

# Chun-Wei Chen(陳俊維)

## List of Publication

### 2022

1. Cheng-Chieh Lin, Ting-Ran Liu, Sin-Rong Lin, Karunakara Moorthy Boopathi, Chun-Hao Chiang, Wen-Yen Tzeng, Wan-Hsiu Chang Chien, Hua-Shu Hsu, Chih-Wei Luo, Hui-Ying Tsai, Hsin-An Chen, Pai-Chia Kuo, Jessie Shiue, Jau-Wern Chiou, Way-Faung Pong, Chia-Chun Chen,\* and Chun-Wei Chen\*, “*Spin-Polarized Photocatalytic CO<sub>2</sub> Reduction of Mn-Doped Perovskite Nanoplates*”, ***Journal of American Chemical Society***, 144,15718, (2022)
2. Cheng-Chieh Lin, Shing-Jong Huang, Pei-Hao Wu, Tzu-Pei Chen, Chih-Ying Huang, Ying-Chiao Wang, Po-Tuan Chen, Denitsa Radeva, Ognyan Petrov, Vladimir M. Gelev, Raman Sankar ,Chia-Chun Chen, Chun-Wei Chen\* and Tsyr-Yan Yu\*, “*Direct investigation of the reorientational dynamics of A-site cations in 2D organic-inorganic hybrid perovskite by solid-state NMR*”, ***Nature Communications***, 13,1513, (2022)
3. Cheng-Chieh Lin, Kai-Di Yang, Min-Chuan Shih, hao-Ku Huang, Tzu-Pei Chen, Hung-Chang Hsu, Ching-An Chuang, Chih-Ying Huang, Lucas Wang, Chia-Chun Chen, Ching-Hwa Ho, \*Ya-Ping Chiu, \* and Chun-Wei Chen\*, “*Internal Built-In Electric Fields at Organic–Inorganic Interfaces of wo-Dimensional Ruddlesden–Popper Perovskite Single Crystals*”, ***ACS Applied Materials & Interfaces*** ,14, 17, 19818, (2022)
4. Fu-He Hsiao, Cheng-Chu Chung, Chun-Hao Chiang, Wei-Neng Feng, Wen-Yen Tzeng, Hung-Min Lin, Chien-Ming Tu, Heng-Liang Wu, Yu-Han Wang, Wei-Yen Woon, Hsiao-Chien Chen, Ching-Hsiang Chen, Chao-Yuan Lo, Man-Hong Lai, Yu-Ming Chang, Li-Syuan Lu, Wen-Hao Chang, Chun-Wei Chen,\* and Chih-Wei Luo\*, “*Using Exciton/Trion Dynamics to Spatially Monitor the Catalytic Activities of MoS<sub>2</sub> during the Hydrogen Evolution Reaction*”, ***ACS Nano***, 16, 4298, (2022)
5. Cheng-Chieh Lin, Jia-Ying Li, Nian-Zu She, Shao-Ku Huang, Chih-Ying Huang, I-Ta Wang, Fu-Li Tsai, Chuan-Yu Wei, Ting-Yi Lee, Di-Yan Wang, Cheng-Yen Wen, Shao-Sian Li, Atsushi Yabushita, Chih-Wei Luo, Chia-Chun Chen,\* and Chun-Wei Chen\*, “*Stabilized High-Membered and Phase-Pure 2D All Inorganic Ruddlesden–Popper Halide Perovskites Nanocrystals as Photocatalysts for the CO<sub>2</sub> Reduction Reaction*”, ***Small***, 2107881, (2022)

### 2021

1. Min-Chuan Shih, Hung-Chang Hsu, Cheng-Chieh Lin, Shao-Ku Huang, Tzu-Pei Chen, Yung-Han Tsai, Chia-Chun Chen, Ya-Ping Chiu,\* and Chun-Wei Chen\*, “*Atomically Resolved Quantum-Confined Electronic Structures at Organic–Inorganic Interfaces of Two-Dimensional Ruddlesden–Popper Halide Perovskites*”, ***Nano Letters*** , 21,19, 8066, (2021)

