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B.S. in Chemical Engineering

National Taiwan University, 2004

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**Research and Professional Interests**

Organic/Organic-inorganic hybrid semiconductors

**Journal Papers**

1. I. S. Zhidkov\*, M. H. Yu, A. I. Kukhareno, P. C. Han, S. O. Cholakh, W. Y. Yu, K. C. W. Wu, **C. C. Chueh**, E. Z. Kurmaev\*, “The Stability of Hybrid Perovskites with UiO-66 Metal-Organic Framework Additives to Heat, Light, and Humidity”, *Nanomaterials* 2022, 12, 4349. (IF: 5.719) (SCI)
2. Y. Wang, H. Yu\*, X. Wu, D. Zhao, S. Zhang, X. Zou, B. Li, D. Gao, Z. Li, X. Xia, X. Chen, X. Lu, H. Yan, **C. C. Chueh**, Alex K. Y. Jen, Z. Zhu\*, “Boosting the Fill Factor through Sequential Deposition and Homo Hydrocarbon Solvent toward Efficient and Stable All-Polymer Solar Cells”, *Adv. Energy. Mater.* 2022, 12, 2202729. (IF: 29.698) (SCI)
3. Y. S. Wu, J. S. Li, C. Y. Chang, W. He, T. Michinobu, Y. C. Lin\*, W. C. Chen\*, **C. C. Chueh\***, “Structural Influences of Proquinodial Acceptor Moieties on Transistor Performance and Doping Capability for Diketopyrrolopyrrole-based Dual-Acceptor Conjugated Polymers”, *J. Mater. Chem. C* 2022, 10, 17936 - 17944. (IF: 8.067) (SCI)
4. C. H. Chen, C. H. Hsu, I C. Ni, B. H. Lin, C. I Wu, C. C. Kuo\*, **C. C. Chueh\***, “Regulating the Phase Distribution of Quasi-2D Perovskites Using a Three-Dimensional Cyclic Molecule Toward Improved Light-Emitting Performance”, *Nanoscale* 2022, 14, 17409-17414. (IF: 8.307) (SCI)
5. X. Li, Y. Liu, Q. Sun, Z. Huangfu, W. H. Huang, Z. Wang\*, **C. C. Chueh**, C. L. Chen, Z. Zhu\*, “Effects of Cationic and Anionic Defects on NiFe LDH in Electrocatalytic Oxygen Evolution”, *ACS Sustainable Chem. Eng.* 2022, 10, 14474-14485. (IF: 9.224) (SCI)
6. P. H. Chueh, C. Y. Chang, Y. C. Lin\*, W. C. Chen\*, **C. C. Chueh\***, “Stretchable Diketopyrrolopyrrole-Based Conjugated Polymers with Asymmetric Sidechain Designs for Field-Effect Transistor Applications”, *J. Taiwan. Inst. Chem. Eng.* 2022, 140, 104566. (IF: 5.447) (SCI)
7. Y. T. Yang, Y. S. Wu, W. He, H. C. Tien, W. C. Yang, T. Michinobu, W. C. Chen, W. Y. Lee\*, **C. C. Chueh\***, “Tuning Ambipolarity of the Conjugated Polymer Channel Layers of Floating-Gate Free Transistors: From Volatile Memories to Artificial Synapses”, *Adv. Sci.* 2022, 9, 2203025. (IF: 17.521) (SCI) (feature as frontispiece)
8. M. H. Yu, P. C. Han, C. C. Lee, I C. Ni, Z. Zhu, E. Z. Kurmaev, S. Furukawa, Kevin C. W. Wu\*, **C. C. Chueh\***, “A Self-Arranged Metal-Organic Polyhedron/Fullerene Asymmetric Structure Improves the Performance of Inverted Perovskite Solar Cells”, *J. Mater. Chem. C* 2022, 10, 14542-14548. (IF: 8.067) (SCI)

