

Curriculum Vitae: Prof Cyrille BOYER

- **Citizenship:** Australian and French

- **Current Positions:**

- Full Professor (since January 2017), School of Chemical Engineering, UNSW;
- Deputy Head of School (Research), School of Chemical Engineering, UNSW;
- Co-Director (since January 2017), Australian Centre for Nanomedicine; Australia
- Member of ARC College of Expert (2022-2024)
- Honorary Professor, Fudan University, China (2018-2019)
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- **Previous Positions:**

- Associate Professor (May 2013 - December 2016), School of Chemical Engineering, UNSW;
- Deputy Director (June 2013 – December 2016), Australian Centre for Nanomedicine, UNSW;
- Senior Lecturer (July 2011- April 2013), School of Chemical Engineering, UNSW;
- Lecturer (July 2009-June 2011), School of Chemical Engineering, UNSW;
- Senior researcher (January 2007-July 2009), School of Chemical Engineering, UNSW;
- Research Engineer (November 2005 – October 2006), Dupont Performance Elastomers

- **Qualifications:**

2006 - Ph.D. in Polymer Chemistry, University of Montpellier II, Montpellier, France

- **Selected Awards & Fellowships:**

- 2021 - Listed as one the **Top 250 Australian Researchers** by The Australian Newspaper
- 2021 - Invited to be part of the Hall of Fame series published by *Advanced Materials*
- 2021 - **Listed as Highly Cited Researcher in Crossfield by Clarivante (Web of Science)**;
- 2020 - Elected as a Fellow of *The European Academy of Science* (division Chemistry);
- 2020 - Co-recipient of *2019 NHMRC Marshall and Warren Ideas Grant Award* for 2019 Ideas Grant by NHRMC entitled: Tackling Hospital Acquired Infections with Peptide Mimics
- 2018, 2019 and 2020 – **Listed as Highly Cited Researcher in Chemistry by Clarivante (Web of Science)**;
- 2018 - Winner of ANZ Awards of Excellence in Chemical Engineering delivered by IChemE;
- 2018 - Winner of the **6th Polymer International - IUPAC award**;
- 2018 - Winner of the Royal Chemistry Society - Polymer Chemistry Lectureship award;
- 2017 - Finalist Eureka Research Excellence Award;
- 2016 - **ACS Macromolecules/Biomacromolecules Young Investigator Award**;
- 2016 - Journal of Polymer Science Innovation Award (delivered by the ACS Division of Polymeric Materials: Science and Engineering (PMSE));
- 2016 - **Le Fevre Memorial Prize** awarded by Australian Academy of Science;
- 2016 - Finalist Eureka Research Excellence Award;
- 2015 - Named as one of the inaugural 100 Knowledge innovators selected by the Knowledge Society, guided by Australia's Chief Scientist, Professor Ian Chubb and senior commentators from The Australian newspaper;
- 2015 - **Prime Minister's Prize for Science** (2015 Malcolm McIntosh Prize for Physical Scientist of the Year, the highest award for Early-Mid career Researcher in physical sciences in Australia);
- 2015 - Named as a High-end Foreign Expert by Chinese Government (2015);
- 2015 - Listed as an "**Emerging Investigator**" by Polymer Chemistry and Chemical Society Reviews;
- 2014 - Finalist, New South Innovations (NSi) Innovation Award;
- 2013 - Winner, UNSW Research Award;
- 2013 - Listed as an "**Emerging Investigator**" by Chemical Communication;
- 2013 - Listed as a "**Rising Stars and Young Nano-architects**" by Journal of Materials Chemistry;
- 2012 - Winner, Scopus Young Researcher of the Year Award (Engineering and Technology);
- 2012 - Listed as a "**Rising Star in Polymer Sciences**" by Macromolecular Rapid Communication;
- **2012 - Australian Research Council – Future Fellowship (2013-2016)**;
- **2009 - Australian Research Council – Australian Post-Doctoral Fellowship.**

