

CURRICULUM VITAE

Yuning Li

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Education

Ph.D. (Materials Science), Japan Advanced Institute of Science and Technology (JAIST), Japan, 1999
M.Sc. (Polymer Materials), Dalian University of Technology, China, 1988
B.Sc. (Polymer Materials), Dalian University of Technology, China, 1985

Current Academic Position

Professor and Associate Chair of Graduate Studies, Department of Chemical Engineering,
University of Waterloo, Waterloo, Canada

Other Affiliations

2017– Member, Centre for Bioengineering and Biotechnology (CBB), University of Waterloo,
Waterloo, Canada
2010– Member, Waterloo Institute for Nanotechnology (WIN), University of Waterloo, Waterloo,
Canada
2011– Member, Waterloo Institute for Sustainable Energy (WISE), University of Waterloo, Waterloo,
Canada
2011– Member, Institute for Polymer Research (IPR), University of Waterloo, Waterloo, Canada
2011– Cross-appointment, Department of Chemistry, University of Waterloo, Waterloo, Canada

Previous Positions Held

2017-present Full Professor, Department of Chemical Engineering, University of Waterloo, Waterloo,
Canada
2010–2017 Associate Professor, Department of Chemical Engineering, University of Waterloo, Waterloo,
Canada
2008–2010 Senior Scientist, Institute of Materials Research and Engineering (IMRE), Agency
for Science, Technology and Research (A*STAR), Singapore
2003–2008 Member of Research Staff, Xerox Research Centre of Canada (XRCC), Mississauga, Canada
2002–2003 NSERC Visiting Fellow, ICPET, National Research Council Canada (NRC), Ottawa, Canada
1999–2001 Postdoctoral Fellow, Department of Chemistry, Simon Fraser University, Canada
1993–1997 Production Engineer, Toyo Textiles Industries, Inc., Kanazawa, Japan
1990–1993 Lecturer, Department of Polymer Materials, Dalian University of Technology, China
1988–1990 Assistant Lecturer, Department of Polymer Materials, Dalian University of Technology, China

Teaching and Supervising Activities

ChE102: Chemistry for Engineers (undergraduate core course)
ChE241: Materials Science and Engineering (Chemical Engineering undergraduate core course)
ChE330: Chemical Engineering Thermodynamics (Chemical Engineering undergraduate core course)
ChE745: Research Topics in Polymer Science and Engineering: Synthetic methods for pi-conjugated
polymers (Chemical Engineering graduate reading course)
NE125: Introduction to Materials Science and Engineering (Nanotechnology undergraduate core course)

NE499: Materials for printed electronics: Special Topics in Nanostructured Materials (Nanotechnology undergraduate elective course)

Memberships and Professional Service

Royal Society of Chemistry (UK) (2015–)

Association of Professional Engineers Ontario (2015–)

Editorial Board Member, *AIMS Environmental Science* (2013–)

Editorial Board Member, *Scientific Canadian* (2013–)

Associate Editor, *Materials Focus* (2012–)

Advisory Board Member of *Organic Photonics and Photovoltaics* (2012 –)

Guest Co-Editor for a special issue on “Nano-Engineered Materials for Energy and Environmental Applications” for the *Journal of Nanoengineering and Nanomanufacturing* (JNAN) (2011)

Member of Editorial Board, *Advances in Nanoparticles* (2013–)

American Chemical Society (1999–)

Materials Research Society (2001–)

Chemical Institute of Canada (2000–)

Reviewing >10 research articles per year requested by peer reviewed journals (e.g., *Science*, *JACS*, *Adv. Mater.*, *Energy Environ. Sci.*, *Chem. Commun.*, *Macromolecules*, etc.)

