, *Adv. Opt. Mater.* **2021**). Dr. AN has also worked in parallel on the development of novel chiral systems in supramolecular field (*ChemPlusChem* **2021**, *ACS Appl. Mater Interf.* **2021**), and novel macromolecular systems in the polymer science field (*Polym. Chem* **2021**, *J. Polym. Sci.* **2021**, *Polym. Chem.* **2021**). As a result of his research activities in these two years, Dr. AN has published nine original research papers (four articles as first author, one article as second author, three articles as third author, and one as fourth author), one original review paper (as first author).

Dec. Dec. 2018 – Dec. 2019 (1 year)

Postdoctoral Scholarship at the Department of Chemistry – University of Pavia.

Fund: Fellowship was funded by Eni Spa (ODL_ENI_2018).

Scientific Supervisor: Prof. Dario Pasini.

Title: Sintesi e Caratterizzazione di Composti organici e Polimerici π-Coniugati come Materiali per Dispositivi per la Conversione di Energia.

Project: The project will develop new approaches to the synthesis of polymeric and non-polymeric conjugated materials using newly developed electron-rich monomers and commercial electron-poor units. Emphasis will be placed on scalability of syntheses, reagent costs and reduction of chromatographic purification techniques. The project will also include the design and synthesis of conjugated solid-state emitting materials via the Aggregation Induced Emission phenomenon.

Output: During this year Dr. AN has developed new materials for organic electronics (*Phosphorus. Sulfur and Silicon and the Related Elements* **2020**, *Int. J. Mol. Sci.* **2020**, *Polymers* **2020**) and novel solid-state luminophores that exhibiting aggregation-induced emission phenomena

(*CrystEngComm* **2020**). As complementary project, Dr. AN have contribute developing novel chiral systems in supramolecular field (*Molecules* **2020**, *Chem. Open* **2020**), as well as novel macromolecular systems in polymer science field (*Polym. Chem* **2020**). As a result of his research activities in one year, Dr. AN has published five original research papers (one articles as first author, two article as second author, one articles as third author, and one as fourth author), two original review paper (both as second author).

Dec. Dec. 2016 – Dec. 2018 (2 years)

Postdoctoral Fellowship (type A) at the Department of Chemistry – University of Pavia.

Fund: Fellowship was fully funded by University of Pavia (MIUR).

Scientific Supervisor: Prof. Dario Pasini.

Title: Sintesi e Caratterizzazione di Composti organici e Polimerici π-Coniugati come Materiali per Dispositivi per la Conversione di Energia.

Project: The project will develop new approaches to the synthesis of polymeric and non-polymeric conjugated materials using newly developed electron-rich monomers and commercial electron-poor units such as 4,7-di(thiophen-2-yl)-2,1,3-benzothiadiazole. Emphasis will be placed on optimization and scale up of ADT and BDT compounds. The project will also include the design and synthesis of conjugated solid-state emitting materials via the Aggregation Induced Emission phenomenon.

Output: During these two years Dr. AN has developed new ADT-based polymeric donor materials for OPVs (*ENI Patent WO2019/175367A1*), novel conjugated materials for organic electronics (*Synlett* **2018**, *Synthesis* **2019**, *ChemistrySelect* **2019**), and novel solid-state luminophores that exhibiting aggregation-induced emission phenomena *(Faraday Discuss.* **2017**). As complementary project, Dr. AN have contribute developing the cyclopolymerization of silyl-tethered styrene difunctional monomers (*J. Polym. Sci. Part A Polym. Chem.* **2018**, *Eur. Polym. J.* **2020**). As a result of his research activities in these two years, Dr. AN has published six original research papers (one article as corresponding author, three articles as first author, and one article as fourth author), one original review paper (as last author), and one international patent.

AWARDS

National Scientific Qualification to Associate Professor. (2023)

Recipient of the National Scientific Qualification to Associate Professor at unanimity by commission.