9. C. T. Lin\*, C. T. Hsieh, T. J. Macdonald, J. F. Chang, P. C. Lin, H. Cha, L. Steier, A. Wadsworth, I. McCulloch, **C. C. Chueh\***, J. R. Durrant, “Water-Insensitive Electron Transport and Photoactive Layers for Improved Underwater Stability of Organic Photovoltaics”, *Adv. Funct. Mater.* 2022, 32, 2203487. (IF: 19.924) (SCI) (feature as inside front cover)
10. C. Y. Chang, Y. H. Shih, W. C. Chen, **C. C. Chueh\***, “Influence of Side-Chain Substitution for Thiophene-based Conjugated Polymers on the Charge Transport Properties: Carboxylate Ester Group versus Carboxamide Group”, *Org. Electron.* 2022, 110, 106634. (IF: 3.868) (SCI)
11. I. S. Zhidkov\*, A. F. Akbulatov, M. I. Ustinova, A. I. Kukharenko, L. A. Frolova, S. O. Cholakh, **C. C. Chueh**, P. A. Troshin, E. Z. Kurmaev, “Temperature Dependence of Photochemical Degradation of MAPbBr<sub>3</sub> Perovskite”, *Coatings* 2022, 12, 1066. (IF: 3.236) (SCI)
12. Y. Liu, X. Li, Q. Sun, Z. Wang\*, W. H. Huang, X. Guo, Z. Fan, R. Ye, Y. Zhu, **C. C. Chueh**, C. L. Chen, Z. Zhu\*, “Freestanding 2D NiFe Metal-Organic Framework Nanosheets: Facilitating Proton Transfer *via* Organic Ligands for Efficient Oxygen Evolution Reaction”, *Small* 2022, 18, 2201076. (IF: 15.153) (SCI)
13. B. Li, X. Wu, S. Zhang, Z. Li, D. Gao, X. Chen, S. Xiao, **C. C. Chueh**, A. K. Y. Jen, Z. Zhu\*, “Efficient and Stable Cs<sub>2</sub>AgBiBr<sub>6</sub> Double Perovskite Solar Cells Through In-Situ Surface Modulation”, *Chem. Eng. J.* 2022, 446, 137144. (IF: 16.744) (SCI)
14. Y. T. Yang, H. C. Tien, **C. C. Chueh\***, W. Y. Lee\*, “Polymer Synaptic Transistors from Memory to Neuromorphic Computing”, *Mater. Chem. Phys.* 2022, 287, 126263. (IF: 4.778) (SCI)
15. L. Y. Su\*, H. H. Huang, C. E. Tsai, C. H. Hou, J. J. Shyue, C. H. Lu, C. W. Pao, M. H. Yu, L. Wang\*, **C. C. Chueh\***, “Improving Thermal and Photostability of Polymer Solar Cells by Robust Interface Engineering”, *Small* 2022, 18, 2107834. (IF: 15.153) (SCI) (Rising Stars)
16. Y. C. Tseng, A. Kato, J. F. Chang, W. C. Chen, T. Higashihara\*, **C. C. Chueh\***, “Impact of the Segment Ratio on a Donor-Acceptor All-Conjugated Block Copolymer in Single-Component Organic Solar Cells”, *Nanoscale* 2022, 14, 5472-5481. (IF: 8.307) (SCI)
17. Y. C. Lin, K. Terayama, K. Yoshida, P. J. Yu, P. H. Chueh, **C. C. Chueh**, T. Higashihara\*, W. C. Chen\*, “Strain-Insensitive Naphthalene-Diimide-Based Conjugated Polymers Through Sequential Regularity Control”, *Mater. Chem. Front.* 2022, 6, 891-900. (IF: 8.683) (SCI)
18. W. C. Yang, Y. C. Lin, S. Inagaki, H. Shimizu, L. C. Hsu, E. Ercan, **C. C. Chueh**, T. Higashihara\*, W. C. Chen\*, “Low-Energy-Consumption and Electret-Free Photosynaptic Transistor Utilizing Poly(3-hexylthiophene)-Based Conjugated Block Copolymers”, *Adv. Sci.* 2022, 9, 2105190. (IF: 17.521) (SCI)
19. H. Liu, C. T. Hsieh, Y. He, **C. C. Chueh\***, Z. Li\*, “Phenylene - A New Ring-Locked Vinyl Bridge for Nonfullerene Acceptors with Enhanced Chemical and Photochemical Stabilities”, *Front. Electron. Mater.* 2022, 2, 851294.
20. C. H. Chen, Y. H. Kuo, Y. K. Lin, I. C. Ni, B. H. Lin, C. I. Wu, H. L. Yip, C. C. Kuo\*, **C. C. Chueh\***, “Enhancing the Performance of Quasi-2D Perovskite Light-Emitting