- **Current Supervision:**

14 PhD students as principal supervisor and 5 as co- or joint- supervisor

8 Honours and Master students as main supervisor

4 Research Associates funded by industry projects, including Kulzer, FSI, and CSL, and by ARC Discovery Projects

- **Mentoring:**

In the last 10 years, I have [successfully graduated 35 PhD and Master students, supervised over 120 honours projects, and advised 12 post-doctoral researchers](#). My alumni have obtained positions in academia and industry: e.g., Dr Ciftci (A/Professor - Bursa Technical University); Dr Agustina (Lecturer - Universitas Sultan Ageng Tirtayasa); Dr Li (Professor - BUCT); Dr Basuki (Project Leader - CSIRO); Dr Setijadi (CEO at Jangjo); Dr Adnan (Team leader – Petronas Malaysia); Dr Nguyen (Project coordinator - Regional Skills Training Pty Ltd), etc. My former post-doctoral fellows have obtained prestigious positions (e.g., Dr Jiangtao Xu (ARC-Future Fellow), Dr Edgar Wong (ARC-Future Fellow), Dr Hien Duong (Lecturer at Sydney Uni), Prof. Yang Li (Professor at BUCT), Prof Jinming Hu (Professor at UCST), etc.

- **Number of Publications:**

360+ refereed review and research articles published in peer reviewed journals, including *Science*, *Nature Nanotechnology*, *Nature Communications*, *Advanced Materials*, *Chemical Reviews*, *Chemical Society Reviews*, *Angewandte Chemie International Edition*, *Journal of the American Chemical Society*, *ACS Nano*, *Chemical Sciences*, *Langmuir*, *Chemical Communication*, *Macromolecules*, *Molecular Pharmaceuticals*, *Biomacromolecules*, *ACS Infectious Diseases*, ...

- **Number of Citations:**

- 28 500+ (according to [Google Scholar](#));
- 93 papers cited 100+ times;
- 24 papers ranked as **Highly Cited** according to Web of Science (July 2022);
- [Google Scholar: H-Index: 94](#) (H-Index last 5 years: 77); [Scopus/Web of Science: H-Index: 87/88](#)

- **Visiting Position Funded by Other Institutions:**

2018 – Visiting Professor in Nagoya University, funded by Japan Research Council and Nagoya University (1 month);

2016 – Visiting Professor at University of Marseille, funded by French Research Council and University of Marseille-Aix Provence (1 month);

2014 - Visiting Professor at Ecole Nationale Supérieure de Chimie de Montpellier, University of Montpellier II (1 month), funded by University of Montpellier II, France;

2012 - Visiting Senior Research at University of Pau, France (1 month) funded by CNRS, France.

- **Summary of Invitations:**

100+ invitations as a Keynote Speaker and 8 invitations as Plenary Speaker at national and international conferences, including American Chemical Society (ACS) in 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2022, 2023. Invited Plenary Speaker at Gordon Research Conference in 2019 and 2022. *Note: Gordon conferences only select 15-20 speakers for the full conference and only top international researchers are invited.*

- **Commercial outcomes such as patents, IP licences and resulting benefits:**

I have applied my expertise in polymer synthesis in several industry projects with Baosteel, Solvay Solexis, Toso Company, Dupont Performance Elastomers, and Flame Security International resulting in the production of materials tested on an industrial scale. For instance, I have developed a new process for the synthesis of perfluoropolymers and perfluoroelastomers in collaboration with Dupont Performance Elastomer. In collaboration with Toso Company, I developed a green process to produce perfluoropolymers by eliminating the need for perfluoro-surfactants (which are highly toxic compounds for the environment and humans). More recently, I have used my expertise in polymer synthesis to develop a highly efficient battery in collaboration with Baosteel Group and A/Prof Dawei Wang (UNSW) and develop polymer fire retardants in collaboration with Flame Security International (FSI), which are in commercialization phase.

- N. Corrigan, C. Boyer, D. Kundu, K. Lee (2022), Method for Making a Solid Polymer Electrolyte, AU provisional application no. 2022902311
- N. Corrigan, C. Boyer, V. Bobrin (2022), Additive Manufacture Method International PCT application no. PCT/AU2022/050893
- J. Xu, C. Boyer (2014), Process for preparing a polymer, Application No. 2014900300 & 2014901259;
- N. Barraud, H. Duong, C. Boyer (2014), Polymer for NO delivery, Application No. 2014902080;
- B. Ameduri, C. Boyer, H. Ming (2009) Perfluoropolymers, World Patent, (Assigned to Dupont Performance Elastomers), Application No. WO/2009/055521A1;
- B. Ameduri, C. Boyer, H. Ming, (2008) Polymerization process, United State Patent (Assigned to Dupont Performance Elastomers), Application No 2008-209302;
- B. Ameduri, C. Boyer (2007) Copolymerization, Japan Patent (Toso Company), Application # 2007-051201;
- Patent in progress with FSI: E. Wong, C. Boyer (2019) A Green Fire Retardant Polyurethane and L. Lei, S. Oliver and C. Boyer (2019) Green Fire Retardant Coating for Textile.