Ricercatore a tempo determinato ai sensi dell'art. 24, comma 3, lett. a) della Legge 240/2010 (RTDA PNRR, fixed term) at the Department of Chemistry – University of Pavia.(2022)

Recipient of a grant (150 K€) for funding the position as junior researcher (fixed term of three years) at Department of Chemistry - University of Pavia.

Marie Sklodowska-Curie Actions (MSCA) Seal of Excellence for 3DPRINTACT proposal. (2019)

Award for proposals that scored 85% or more but could not be funded, submitted to the MSCA Individual Fellowships Call 2018. The proposal was funded by Eni Spa as project or the PhD of Angelo Martinelli (AM, 2020-2023). (Dr AM's supervisor has been Prof. Dario Pasini.)

Ten Best publication for Young Italian Chemical Society 'Premio Primo Levi'. (2017)

Paper published in the *J. Am. Chem. Soc.* With Dr. AN as first author was selected as one of ten best publications in 2017 by Young Section of the Italian Chemical Society.

Postdoctoral Fellowship type A at Department of Chemistry – University of Pavia (2016, 2 years).

Recipient of the Postdoctoral grant in Organic Electronics funded by UNIPV (assegno di ricerca tipo A, one of the 19 of the whole University assigned in 2016).

Scholarship 'Pavia-Boston mobility framework agreement' (2015).

Recipient of the grant 'Pavia-Boston mobility framework agreement' (6400€) cofounded by UNIPV and Italian Ministry of Education, University and Research (MIUR).

COMUNICATIONS TO CONGRESSES AND CONFERENCES

16th European Conference on Molecular Electronics (ECME2023). Oral contribution, 2-6 October 2023, Bari, Italy.

XLI Italian Organic Chemistry Conference (CDCO2023). Poster contribution, 9-13 September 2023, Rome, Italy.

ChirItaly2022. Oral presentation, 19-21 September 2022, Matera, Italy.

XL Italian Organic Chemistry Conference (CDCO2022). Oral presentation, 9-13 September 2022, Palermo, Italy.

XXXIX Italian Organic Chemistry Conference (CDCO2019). Oral presentation, 9-13 September 2019, Turin, Italy.

XXXVIII Italian Organic Chemistry Conference (CDCO2018). Oral presentation, 9-13 September 2018, Milan, Italy.

Merck Young Chemists Symposium (MYCS 2016). Poster presentation, 25-27 October 2016, Rimini, Italy.

14th Bayreuth Polymer Symposium (2015). Poster and Flash introduction to poster, September 20-23 2015, Bayreuth, Germany.

XXV National Meeting of the Italian Chemical Society (2014). Oral presentation, September 2014, Rende, Italy.

ACADEMIC AND TEACHING ACTIVITIES. CERTIFICATION

Academic activities, Tutoring activities and Teaching activities

Member of the 'Consiglio di dipartimento' of the department of Chemistry of the University of Pavia (2021 – to present), as well as Member of the 'Consiglio Didattico' for Bioengineering course (2021 – to present) and 'Conservazione e Restauro dei Beni Culturali' course (2022 – to present) at University of Pavia.

Tutor for lecture and laboratory courses of Organic Chemistry for Chemists and Biologists (2014–2019).

Dr. AN is involved in teaching courses in chemistry: Elementi di Chimica (first year of B.Sc. in bioengineering, 3 CFU), and Organic chemistry course (second year of M.Sc. 'ciclo unico' in "Conservazione e Restauro dei Beni Culturali", 6 CFU).

Peer-Review activities and Editorial Roles

Reviewer for Dyes and Pigments, Progress in Organic Coatings, and Frontier in Energy. Review Editor for 'Frontier in Energy/Solar Energy'.