- Diodes Using Natural Cyclic Molecules with Distinct Phase Regulation Behaviors”, *ACS Appl. Mater. Interfaces*. 2022, 14, 9587-9596. (IF: 10.383) (SCI)
21. C. H. Liao, C. H. Chen, J. Bing, C. Bailey, Y. T. Lin, T. M. Pandit, L. Granados, J. Zheng, S. Tang, B. H. Lin, H. W. Yen, D. R. McCamey, B. J. Kennedy, **C. C. Chueh\***, Anita W. Y. Ho-Baillie\*, “Inorganic-Cation Pseudohalide 2D Cs<sub>2</sub>Pb(SCN)<sub>2</sub>Br<sub>2</sub> Perovskite Single Crystal”, *Adv. Mater.* 2022, 34, 2104782. (IF: 32.086) (SCI) (feature as frontispiece)
  22. K. Yoshida, J. F. Chang, **C. C. Chueh\***, T. Higashihara\*, “Hybridization of an n-Type Semiconducting Polymer with PbS Quantum Dots and Their Photovoltaic Investigation”, *Polym. J.* 2022, 54, 323-333. (IF: 3.135) (SCI)
  23. X. Sun, M. Y. Liao, X. Yu, Y. S. Wu, C. Z., **C. C. Chueh**, Z. Li, Z. Li\*, “Asymmetric 2,3-fluoranthene imide Building Block for Regioregular Semiconductors with Aggregation-induced Emission Property”, *Chem. Sci.* 2022, 13, 996-1002. (IF: 9.969) (SCI)
  24. J. F. Chang, C. T. Hsieh, L. Y. Su, **C. C. Chueh\***, “Reducing the Side-Chain Influences of Isoindigo-Based Polymer Donors by Backbone Fluorination in Photovoltaic Applications”, *Dyes Pigm.* 2022, 199, 110038. (IF: 5.122) (SCI)
  25. S. Otep, Y. C. Tseng, N. Yomogita, J. F. Chang, **C. C. Chueh\***, T. Michinobu\*, “Coil-Rod-Coil Triblock Copolymers Synthesized by Macromolecular Clicking and Their Compatibilizer Effects in All-Polymer Solar Cells”, *J. Mater. Chem. C* 2022, 10, 346-359. (IF: 8.067) (SCI)
  26. B. H. Jiang, Y. J. Peng, Y. W. Su, J. F. Chang, **C. C. Chueh**, T. S. Shieh, C. I. Huang\*, C. P. Chen\*, “A Polymer Donor with Versatility for Fabricating High-Performance Ternary Organic Photovoltaics”, *Chem. Eng. J.* 2022, 431, 133950. (IF: 16.744)
  27. A. M. Elewa, J. Jayakumar, Y. W. Huang, M. H. Elsayed, C. L. Chang, L. Y. Ting, W. C. Lin, **C. C. Chueh\***, H. H. Chou\*, “Biaxially Extended Side-Chain Conjugation of Benzodithiophene-Based Polymer Dots for Superior Photocatalytic Stability under Visible-Light Irradiation”, *J. Environ. Chem. Eng.* 2022, 10, 106927. (IF: 7.968) (SCI)
  28. X. Li, Y. Liu, Q. Sun, W. H. Huang, Z. Wang, **C. C. Chueh**, C. L. Chen, Z. Zhu\*, “Surface Engineering CoP/Co<sub>3</sub>O<sub>4</sub> Heterojunction for High-Performance Bi-Functional Water Splitting Electro-Catalysis”, *Nanoscale* 2021, 13, 20281-20288. (IF: 8.307) (SCI)
  29. X. Wu, B. Li, Z. Zhu\*, **C. C. Chueh\***, Alex K. Y. Jen\*, “Designs from Single Junctions, Heterojunctions to Multijunctions for High-Performance Perovskite Solar Cells”, *Chem. Soc. Rev.* 2021, 50, 13090-13128. (IF: 60.615) (SCI)
  30. Y. C. Lin, M. Matsuda, K. I. Sato, C. K. Chen, W. C. Yang, **C. C. Chueh\***, T. Higashihara\*, W. C. Chen\*, “Intrinsically Stretchable Naphthalenediimide-Bithiophene Conjugated Statistical Terpolymers Using Branched Conjugation Break Spacers for Field-Effect Transistors”, *Polym. Chem.* 2021, 12, 6167-6178. (IF: 5.364) (SCI)
  31. I. S. Zhidkov\*, A. F. Akbulatov, A. I. Kukharenko, L. A. Frolova, S. O. Cholakh, **C. C. Chueh**, P. A. Troshin, E. Z. Kurmaev, “Influence of Oxygen Ion Migration from Substrates on Photochemical Degradation of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> Hybrid Perovskite”, *Energies*, 2021, 14, 5062. (IF: 3.252) (SCI)
  32. A. Kato, L. Y. Su\*, Y. C. Lin, L. Wang, W. C. Chen, **C. C. Chueh\***, T. Higashihara\*,