Commercialization outcomes

- One product was commercialized with Flame Security International (FSI) – Fire retardant textile coating (since June 2019);
- Perfluoroelastomers (Dupont Performance Elastomers)

• Research support income:

In the past 12 years, I have been awarded 10 ARC grants, including 7 Discovery Projects (DPs) (I hold currently 2 DPs: DPs awarded in 2020 and 2021), 1 Australian Post-Doctoral fellowship, 1 Future Fellowship, and 2 infrastructure grants (total value of AUD5.0M as main CI) as well as research collaborations with industry, including 2 CRC Projects (in the development of the next generation of fire retardant with Profs Yeoh and Chun Wang – UNSW School of Mechanical and Manufacturing Engineering) and research contracts with Baosteel, Flame Security International (FSI) and others (total value of AUD7.0M - this industry research is confidential). In addition, in collaboration with colleagues at UNSW Faculty of Medicine and Science, I have been awarded as co-CI and PI NHRMC grant projects (including, 2019 NHRMC Ideas grant, etc.), Cancer Council Australia, and Cure Cancer Australia Foundation grants. More recently, I am a CI in the new ARC Hub Research Centre awarded in 2022: ARC Industry Transformation Research for Fire Resilience Infrastructure, Assets and Safety Advancements in Urban, Resources, Energy and Renewables Sectors. I am part of the management team and will oversee the research in the development of new polymers containing fire retardant.

• Editorial Roles and Professional Memberships:

- Co-Theme Leader with Prof. Per Zetterlund of the Pacific Polymer Conference, Brisbane, Australia
- Co-Chair with Prof. Maria Kavallaris and A/Prof. Kristian Killian of the 12th International Nanomedicine Conference, Australia (25-27th June 2022)
- Co-Chair with Prof. Justin Gooding and Prof. Maria Kavallaris of the one day - International Nanomedicine Conference, Australia (June 2021; free event, online only)
- Co-Organiser of Symposium on “Continuous flow chemistry in polymer science” with Profs Tanja Junkers and Frank Leibfarth and on “Symposium on ecofriendly polymerization” with Prof Dominik Konkolewicz at 2019 Fall ACS National Meeting in San Diego, USA
- Co-Chair with Prof Justin Gooding of the 10th International Nanomedicine Conference, Australia (25-27th June 2019)
- Co-Chair with Prof Justin Gooding of the 9th International Nanomedicine Conference, Australia (25-27th June 2018)
- Organiser of two symposiums in the 2015 PACIFIC Chem (Hawaii, USA)
- Co-Organiser of one symposium with A/Prof Idriss Blakey in RACI National Congress in 2014 (Australia)
- Co-Organiser of symposiums in 2015/2016 Australian Polymer Symposium

Editorial Role:

- 2018- Associate Editor for **European Polymer Journal** (Q1, IF 3.8, starting November 2018)
- 2015-2017 Associate Editor for **RSC Advances** (Multidisciplinary Journal, published by Royal Society of Chemistry)
- Member of Editorial Board of **Polymer International (since 2018)** & Advisory Board of **Advanced Materials, Polymer Chemistry, ACS Macro Letters, Cell Reports Physical Science, ACS Infectious Disease, Macromolecules, Journal of Polymer Science, Biomacromolecules, Macromolecular Rapid Communication & Macromolecular Chemistry Physics, etc.**
- Guest Editors for Macromolecular Rapid Communication; Journal of Polymer Science; European Polymer Journal; Polymer Chemistry; Polymer

• Service:

