



Session Title	[MoP] Poster Session I
Date / Time	Jul. 2 (Mon.), 2018 / 19:00-21:00
Place	2F, Lobby

MoP-001

Fabrication of High Aspect Ratio Nanowires Using Super-Critical Electroplating Technique

Ho-Chiao Chuang, Guan-Wei Chiang, and Ai-Ho Liao
Nat'l Taiwan Univ. of Science and Tech., Taiwan

MoP-002

The Effect of Grain Boundaries on Electrical and Noise Characteristics in CVD-Grown MoS₂ Field Effect Transistors

Jae-Keun Kim¹, Younggul Song¹, Tae-Young Kim¹, Kyungjun Cho¹, Jinsu Pak¹, Jiwon Shin¹,
Seungjun Chung², and Lee Takhee¹
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MoP-003

Local Energy Level Alignment and Electron Transport Imaging at 2D Heterostructure Interfaces

Sena Yang and JeongWon Kim
KRISS, Korea

MoP-004

Charge Stabilization in MoS₂ with Strong Molecular Acceptors

Minju Kim¹, Junkyeong Jeong¹, Giwoong Kim¹, Seongil Im¹, Taekyeong Kim², Hyunbok Lee³,
and Yeonjin Yi¹
¹*Yonsei Univ., Korea*, ²*Hankuk Univ. of Foreign Studies, Korea*, ³*Kangwon Nat'l Univ., Korea*

MoP-005

Resonance Behaviours of Porous Graphenedrums

Min Hee Kwon, Juhee Yoon, Dong Hoon Shin, Jun Hee Choi, and Sang Wook Lee
Ewha Womans Univ., Korea

MoP-006

Doping Effect of Carbon Nanotubes on The Electrical Performance of Solution-Processed p-Channel Oxide Transistors

Ao Liu¹, Huihui Zhu, and Yong-Young Noh
Dongguk Univ., Korea

MoP-007

Electrochemical Anions Intercalation in Graphite: A Combined Raman and AFM/STM Investigation

Chiara Castiglioni, Luigi Brambilla, Matteo Tommasini, Luca Magagnin, Alessandra Accogli,
Eugenio Gibertini, Rossella Yivlialin, Gianlorenzo Bussetti, Andrea Li Bassi, and Lamberto
Duò
Politecnico di Milano, Italy



MoP-008

Binary Solvent Effects on Sorted Semiconducting Carbon Nanotubes Using N-type Conjugated Polymers.

Dongseob Ji, Ji-Young Go, Eun Sol Shin, and Yong-Young Noh
Dongguk Univ., Korea

MoP-009

Hybrid characteristics and Optoelectronic Devices for MoS₂/WSe₂ n-p Heterojunction

Jun Young Kim¹, Yongjun Lee², Jeongyoung Kim², Kwang-Sup Lee³, and Jinsoo Joo¹
¹Korea Univ., Korea, ²Sungkyunkwan Univ., Korea, ³Hannam Univ., Korea

MoP-010

Nanoscale Optical Characteristics of the Hybrids of Two-Dimensional nanostructures with CsPbBr(x) Perovskite Quantum-Dots and Application to Optoelectronic Devices

Taeho Noh¹, Jongwon Uoun¹, Sang-hun Lee¹, Jeongyoung Kim², Xuecheng Teng³, Sinil Choi³, Kwangsup Lee³, and Jinsoo Joo¹
¹Korea Univ., Korea, ²Sungkyunkwan Univ., Korea, ³Hannam Univ., Korea

MoP-011

Tensile Properties and Swelling Ratio of Chitosan/Xanthan gum/Graphen Oxide Nanocomposite Hydrogel Film

Dong-Won Kim¹, Yury Shchipunov², Dae-Geon Yoo¹, Gue-Hyun Kim³, and Chang-Sik Ha¹
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MoP-012

Effect of Functionalized Boron Nitride for Epoxy Composites with Improved Thermal Conductivity

Ju Hui Kang^{1,2}, Ho Yong Kang^{1,3}, Jong Tae Leem^{1,3}, Woong Cheol Seok^{1,3}, Se Jin Kwon¹, Ho Jun Song¹, and Sangkug Lee¹
¹KITECH, Korea, ²Hanyang Univ., Korea, ³Sungkyunkwan Univ., Korea

MoP-013

Electrical Transport of Two-Dimensional Materials on Ferroelectrics

Nahee Park¹, Haeyong Kang², and Dongseok Suh¹
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MoP-014

Hierarchically 3D-Stacked Nanostructures Enable Self-Guided Janus Nanopattern Formation by Thermal Annealing

Tae Wan Park, Young Joong Choi, Hyunsung Jung, and Woon Ik Park
KICET, Korea

MoP-015

Ferroelectric Polarization Switching by Graphene Electrode

Gwanmu Lee¹, Haeyong Kang², and Dongseok Suh¹
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MoP-016