2. Chen-Chu Chung, Han Yeh, Po-Hsien Wu, Cheng-Chieh Lin, Chia-Shuo Li, Tien-Tien Yeh, Yi Chou, Chuan-Yu Wei, Cheng-Yen Wen, Yi-Chia Chou, Chih-Wei Luo, Chih-I Wu, Ming-Yang Li, Lain-Jong Li, Wen-Hao Chang\* and Chun-Wei Chen\*, “Atomic-layer Controlled Interfacial Band Engineering at Two-dimensional Layered PtSe<sub>2</sub>/Si Heterojunctions for Efficient Photoelectrochemical Hydrogen Production”, *ACS Nano*, 15,4627, (2021)
3. Po-Cheng Huang , Shao-Ku Huang, Ting-Chun Lai, Min-Chuan Shih , Hung-Chang Hsu , Chun-Hsiang Chen , Cheng-Chieh Lin , Chun-Hao Chiang, Chi-Ying Lin , Kazuhito Tsukagoshi , Chun-Wei Chen,\* , Ya-Ping Chiu,\* , Shiow-Fon Tsay , Ying-Chiao Wang\*, “ Visualizing band alignment across 2D/3D perovskite heterointerfaces of solar cells with light-modulated scanning tunneling microscopy”, *Nano Energy*, 89, 106362,(2021)
4. Ying-Chiao Wang, Chun-Hao Chiang, Chi-Ming Chang, Hiroaki Maeda, Naoya Fukui, I-Ta Wang, Cheng-Yen Wen, Kuan-Cheng Lu, Shao-Ku Huang, Wen-Bin Jian, Chun-Wei Chen,\* Kazuhito Tsukagoshi,\* and Hiroshi Nishihara\*, “Two-Dimensional Bis(dithiolene)iron(II) Self-Powered UV Photodetectors with Ultrahigh Air Stability”, *Advanced Science*, 2100564, 2021
5. D. Xing, C.-C. Lin, P. Won, R. Xiang, T.-P. Chen, A. S. A. Kamal, Y.-C. Lee, Y.-L. Ho\*, S. Maruyama, S. H. Ko, C.-W. Chen, J. J. Delaunay\*, “Metallic Nanowire Coupled CsPbBr<sub>3</sub> Quantum Dots Plasmonic Nanolaser,” *Advanced Functional Materials*, 2102375, 2021.
6. Z. Wang, C.-C. Lin, Y.-L. Ho\*, R. Xiang, S. Maruyama, C.-W. Chen\*, J. J. Delaunay\*, “Self-patterned CsPbBr<sub>3</sub> Nanocrystals based plasmonic hot-carrier photodetector at Telecommunications Wavelengths,” *Advanced Optical Materials*, 2101474, (2021)
7. A. S. A. Kamal, C.-C. Lin, D. Xing, Y.-C. Lee, Z. Wang, M.-H. Chen, Y.-L. Ho\*, C.-W. Chen, J. J. Delaunay,\* “Lithographic in-mold patterning for CsPbBr<sub>3</sub> nanocrystals distributed Bragg reflector single-mode laser,” *Nanoscale*, DOI: 10.1039/D1NR04543A , 2021.
8. Tzu-Pei Chen, Jun-Xiao Lin, Cheng-Chieh Lin, Chi-Ying Lin, We-Chen Ke, Di-Yan Wang, Hua-Shu Hsu,\* Chia-Chun Chen, and Chun-Wei Chen\*, “Strong Excitonic Magneto-Optic Effects in Two-Dimensional Organic–Inorganic Hybrid Perovskites”, *ACS Applied Materials & Interfaces*, Vol.13, 10279, ( 2021)