- “Naphthalene-Diimide-Based All-Conjugated Block Copolymer as an Effective Compatibilizer to Improve the Performance and Thermal Stability of All-Polymer Solar Cells”, *Mater. Chem. Front.* 2021, 5, 7216-7227. (IF: 8.683) (SCI)
33. C. H. Chen, Y. C. Lin, Y. F. Yang, Y. C. Chiang, Z. Li, H. L. Yip, W. C. Chen\*, **C. C. Chueh\***, “Improving the Performance of All-Inorganic Perovskite Light-Emitting Diodes Through Using Polymeric Interlayers with a Pendant Design”, *Mater. Chem. Front.* 2021, 5, 7199-7207. (IF: 8.683) (SCI)
  34. B. H. Jiang, Y. P. Wang, Y. W. Su, J. F. Chang, **C. C. Chueh**, M. H. Shen, T. S. Shieh, R. J. Jeng, C. P. Chen\*, “Realizing Stable High-Performance and Low-Energy-Loss Ternary Photovoltaics through Judicious Selection of the Third Component”, *Solar RRL* 2021, 5, 2100450. (IF: 9.173) (SCI)
  35. Y. C. Lin, C. K. Chen, W. C. Yang, **C. C. Chueh\***, T. Higashihara\*, W. C. Chen\*, “Investigation of the Mobility-Stretchability Properties of Naphthalenediimide-based Conjugated Random Terpolymers with a Functionalized Conjugation Break Spacer”, *Macromolecules* 2021, 54, 7388-7399. (IF: 6.057) (SCI)
  36. K. Yoshida, J. F. Chang, **C. C. Chueh\***, T. Higashihara\*, “Thiol-End-Functionalized Regioregular Poly(3-hexylthiophene) for PbS Quantum Dot Dispersions”, *ACS Appl. Polym. Mater.* 2021, 3, 4450-4459. (IF: 4.855) (SCI)
  37. Y. W. Huang, Y. C. Lin, J. S. Li, W. C. Chen\*, **C. C. Chueh\***, “Investigating the Backbone Conformation and Configuration Effects for Donor-Acceptor Conjugated Polymers with Ladder-Type Structures Synthesized Through Aldol Polycondensation”, *J. Mater. Chem. C* 2021, 9, 9473-9483. (IF: 8.067) (SCI)
  38. F. Baskoro, H. W. Wong, K. B. Labasan, C. W. Cho, C. W. Pao, P. Y. Yang, C. C. Chang, C. I. Chen, **C. C. Chueh**, W. Nie\*, H. Tsai\*, H. J. Yen\*, “An Efficient and Reversible Battery Anode Electrode Derived from a Lead-based Metal-Organic Framework”, *Energy Fuels* 2021, 35, 9669-9682. (IF: 4.654) (SCI)
  39. S. Manzhos,\*+ **C. C. Chueh**,+ G. Giorgi,\*+ T. Kubo,+ G. Saianand,+ J. Luder,+ P. Sonar,\*+ M. Ihara,+ “Materials Design and Optimization for Next Generation Solar Cell and Light-Emitting Technologies”, *J. Phys. Chem. Lett.* 2021, 12, 4638. (+ Equal Contribution) (IF: 6.888) (SCI)
  40. K. L. Chu, C. H. Chen, S. W. Shen, C. Y. Huang, Y. X. Chou, M. Y. Liao, M. L. Tsai\*, C. I. Wu,\* **C. C. Chueh\***, “A Highly Responsive Hybrid Photodetector Based on All-Inorganic 2D Heterojunction Consisting of Cs<sub>2</sub>Pb(SCN)<sub>2</sub>Br<sub>2</sub> and MoS<sub>2</sub>”, *Chem. Eng. J.* 2021, 422, 130112. (IF: 16.744)
  41. S. Otep, K. Ogita, N. Yomogita, K. Motai, Y. Wang, Y. C. Tseng, **C. C. Chueh**, Y. Hayamizu, H. Matsumoto, K. Ishikawa, T. Mori, T. Michinobu\*, “Cross-linking of Poly(arylenebutadiynylene)s and Its Effect on Charge Carrier Mobilities in Thin Film Transistors”, *Macromolecules* 2021, 54, 4351. (IF: 6.057) (SCI)
  42. H. Wang, L. Yang, J. Yu\*, P. C. Lin, **C. C. Chueh**, X. Liu, S. Qu, S. Guang, W. Tang\*, “A Simple Dithieno[3,2-b:2',3'-d]pyrrol-Rhodanine Molecular Third Component Enables Over 16.7% Efficiency and Stable Organic Solar Cells”, *Small* 2021, 17, 2007746. (IF: 15.153) (SCI)
  43. H. Liu, M. H. Yu, C. C. Lee, X. Yu, Y. Li, Z. Zhu, **C. C. Chueh\***, Z. Li\*, Alex K. Y. Jen\*, “Technical Challenges and Perspectives for the Commercialization of