Experimental thesis activities

Supervisor for experimental M.Sc. thesis in Organic Chemistry of candidate Simone Lanati (2023). Co-Supervisor for experimental M.Sc. thesis in Organic Chemistry of candidates: Marco Agnes (2014), Fabio Invernizzi (2014), Sara Benedini (2014), Marco Signorile (2015), Valeria Cedrati (2016), Luis De Verastegui (2017), Cristiana Zaccaria (2017), Giuseppe Calcagno (2018), Matteo Catenazzi (2019), Enrico Magnani (2021). Alessia Zafferano (2022). Gabriele Falessi (2022). Giada Riboli (2022). Co-Supervisor for experimental B.Sc. thesis of Luca Crivelli (2017).

Certifications

Dr. AN is a holder of the following certificates: basic safety training in chemical laboratories (2018), basic teacher training in innovative didactics (2023).

COMPLETE LIST OF PUBLICATIONS

The symbol (*) denotes corresponding author(s)

1) M. Monari, E. Montroni, **A. Nitti**, M. Lombardo, C. Trombini, A. Quintavalla, *New stereospecific [4+2] and [3+2] spiroannulations of 2-(2-oxoindolin-3-ylidene)acetic esters catalyzed by bifunctional thioureas*. *Chem. Eur. J.* **2015**, *21*, 11038–11049.

2) C. Botta, S. Benedini, L. Carlucci, A. Forni, D. Marinotto, **A. Nitti**, D. Pasini, S. Righetto, E. Cariati, *Polymorphism-dependent aggregation induced emission of a push–pull dye and its multi-stimuli responsive behavior*. *J. Mat. Chem. C* **2016**, *14*, 2979–2989.

3) D. Pasini, **A. Nitti**, *Recent Advances in Chirality Sensing using Atropoisomeric Molecular Receptors*. *Chirality* **2016**, *28*, 116–123 (**Invited Mini-review**).

4) M. Agnes, **A. Nitti**, G. Gattuso, D. Merli, D. Dondi, D. Pasini, *A chiroptical molecular sensor for ferrocene*. *Chem. Commun.* **2016**, *52*, 11492–11495 (**Cover Article**).

5) **A. Nitti**, M. Signorile, M. Boiocchi, G. Bianchi, R. Po, D. Pasini, *Conjugated Thiophene-Fused Isatin-Based Dyes through Intramolecular Direct Heteroarylation*. *J. Org. Chem.* **2016**, *81,* 11035–11042.

6) **A. Nitti**, F. Villafiorita-Monteleone, A. Pacini, C. Botta, T. Virgili, A. Forni, E. Cariati, M. Boiocchi, Dario Pasini, *Structure-Activity Relationships for the Solid State Emission of a New Family of "Push-Pull" π-Extended Chromophores*. *Faraday Discussions* **2017**, *196,* 143-161.

7) **A. Nitti**, F. Debattista, G. Bianchi, R. Po, D. Pasini, Donor-Acceptor Conjugated Copolymers Incorporating 1,2,4,5-Tetrafluorobenzene as the π-Electron Deficient Unit. *J. Polym. Sci., Part A: Polym. Chem* **2017**, *55,* 1601–1610.

8) **A. Nitti**, D. Pasini, *Direct Arylation Strategies in the Synthesis of π-Extended Monomers and Polymers for Clean Energy Applications*. *Molecules* ***2017****, 22,* 21–36.

9) **A. Nitti**, G. Bianchi, R. Po, T. M. Swager, D. Pasini, *Domino Direct Arylation and Cross-Aldol for Rapid Construction of Extended Polycyclic π-Scaffolds*. *J. Am. Chem. Soc.* **2017**, *139*, 8788–8791.

10) **A. Nitti**, A. Pacini, D. Pasini, *Chiral Nanotubes, Nanomaterials* **2017**, 7, 167.