Carbon-Nanotube Templated Flexible Superconducting Nanowire Yarn

Jeong-Gyun Kim¹, Haeyong Kang², and Dongseok Suh¹

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MoP-017

Anomalous Quantum Hall Effect Induced by Grain-Boundary in Graphene Grown by Chemical Vapor Deposition

Tuan Khanh Chau¹, Haeyong Kang², and Dongseok Suh¹

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MoP-018

Ultrasensitive Hall Sensor based on 2D Material

Joonggyu Kim¹, Min-Kyu Joo², and Dongseok Suh¹

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MoP-019

Low Frequency Noise Analysis of Monolayer WS₂ Field-Effect Transistor

Yoojoo Yun¹, Min-Kyu Joo², and Dongseok Suh¹

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MoP-020

Ultrastretchable Signal Transmission Line with Carbon Nanotube Sheets and Its Application

Yourack Lee and Dongseok Suh

Sungkyunkwan Univ., Korea

MoP-021

Morphology Control of Graphene Oxide via γ -Ray Irradiation for Efficient Perovskite Solar Cells

Jae Sang Cho^{1,2}, Woongsik Jang¹, Keum Hwan Park², and Dong Hwan Wang¹

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MoP-022

Terahertz Shielding of MXenes using Nano-slot Antenna

Geunchang Choi¹, Faisal Shahzad², Young-Mi Bahk³, Young Min Jhon², Mohamed Alhabeab⁴,

Babak Anasori⁴, Dai-Sik Kim², Chong Min Koo², Yury Gogotsi⁴, and Minah Seo²

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MoP-023

Electrical Characteristics of 2D-MoSe₂-based FET Devices with Various Electrodes

Pan-Gum Jung, Dong Jin Lee, Nam-Hoon Kim, and Pil Ju Ko

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MoP-024

Deformation and Interface states of Bipolar Quantum Hall Graphene

Nojoon Myoung¹ and Hee Chul Park²

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MoP-025

Chemical Doping Effects on CVD-Grown Multilayer MoSe₂

Hocheon Yoo¹, Seongin Hong², Hyunseong Moon², Sungmin On¹, Hyungju Ahn³, Han-Koo Lee³, Young Ki

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MoP-026

Linker-Free Decoration of Polyoxometalates on Nitrogen-Doped Carbon Nanotubes for Water Oxidation

Gil Yong Lee, Insu Kim, Yoon Sung Nam, and Sang Ouk KIM

KAIST, Korea

MoP-027

Scalable Heterostructure Film Assembly of 2D Transition Metal Dichalcogenides

Sung Hwan Koo, Taeyeong Yun, and Sang Ouk Kim

KAIST, Korea

MoP-028

Metal-carbon nanotube composite fibers with a high critical current density

Dong Su Lee, Hokyun Rho, Min Park, Mina Park, Junbeom Park, Aram Lee, Sukang Bae, Tae-Wook Kim, Seung Min Kim, and Sang Hyun Lee

KIST, Korea

MoP-029

Distorted Carbon Nitride Structure with Benzene Doping for Enhanced Photocatalytic Activity under Visible Light

Hyejin Kim¹, Suji Gim², Tae Hwa Jeon¹, Hyungjun Kim², and Wonyong Choi¹

¹POSTECH, Korea, ²KAIST, Korea

MoP-030

Carbon Nitride/Hematite Heterojunction Photoanode for Solar Water Splitting

Taehwa Jeon and Wonyong Choi

POSTECH, Korea

MoP-031

Weyl Phases, Topological Line Singularities, Nexus, Edge Currents and Flat Bands in Gray Tin Nanostructures

Feodor Kusmartsev¹, Anna Kusmartseva², and Yi Luo²

¹Loughborough Univ., UK, ²MTRC, China



MoP-032

Chemical Phase Tuning of MoTe₂

Yonas Assefa Eshete and Hee Jun Yang
Sungkyunkwan Univ., Koorea

MoP-033

Multi Responsive Bilayer Actuator by Stacking Aligned-CNT-Sheets with PVA

Thut-Kieu Truong and Dongseok Suh
SungKyunKwan Univ., Korea

MoP-034

A Flexible and High Performance Supercapacitor Consisting of Nickel-Cobalt-Mixedhydroxides, ZnO Nanorods and Carbonnanotube Yarn

Suong Le and Dongseok Suh
Sungkyunkwan Univ., Korea

MoP-035

Non-uniform Current Distribution between Individual Layers of Multilayer Graphene and MoS₂

Won Ryeol Choi, Jeong Hyeon Na, Sung Won Kim, Young Gyu You, Jun Ho Hong, Jong Hwa Ryu, and Sung Ho Jhang
Konkuk Univ., Korea

MoP-036

Dielectric Screening Effect on MoS₂ Field-Effecttransistor Encapsulated in Various High-Koxides