- Solution-Processable Solar Cells”, *Adv. Mater. Tech.* 2021, 6, 2000960. (IF: 8.856) (SCI)
44. Y. S. Lin, S. Y. Abate, C. I Wang, Y. S. Wen, C. I Chen, C. P. Hsu, **C. C. Chueh\***, Y. T. Tao\*, S. S. Sun\*, “Low-Cost Hole-Transporting Materials based on Carbohelicene for High-Performance Perovskite Solar Cells”, *ACS Appl. Mater. Interfaces.* 2021, 13, 20051-20059. (IF: 10.383) (SCI)
  45. W. C. Yang, Y. C. Lin, M. Y. Liao, L. C. Hsu, J. Y. Lam, T. H. Chaung, G. S Li, Y. F. Yang, **C. C. Chueh\***, W. C. Chen\*, “Comprehensive Non-volatile Photo-programming Transistor Memory via a Dual Functional Perovskite-Based Floating Gate”, *ACS Appl. Mater. Interfaces.* 2021, 13, 20417-20426. (IF: 10.383) (SCI)
  46. M. Y. Liao, M. H. Elsayed, C. L. Chang, Y. C. Chiang, W. Y. Lee, W. C. Chen, H. H. Chou\*, **C. C. Chueh\***, “Realizing Nonvolatile Photomemories with Multilevel Memory Behaviors Using Water-Processable Polymer Dots-Based Hybrid Floating Gates”, *ACS Appl. Electron. Mater.* 2021, 3, 1708-1718. (IF: 4.494) (SCI)
  47. Y. C. Lin, C. C. Hung, C. K. Chen, Y. C. Chiang, L. C. Hsu, J. S. Li, **C. C. Chueh**, T. Higashihara\*, W. C. Chen\*, “Pyrene-Incorporated Side Chain in  $\pi$ -Conjugated Polymers for Non-Volatile Transistor-Type Memory Devices with Improved Stretchability”, *ACS Appl. Polym. Mater.* 2021, 2021, 3, 2109-2119. (IF: 4.855) (SCI)
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  49. K. T. Huang, **C. C. Chueh\***, W. C. Chen\*, “Recent Advance in Renewable Materials and Green Processes for Optoelectronic Applications”, *Mater. Today Sustainability*, 2021, 11-12, 100057. (IF: 7.244) (SCI)
  50. Z. L. Yan, J. S. Benas, **C. C. Chueh**, W. C. Chen, F. C. Liang, Z. X. Zhang, B. H. Lin, T. Chiba\*, J. Kido\*, C. C. Kuo\*, “Stable Blue Perovskite Light-Emitting Diodes Achieved by Optimization of Crystal Dimension through Zinc Bromide Addition”, *Chem. Eng. J.* 2021, 414, 128774. (IF: 16.744)
  51. H. C. Tien, Y. W. Huang, Y. C. Chiu, Y. H. Cheng, **C. C. Chueh\***, W. Y. Lee\*, “Intrinsically Stretchable Polymer Semiconductors: Molecular Design, Process, and Device Applications”, *J. Mater. Chem. C* 2021, 9, 2660-2684. (IF: 8.067) (SCI)
  52. J. S. Li, Y. W. Huang, Y. C. Lin, F. H. Chen, W. C. Chen\*, **C. C. Chueh\***, “Exploring the Effect of the Spacer Structure in the Heterocyclic Ring-Fused Isoindigo-based Conjugated Polymer on the Charge-Transporting Property”, *J. Polym. Res.* 2021, 28, 51. (IF: 3.061) (SCI)
  53. L. Y. Su, H. H. Huang, Y. C. Lin, G. L. Chen, W. C. Chen, W. Chen, L. Wang\*, **C. C. Chueh\***, “Enhancing Long-Term Thermal Stability of Non-Fullerene Organic Solar Cells Using Self-Assembly Amphiphilic Dendritic Block Copolymer Interlayers”, *Adv. Funct. Mater.* 2021, 31, 2005753. (IF: 19.924) (SCI)
  54. J. Yu\*, X. Liu, H. Wang, P. C. Lin, **C. C. Chueh**, R. Zhu\*, W. Tang\*, “Efficient Thick Film Non-fullerene Organic Solar Cells enabled by Using a Strong Temperature-dependent Aggregative Wide Bandgap Polymer”, *Chem. Eng. J.* 2021, 405, 127033. (IF: 16.744)

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56. I. S. Zhidkov\*, D. W. Boukhalov, A. F. Akbulatov, L. A. Frolova, L. D. Finkelstein, A. I. Kukharenko, S. O. Cholakh, **C. C. Chueh**, P. A. Troshin, E. Z. Kurmaev, “XPS Spectra as a Tool for Studying Photochemical and Thermal Degradation in APbX<sub>3</sub> Hybrid Halide Perovskites”, *Nano Energy*, 2021, 79, 105421. (IF: 19.069) (SCI)
57. Y. C. Lin, Y. W. Huang, C. C. Hung, Y. C. Chiang, C. K. Chen, L. C. Hsu, **C. C. Chueh\***, W. C. Chen\*, “Backbone Engineering of Diketopyrrolopyrrole-Based Conjugated Polymers through Random Terpolymerization for Improved Mobility-Stretchability Property”, *ACS Appl. Mater. Interfaces*. 2020, 12, 50648–50659. (IF: 10.383) (SCI)
58. Z. Li, J. Zhang, S. Wu, X. Deng, F. Li, D. Liu, C. C. Lee, F. Lin, D. Lei, **C. C. Chueh**, Z. Zhu\*, Alex K. Y. Jen\*, “Minimized Surface Deficiency on Wide-bandgap Perovskite for Efficient Indoor Photovoltaics”, *Nano Energy*, 2020, 78, 105377. (IF: 19.069) (SCI)
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65. M. G. Mohamed, C. C. Lee, A. F. M. EL-Mahdy, J. Luder, M. H. Yu, Z. Li, Z. Zhu, **C. C. Chueh\***, S. W. Kuo\*, “Exploitation of Two-Dimensional Conjugated Covalent Organic Frameworks Based on Tetraphenylethylene with Bicarbazole and Pyrene Units and Applications in Perovskite Solar Cells”, *J. Mater. Chem. A* 2020, 8, 11448-11459. (IF: 14.511) (SCI)