11) C. L. Zaccaria, V. Cedrati, A. Pacini, **A. Nitti**, D. Pasini. Graft Copolymers from Poly(γ-glutamic acid): *Innovative Macromolcular Scaffolds for Additive Manufacturing from Renewable Natural Resources*. IEEE MTT-S International Microwave Workshop Series on Advanced Materials and Processes, IMWS-AMP 2017.

12) N. Ferri, G. B. Ozaydin, A. Zeffiro, **A. Nitti**, V. Aviyente, D. Pasini. *The efficient cyclopolymerization of silyl-tethered styrenic difunctional monomers*. *J. Polym. Sci. Part A Polym. Chem.* **2018**, *56*, 1593–1599.

13) **A. Nitti**, P. Osw, M. N.Abdullah, A. Galbiati, D. Pasini. Scalable *Synthesis of Naphthothiophene-based D-π-D Extended Oligomers through Cascade Direct Arylation Processes*. *Synlett* **2018**. *29*, 2577–2581.

14) **A. Nitti**,* G. Bianchi, R. Po, D. Pasini. *Scalable Synthesis of Naphtothiophene and Benzodithiophene Heterocyclic Scaffolds for Organic Electronics*. *Synthesis* **2019**, *51*, 677–682.

15) **A. Nitti,** G. Bianchi, R. Po, A. Porta, A. Galbiati, D. Pasini. *Weiss-Cook Condensations for the Synthesis of Bridged Bithiophene Monomers and Polymers*. *ChemistrySelect* **2019**, 4, 12569–12572.

16) F. Invernizzi, **A. Nitti**, D. Pasini. *Regioselective Pummerer rearrangement in [2.2]paracyclophanes*. *Phosphorus. Sulfur and Silicon and the Related Elements* **2020**, *196*, 189–194.

17) D. Pasini, **A. Nitti**. *Free radical cyclopolymerization: A tool towards sequence control in functional polymers*. *Eur. Polym. J.* **2020**, *122*, 109378.

18) V. Cedrati, A. Pacini, **A. Nitti**, A. Martínez de Ilarduya, S. Muñoz-Guerra, A. Sanyal, D. Pasini. *"Clickable" bacterial poly(γ-glutamic acid)*. *Polym. Chem.* **2020**, *11*, 5582–5589.

19) S. Piacentini, M. Caricato, A. Pacini, **A. Nitti**, D. Pasini. *Binaphthyl-Based Macrocycles as Optical Sensors for Aromatic Diphenols*. *Molecules* **2020**, *25*, 514.

20) G. Preda, **A. Nitti**, D. Pasini. *Chiral Triptycenes in Supramolecular and Materials Chemistry*. *Chem. Open* **2020**, *9*, 719–727.

21) P. Osw, **A. Nitti**, M. N. Abdullah, S. I. Etkind, J. Mwaura, A. Galbiati, D. Pasini. *Synthesis and Evaluation of Scalable D-A-D π-Extended Oligomers as p-Type Organic Materials for Bulk-Heterojunction Solar Cells*. *Polymers* **2020**, *12*, 720.

22) G. Forti, **A. Nitti**, P. Osw, G. Bianchi, R. Po, D. Pasini. *Recent Advances in Non-Fullerene Acceptors of the IDIC/ITIC Families for Bulk-Heterojunction Organic Solar Cells*. *Int. J. Mol. Sci.* **2020**, *21*, 8085.

23) **A. Nitti**, D. Pasini. *Aggregation-Induced Circularly Polarized Luminescence: Chiral Organic Materials for Emerging Optical Technologies*. *Adv. Mater.* **2020**, *32*, 1908021.(cover frontispiece)

24) **A. Nitti**, P. Osw, G. Calcagno, C. Botta, S. I. Etkind, G. Bianchi, R. Po, T. M. Swager, D. Pasini. *One-Pot Regiodirected Annulations for the Rapid Synthesis of π-Extended Oligomers*. *Org. Lett.* **2020**, *22*, 3263–3267.