## 2020

1. Shao-Ku Huang, Ying-Chiao Wang, Wei-Chen Ke, Yu-Ting Kao, Nian-Zu She, Jia-Xing Li, Chih-Wei Luo, Atsushi Yabushita, Di-Yan Wang, Yuan Jay Chang, Kazuhito Tsukagoshi\* and Chun-Wei Chen\*, “Unravelling the Origin of Photocurrent Dynamics of Fullerene-Derivative Passivation of SnO<sub>2</sub> Electron Transporters in Perovskite Solar Cells”, *Journal of Materials Chemistry A*, 8,23607. (2020)
2. Di Xing<sup>†</sup>, Cheng-Chieh Lin<sup>†</sup>, Ya-Lun Ho<sup>\*</sup>, I-Ta Wang, A. Syazwan A. Kamal, Chia-Chun Chen, Cheng-Yen Wen, Chun-Wei Chen\*, Jean-Jacques Delaunay<sup>\*</sup> “Self-Healing Lithographic Patterning of Perovskite Nanocrystals for Large-Area Single-Mode Laser Array”, *Advanced Functional Materials* , 31, 2006283, (2021)

3. Y-C Wang, S-K Huang, T. Nakamura, Y-T Kao, C-H Chiang, D-Y Wang, Y-J Chang, Nobuyoshi Koshida, Toshikazu Shimada, Shihao Liu, Chun-Wei Chen\* & Kazuhito Tsukagoshi\*, “*Quantum-assisted photoelectric gain effects in perovskite solar cells*”, *NPG Asia Materials*, 12,54,(2020)
4. Cheng-Chieh Lin, Shao-Ku Huang, Chung-En Hsu, Yu-Chen Huang, Chuan-Yu Wei, Cheng-Yen Wen, Shao-Sian Li, Chun-Wei Chen,\* and Chia-Chun Chen\*, “ Exploring the Origin of Phase-Transformation Kinetics of CsPbI<sub>3</sub> Perovskite Nanocrystals Based on Activation Energy Measurements.”, **J. Phys. Chem. Lett.** 11, 3287–3293, (2020)
5. Ming-Chiang Chang, Po-Hsun Ho, Mao-Feng Tseng, Fang-Yuan Lin, Cheng-Hung Hou, I-Kuan Lin, Hsin Wang Pin-Pin Huang, Chun-Hao Chiang, Yueh-Chiang Yang, I-Ta Wang, He-Yun Du, Cheng-Yen Wen, Jing-Jong Shyue, Chun-Wei Chen, Kuei-Hsien Chen, Po-Wen Chiu & Li-Chyong Chen, “*Fast growth of large-grain and continuous MoS<sub>2</sub> films through a self-capping vapor-liquid-solid method*”, *Nature Communications*, Vol.11, 3682, (2020)

## 2019

1. C-Y Lin, S-S Li, J-W Chang, H-C Chia, Y-Y Hsiao, C-J Su, B-J Lian, C-Y Wen, S-K Huang, W-R Wu, D-Y Wang, A-C Su, Chun-Wei Chen,\* and U-Ser Jeng\*, “*Unveiling the Nanoparticle-Seeded Catalytic Nucleation Kinetics of Perovskite Solar Cells by Time-Resolved GIXS*”, *Advanced Functional Materials*, 1902582, (2019)
2. C-K Ku, P-H Wu, C-C Chung, C -C Chen, K-J Tsai, H-M Chen, Y-C Chang, C-H Chuang, C-Y Wei, C-Y Wen, T-Y Lin, H-Li Chen, Z-Y Lee, J-R Chang, Y-S Wang, D-Y Wang, Bing Joe Hwang, Chun-Wei Chen\* , ”*Creation of three-dimensional textured graphene/Si Schottky junction photocathode for enhanced photoelectrochemical efficiency and stability*”, *Advanced Energy Materials*, 1901022, (2019)
3. Addisu Alemayehu Assegie, Cheng-Chu Chung, Meng-Che Tsai, Wei-Nien Su, Chun-Wei Chen\* and Bing-Joe Hwang\*, “*Multilayer-graphene-stabilized lithium deposition for anode-free lithium-metal batteries*”, *Nanoscale*, 11,2710,(2019)
4. D-Y Wang, S-K Huang, H-J Liao, Y-M Chen, S-W Wang, Y-T Kao, J-Y An, Y-C Lee, C-H Chuang, Y-C Huang, Y-R Lu, H-J Lin, H-L Chou, C-W Chen, Y-H Lai, C-L Dong, “*Insights into dynamic molecular intercalation mechanism for Al-C battery by operando synchrotron X-ray techniques*”, *Carbon*, 146, 528, (2019)
5. Hung-Chang Hsu, Bo-Chao Huang, Shu-Cheng Chin, Cheng-Rong Hsing, Duc-Long Nguyen, Michael Schnedler, Raman Sankar, Rafal E. Dunin-Borkowski, Ching-Ming Wei, Chun-Wei Chen, Philipp Ebert, and Ya-Ping Chiu\*, “*Photodriven Dipole Reordering: Key to Carrier Separation in Metalorganic Halide Perovskites*”, *ACS Nano*, 13, 4402, (2019)