Awards and Certifications

Faculty of Engineering Distinguished Performance Award, University of Waterloo (2016)

Engineering Research Excellence Award, University of Waterloo (2015)

Professional Engineer, Professional Engineers Ontario (PEO) (2015–)

Inclusion in the Marquis Who's Who in the World (2014)

Inclusion in the Marquis Who's Who in the World (2013)

Inclusion in the Academic Keys Who's Who in Engineering Higher Education (WWEHE) (2013)

The NJC (National Junior College) Partners Award for “Commendable services which contributed to the holistic development of the students”, Singapore (2010)

Design for Lean Six Sigma Green Belt (2007)

Co-recipient of the 3rd Annual NASA Nanotech Briefs Nano 50 Awards for Printed Organic Electronics in the Technologies category (*technology breakthroughs that have, or are expected to have, a significant impact in one or more application areas*) (2007)

Appreciation Award for “Development of next generation organic semiconductors”, Xerox Corp. (2005)

Co-recipient of the 2nd Runner Up in Materials Category of "The Best and the Brightest New Technology for 2004" for the development of “*Plastic integrated circuits, which could be produced at much lower cost than their silicon counterparts*” by the *Wall Street Journal* (2004)

Achievement Award for “Developing printable silver nanoparticles”, Xerox Corp. (2004)

Special Recognition Award for “Advancing the materials technology for printed electronic research”, Xerox Corp. (2004)

Appreciation Award for “Development of printable conductive nanoparticles”, Xerox Corp. (2003)

Visiting Fellowships in Canadian Government Laboratories (VF), NSERC, Canada (2002–2003)

Graduation with Distinction, Japan Advanced Institute of Science and Technology, Japan (1999)

The Rotary Yoneyama Foundation Doctoral Scholarship, Japan (1999–2000)

Doctoral Scholarship, The Association of International Education, Japan (1997–1999)

Current Research Interests

Design and molecular engineering of polymer materials and nanomaterials for electronic/electrical electronics

- Organic Thin Film Transistors (OTFTs)

- Polymer bulk-heterojunction photovoltaics (OPV)
- Small molecule-based OPV
- Dye-sensitized Solar Cells (DSC)
- Perovskite solar cells
- Organic Light-Emitting Diodes (OLEDs)
- Chemical/biosensors and photo-detectors
- Organic photodetectors
- Lithium and other batteries

Low temperature-processable conductive inks

- Metal nanoparticle inks for printing highly conductive features on plastic substrates
- Solution processable transparent conductors to replace expensive Indium-Tin-Oxide (ITO)
- Conductive polymers
- Carbon-based nanomaterials

Design, fabrication and characterization of organic electronics

- OTFTs and their logic circuits for e-paper, displays, sensors, etc.
- Organic solar cells
- Organic photo, chemical and biological sensors
- Lithium and other batteries

Research and scholarly achievements

Table 1 Summary of research and scholarly achievements as of August 11, 2017

Published/accepted refereed journal articles	135
Book chapters	2
Refereed conference proceedings	12
Citations/H-index (Thomas Reuters' Web of Science)	~6475/42
Citations/H-index (Elsevier's Scopus)	~6682/42
Citations/H-index (Google Scholar)	~8874/45
Patents filed	124
U.S. patents granted	74

Refereed journal publications (135)

- Jesse T. E. Quinn, Fezza Haider, Haritosh Patel, Daid A. Khan, Zhi Yuan Wang, and Yuning Li*, Ultrafast photoresponse organic phototransistors based on pyrimido[4,5-g]quinazoline-4,9-dione polymer. *J. Mater. Chem. C*, **2017**, accepted on August 8, 2017.
- Jesse T. E. Quinn, Jiaxin Zhu, Xu Li, Jinliang Wang and Yuning Li*, Recent progress in developing n-type organic semiconductors for organic field effect transistors. *J. Mater. Chem. C*, **2017**, 10.1039/C7TC01680H, accepted on July 31, 2017.
- Yinghui He, Jesse Quinn, Suhyun Lee, Guan Ying Wang, Xu Li, Jinliang Wang, and Yuning Li*, An aromatic amine-containing polymer as an additive to ambipolar polymer semiconductor realizing unipolar n-type charge transport, *Organic Electronics*, **2017**, 49, 406-414 (accepted on July 10, 2017).
- Jesse T. E. Quinn,† Chang Guo,‡ Fezza Haider, Haritosh Patel, Daid A. Khan and Yuning Li, Regioisomerism of alkyl-substituted bithiophene comonomer in (3*E*,8*E*)-3,8-bis(2-oxindolin-3-ylidene)naphtho-[1,2-*b*:5,6-*b'*]difuran-2,7(3*H*,8*H*)-dione (INDF) based D-A polymers for organic thin