Jong Hwa Ryu, Young Gyu You, Jeong Hyeon Na, and Sung Ho Jhang
Konkuk Univ., Korea

MoP-037

Switching Device based on MoTe₂'s Phase Transition by Electrostatic Force

Jun Ho Hong, Young Gyu You, Won Ryeol Choi, Jeong Hyeon Na, and Sung Ho Jhang
Konkuk Univ., Korea

MoP-038

Rolled MoS₂ : Fabrication and Their Properties

Sung Won Kim¹, Jeonghyeon Na¹, Tae Woo Uhm², Won Ryeol Choi¹, Sooho Choi³, Jae-Ung Lee⁴, Woochul Yang³, Hyeonsik Cheong⁵, and Sung Ho Jhang¹
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MoP-039

Role of Surface Optical Phonons in the Resistivity of Graphene

Young Gyu You, Jeonghwan Ahn, Bae Ho Park, Yongkyung Kwon, and Sung Ho Jhang
Konkuk Univ., Korea



MoP-040

Liquid-phase Exfoliation of Transition Metal Dichalcogenide Nanosheets with Amine Modified Polymer Dispersants and Nanocomposites

Hyeokjung Lee and Cheolmin Park
Yonsei Univ., Korea

MoP-041

Layer-Confined Excitonic Insulating Phase in Ultrathin Ta₂NiSe₅ Crystals

So Young Kim^{1,2}, Youngwook Kim¹, Chang-Jong Kang¹, Eun-Su An^{1,2}, Hyoung Kug Kim^{1,2},
Man Jin Eom¹, Minkyung Lee,^{1,2} Chibeom Park², Tae-Hwan Kim^{1,2}, Hee Cheul Choi^{1,2},
Byung Il Min¹, and Jun Sung Kim^{1,2}
¹POSTECH, ²IBS

MoP-042

Dispersity Control of Reduced Graphene Oxide and Their Application in Inverted Organic Solar Cells as Hole Transport Layer

Jong-jin Park and Dong-Yu Kim
GIST, Korea

MoP-043

Tuning the Electronic Structure of Single-Walled Carbon Nanotube by High-Pressure H₂ Exposure

Hojin Kang¹, Sung Ju Hong², Min Park³, Byung Hun Kim⁴, and Yung Woo Park¹
¹Seoul Nat'l Univ., Korea, ²Hannover Univ., Germany, ³KIST, Korea, ⁴Incheon Nat'l Univ., Korea

MoP-044

n-Doping Effect on Few-Layer WSe₂-based Thin Film Transistors through Gold-Tetraphenylporphyrin (Au-TPP) and Application to Photodetector

Dong Seop Lee¹, Jun Young Kim¹, Dae-young Shin¹, Suk Joong Lee¹, Jeongyoung Kim²,
and Jinsoo Joo¹
¹Korea Univ., Korea, ²Sungkyunkwan Univ. Korea

MoP-045

Polyethylenimine(PEI) at Channel Interface Layer for Improved Performances of Solution-Processed oxide Thin-Film Transistors (TFTs)

Yeo Ryang Lee¹, Jin Woo Park², Chae Won Kim¹, Hye Min Park¹, Jun Hyeok Jang¹, Young Ju Jo¹, Kang Min Lee¹, and Mijung Lee¹
¹Kookmin Univ., Korea, ²PSK Inc., Korea

MoP-046

Visibly Transparent Network Structure of Polymer Blend Composites for High Performance Transistors and Its Applications

Byoungwook Park¹, Kilho Yu², Jonghoon Lee¹, Minha Oh¹, Soonil Hong¹, Jinho Lee¹,
Soyeong Jeong¹, Hongkyu Kang¹, Jehan Kim³, and Kwanghee Lee¹
¹GIST, Korea, ²RIKEN, Japan, ³Pohang Accelerator Lab., Korea



MoP-047

Air Stable Organic Transistors via Controlling Fluoride Contents in Naphthalenediimide-Based Polymers

Yongjoon Cho¹, A Young Jeong², Joon Hak Oh², and Changduk Yang¹
¹UNIST, Korea, ²POSTECH, Korea

MoP-048

Bar-Coated highly-Aligned Organic Semiconductor Films for High-Performance organic Transistors.