- Member of Tenure Committee, Faculty of Engineering (since 2015-2020);
- Promotion Committee, Faculty of Engineering, level C/ Senior Lecturer (2014-2016)
- Promotion Committee, Faculty of Engineering, Level D/ Associate Professor (2017-2018)
- Member of School Research Committee (since 2017) and chair of School Research Committee (2020);
- Course Coordinator for CEIC8330 and Honours thesis projects (2016-2019)

• Teaching

- CEIC8330 - Chemical Process in Petroleum Industry (since 2009), 48h
- POLY3000/CEIC8104 - Polymer Science (since 2012), 20h
- CEIC8105 - Advanced POLY – Advanced Polymer Science (since 2009), 20h
- ENG1000 - First year introduction in engineering (since 2012), 48h
- CEIC4001 - Design Projects – 4th year projects (since 2013), 48h
- Guest Lectures in Food Science used of Nanotechnology (5h) and in Bioengineering (Nanomedicine, 6h)

Courses	Myexperience score (/6)*
CEIC8330	5.8
CEIC8105	5.3
ENG1000	5.3
CEIC4001	6.0
POLY3000/CEIC8104	5.8

Note: average myexperience scores (period: 2019/2020 and 2021). 6 demonstrates to high satisfaction.

• **Ground-breaking Research and Research Contribution:**

Research Performance: I have effectively communicated the outcomes of my research through the publication of 360+ articles, of which >90% were published in first quartile (Q1) journals. At the age of 43, my 28 500 citations and H-index of 94 conveys my significant impact in the polymer and material science fields. As an active researcher since 2006, I have been continuously introducing new concepts in polymer synthesis and nanomedicine as evidenced by 24 Highly Cited articles (Web of Science). My achievements are also recognised by my inclusion in the prestigious list of Highly Cited Researchers in Chemistry (2018-2020) and Cross-field (2021), the list of Top 250 Australian Researchers by The Australian newspaper (2021), and my election to the European Academy of Sciences (2020). Besides the academic impact, my research has resulted in 5 patented technologies and 8 certified products, which are (or were) exploited and commercialised by industrial partners, including Dupont Performance Elastomers, Toso Company, and Flame Security International (FSI). In 2018, with Profs Wang and Yeoh, I established a collaboration with a consortium led by FSI funded by 2 CRC-Ps with a budget over AU\$7M to develop the next generation of “green” fire retardants for polymer. My light-mediated technology has also aroused the interest of various companies including CSL, ResChem, and Kulzer, resulting in the initiation of new research projects. In recognition of my achievements, I was selected as one of the “100 Knowledge Innovators” (recognizing 100 Australians at the forefront of innovation and science contributing to Australia's future economy) in 2015 by the Australian Chief Scientist.

Ground-breaking research: My research has focused on the development of new macromolecular tools as well as the design of advanced materials. I have continuously made significant contributions in Reversible-Deactivation Radical Polymerisation (RDRP), which is the main topic of this proposal. In my early work, I developed RDRP techniques to create functional fluorinated polymers for aerospace and aeronautics applications, resulting in 2 patented technologies assigned to Dupont Performance Elastomers and Toso Company. I successfully implemented RDRP for the preparation of in-situ protein polymer conjugates, the synthesis of antimicrobial polymers, and the design of functional drug delivery vectors. Ten years ago, I also realised the immense potential of PCs for polymer synthesis. By merging PCs with RAFT technology, my team discovered a new process, named PET-RAFT, which exploits low energy visible light to control the growth of polymer chains spatially and temporally. By incorporating these PCs into polymer chemistry, I have overcome many limitations, providing a “green” catalytic activation system, and enabling polymerisations in the presence of atmospheric oxygen at room temperature. By conferring oxygen tolerance, my team has opened up this field to non-specialists and pioneered the use of benchtop, high-throughput techniques for the establishment of structure-property relationships. In addition, I have introduced the first examples of photo-RDRP across the entire visible spectrum and into the near infrared (NIR) region, which provided the first examples of wavelength orthogonal photopolymerisation, where two independent photochemical pathways were performed with two distinct wavelengths, enabling the one-pot synthesis of complex macromolecules. To expand the range of PCs, I exploited the growing capability and accessibility of computational modelling tools for the prediction of photophysical properties and photoactivity of PCs. By precisely manipulating the substituents on PCs, I successfully demonstrated that their photoactivity could be tailored for selective activation; this was then exploited for the precise insertion of single monomer into polymer chains and led to the first report of sequence defined oligomers prepared exclusively via radical chemistry. By leveraging the knowledge gained, I recently unveiled the first example of 3D/4D materials prepared via visible light-based stereolithography using RDRP technology (PET-RAFT). Subsequently, I developed a printing process using RAFT technology for the fabrication of nanostructured 3D printed objects with enhanced mechanical and self-healing properties. Together, these innovations have shifted the focus of RDRP research towards more precise, robust, and versatile techniques by exploiting visible light, paving the way to produce microstructured and functional 3D printed objects. These macromolecular tools have been adopted by several industries and by world-renown research groups to synthesise protein-polymer conjugates, graft polymers on the surface of inorganic materials or living cells, and to prepare polymeric materials and functional polymers. Furthermore, due to the versatility of PET-RAFT, this technique has been incorporated in several polymer courses and undergraduate Labs at different universities, such as Fudan Univ. (Top 5 university in China), Seoul National Univ. (South Korea), etc.

