

# RAVTE RESOURCES

## **Curriculum Vitae**



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#### **Education Background:**

• 1998 Ph.D. (Molecular Chemistry) Osaka University Japan

• 1995 M. Eng. (Applied Chemistry) Osaka University Japan

1984 B.Sc. (Chemistry) ChiangMai University Thailand

#### **Expertise** / Research Areas (identified by keywords):

- September 1991 December 1991; Training in Polymer Materials and Technology at Plastic Engineering Department, Osaka Municipal Technical Research Institute, Osaka, JAPAN.
- January 1993 March 1993; Research student in Professor Masakatsu Nomura Laboratory,
   Department of Applied Chemistry, Faculty of Engineering, Osaka University, Suita, Osaka,
   JAPAN.
- April 1993 March 1995; Master of Engineering in Department of Applied Chemistry, Faculty of Engineering, Osaka University, Suita, Osaka, JAPAN
- April 1995 March 1998; Ph.D. in Engineering in Department of Molecular Chemistry,
   Faculty of Engineering, Osaka University, Suita, Osaka, JAPAN.
- Dissertation: Studies on Substitution Reactions of Aromatic Compounds Catalyzed or Promoted by Metal Salts
- May 1999 August 1999; STA Post-Doctoral Research Fellowship in Department of Organic Materials, Osaka National Research Institute, AIST, Ministry of International Trade and Industry, JAPAN.
- Research Themes: Synthesis and Characterization of Biodegradable Polymers and the Polymer Recycle.
- August 1999 March 2000; NEDO Post-Doctoral Research Fellowship in Department of Organic Materials, Osaka National Research Institute, AIST, Ministry of International Trade and Industry, JAPAN.
- Research Themes: Synthesis and Characterization of Molecular Imprinting
- April 2000 March 2001; ITIT Invitation Professor Fellowship Program in Department of Organic Materials, Osaka National Research Institute, AIST, Ministry of International Trade and Industry, JAPAN.
- Research Themes: Synthesis and Characterization of Biodegradable Polymers and the Polymer Recycle.
- January 2002 February 2003; Alexander von Humboldt Research Fellow in Department of Organic Chemistry, Bochum University, Bochum, GERMANY.
- Research Themes: Synthesis of Nanosized pi-Conjugated Compounds

### **Expertise** / Research Areas (identified by keywords):

- January 2005 March 2005; Visiting Professor at Institute of Advanced Energy, Kyoto
   University, Kyoto, JAPAN.
- Research Themes: Synthesis and Characterization of Composite Nano-structures for Photoelectrochemical Functional Materials
- April 1986 Present; Lecturer in Department of Materials and Metallurgical Engineering,
   Faculty of Engineering, Rajamangala University of Technology Thanyaburi, Ministry of Education, THAILAND.
- Research Themes: Synthesis and Characterization of Biodegradable Polymers and the Polymer Recycle.
- June 2001 Present; Associate Dean of Faculty of Engineering, Research and Development Division, Rajamangala University of Technology Thanyaburi, Ministry of Education, THAILAND.
- October 2005 2006; Director of Institute of Research and Development, Rajamangala
   University of Technology Thanyaburi, Ministry of Education, THAILAND.
- February 2006 2010; Dean of Faculty of Science and Technology, Rajamangala University of Technology Thanyaburi, Ministry of Education, THAILAND.
- February 2010 2013; Dean of Faculty of Engineering, Rajamangala University of Technology
   Thanyaburi, Ministry of Education, THAILAND.
- February 2013 2019; Vice President, Rajamangala University of Technology Thanyaburi,
   Ministry of Education, THAILAND.
- January 2020 present: President, Rajamangala University of Technology Thanyaburi,
   Ministry of Education, THAILAND.

#### Engagement (networks):

- Universiti Sultan Zainal Abidin, Malaysia
- Ho Chi Minh University of Technology and Education, Vietnam
- National Institute of Technology, Gifu College, Japan

#### Engagement (networks):

- National Pingtung University of Science and Technology, Taiwan
- Organic Scientific LLC., United states of America
- Food Technology, Denmark Technology Institute, Denmark
- School of Engineering, Utsunomiya University, Japan