25) **A. Nitti**, C. Botta, A. Forni, E. Cariati, E. Lucenti, D. Pasini. *Crystallization-induced room-temperature phosphorescence in fumaramides*. *CrystEngComm* **2020**, 22, 7782–7785.

26) M. Agnes, A. Arabi, M. Caricato, **A. Nitti**, D. Dondi, K. Yannakopoulou, M. Patrini, D. Pasini. *Helical Nanofibers Formed by Palladium-Mediated Assembly of Organic Homochiral Macrocycles Containing Binaphthyl and Pyridyl Units*. *ChemPlusChem* **2021**, *86*, 270–274.

27) D. Callegari, S. Colombi, **A. Nitti**, C. Simari, I. Nicotera, C. Ferrara, P. Mustarelli, D. Pasini, E. Quartarone. *Autonomous Self-Healing Strategy for Stable Sodium-Ion Battery: A Case Study of Black Phosphorus Anodes*. *ACS Appl. Mater. Interf.* **2021**, *13*, 13170–13182.

28) C. L. Zaccaria, V. Cedrati, **A. Nitti**, E. Chiesa, A. Martinez de Ilarduya, M. Garcia-Alvarez, M. Meli, G. Colombo, D. Pasini. *Biocompatible graft copolymers from bacterial poly(γ-glutamic acid) and poly(lactic acid)*. *Polym. Chem.* **2021**, *12*, 3784–3793.

29) **A. Nitti**, F. Corsini, E. Tatsi, G. Mattioli, C. Botta, D. Pasini, G. Griffini. *Large-Area Semi-Transparent Luminescent Solar Concentrators Based on Large Stokes Shift Aggregation-Induced Fluorinated Emitters Obtained Through a Sustainable Synthetic Approach*. *Adv. Optical Mater.* **2021**, 2100182.

30) A. Pacini, **A. Nitti**, G. Sangiovanni, M. Vitale, D. Pasini. *Clickable 2,2-bis(hydroxymethyl)propionic acid-derived AB_2 monomers: Hyperbranched polyesters through the CuAAC cycloaddition (click) reaction*. *J. Polym Sci.* **2021**, *59*, 2014–2022.

31) M. Penconi, G. Bianchi, **A. Nitti**, A. Savoini, C. Carbonera, D. Pasini, R. Po, S. Luzzati. A Donor Polymer with a Good Compromise between Efficiency and Sustainability for Organic Solar Cells. *Adv. Energy Sustainability Res.* **2021**, 2100069.

32) **A. Nitti,** G. Forti, G. Bianchi, C. Botta, F. Tinti, M. Gazzano, N. Camaioni, R. Po, D. Pasini. Anthradithiophene-based organic semiconductors through regiodirected double annulations. *J. Mater. Chem. C* **2021**, *9*, 9302–9308.

33) **A. Nitti**, A. Martinelli, F. Batteux, S. Protti, M. Fagnoni, D. Pasini. Blue light driven free-radical polymerization using arylazo sulfones as initiators. *Polym. Chem.* **2021**, *12*, 5747–5751.

34) S. Benedini, Y. Zheng, **A. Nitti**, M. M. A. Mazza, D. Dondi, F. M. Raymob, D. Pasini. Large polarization of push–pull "Cruciforms" via coordination with lanthanide ions. *New J. Chem.* **2022**, *46*, 221-227.

35) G. Forti, **A. Nitti**, G. Bianchi, R. Po, D. Pasini. A Sustainable Synthetic Approach to the Indaceno [1, 2-b: 5, 6-b′] dithiophene (IDT) Core through Cascade Cyclization–Deprotection Reactions. *Chemistry* **2022**, *4*, 206–215.

36) A. Martinelli, **A. Nitti**, G. Giannotta, R. Po, D. Pasini. 3D printing of conductive organic polymers: challenges and opportunities towards dynamic and electrically responsive materials. *Mater. Today Chem.* **2022**, *26*, 101135.

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