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68. L. Veeramuthu, F. C. Liang, Z. X. Zhang, C. J. Cho, E. Ercan, **C. C. Chueh**, W. C. Chen, R. Borsali, C. C. Kuo\*, “Improving the Performance and Stability of Perovskite Light-Emitting Diodes by a Polymeric Nanothick Interlayer-Assisted Grain Control Process”, *ACS Omega* 2020, 5, 8972-8981. (IF: 4.132) (SCI)
69. D. H. Jiang, Y. C. Liao, C. J. Cho, L. Veeramuthu, F. C. Liang, T. C. Wang, **C. C. Chueh**, T. Satoh\*, S. H. Tung\*, C. C. Kuo\*, “Facile Fabrication of Stretchable Touch Responsive Perovskite Light-Emitting Diodes Through Using Robust Stretchable Composite Electrodes”, *ACS Appl. Mater. Interfaces*. 2020, 12, 14408-14415. (IF: 10.383) (SCI)
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74. J. Y. Chen\*, H. C. Hsieh, Y. C. Chiu, W. Y. Lee, C. C. Hung, **C. C. Chueh**, W. C. Chen\*, “Electrospinning-Induced Elastomeric Properties of Conjugated Polymers for Extremely Stretchable Nanofibers and Rubbery Optoelectronics”, *J. Mater. Chem. C* 2020, 8, 873-882. (IF: 8.067) (SCI)
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86. C. C. Lee, C. I. Chen, C. T. Fang, P. Y. Huang, Y. T. Wu\*, **C. C. Chueh\***, “Improving Performance of Perovskite Solar Cells Using [7]Helicenes with Stable Partial Biradical Characters as the Hole-Extraction Layers”, *Adv. Funct. Mater.* 2019, 29, 1808625. (IF: 19.924) (SCI)
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88. M. Y. Huang, L. Veeramuthu, C. C. Kuo\*, Y. C. Liao, D. H. Jiang, F. C. Liang, Z. L. Yan, R. Borsali, **C. C. Chueh\***, “Improving Performance of Cs-based Perovskite



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89. C. C. Lee, C. I. Chen, Y. T. Liao, Kelvin C. W. Wu\*, **C. C. Chueh\***, “Enhancing Efficiency and Stability of Photovoltaic Cells by Using Perovskite/Zr-MOF Heterojunction Including Bilayer and Hybrid Structures”, *Adv. Sci.* 2019, 6, 1801715. (IF: 17.521) (SCI) (feature as back cover)
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  92. Y. C. Hsieh, C. F. Wu, Y. T. Chen, C. T. Fang, C. S. Wang, C. H. Li, L. Y. Chen, M. J. Cheng, **C. C. Chueh\***, P. T. Chou\*, Y. T. Wu\*, “5,14-Diaryldiindeno[2,1-*f*:1',2'-*j*]picene: A New Stable [7]Helicene with A Partial Biradical Character” *J. Am. Chem. Soc.* 2018, 140, 14357-14366. (IF: 16.383) (SCI)
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  98. Y. Y. Yu\*, C. T. Chiu, **C. C. Chueh\***, “Solution-Processable, Transparent Polyimide for High-Performance High *k* Nanocomposite: Synthesis, Characterization, and Dielectric Applications in Transistors” *Asian J. Org. Chem.* 2018, 7, 2263-2270. (IF: 3.116) (SCI) (Special issue on “Organic Materials”) (feature as front cover)
  99. C. H. Tsai, N. Li, C. C. Lee, H. C. Wu, Z. L. Zhu\*, L. D. Wang, W. C. Chen, H. Yan\*, **C. C. Chueh\***, “Efficient and UV-Stable Perovskite Solar Cells Enabled by Side Chain-Engineered Polymeric Hole-Transporting Layers” *J. Mater. Chem. A* 2018, 6, 12999-13004. (IF: 14.511) (SCI)

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102. J. Y. Lam, C. C. Shih, W. Y. Lee, **C. C. Chueh**, G. W. Jang, C. J. Huang, S. H. Tung\*, W. C. Chen\*, “Bio-based transparent, conductive film consisting of polyethylene furanoate and silver nanowires for flexible optoelectronic devices”, *Macromol. Rapid Commun.* 2018, 13, 1800271. (IF: 5.006) (SCI)
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108. H. Zhang, H. Wang, H. Zhu, **C. C. Chueh**, W. Chen\*, Alex K. Y. Jen\*, “Low-Temperature Solution-Processed  $\text{CuCrO}_2$  Hole-Transporting Layer for Efficient and Photostable Perovskite Solar Cells”, *Adv. Energy Mater.* 2018, 8, 1702762. (IF: 29.368) (SCI)
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110. Z. L. Zhu, D. B. Zhao, **C. C. Chueh**, X. L. Shi, Z. Li, Alex K. Y. Jen\*, “Improved Efficient and Stable Perovskite Solar Cells Enabled by All-Crosslinked Charge-Transporting Layers” *Joule* 2018, 2, 168-183. (IF: 46.048) (SCI)