- film transistors. *J. Mater. Chem. C*, **2017**, *5*, 5902-5909. Accepted on May 14, 2017. (Included in the Hot Article 2017 web collection for *Journal of Materials Chemistry C*.)
- Le Borgne, M.; Quinn, J.; Martin, J.; Stingelin, N.; Li, Y.; Wantz, G. New 3,3'-(ethane-1, 2-diylidene)bis(indolin-2-one) (EBI)-based small molecule semiconductors for organic solar cells. *J. Mater. Chem. C*, **2017**, *5*, 5143-5153. Accepted on April 13, 2017.
 - Yan, L.; Han, D.; Xiao, M.; Ren, S.; Li, Y.; Wang, S.; Meng, Y. Instantaneously Carbonization of Acetylenic Polymer into Highly Conductive Graphene-like Carbon and Its Application in Lithium-Sulfur Batteries. *J. Mater. Chem. A*, **2017**, *5*, 7015-7025. Accepted 14 Mar 2017.
 - Hu, L.; Qiao, W.; Zhou, X.; Han, J.; Zhang, X.; Ma, D.; Li, Y.; Wang, Z. Y. Side-Chain Engineering for Fine-Tuning of Molecular Packing and Nanoscale Blend Morphology in Polymer Photodetectors. *Polym. Chem.*, **2017**, *8*, 2055–2062. DOI: 10.1039/C7PY00087A. Accepted 08 Mar 2017.
 - Bura, T.; Beaupré, S.; Légaré, M. A.; Quinn, J.; Rochette, E.; Blaskovits, J. T.; Fontaine, F. G.; Pron, A.; Li, Y.; Leclerc, M. Direct Heteroarylation Polymerization: Guidelines for Defect-Free Conjugated Polymers. *Chem. Sci.*, **2017**, *8*, 3913-3925, accepted on March 9, 2017.
 - Hu, L.; Qiao, W.; Zhou, X.; Zhang, X.; Ma, D.; Li, Y.; Wang, Z. Y. Effect of Compositions of Acceptor Polymers on Dark Current and Photocurrent of All-Polymer Bulk-Heterojunction Photodetectors. *Polymer* **2017**, *114*, 173-179 (doi: 10.1016/j.polymer.2017.02.060). (Accepted on 19 February 2017)
 - Blaskovits, J.T.; Bura, T.; Beaupre, S.; Lopez, S.; Roy, C.; de Goes Soares, J.; Oh, A.; Quinn, J.; Li, Y.; Aspuru-Guzik, A.; Leclerc, M. A Study of the Degree of Fluorination in Regioregular Poly(3-hexylthiophene). *Macromolecules*, **2017**, *50*, 162–174.
 - Han, J.; Qi, J.; Zheng, X.; Wang, Y.; Hu, L; Guo, C,* Wang, Y.; Li, Y; Ma, D.; Qiao, W.; Wang, Z. Y.; “Low-bandgap Donor-Acceptor Polymers for Photodetectors with Photoresponsivity from 300 nm to 1600 nm”, *J. Mater. Chem. C*, **2017**, *5*, 159-165 (Accepted on November 23, 2016).