## 2018

1. Min-Ken Li, Tzu-Pei Chen, Yen-Fu Lin\*, Chinnambedu Murugesan Raghavan, Wei-Liang Chen, Shih-Hsien Yang, Raman Sankar, Chih-Wei Luo, Yu-Ming Chang and Chun-Wei Chen\* , ” *Intrinsic Carrier Transport of Phase-Pure Homologous Two-dimensional Organolead Halide Hybrid Perovskite Single-crystals*”, *Small*, 1803763, (2018)

2. C. M. Raghavan, T.-P. Chen, S.-S. Li, W.-L. Chen, C.-Y. Lo, Y.-M. Liao, G. Haider, C.-C. Lin, C.-C. Chen, Raman Sankar, Y.-M. Chang, F.-C. Chou, and Chun-Wei Chen\*, "Low Threshold Lasing with Tunable Wavelengths from 2D Homologous Organic-Inorganic Hybrid Ruddlesden-Popper Perovskite Single-Crystals", *Nano Letters*, Vol.18, 3221, (2018)
3. T.-P. Chen, C.-W. Lin, S.-S. Li, Y.-H. Tasi, C.-Y. Wen, W. Jessica Lin, F.M. Hsiao, Y.-P. Chiu, Kazuhito Tsukagoshi, Minoru Osada,\* Takayoshi Sasaki, and Chun-Wei Chen\*, "Self-assembly atomic stacking transport layer of two-dimensional layered titania for perovskite solar cells with extended UV stability", *Advanced Energy Materials*, 1701722, (2018)
4. Y.T. Huang, Y.H. Chen, Y.J. Ho, S.W. Huang, Y.R. Chang, K. Watanabe, T. Taniguchi, H.C. Chiu, C.T. Liang, R. Sankar, F.C. Chou, Chun-Wei Chen\*; Wei-Hua Wang\*, "High-Performance InSe Transistors with Ohmic Contact Enabled by Nonrectifying Barrier-Type Indium Electrodes", *ACS Applied Materials & Interfaces*, Vol.10, 33450, (2018)
5. P. H. Ho, Y.S. Shih, M. K. Lin, T. P. Chen, F. Y. Shih, W. H. Wang, and Chun-Wei Chen\*, "Spatially and Precisely Controlled Large-Scale and Persistent Optical Gating in a TiO<sub>x</sub>-MoS<sub>2</sub> Heterostructure", *ACS Applied Materials & Interfaces*, Vol.10, 38319, (2018)
6. Y.C. Tseng, T.Y. Lin, Y.C. Lee, C.K. Ku, C.W. Chen, H.L. Chen, "Magnetic Dipole Resonance and Coupling Effects Directly Enhance the Raman Signals of As-Grown Graphene on Copper Foil by over One Hundredfold", *Chemistry of Materials*, Vol.30, 1472, (2018)
7. Yih-Chun Chen, Shao-Ku Huang, Shao-Sian Li, Yao-Yu Tsai, Chih-Ping Chen, Chun-Wei Chen,<sup>[b]</sup> and Yuan Jay Chang\*, "Facile Synthesis of spiro[fluorene-9,9'-phenanthrene-10'-one] in Donor-Acceptor-Donor Hole-Transporting Materials for Perovskite Solar Cells", *ChemSusChem*, 11, 3225, (2018)