Seon Baek Lee, Boseok Kang, and Kilwon Cho
POSTECH, Korea

MoP-049

Use of Ion Gel Dielectrics for Amine-Treated PEDOT:PSS Transistors

Donguk Kim¹ and Felix Sunjoo Kim²
¹KAIST, Korea, ²Chung-Ang Univ., Korea

MoP-050

Transparent Organic Field Effect Transistors with Wide Bandgap Channel Layers

Chulyeon Lee, Hwajeong Kim, and Youngkyoo Kim
Kyungpook Nat'l Univ., Korea

MoP-051

Less Explored Carbazole Derivatives for Solution-Processed Phosphorescent Organic Light-Emitting Diodes

Jaemin Lee, Shahid Ameen, Sung Cheol Yoon, and Changjin Lee
KRICT, Korea

MoP-052

Singlet-Triplet Splitting Energy Management via Acceptor Substitution: Complanation Molecular Design for Deep-Blue Thermally Activated Delayed Fluorescence Organic Light Emitting Diodes

Xinyi Cai and Shi-Jian Su
South China Univ. of Tech., China

MoP-053

Finecontrol of Light-Scattering Effects of The Porous Polymeric Media for Highly Efficient OLEDs

Hyeck Go¹, Eun-Mi Han², and Changhun Yun¹
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MoP-054

Highly Transparent Polymer Organic Light Emitting diodes based on Bilayer Electrodes with Silver Nanowires and PEDOT:PSS

Changhun Yun¹, Hyeck Go¹, and Eun-Mi Han²
¹KITECH, Korea, ²Chonnam Nat'l Univ. Korea



MoP-055

Fully Solution Processed Multilayer OLEDs Using Cross-Linkable Electron-Transport Materials

Minhye Seo and Sungkoo Lee
KITECH, Korea

MoP-056

Highly Soluble Fluorinated Imaging Materials for Micropatterned Organic Light-Emitting Diodes

Jongchan Son¹, Youngtae Kim¹, Byung Jun Jung², and Jin-Kyun Lee¹
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MoP-057

Influence of Ultraviolet and Thermal Stress on Blue Fluorescent OLEDs with Different Hole Transport Materials

Song Eun Lee¹, Ki Ju Kim¹, Soyoung Pak², Seung Soo Yoon², and Young Kwan Kim¹
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MoP-058

The Effect of Structural Modification of Constitutional Isomers on Thermally-activated Delayed Fluorescence Efficiency

Heather F. Higginbotham¹, Tomas Matulaitis², Ramunas Lygaitis², Marc K. Etherington¹, Nadzeya A. Kukhta², Juozas V. Grazulevicius², and Andrew P. Monkman¹
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MoP-059

Polymer Light Emitting Diodes Patterned with A Photo-Crosslinking Agent

Hyewon Park, Jeehye Yang, Seunghan Kim, and Moon Sung Kang
Soongsil Univ., Korea

MoP-060

Efficient White OLED Employing Red, Green, and Blue Phosphorescent Emitters

Kim Dong-Eun, Kang Min-Jae, and Shin Hoon-Kyu
POSTECH, Korea

MoP-061

Inkjet Printing of Small Molecular Phosphorescent emitters by Optimization of Solvent Formulation

Youjung Kang, Jihye Kim, Robbert Bail, Chilwon Lee, and Byungdoo Chin
Dankook Univ., Korea

MoP-062

Synthesis of TADF Materials with Asymmetric Structure with Diphenylsulfone and Carbazole derivatives

Huijae Choi, Chilwon Lee, and Hyungdoo Chin
Dankook Univ., Korea



MoP-063

Development of Narrow-Bandgap Molecules based on Lactam-Containing Fused Aromatic Systems and Their Application in Organic Solar Cells

Narumi Sato, Seiichi Furukawa, and Takuma Yasuda
Kyushu Univ., Japan

MoP-064

Additive Effect of Polypentafluorostyrene for High-Performance Non-Fullerene Organic Solar Cells

Jiyeon Oh and Changduk Yang
UNIST, Korea

MoP-065

Effective Carrier Lifetime of Carbon Nanotubes Incorporated Organic Cells

SeGi Yu¹ and SoYeon Jeon²
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MoP-066

The Application of Aqueous Rubrene:C₆₀ Nanoparticles in Organic Solar Cells

Fu-Ling Wang, Meng-Si Niu, Lin Feng, and Xiao-Tao Hao
Shandong Univ., China

MoP-067

Molecular Orientation Controlled Planar Heterojunction Organic Photovoltaics

Hansol Lee and Kilwon Cho
POSTECH, Korea

MoP-068

High-Performance Fullerene and Non-Fullerene Solar Cells through Simple D1-A-D2-A Random Copolymers

Mingyu Jeong¹, Shanshan Chen¹, Sang Myeon Lee¹, Zhiwei Wang², Yankang Yang³, Zhi-Guo Zhang³, Chunfeng Zhang², Min Xiao², Yongfang Li³, and Changduk Yang¹
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MoP-069

Inductive and Resonance Effects of TPTI-Based Copolymers on Photovoltaic Properties

Sungwoo Jung and Changduk Yang
UNIST, Korea

MoP-070

Utilization of C₆₀-Containing Polymeric Additive Toward Film Thickness Independent Solar Cell Performance

Byongkyu Lee and Changduk Yang
UNIST, Korea

MoP-071

Optimization of the Active Layer Thickness of Organic Solar Cells by Adding Insulating Polymer