 - Hu, L.; Qiao, W.; Han, J.*; Zhou, X.; Wang, C.; Ma, D.; Wang, Z. Y.; Li, Y. Naphthalene Diimide-Diketopyrrolopyrrole Copolymers as Non-Fullerene Acceptors for Use in Bulk-Heterojunction All-Polymer UV–NIR Photodetectors. *Polym. Chem.* **2017**, *8*, 528–536 (Accepted on November 20, 2016)
 - Quinn, J.; Patel, H.; Haider, F.; Khan, D. A.; Li, Y.* Converting a semiconducting polymer from ambipolar into n-type dominant by amine end-capping. *ChemElectroChem*, **2017**, *4*, 256–260 (accepted on November 8, 2016)
 - Yao, C.; Carlisi, C.; Li, Y.; Chen, D.; Ding, J.; Feng, Y.-L. Interaction potency of single-walled carbon nanotubes with DNAs: a novel assay for assessment of hazard risk. *PLOS ONE*, **2016**, DOI:10.1371/journal.pone.0167796 (Accepted on November 22, 2016)
 - Chow, M. J.; Sun, B.; He, Y.; Payne, M.; Anthony, J. E.; Li, Y.; Levine, P. M.; Wong, W. S. Transistor Sizing for Bias-Stress Instability Compensation in Inkjet-Printed Organic Complementary Inverters. *IEEE Electron Device Lett.* **2016**, *37*, 1438 – 1441.
 - Quinn, J.; He, Y.; Khan, D. A.; Rasmussen, J.; Patel, H.; Haider, F.; Kapadia, W.; Li, Y. Synthesis, characterization, and air stability study of pyrimido[4,5-g]quinazoline-4,9-dione-based polymers for organic thin-film transistors. *RSC Adv.* **2016**, *6*, 78477 – 78485.
 - Yang, Y.; Li, Y.; Pritzker, M. Control of Cu₂O Film Morphology Using Pulsed Electrodeposition Technique. *Electrochim. Acta* **2016**, *213*, 225-235.
 - Zhang, J.; Xiao, P.; Dumur, F.; Guo, G.; Hong, W.; Li, Y.; Gimes, D.; Graff, B.; Fouassier, J.-P. ; Lalevée, J. A New Search towards High Performance Visible Light Photoinitiating Systems. *Macromol. Chem. Phys.* **2016**, *217*, 2145-2153.
 - Sun, B.; Hong, W.; Guo, G.; Sutti, S.; Aziz, H.; Li, Y. Utilization of hole trapping effect of aromatic amines to convert polymer semiconductor from ambipolar into n-type. *Org. Electron.* **2016**, *37*, 190-196.