## 2017

1. Min-Chuan Shih, Shao-Sian Li, Cheng-Hua Hsieh, Ying-Chiao Wang, Hung-Duen Yang, Ya-Ping Chiu\*, Chia-Seng Chang, and Chun-Wei Chen\*, "Spatially-resolved imaging on photocarrier generations and band alignments at perovskite/PbI<sub>2</sub> hetero-interfaces of perovskite solar cells by light-modulated scanning tunneling microscopy", *Nano Letters* 17, 1154 (2017)
2. Y.R. Chang, P.-H. Ho, C.-Y. Wen, T.-P. Chen, S.-S. Li, J.-Y. Wang, M.-K. Li, C.-A. Tsai, Raman Sankar, W.-H. Wang, P.-W. Chiu, F.-C. Chou and Chun-Wei Chen\*, "Surface Oxidation Doping to Enhance Photogenerated Carrier Separation Efficiency for Ultrahigh Gain Indium Selenide Photodetector", *ACS Photonics*, Vol.4, 2930, (2017)
3. H.-C. Chia, H.-S. Sheu, Y.-Y. Hsiao, S.-S. Li, Y.-K. Lan, C.-Y. Lin, J.-W. Chang, Y.-C. Kuo, C.-H. Chen, S.-C. Weng, C.-J. Su, A.-C. Su, Chun-Wei Chen\*, and U-Ser Jeng\*, "Critical Intermediate Structure That Directs the Crystalline Texture and Surface Morphology of Organo-Lead Trihalide Perovskite", *ACS Applied Materials & Interfaces*, Vol.9, 36897, (2017)
4. Di-Yan Wang, C.-Y. Wei, M.-C. Lin, C.-J. Pan, H.-L. Chou, H.-A. Chen, M. Gong, Y. Wu, C. Yuan, M. Angell, Y.-J. Hsieh, Y.-H. Chen, C.-Y. Wen, C.-W. Chen, B.-J. Hwang\*, C.-C. Chen\*, H. Dai,\* 2017: Advanced Rechargeable Aluminum Ion Battery with a High Quality Natural Graphite Cathode. *Nature Communication*, 8, 14283 (2017)

5. R. Sankar, G.N. Rao, M.I. Panneer , C. [Butler](#), C. Kumar, M. G. Senthil, C. Shekhar, C.Chang, T.R. Chang, C.Y Wen , [C.-W. Chen](#), W.L.Lee, M.T.Lin , H.T.Jeng, C. Felser and F.C.Chou\*, ” *Polymorphic Layered MoTe<sub>2</sub> from Semiconductor, Topological Insulator, to Weyl Semimetal*”, **Chemistry of Materials**, Vol. 29, 699, (2017)
6. R.J.Chang, C.H.Lee, M.K.Lee, Chun-Wei Chen, Cheng-Yen Wen\*, ”*Effects of surface oxidation of Cu substrates on the growth kinetics of graphene by chemical vapor deposition*”, **Nanoscale**, Vol.9, 2324,(2017)
7. F.Y. Shih, Y.C. Wu, Y.S. Shih, M.C. Shih, T.S. Wu, P. H. Ho, [C.-W. Chen](#), Y.F. Chen, Y.P. Chiu and Wei-Hua Wang\*, “*Environment-insensitive and gate-controllable photocurrent enabled by bandgap engineering of MoS<sub>2</sub> junctions*”, **Scientific Report**, Vol.7, 44768, (2017)
8. P.H. Ho, Y.R. Chang, Y.C. Chu, M.K. Li, C.A. Tsai, W.H. Wang, C.H. Ho, [C.W. Chen](#) and P.W.Chiu, “*High-Mobility InSe Transistors: The Role of Surface Oxides*”, **ACS Nano**, Vol.11, 7362,(2017)