### Conference Papers

1. **C. C. Chueh**, “Improved Performance and Stability of Polymer and Hybrid Halide Perovskite Solar Cells by Rational Interface Engineering”, Annual Meeting of the Polymer Society, Taipei, January 12-13, Taipei, Taiwan, 2018. (Oral, invited)

2. **C. C. Chueh**, “Improved Performance and Stability of Polymer and Hybrid Halide Perovskite Solar Cells by Rational Interface Engineering”, Taiwan-Japan International Engineering Forum, February 28-March 1, Taipei, Taiwan, 2018. (Oral, invited)
3. **C. C. Chueh**, “Realization of Stretchable Organic Solar Cells Combining Material and Device Engineering”, The 31<sup>th</sup> China Chemical Society Congress, May 05-08, Hangzhou, Zhejiang, China, 2018. (Oral, invited)
4. **C. C. Chueh**, “Current Research Directions in Polymer and Organic-Inorganic Hybrid Perovskite Solar Cells”, NTU-HU (Hokkaido University) Joint Materials Science Workshop, June 04, Taipei, Taiwan, 2018. (Oral, invited)
5. **C. C. Chueh**, “Improving Performance and Stability of Polymer and Organic-Inorganic Hybrid Perovskite Solar Cells by Rational Interface Engineering”, 2018 Polymer Society of Korea (PSK) Fall Meeting, October 10-12, Gyeongju, Korea, 2018. (Oral, invited)
6. **C. C. Chueh**, “Improving Performance and Stability of Polymer/Perovskite Solar Cells by Using Polymeric Interlayers”, Cross-Strait Polymer Symposium, October 17-21, Chengdu, China, 2018. (Oral, invited)
7. C. I Chen, **C. C. Chueh\***, “Enhanced Near-Infrared Photoresponse of Inverted Perovskite Solar Cells Through Rational Design of Bulk-Heterojunction Electron-Transporting Layers”, EITA-New Materials 2019, September 11-12, Hsinchu, Taiwan, 2019. (Invited talk, oral by C. I Chen)
8. **C. C. Chueh**, “Improving Performance and Stability of Polymer/Perovskite Solar Cells by Using Polymeric Interlayers”, The 9th East Asia Symposium on Functional Dyes and Advanced Materials (EAS9), September 17-20, Taipei, Taiwan, 2019. (Invited talk)
9. **C. C. Chueh**, “Exploration of 2D perovskite and Rational Interface Engineering in Organic-Inorganic Hybrid Perovskite Solar Cells”, The 6th Federation of Asian Polymer Societies International Polymer Congress (FAPS 2019), October 27-30, Taipei, Taiwan, 2019. (Oral)
10. **C. C. Chueh**, “Exploration of 2D perovskite and Rational Interface Engineering in Organic-Inorganic Hybrid Perovskite Solar Cells”, The 11th Asian Conference on Organic Electronics (ACOE-10), November 6-9, Taipei, Taiwan, 2019. (Invited Talk)
11. **C. C. Chueh**, “Exploration of 2D perovskite and Rational Interface Engineering in Organic-Inorganic Hybrid Perovskite Solar Cells”, 10th The Asian Conference on Electrochemical Power Sources (ACEPS 10), November 24-27, Kaohsiung, Taiwan, 2019. (Invited Talk)
12. **C. C. Chueh**, “Improving Performance and Stability of Polymer/Perovskite Solar Cells by Using Polymeric Interlayers”, Bowei Research Conference, January 3-5, Yilan, Taiwan, 2020. (Invited Talk)
13. **C. C. Chueh**, “Improving Performance and Stability of Polymer/Perovskite Solar Cells by Using Polymeric Interlayers”, International Conference on Green Electrochemical Technologies (ICGET), November 26-28, Taichung, Taiwan 2020. (Invited talk)
14. **C. C. Chueh**, “Improving Performance and Stability of Polymer/Perovskite Solar Cells by Using Polymeric Interlayers”, National Taiwan University-Sogang University 3rd ChemE Symposium on Energy & Environmental Engineering, February 23, 2021. (Colloquium, Webinar)
15. **C. C. Chueh**, “Interface and Device Engineering for Efficient and Stable