Leadership: In research, I have pioneered the use of PCs in polymer chemistry, resulting in the discovery of new methods to control polymerisation (e.g., PET-RAFT, photo-ring opening polymerisation), which were applied for the preparation of sequence defined polymers and advanced materials (3D printing). My impact on the polymer community has been recognised by an invitation to co-author a commemorative review for the 100 Years of Polymer Science in Progress in Polymer Science with world-leaders: Profs Matyjaszewski, Moad and Hawker. In addition, my achievements

to date have significantly influenced the polymer and nanomedicine communities as evidenced by several invitations to join prestigious editorial boards, e.g., *Advanced Materials*, *Macromolecules*, *ACS Infectious Diseases*, *Cell Reports Physical Science*, etc., as well as receiving several prestigious international and national awards, demonstrating my ability to drive research trends. For instance, my pioneering work on PET-RAFT polymerisation was acknowledged by the [2016 Journal of Polymer Science Innovation Award](#) and the [2016 ACS Bio/Macromolecules Investigator Award](#). My work on the development of selective polymerisation and wavelength orthogonality was recognised by the [2018 Polymer Chemistry Lectureship \(delivered by the Royal Society of Chemistry\)](#) and the [2018 Polymer International IUPAC Young Investigator Award](#). They are the most significant awards in polymer science, and **I am the first researcher to be collectively awarded these 4 international awards**. My overall contribution to nanomedicine and polymer science was recognised by the prestigious [2015 Prime Minister's Prize \(Malcom McIntosh\) in Physical Science](#), while my achievements in chemistry were acknowledged by the [2016 LeFevre Memorial Prize](#). My contribution to chemical engineering (flow polymerisation) was acknowledged by IChemE through the [2018 Chemical Engineering Research Excellence Award](#). Another demonstration of my leadership is my numerous funded invitations to give seminars or guest lectures to under- or postgraduate students on our work in various institutions, e.g., Univ. Aix-Marseille (France), Soochow Univ. (China), PennState (USA), and Nagoya Univ. (Japan).

My academic leadership has been recognised by my appointments as [Deputy Head of School \(DHoS\)](#), [Deputy Director \(2013-17\)](#) and [co-Director \(2017-present\)](#) of the Australian Centre for Nanomedicine (ACN). The internationally recognised ACN is one of the largest centres at UNSW, comprising over 130 researchers from three faculties, outputting 120+ publications and attracting AU\$7M in external funding in 2020 alone. **In my role of co-Director**, I actively promote and encourage intra- and inter-faculty collaborations among different research groups through offering seeding grants to PhD students and ECRs for innovative projects. Among them include my students who successfully received these grants (e.g., Dr Rashin Zangeneh collaborated with Dr Kitty Ho (Faculty of Science) to develop antimicrobial polymers for the treatment of biofilms). Such opportunities enable the exploration of new ideas and networking with peers from different faculties and backgrounds. **In my role as DHoS**, I oversee school's research strategies by providing feedback on research proposals and identifying funding opportunities and future collaborations within the school as well as coordinating research events within the faculty. I reorganised the school into different research areas, which made it possible to attract major research programs, such as ARC Training & Research Centres and CRC-Ps. Furthermore, I have established an individual mentoring program for E/MCRs which has resulted in the award of several ARC Fellowships and I am actively involved in STEM disciplinary promotional events such as NRL Indigenous Youth Leadership Summit, Women in Engineering, National Science Week, and high school recruitment. **In addition to my institutional engagements**, I am an associate editor of *European Polymer Journal* (Q1 journal) and a current member of ARC College of Experts (2022-2024). I have also (co)organised over 15 international conferences and symposia in the fields of Materials Science and Nanomedicine and (co)edited several special issues, including one showcasing the most recent advances in the field of Australian polymer science with Prof. Qiao (Univ. Melbourne).