- Guo, C.; Sun, B.; Quinn, J.; Li, Y. Dramatically Different Charge Transport Properties of Bisthiényl Diketopyrrolopyrrole-Bithiazole Copolymers Synthesized *via* Two Direct (Hetero)arylation Polymerization Routes. *Polym. Chem.*, **2016**, *7*, 4515-4524.
- Guo, L.; Quinn, J.; Wang, J.; Guo, C.; Li, X.; Wang, J.; Li, Y. “A fluorene-fused triphenodioxazine (FTPDO) based polymer with remarkable thermal stability and significantly enhanced charge transport performance in air” *Dyes Pigments* **2016**, *132*, 329-335.
- He, Y.; Quinn, J.; Deng, Y.; Li, Y. 3,7-Bis((*E*)-2-oxoindolin-3-ylidene)-3,7-dihydrobenzo[1,2-*b*:4,5-*b'*]dithiophene-2,6-dione (IBDT) based polymer with balanced ambipolar charge transport performance. *Org. Electron.* **2016**, *35*, 41-46.
- Deng, Y.; Sun, B.; Quinn, J.; He, Y.; Ellard, J.; Guo, C.; Li, Y. “Thiophene-*S,S*-dioxidized indophenines as high performance n-type organic semiconductors for thin film transistors” *RSC Adv.* **2016**, *6*, 45410-45418.
- Pouliot, J.-R.; Wakioka, M.; Ozawa, F.; Li, Y.; Leclerc, M. Structural analysis of poly(3-hexylthiophene) prepared via direct heteroarylation polymerization. *Macromolecular Chemistry and Physics*, **2016**, *217*, 1493–1500.
- Le Borgne, M.; Quinn, J.; Martin, J.; Stingelin, N.; Wantz, G.; Li, Y. Synthesis and properties of a novel narrow band gap oligomeric diketopyrrolopyrrole-based organic semiconductor. *Dyes and Pigments* **2016**, *131*, 160-167.
- Deng, Y.; Sun, B.; Quinn, J.; He, Y.; Ellard, J.; Guo, C.; Li, Y. Thiophene-*S,S*-dioxidized indophenine (IDTO) based donor-acceptor polymers for n-channel organic thin film transistors. *RSC Adv.* **2016**, *6*, 34849–34854.
- Quinn, J.; Guo, G.; Ko, L.; Sun, B.; He, Y.; Li, Y. “Pyrazino[2,3-*g*]quinoxaline-2,7-dione based π -conjugated polymers with affinity towards acids and semiconductor performance in organic thin film transistors”, *RSC Adv.* **2016**, *6*, 22043–22051.
- Deng, Y.; Sun, B.; He, Y.; Quinn, J.; Guo, C.; Li, Y. Thiophene-*S,S*-dioxidized Indophenine: A High Electron Affinity Quinoid-type Building Block for Constructing Low-bandgap n-Type Polymer Semiconductor. *Angew. Chem. Int. Ed. Engl.*, **2016**, *55*, 3459–3462. This article has been selected by the Editorial Board of *Synfacts* for its important insights Swager, T. M.; Zhang, Q. *Synfacts* **2016**, *12*(4), 0357).
- Qi, J.; Han, J.; Zhou, X.; Guo, C.; Yang, D.; Qiao, W.; Li, Y.; Ma, D.; Wang, Z. Y. End-Group Engineering of Low-Bandgap Compounds for High-Detectivity Solution-Processed Small-Molecule Photodetectors. *J. Phys. Chem. C* **2015**, *119*, 25243–25251.
- Quinn, J.; Guo, C.; Sun, B.; He, Y.; Jin, E.; Li, Y. Pyrimido[4,5-*g*]quinazoline-4,9-dione as a new building block for polymer semiconductors used for organic thin-film transistors. *J. Mater. Chem. C* **2015**, *3*, 11937 - 11944.
- Kozycz, L. M.; Guo, C.; Manion, J. G.; Tilley, A. J.; Lough, A. J.; Li, Y.; Seferos, D. S. Enhanced Electron Mobility in Crystalline Thionated Naphthalene Diimides. *J. Mater. Chem. C* **2015**, *3*, 11505-11515
- Guo, C.; Quinn, J.; Sun, B.; Li, Y. Regioisomeric control of charge transport polarity for indigo-based polymers. *Polymer Chemistry*, **2015**, *6*, 6998-7004.
- J103Sun, B.; Hong, W.; Aziz, H.; Li, Y. Polyethylenimine (PEI) as an effective dopant to conveniently convert ambipolar and p-type polymers into unipolar n-type polymers. *ACS Appl. Mater. Inter.*, **2015**, *7*, 18662–18671.
- Bridges, C. R.; Guo, C.; Yan, H.; Miltenburg, M.; Li, P.; Li, Y.; Seferos, D. S. Conjugated Polymers with Switchable Electronic Properties. *Macromolecules* **2015**, *48*, 5587–5595.
- He, Y.; Guo, C.; Sun, B.; Quinn, J.; Li, Y. Branched alkyl ester side chains rendering large polycyclic (3*E*,7*E*)-3,7-bis(2-oxoindolin-3-ylidene)benzo[1,2-*b*:4,5-*b'*]difuran-2,6(3*H*,7*H*)-dione (IBDF) based