- Polymer/Perovskite Solar Cells”, The VII International Young Researchers’ Conference Physics Technology Innovations, May 17-21, Yekaterinburg, Russia, 2021. (Plenary Talk, online)
16. **C. C. Chueh**, “Improving Thermal and Photostability of Polymer Solar Cells by Robust Interface Engineering”, The 3rd International School on Hybrid, Organic and Perovskite Photovoltaic, November 23-25, Chernogolovka, Russia, 2021. (Invited Talk, online)
  17. **C. C. Chueh**, “Designs of Conjugated/Functional Polymers and Hybrid Perovskites for Optoelectronic Applications”, National Taiwan University-Korea Advanced Institute of Science and Technology 1st ChemE Online Workshop, November 25, Webinar, 2021. (Invited Talk, online, Webinar)
  18. **C. C. Chueh**, “Improving Thermal/Photo-Stability of Polymer Solar Cells by Robust Interface Engineering”, Croucher Advanced Study Institute 2021: Frontier of Organic Semiconductors from Challenges to Opportunities, December 7-9, City University of Hong Kong, Hong Kong, 2021. (Invited Talk, online)
  19. **C. C. Chueh**, “Designs of Functional Polymers for Optoelectronic Applications”, 2022 International Conference on Modern Challenges in Polymer Science and Technology, January 18-19, Taichung, Taipei, 2022. (Invited Speaker)
  20. **C. C. Chueh**, “Exploration of Novel 2D Perovskite and Its Applications in Optoelectronic Applications”, Yonsei-CBE International Workshop Series: Nano Electronics 2022, February 8, 2022. (Invited Speaker, online, Webinar)
  21. **C. C. Chueh**, “Improving Thermal/Photo-Stability of Polymer Solar Cells by Robust Interface Engineering”, 2022 Chemistry National Meeting, March 11-13, 2022. (Invited Speaker)
  22. **C. C. Chueh**, “Improving Thermal/Photo/Underwater-Stability of Polymer Solar Cells by Interface Engineering”, Polyscience2022, September 19-21, Barcelona, Spain, 2022. (Keynote Speaker, online)
  23. **C. C. Chueh**, “Improving Thermal/Photo/Underwater-Stability of Polymer Solar Cells by Interface Engineering”, The 14th Asian Conference on Organic Electronics (A-COE) 2022, December 6-9, Macau, China, 2022. (Invited Speaker, online)
  24. **C. C. Chueh**, “Improving Thermal/Photo/Underwater-Stability of Polymer Solar Cells by Interface Engineering”, Materials for Sustainable Development Conference (MATSUS), March 6-10, Valencia, Spain, 2023. (Invited Speaker)

### Honors and Others

- |      |   |
|------|---|
| 2018 | 指導學生李佳欣、陳芷儀、陳炯翰獲台灣化工年會英語口頭競賽佳作                            |
| 2018 | 指導學生蔡長紘獲臺灣大學科林論文獎碩士論文優等獎                                  |
| 2018 | 指導學生陳芷儀獲財團法人李長榮教育基金會獎學金-銀質獎                               |
| 2019 | 指導學生陳炯翰獲臺灣大學學士班學生論文優良獎及化工系松柏優秀學士<br>專題競賽最佳海報銅獎            |
| 2019 | 指導學生廖明筠獲財團法人李長榮教育基金會獎學金-銀質獎(第九屆)                          |
| 2019 | 指導學生黃彥文獲台灣化工年會英語口頭競賽優勝                                    |
| 2019 | Highly Cited Researcher Recognized by Clarivate Analytics |

- 2020 指導學生陳芷儀獲 Bowei Research Conference of Taiwan 海報競賽優勝
- 2020 指導學生黃彥文獲化工系 108 學年度學士專題海報競賽松柏金獎
- 2020 指導學生黃彥文獲中國工程師學會學生分會工程論文材料組特優
- 2020 科技部優秀年輕學者計畫 (2020-2023)
- 2020 台灣化工學會學術勵進獎
- 2020 中華民國高分子學會傑出高分子青年科技獎
- 2020 I&EC Research 2020 Class of Influential Researchers
- 2021 蘇莉芸博士獲科技部博士後研究學術研究獎
- 2021 指導學生林昱寬、楊媣媣獲大專學生研究計畫
- 2021 科技部 2030 新秀學者計畫 (2021-2024)
- 2021 台灣化工學會李長榮學術研究傑出青年教授獎
- 2021 指導學生廖明筠獲臺灣大學科林論文獎碩士論文優等獎
- 2022 指導學生余明軒、陳炯翰獲台灣化工年會英語口頭競賽佳作 (第 68 屆)
- 2022 指導學生楊媣媣獲化工系 110 學年度學士專題海報競賽松柏金獎
- 2022 台灣大學 110 學年度專任教師教學優良獎
- 2022 111 年度吳大猷先生紀念獎
- 2022 未來科技獎 (總計畫主持人)
- 2022 指導學生陳炯翰、林昱寬獲台灣化工年會英語口頭競賽優勝與佳作 (第 69 屆)
- 2022 指導學生曾宇呈獲義芳化學鼓勵優秀博士生獎學金 (2022-2024)

### Patents

1. 林柏辰、蘇佑安、陳文章、闕居振, 反式有機太陽光電及其製造方法, 中華民國專利號I689562
2. 李佳蓁、闕居振、吳嘉文、何國川, 鈣鈦礦太陽能電池及其製造方法, 中華民國專利號I699370
3. 林俊延、闕居振、陳文章, 可撓性鈣鈦礦(Perovskite)太陽能電池及其製作方法, 中華民國專利號 I709257.

### Editorial Board of International Journals

- Editorial Board Member, Chemical Physics Impact (Elsevier), 2020.12 ~
- Editorial Board Member, Scientific Reports (Springer Nature), 2021.12 ~
- Associate Editor for Optoelectronic Materials of Frontiers in Electronic Materials, 2021.11 ~