Summary of Publications

I have authored 360+ refereed articles published in high impact journal, 20+ refereed conference articles and over 80 conference papers.

Average citations per paper = 72

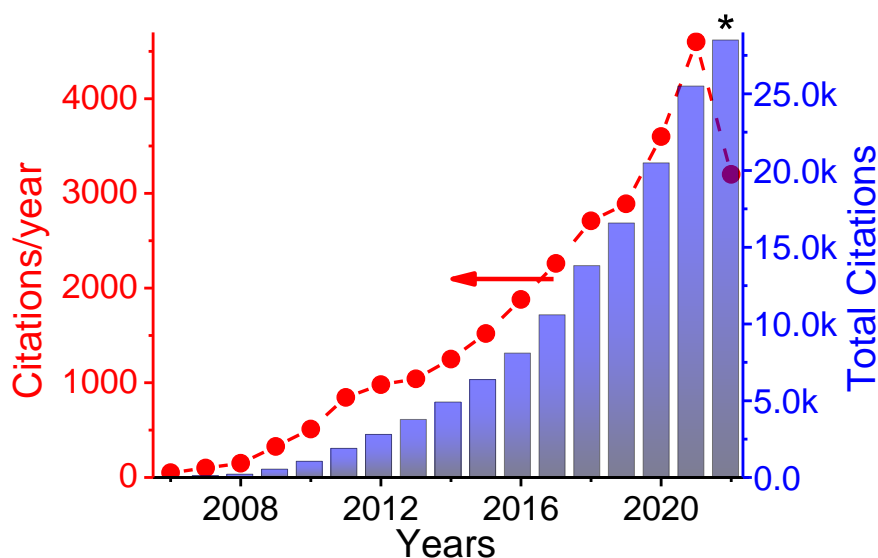
H-index (career) = 94 - H-index (last 5 years) = 77

Citations in 2021 only = 4650+ (Google Scholar)

i10-index = 307 (i10-index is the number of citations with at least 10 citations)

**Number of 'Highly Cited' papers in 2021 = 24

(Source: Google Scholar, * "InCites Essential Science Indicators" (ranked only the top 1% of researchers in the field of chemistry), **Web of Sciences)



Note: the 2022 citation count was determined on 22/08/2022 using Google Scholar.

Accepted articles (in press)

1. Lee, K.; Shang, Y.; Bobrin, V.; Kuchel, R.; Kundu, D.; Corrigan, N.; Boyer, C. 3D Printing Nanostructured Solid Polymer Electrolytes with High Modulus and Conductivity, *Advanced Materials*, **Accepted**.
2. V. A. Bobrin, J. Zhang, N. Corrigan, C. Boyer, The Emergence of Reversible-Deactivation Radical Polymerization in 3D Printing" *Advanced Materials Technologies*, **Accepted**
3. Z. Wu, W. Fang, C. Wu, N. Corrigan, T. Zhang, S. Xu, C. Boyer, An Aqueous Photo-Controlled Polymerization under NIR Wavelengths: Synthesis of Polymeric Nanoparticles through Thick Barriers, *Chemical Science*, **Accepted** (provisional accepted after minor changes)
4. P. Pham, S. Oliver, C. Boyer, Design of Antimicrobial Polymers, *Macromolecular Chemistry Physics*, **Accepted**
5. P. Phuong, S. Oliver, D. T. Nguyen, C. Boyer Effect of Cationic Groups on the Selectivity of Ternary Antimicrobial Polymers, *Macromolecular Rapid Communications*, **Accepted**.