Tong Wang, Pengqing Bi, and Xiaotao Hao
Shandong Univ., China



MoP-072

High-Performance Non-Fullerene Organic Photovoltaic Modules based on Small Molecules Acceptor

Sung-yoon Joe, Daniel Kurniawan, Ji-Yeong Kim, Sungmin Park, and Hae Jung Son
KIST, Korea

MoP-073

Efficient Ternary Polymer Solarcells Using Dissimilar Polymers with Similar Highestoccupied Molecular Orbital Energy Levels

Lee Jihoon¹, Vellaiappillai Tamilavan¹, Ki Hong Park¹, Daehee Han², Yun Kyung Jung³,
Changduk Yang², Youngeup Jin¹, Jae-Won Jang¹, Jung Hyun Jeong¹, and Sung Heum Park¹
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MoP-074

High-Performance PffBT4T-2OD:PC₇₀BM Organic Solar Cells Fabricated by a Sequential Printing Method

Seok Kim, Soonil Hong, Jinho Lee, Soyeong Jeong, Byoungwook Park, Hongkyu Kang, and Kwanghee Lee
GIST, Korea

MoP-075

Side Chain Effect of Non-Fullerene Acceptors Involving Alkoxy Group for High Efficient Organic Photovoltaic Cells

Seongyu Lee¹, Hyungcheol Back¹, Jong-Hoon Lee¹, Jinho Lee¹, and Kwanghee Lee²
¹*GIST, Korea*, ²*RISE, Korea*

MoP-076

Highly Efficient Organic Photovoltaics Using Random Copolymer and Non-Fullerene Acceptor

Ji-yeong Kim, Gyoung-sik Kim, Injeong Shin, Sung-yoon Joe, Sungmin Park, and Son Hae Jung
KIST, Korea

MoP-077

Photovoltaics of Bulk Heterojunction Organic Film of Regio-regular Poly3-hexylthiophene2,5-diyl (P3HT) and Small Gap fullerene-ethyl Nipecotate C₆₀

Nazia Chawdhury¹, Parameswar Iyer², Ashish Singh², Nasir Uddin¹, and Muhibur Anik¹
¹*Shahjalal Univ. of Science and Tech., Bangladesh*, ²*Indian Inst. of Tech. Guwahati, India*

MoP-078

Synthesis and Characterization of Small Molecular PDI-based Non-Fullerene Acceptors for Organic Solar Cells

Seung Hun Eom¹, Un-Hak Lee¹, Jaemin Lee¹, In Hwan Jung², Sung Cheol Yoon¹, and Changjin Lee¹
¹*KRICT, Korea*, ²*Kookmin Univ., Korea*

MoP-079

Structure-to-photovoltaic Property Relationships in New Small Molecule Acceptors

Bongsoo Kim, Shinyoung Choi, Suhee Ro, and Yukyung Shin
Ewha Womans Univ., Korea



MoP-080

Synthesis and Photovoltaic Properties of Low-Bandgap Conjugated Polymers with Terthiophene-Vinylene Branches

Shih-Hao Wang
Nat'l Taiwan Univ., Taiwan

MoP-081

The Improved Performance of All-Polymer Photovoltaics Using Non-Halogenated Solvents and Additives

Saeah Kim, Yookyung Shin, Myung hwa Kim, and Bongsoo Kim
Ewha Womans Univ., Korea

MoP-082

Semi-Transparent Reverse Structure Organic Solar Cell with High Stability and Performance through Electron Transport Layer Modification

Seungik Son¹, Soyeon Kim², Dong Chan Lim², and Pungkeun Song¹
¹Pusan Univ., Korea, ²Korea Inst. of Materials Science, Korea

MoP-083

High Efficiency Organic Solar Cells based on A Wide Bandgap Polymer Donor and A Narrow Bandgap Nonfullerene Acceptor

Febrian Tri Adhi Wibowo, Wisnu Tanyo Hadmojo, Septy Sinaga, In Hwan Jung, and Sung-Yeon Jang
Kookmin Univ., Korea

MoP-084

Novel Alkyl-Free Unsymmetrical donor-Acceptor Oligomers for Organic Photovoltaics

Dmitry Balakirev, Yuriy Luponosov, Alexander Solodukhin, and Sergei Ponomarenko
Inst. of Synthetic Polymeric Materials (ISPM), Russia

MoP-085

A Facile Method to Fine-Tune Polymer Aggregation Properties and Blend Morphology of Polymer Solar Cells Using Donor Polymers with Randomly Distributed Alkyl Chains

Huatong Yao¹, Yunke Li¹, Huawei Hu¹, Harald Ade², and He Yan¹
¹Hong Kong Univ. of Science and Tech., Hong Kong, China, ²North Carolina State Univ., USA