- donor-acceptor polymers solution-processable for organic thin film transistors. *Polymer Chemistry*, **2015**, *6*, 6689-6697.
- Deng, Y.; Sun, B.; He, Y.; Quinn, J.; Guo, C.; Li, Y. “(3*E*,8*E*)-3,8-Bis(2-oxoindolin-3-ylidene)naphtho-[1,2-*b*:5,6-*b'*]difuran-2,7(3*H*,8*H*)-dione (INDF) based polymers for organic thin-film transistors with highly balanced ambipolar charge transport characteristics” *Chem. Commun.* **2015**, *51*, 13515-13518.
 - Murphy, Y.; Sun, B.; Hong, W.; Aziz, H.; Li, Y. “Study of vertical and lateral charge transport properties of DPP-based polymer/PC₆₁BM films using space charge limited current (SCLC) and field effect transistor methods and their influences on photovoltaic characteristics” *Aust. J. Chem.* **2015**, *68*, 1741–1749.
 - Wei, S; Zhang, Y.; Li, X.; Wu, Y.; Weng, Y.; Gao, X.; Wang, S. D.; Li, Y.; Hu, Z. “Large Modulation of Charge Transport Anisotropy by Controlling the Alignment of π - π Stacks in Diketopyrrolopyrrole-Based Polymers” *Adv. Mater. Interfaces* **2015**, *2*, 1500153.
 - Zhang, J.; Zivic, N.; Dumur, F.; Guo, C.; Li, Y. ; Xiao, P.; Graff, B.; Gimes, D.; Fouassier, J. P.; Lalevée, J. Panchromatic Photoinitiators for Radical, Cationic and Thiol-Ene Polymerization Reactions: a Search in the Diketopyrrolopyrrole or Indigo Dye Series. *Mater. Today Commun.* **2015**, *4*, 101-108.
 - Guo, C.; Quinn, J.; Sun, B.; Li, Y. Indigo-based Polymer Bearing Thermocleavable Side Chains for N-Type Organic Thin Film Transistors. *J. Mater. Chem. C* **2015**, *3*, 5226-5232.
 - He, Y.; Guo, C.; Sun, B.; Quinn, J.; Li, Y. (3*E*,7*E*)-3,7-Bis(2-oxoindolin-3-ylidene)-5,7-dihydropyrrolo[2,3-*f*]indole-2,6(1*H*,3*H*)-dione based polymers for ambipolar organic thin film transistors. *Chem. Commun.* **2015**, *51*, 8093-8096.
 - Tilley, A. J.; Guo, C.; Miltenburg, M. B.; Schon, T. B.; Yan, H.; Li, Y.; Seferos, D. S. Thionation Enhances the Electron Mobility of Perylene Diimide for High Performance n-Channel Organic Field Effect Transistors. *Adv. Funct. Mater.* **2015**, *25*, 3321-3329.
 - Hong, W.; Chen, S.; Sun, B.; Arnould, M.; Meng, Y.; Li, Y. Is a polymer semiconductor having a “perfect” regular structure desirable for organic thin film transistors? *Chem. Sci.* **2015**, *6*, 3225-3235.
 - Hong, W.; Guo, C.; Sun, B.; Li, Y. (3*Z*,3'*Z*)-3,3'-(Hydrazine-1,2-diylidene)bis(indolin-2-one) as a new electron-acceptor building block for donor-acceptor π -conjugated polymers for organic thin film transistors. *J. Mater. Chem. C* **2015**, *3*, 4464-4470.
 - Quinn, J.; Jin, E.; Li, Y. New synthetic route to pyrimido[4,5-*g*]quinazoline-4,9-diones. *Tetrahedron Lett.* **2015**, *56*, 2280–2282.
 - Morin, P.; Bura, T.; Sun, B.; Gorelsky, S. I.; Li, Y.; Leclerc, M. Conjugated Polymers à la Carte from Time-Controlled Direct (Hetero)Arylation Polymerization. *ACS Macro Lett.* **2015**, *4*, 21-24.
 - Pouliot, J. R.; Sun, B.; Leduc, M.; Najari, A.; Li, Y.; Leclerc, M. A high mobility DPP-based polymer obtained via direct (hetero)arylation polymerization. *Polym. Chem.* **2015**, *6*, 278-282 (Accepted on 15 September 2014).
 - Sun, B.; Hong, W.; Aziz, H.; Li, Y. A pyridine-flanked diketopyrrolopyrrole (DPP)-based donor-acceptor polymer showing high mobility in ambipolar and n-channel organic thin film transistors. *Polym. Chem.* **2015**, *6*, 938-945.
 - Sun, B.; Hong, W.; Thibau, E.; Aziz, H.; Lu, Z. H.; Li, Y. Facile conversion of ambipolar and p-type polymers into unipolar n-type polymers in organic thin film transistors using polyethyleneimine (PEI)-modified electrodes. *Org. Electron.*, **2014**, *15*, pp. 3787-3794.
 - He, Y.; Hong, W.; Li, Y. New building blocks for π -conjugated polymer semiconductors for organic thin film transistors and photovoltaics. *J. Mater. Chem. C* **2014**, *2*, 8651-8661 (Accepted on 24 August 2014)
 - Yang, Y.; Li, Y.; Pritzker, M. Morphological Evolution of Anodic TiO₂ Nanotubes, *RSC Adv.*, **2014**, *4* (68), 35833 - 35843 (Accepted 07 Aug 2014)
 - Yan, Z.; Sun, B.; Guo, C.; Li, Y. Synthesis and properties of azothiazole based π -conjugated polymers. *J. Mater. Chem. C*, **2014**, *2*, 7096-7103 (accepted on 26 Jun 2014).