Published articles

1. Zhang, Z.; Corrigan, N.; Boyer, C., A Photoinduced Dual-Wavelength Approach for 3D Printing and Self-Healing of Thermosetting Materials. *Angewandte Chemie - International Edition* **2022**, 61 (11).
2. Zhang, H.; Zhang, Q.; Guo, Z.; Liang, K.; Boyer, C.; Liu, J.; Zheng, Z.; Amal, R.; Yun, S. L. J.; Gu, Z., Disulfiram-loaded metal organic framework for precision cancer treatment via ultrasensitive tumor microenvironment-responsive copper chelation and radical generation. *Journal of Colloid and Interface Science* **2022**, 615, 517-526.
3. Zhang, H.; Zhang, L.; Cao, Z.; Cheong, S.; Boyer, C.; Wang, Z.; Yun, S. L. J.; Amal, R.; Gu, Z., Two-Dimensional Ultra-Thin Nanosheets with Extraordinarily High Drug Loading and Long Blood Circulation for Cancer Therapy. *Small* **2022**, 18 (22).
4. Wu, Z.; Jung, K.; Wu, C.; Ng, G.; Wang, L.; Liu, J.; Boyer, C., Selective Photoactivation of Trithiocarbonates Mediated by Metal Naphthalocyanines and Overcoming Activation Barriers Using Thermal Energy. *Journal of the American Chemical Society* **2022**, 144 (2), 995-1005.
5. Wu, C.; Corrigan, N.; Lim, C. H.; Liu, W.; Miyake, G.; Boyer, C., Rational Design of Photocatalysts for Controlled Polymerization: Effect of Structures on Photocatalytic Activities. *Chemical Reviews* **2022**, 122 (6), 5476-5518.
6. Sutharsan, J.; Boyer, C. A.; Zhao, J., Physicochemical properties of chitosan edible films incorporated with different classes of flavonoids. *Carbohydrate Polymer Technologies and Applications* **2022**, 4.
7. Shi, X.; Zhang, J.; Corrigan, N.; Boyer, C., Controlling mechanical properties of 3D printed polymer composites through photoinduced reversible addition-fragmentation chain transfer (RAFT) polymerization. *Polymer Chemistry* **2022**, 13 (1), 44-57.
8. Shi, X.; Bobrin, V. A.; Yao, Y.; Zhang, J.; Corrigan, N.; Boyer, C., Designing Nanostructured 3D Printed Materials by Controlling Macromolecular Architecture. *Angewandte Chemie - International Edition* **2022**.
9. Sha, Z.; Boyer, C.; Li, G.; Yu, Y.; Allieux, F. M.; Kalantar-Zadeh, K.; Wang, C. H.; Zhang, J., Electrospun liquid metal/PVDF-HFP nanofiber membranes with exceptional triboelectric performance. *Nano Energy* **2022**, 92.
10. Sapkota, P.; Boyer, C.; Lim, S.; Aguey-Zinsou, K. F., High performing platinum—copper catalyst for self-breathing polymer electrolyte membrane fuel cell. *Research on Chemical Intermediates* **2022**, 48 (7), 3019-3037.
11. Pham, P.; Oliver, S.; Nguyen, D. T.; Boyer, C., Effect of Cationic Groups on the Selectivity of Ternary Antimicrobial Polymers. *Macromolecular Rapid Communications* **2022**.