MoP-086

Physical Pressing Process for High Efficiency Polymer Solar Cells

Sooyong Lee, Jaehoon Jeong, Jooyeok Seo, Hyemi Han, Myeonghun Song, Dohan Kim, Yejin Moon, Hwajeong Kim, and Youngkyoo Kim
Kyungpook Nat'l Univ., Korea

MoP-087

Novel D- π -A Structured Organic Sensitizers with Fluorenyl Substituted Electron Donor Moieties for Highperformance Dye-Sensitized Solar Cells

Jungmin Ji and Hwan Kyu Kim
Korea Univ., Korea



MoP-088

Diphenyl-Pyridylamine-Substituted Porphyrins as Hole-Transporting Materials for Perovskite Solar Cells

Un-Hak Lee¹, Randi Azmi², Septy Sinaga², Sunbin Hwang³, Seung Hun Eom⁴, Tae-Wook Kim³, Sung Cheol Yoon⁴, Sung-Yeon Jang², and In Hwan Jung²

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MoP-089

Improving The Efficiency and Stability of Inverted Flexible Perovskite Solar Cells Employing a Novel NDI-Based Polymeric Electron Transport Layer

Kyungwon Choi¹, Myeong-Jong Kim², Hong Il Kim¹, Chaesung Lim¹, Yun-Hi Kim², Soon-Ki Kwon², and Taiho Park¹

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MoP-090

Performance Enhancement of Lead-Free Tin-Based Perovskite Solar Cells with Reductive Additive

Feidan Gu, Senyun Ye, Haixia Rao, Ziran Zhao, Zhiwei Liu, Zuqiang Bian, and Chunhui Huang

Peking Univ., China

MoP-091

Effective Annealing Method for Improving The Performance of Perovskite Solarcells

Insoo Shin¹, Yanliang Liu¹, In-wook Hwang², Jihoon Lee¹, Dal Yong Lee¹, Jae-Won Jang¹, Yun Kyung Jung³,

Jung Hyun Jeong¹, Kwang Ho Kim⁴, and Sung Heum Park¹

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MoP-092

Merged Annealing Method for Highly Efficient Perovskitesolar Cells

Liu Yanliang¹, Insoo Shin¹, In-wook Hwang², Jihoon Lee¹, Jae-Won Jang¹, Yun Kyung Jung³, Jung Hyun Jeong¹, Kwang Ho Kim⁴, and Sung Heum Park¹

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MoP-093

Exploring Grain Growth of Lead-Halide Perovskite for Solar Cell Applications

Ma Yongchao¹, Yanliang Liu¹, Insoo Shin¹, In-wook Hwang², Yun Kyung Jung³, Jung Hyun Jeong¹, Kwang Ho Kim⁴, and Sung Heum Park¹

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MoP-094

Performance and Stability Enhancement of Tin Iodides–Bromides Halide Perovskite Solar Cells with Reducing Additives

William Jo, Bich Phuong Nguyen, Hye Ri Jung, and Juran Kim
Ewha Womans Univ., Korea



MoP-095

Tuxene-Based Perovskite Solar Cells

Jong Hun Hong¹, Sinil Choi¹, Gyeongju Kim¹, Prem Prabhakaran¹, Jae Woong Jung²,
Namchul Cho³, and Kwang-Sup Lee¹

¹Hannam Univ., Korea, ²Kyung Hee Univ., Korea, ³Soon Chun Hyang Univ., Korea

MoP-096

Thin Hole Extraction Layer for Single and Tandem Perovskite Solar Cells

Hyung-Jun Song¹, Hyungho Lee², and Changhee Lee²

¹Korea Inst. of Energy Research, Korea, ²Seoul Nat'l Univ., Korea

MoP-097

Molecular Tailor-Making Low-Cost Triarylamine Derivatives Based on Different Center Moieties with High T_g via One-step Procedure for Efficient Perovskite Solar Cells

Chunyu Lu, In Taek Choi, and Hwan Kyu Kim
Korea Univ., Korea

MoP-098

Robust, Stable, Thermal-resistance Quantum Dots by Encapsulating via Surface Modification with Cross-Linkable Polymeric Ligands

Jae Wan Ko¹, Byeong Guk Jeong², Jun Hyuk Chang², Wan Ki Bae², and Joon Bang¹

¹Korea Univ., Korea, ²KIST, Korea

MoP-099

Effect of Solvents on the Performance of InP-Based Quantum Dot Light Emitting Diodes

Jaeyoung Kim, Yeonkyung Lee, Heeyoung Jung, Wan Ki Bae, and Changhee Lee
Seoul Nat'l Univ., Korea

MoP-100

Improved Performance of Inkjet-Printed Quantum Dot Light Emitting Diodes through Precisely Confined Zinc Oxide in Black Photoresist Bank