- Guo, C.; Sun, B.; Li, Y. Synthesis and Properties of Pyrrolo[3,4-*c*]pyrrole-1,3-dione Based Polymer Semiconductors and Their Performance in Organic Thin Film Transistors. *Polym. Chem.*, **2014**, *5*, 5247-5254 (Accepted 23 May **2014**).
- Chen, S.; Sun, B.; Guo, C.; Hong, W.; Meng, Y.; Li, Y. 3,3'-*(Ethane-1, 2-diylidene)bis(indolin-2-one)* Based Conjugated Polymers for Organic Thin Film Transistors. *Chem. Commun.* **2014**, *50*, 6509-6512.
- Guo, C.; Sun, B.; Yan, Z.; Li, Y. Synthesis and Properties of Indigo Based Donor-acceptor Conjugated Polymers. *J. Mater. Chem. C* **2014**, *2*, 4289-4296.
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- Xiao, Pu ; Hong, W.; Li, Y. ; Dumur, F. ; Graff, B. ; Fouassier, J. P. ; Gigmes, D. ; Lalevée, J. Diketopyrrolopyrrole Dyes: Structure/Reactivity/Efficiency Relationship in Photoinitiating Systems upon Visible Lights. *Polymer*, **2014**, *55*, 746-751.
- Chen, S.; Sun, B.; Hong, W.; Aziz, H.; Meng, Y.; Li, Y. Influences of Side Chain Length and Bifurcation Point on Crystalline Structure and Charge Transport of Diketopyrrolopyrrole-Quaterthiophene Copolymers (PDQTs). *J. Mat. Chem. C* **2014**, *2*, 2183-2190.
- Xiao, P. ; Hong, W.; Li, Y. ; Dumur, F. ; Graff, B. ; Fouassier, J. P. ; Gigmes, D. ; Lalevée, J. Green Light Sensitive Diketopyrrolopyrrole Derivatives Used in Versatile Photoinitiating Systems for Photopolymerizations. *Polym. Chem.* **2014**, *5*, 2293-2300.
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- Murphy, L.; Hong, W.; Aziz, H.; Li, Y. Influences of Using a High Mobility Donor Polymer on Solar Cell Performance. *Organic Electronics* **2013**, *14*, 3484-3492.
- Hong, W.; Guo, C.; Sun, B.; Yan, Z.; Huang, C.; Hu, Y.; Zheng, Y.; Facchetti, A.; Li, Y. Cyano-disubstituted Dipyrrrolopyrazinedione (CNPzDP) Small Molecules for Solution Processed N-channel Organic Thin-film Transistors. *J. Mater. Chem. C* **2013**, *1*, 5624-5627.
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- Lu, S.; Drees, M.; Yao, Y.; Boudinet, D.; Yan, H.; Pan, P.; Wang, J.; Li, Y.; Usta, H.; Facchetti, A. 3,6-Dithiophen-2-yl-diketopyrrolo[3,2-*b*]pyrrole (isoDPPT) as an Acceptor Building Block for Organic Opto-Electronics. *Macromolecules* **2013**, *46*, 3895-3906.
- Li, Y.; Sonar, P.; Murphy, L.; Hong, W. High mobility Diketopyrrolopyrrole (DPP)-based Organic Semiconductor Materials for Organic Thin Film Transistors and Photovoltaics. *Energy Environ. Sci.* **2013**, *6*, 1684-1710.
- Murphy, L.; Hong, W.; Aziz, H.; Li, Y. Organic Photovoltaics with Thick Active Layers (~800 nm) Using a High Mobility Polymer Donor. *Sol. Energy Mater. Sol. Cells* **2013**, *114*, 71-81.
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- Hong, W.; Sun, B.; Guo, C.; Yuen, J.; Li, Y.; Lu, S.; Huang, H.; Facchetti, A. Dipyrrrolo[2,3-*b*:2',3'-*e*]pyrazine-2,6(1*H*,5*H*)-dione Based Conjugated Polymers for Ambipolar Organic Thin-film Transistors. *Chem. Commun.* **2013**, *49*, 484-486.
- Jiang, C.; Koh, W. L.; Leung, M. Y.; Hong, W.; Li, Y.; Zhang, J. Influences of Alcoholic Solvents on Spray Pyrolysis Deposition of TiO₂ Blocking Layer Films for Solid-state Dye-sensitized Solar Cells. *J. Solid State Chem.* **2013**, *198*, 197-202.

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