12. Nauman, N.; Boyer, C.; Zetterlund, P. B., Miniemulsion polymerization via membrane emulsification: Exploring system feasibility for different monomers. *Colloid and Polymer Science* **2022**, *300* (4), 309-317.
13. Luo, Z.; Ng, G.; Zhou, Y.; Boyer, C.; Chandrawati, R., Polymeric Amines Induce Nitric Oxide Release from S-Nitrosothiols. *Small* **2022**.
14. Li, J.; Boyer, C.; Zhang, X., 3D Printing based on Photopolymerization and Photocatalysts: Review and Prospect. *Macromolecular Materials and Engineering* **2022**.
15. Lee, Y.; Boyer, C.; Kwon, M. S., Visible-light-driven polymerization towards the green synthesis of plastics. *Nature Reviews Materials* **2022**, *7* (2), 74-75.
16. Jung, K.; Corrigan, N.; Wong, E. H. H.; Boyer, C., Bioactive Synthetic Polymers. *Advanced Materials* **2022**, *34* (2).
17. He, Y.; Wang, H.; Sha, Z.; Boyer, C.; Wang, C. H.; Zhang, J., Enhancing output performance of PVDF-HFP fiber-based nanogenerator by hybridizing silver nanowires and perovskite oxide nanocrystals. *Nano Energy* **2022**, *98*.
18. Guo, Z.; Xie, W.; Zhang, Q.; Lu, J.; Ye, J.; Gao, X.; Xu, W.; Fahad, A.; Xie, Y.; Wei, Y.; Wu, H.; Boyer, C.; Zhao, L.; Gu, Z., Photoactivation-triggered in situ self-supplied H₂O₂ for boosting chemodynamic therapy via layered double Hydroxide-mediated catalytic cascade reaction. *Chemical Engineering Journal* **2022**, *446*.
19. Corrigan, N.; Boyer, C., 3D Printing and In Situ Surface Modification via Type I Photoinitiated Reversible Addition-Fragmentation Chain Transfer Polymerization. *Journal of Visualized Experiments* **2022**, *2022* (180).
20. Cai, S.; Allieux, F. M.; Tang, J.; Han, J.; Zhang, J.; He, Y.; Merhebi, S.; Christoe, M. J.; Mayyas, M.; Wong, E. H. H.; Boyer, C.; Neff, R.; Kalantar-Zadeh, K., Soft Liquid Metal Infused Conductive Sponges. *Advanced Materials Technologies* **2022**, *7* (8).
21. Bobrin, V. A.; Yao, Y.; Shi, X.; Xiu, Y.; Zhang, J.; Corrigan, N.; Boyer, C., Nano- to macro-scale control of 3D printed materials via polymerization induced microphase separation. *Nature Communications* **2022**, *13* (1).
22. Bobrin, V. A.; Lee, K.; Zhang, J.; Corrigan, N.; Boyer, C., Nanostructure Control in 3D Printed Materials. *Advanced Materials* **2022**, *34* (4).
23. Zhou, Y.; Yang, T.; Namivandi-Zangeneh, R.; Boyer, C.; Liang, K.; Chandrawati, R., Copper-doped metal-organic frameworks for the controlled generation of nitric oxide from endogenous S-nitrosothiols. *Journal of Materials Chemistry B* **2021**, *9* (4), 1059-1068.
24. Zhang, Z.; Corrigan, N.; Boyer, C., Effect of Thiocarbonylthio Compounds on Visible-Light-Mediated 3D Printing. *Macromolecules* **2021**, *54* (3), 1170-1182.
25. Zhang, L.; Shi, X.; Zhang, Z.; Kuchel, R. P.; Namivandi-Zangeneh, R.; Corrigan, N.; Jung, K.; Liang, K.; Boyer, C., Porphyrinic Zirconium Metal–Organic Frameworks (MOFs) as Heterogeneous Photocatalysts for PET-RAFT Polymerization and Stereolithography. *Angewandte Chemie - International Edition* **2021**, *60* (10), 5489-5496.
26. Zhang, L.; Ng, G.; Kapoor-Kaushik, N.; Shi, X.; Corrigan, N.; Webster, R.; Jung, K.; Boyer, C., 2D Porphyrinic Metal–Organic Framework Nanosheets as Multidimensional Photocatalysts for Functional Materials. *Angewandte Chemie - International Edition* **2021**, *60* (42), 22664-22671.
27. Zhang, J.; Liu, M.; Pearce, G.; Yu, Y.; Sha, Z.; Zhou, Y.; Yuen, A. C. Y.; Tao, C.; Boyer, C.; Huang, F.; Islam, M.; Wang, C. H., Strain stiffening and positive piezoconductive effect of liquid metal/elastomer soft composites. *Composites Science and Technology* **2021**, *201*.
28. Zhang, J.; He, Y.; Boyer, C.; Kalantar-Zadeh, K.; Peng, S.; Chu, D.; Wang, C. H., Recent developments of hybrid piezo-triboelectric nanogenerators for flexible sensors and energy harvesters. *Nanoscale Advances* **2021**, *3* (19), 5465-5486.
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