Yeseul Park¹, Jongseok Han¹, Donghyun Koh¹, Jiwon Lee², Junyoung Kim², Jongsoo Lee³,
and Changhee Lee¹

¹Seoul Nat'l Univ., Korea, ²Korea Inst. of Industrial Tech., Korea, ³Dongwoo Fine-Chem, Korea

MoP-101

Highly Enhanced Colloidal Quantum-Dot Solar Cells via Solution-Phase Ligand Exchanged PbS Quantum-Dot

Junho Kim and Lee Jung-Yong
KAIST, Korea

MoP-102

The Study of Energy Transfer between CdSe Nanoplatelets Assembled into Helical Superstructures

Whi Dong Kim and Doh C. Lee
KAIST, Korea



MoP-103

Electrochemically Tunable Properties of 1D Photonic Crystal Film Using Chiral Ionic Liquid

In Hye Lee and Dong Myung Shin
Hongik Univ., Korea

MoP-104

Synthesis and Properties of Aggregation Enhanced Fluorescence Functions with Thiophene Derivatives

Kwang-Sup Lee, Hoong-seob Shin, Prem Prabhakaran, JongHun Hong, Jaeseo Seok, and Eunji Kang
Hannam Univ., Korea

MoP-105

`p { margin-bottom: 0.1in; direction: ltr; color: rgb(0, 0, 10); line-height: 120%; text-align: left; }p.western { font-family: "Liberation Serif", serif; font-size: 12pt; }p.cjk { font-family: "Noto Sans CJK SC Regular"; font-size: 12pt; }p.cnt {font`

Xander de Vries¹, Pascal Friederich², Wolfgang Wenzel², Reinder Coehoorn¹, and Peter Bobbert¹
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MoP-106

Utilizing Deuteration to Stabilize Triplet Exciton of Room Temperature Organic Afterglow Materials

Ge Zhan, Yang Liu, Peiyu Fang, Chunhui Huang, Zuqiang Bian, and Zhiwei Liu
Peking Univ., China

MoP-107

Study on Thermoelectric Properties of Organic-Inorganic Hybrid Materials with Hydrophilic Cross Linking Agents as Additives

Kim Namhun and Kim Sung Hyun
Wonkwang Univ., Korea

MoP-108

Fluoroalkyl Side-Chain Ratio Dependent Charge-Transfer Properties of DPP-BTZ Copolymers

Do Hyeon Jeong¹, Seok-Heon Jung², Jin-Kyun Lee², and Jiyoul Lee¹
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MoP-109

Surface Characteristics of One-Step Spin-Coated Methylammonium Lead Iodide Perovskite Films by Solvent Engineering

So Hyun Park, Hyunchan Lee, and Hyunbok Lee
Kangwon Nat'l Univ., Korea



MoP-110

Thermoelectric Properties of PEDOT:PSS–MXene Composite Thin Film

Nakkyu Shin and Jeonghun Kwak
Univ. of Seoul, Korea

MoP-111

Electrochemical Behavior of ZnO Based Nanocomposite Electrode Material for Supercapacitor

Mahendra Singh Yadav, Narendra Singh, and Santosh M. Bobade
Jaypee Univ. of Engineering and Tech., India

MoP-112

QD-PVK Hybrid Light Emitting Electrochemical Cells with Effective Hole Injection

Jeehye Yang, Seunghan Kim, Hyewon Park, and Moon Sung Kang
Soongsil Univ., Korea

MoP-113

Multi-Metal Interconnection Engineering Using Patterned iCVD Polymer and Its Application to Organic Ics

Hongkeun Park¹, Hocheon Yoo², Seunghyun Yoo², Jae-Joon Kim², and Sung Gap Im¹
¹KAIST, Korea, ²POSTECH, Korea

MoP-114

Nanothermite of Al Nanoparticles and Three-Dimensionally Ordered Macroporous CuO

Do Joong Shin and Doh.C Lee
KAIST, Korea

MoP-115

Effect of Counterions on Interfacial Dipoles in Nonconjugated Polyelectrolytes

Juwan Kang¹, Myung Joo Cha¹, Yu jung Park¹, Yeon jin Lee², Junghwa Seo¹, and Bright Walker James³
¹Dong-A Univ., Korea, ²Yonsei Univ., Korea, ³UNIST, Korea

MoP-116

Paper- and Inkjet Printing-Based Digital Microfluidics Using Carbon Nanotube Ink

Yunpyo Kim, Veasna Soum, Mary Chuong, Sooyong Park, Ohsun Kwon, and Kwanwoo Shin
Sogang Univ., Korea

MoP-117

Electronic Structures at Various Substrates / Perovskite Interface

Myung Joo Cha¹, Jung Hwa Seo¹, and Bright Walker²
¹Dong-A Univ., Korea, ²UNIST, Korea

MoP-118

A Method to Form Anodic Aluminum Oxide Dielectrics on Separate Gate Patterns for The Fabrication of Ultra-Flexible, Low-Voltage Organic Circuits

Yongwoo Lee, Jimin Kwon, Youngmin Jo, and Sungjune Jung
POSTECH, Korea



MoP-119

The Polyoxometalate/TiO₂ Compositefilm as The Counter Electrode of The Conjugated Polymer Electrochromic Device

Shiming Wang¹ and Eunyoung Kim²

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MoP-120

Solution-Processed Electron Transport Materials with Cross-Linkable System for Organic Light-Emitting Diodes (OLEDs)

Seong-Jae Yun and Sungkoo Lee

KITECH, Korea

MoP-121

Effects of Non-Radiative Losses at Charge Transfer States and Energetic Disorder on the Open-Circuit Voltage in Non-Fullerene Organic Solar Cells

Yuan Zhang

Beihang Univ., China

MoP-122

Strain/Pressure Visualization of Stretchable Sensor based on Block Copolymer Structural Color

Taehyun Park, Hongkyu Eoh, Hansol Kang, and Cheolmin Park

Yonsei Univ., Korea

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Organic Light Emitting Board for Dynamic Physical Visualization

Cheolmin Park, Eui Hyuk Kim, and Seokyeong Lee

Yonsei Univ., Korea

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Modulated Photocurrent Technique for Characterization of Charge Transport Properties in Working

Hiroki Nojima, Takashi Kobayashi, Takashi Nagase, and Hiroyoshi Naito

Osaka Prefecture Univ., Japan

MoP-125

Charge Carriers Outnumber Triplets Under Steady-state TQ1:PC71BM Solar Cell Operation

Safakath Karuthedath¹, Armantas Melianas², Julien Gorenflot¹, Zhipeng Kan¹, Martijn Kemerink², and Frédéric Laquai¹

¹KAUST, Saudi Arabia, ²Linköping Univ., Sweden

MoP-126

All-Inorganic CsPbI₃ Perovskite Phase-Stabilized by Poly(ethylene oxide) for Red-Light-Emitting Diodes

Beomjin Jeong, Hyowon Han, and Cheolmin Park

Yonsei Univ., Korea



MoP-127

Micropatterning Organic-Inorganic Hybrid Lead Halide Perovskite Thin Films by Solvent-Assisted Gel Printing Method

Hyowon Han, Beomjin Jeong, and Cheolmin Park
Yonsei Univ., Korea

MoP-128

Impact of IDT-based Acceptor Structures on Photophysics and Performance of Polymer Solar Cells

Maha Alamoudi, Jafar Khan, Raja Shahid Ashraf, Iain McCulloch, and Frederic Laquai
KAUST, Saudi Arabia

MoP-129

Impact of Nonfullerene Acceptor Core Structure on the Photophysics and Efficiency of Polymer Solar Cells

Maha Alamoudi, Jafar Khan, Yuliar Firdaus, Kai Wang, Denis Andrienko, Pierre Beaujuge, and Frédéric Laquai
KAUST, Saudi Arabia

MoP-130

Thermal Annealing Reduces Geminate Recombination in TQ1:N2200 All-Polymer Solar Cells

Safakath Karuthedath¹, Armantas Melianas², Zhipeng Kan¹, Vytenis Pranculis³, Markus Wohlfahrt¹, Jafar Khan¹, Julien Gorenflot¹, Yuxin Xia¹, Olle Inganäs², Vidmantas Gulbinas³, Martijn Kemerink², and Frédéric Laquai¹
¹*KAUST, Saudi Arabia*, ²*Linköping Univ., Sweden*, ³*Center for Physical Sciences and Tech., Lithuania*

MoP-131

Abnormal Hysteric Behavior in Planar Perovskite Solar Cell upon Inserting PCBM Interlayer

Nam-Gyu Park, An-Na Cho, Ja-Young Seo, and In-Hyuk Jang
SungKyunKwan Univ., Korea

MoP-132

Investigate Thermoelectric and Transport Properties of FeVSb_{1-x}Sn_x Half-Heusler Matrices Synthesized by Controlled Mechanical Alloying Process

Rahidul Hasan and Soon-Chul Ur
Korea Nat'l Univ. of Transportation, Korea

MoP-133

Printable Flexible Rechargeable Battery for Constructing Wireless Energy Harvesting Label

Gyojin Cho, SungGeun Lee, Maskey Bijendra Bishow, Prince Wesley, and Grishmi Raibhandari
Sunchon Univ, Korea

MoP-134

In Situ Studies on the Film Formation Mechanism of Conjugated Polymer Thin Films via Blade-coating Process

Yeon-ju Kim¹, Sehyun Lee², Muhammad Niazi³, Minju Kang², Aram Amassian³, and Dong-Yu Kim¹
¹*GIST, Korea*, ²*KIST, Korea*, ³*KAUST, Saudi Arabia*