#### Publications:

#### Conference

- 1. **Pivsa-Art, S**, Hiroyuki H. (2004): "Preparation of Polymer Blend between Polycarbonate and Polycarbonate Oligomer" Japan Society of Polymer Processing Symposium, November 23-24, 2004, Kyoto University, Kasura Campus, Japan.
- 2. Munmung, W., **Pivsa-Art, S.**, Yoshikawa, S., Muchjiajib, S. (2005): "Synthesis and Characterization of Hydroxyapatite / Poly-L-Lactide Composite Biomaterials" The 3<sup>rd</sup> Eco-Energy and Materials Science and Engineering Symposium (EMSES), April 6-9, 2005, Lotus Phang San Kaew, Chiangmai, Thailand.
- 3. Pivsa-Art, W. and **Pivsa-Art, S.**, "Preparation and Characterization of Solution Cast PVA/Copolyester Blended Films" The 5<sup>th</sup> Eco-Energy and Materials Science and Engineering Symposium (EMSES), November 21-24, 2007, Asia Pattaya Hotel, Pattaya, Thailand.
- 4. Pivsa-Art, W., Seetha, A., Meetum, J., Chaikee, C., **Pivsa-Art, S.** (2008): "Study of Extraction of Phorbol Ester from Jatropha Oil" The 6<sup>th</sup> Eco-Energy and Materials Science and Engineering Symposium (EMSES), May 25-27, 2008, Kyoto University Clock Tower Centennial Hall, Kyoto, Japan.
- 5. Pivsa-Art, W., Saesin, D., Mongkonporn, C., Pollao, P., and **Pivsa-Art, S.,** "Production Oil from Plastics Waste", Seminar Document of the 2<sup>nd</sup> Conference on Technology Transfer of Construction Materials, Environment and Preserving the Energy by Mean of Self-Sufficiency Economic, July 28-30, 2008, Rajamangala University of Technology Thanyaburi, Thailand.
- 6. Pivsa-Art, W., Saesin, D., Mongkonporn, C., Pollao, P., and **Pivsa-Art, S.**, "Pyrolysis of Polyethylene and Polypropylene Packaging Wastes" 5<sup>th</sup> International Conference on

"Combustion, Incineration/Pyrolysis and Emission Control (i-CIPEC 2008), December 16-

19, 2008, Chiang Mai, Thailand.

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- 7. W. Pivsa-Art, A. Keryindee, N. Kasemsook, U. Sagat and S. Pivsa-Art., Preparation of Polymer Blends between Poly(3-hydroxybutyrate), (PHB) and Poly(butylene succinate), (PBS) for Bioplastic Industrial Applications" 7th Eco-Energy and Materials Science and Engineering Symposium, November 17-20, 2009, Holiday Inn Chiang Mai Hotel, Chiang Mai, Thailand.
- 8. Weraporn Pivsa-Art, Sommai Pivsa-Art, Vitchayut Asavapakuna, Arun Phukringsri and Nongyao Khuanpech. "Preparation of non-PVC Materials for Synthetic Leathers Industry". Thailand Research Symposium 2009, 26-30 August 2009, Bangkok Convention Center central world, Ratchaprasong, Bangkok, Thailand.
- 9. Sommai Pivsa-Art, Weraporn Pivsa-Art, Pisan Janpra-ob. "Development of Polymer Blends for Hard-Type Sport Shoes Bases Industry". Thailand Research Symposium 2009, 26-30 August 2009, Bangkok Convention Center central world, Ratchaprasong, Bangkok, Thailand.
- 10. **Sommai Pivsa-Art**, Weraporn Pivsa-Art, Nattacha Phetyim, Jumlong Srisompong, Sarawoot Manoharn and Sinenad Jumnongphol. "Production 0f Fuel Oil from Computer Keyboard Wastes" The 1st National Energy Congress, 18-19 February 2010, Bangkok International Trade and Exhibition Centre, Bangna, Thailand.
- 11. **Sommai Pivsa-Art,** Nungluthai Suddai, Jintana Khumpradit, Auyporn Buakaw and Weraporn Pivsa-Art. (2010): "Development of Polymer Blends of Poly(lactic acid) and Poly(3-hydroxybutyrate) using Polyethylene Glycol as Coupling Agent for packaging applications" The 8<sup>th</sup> Eco-Energy and Materials Science and Engineering Symposium (EMSES), August 19-21, 2010, Obaku Plaza, Uji, Kyoto, Japan.
- 12. **Sommai Pivsa-Art**, Chantip Chamnontip, Montip Losuriyon, Amnoy Lapkasamsuk, Weraporn Pivsa-Art, and Sigto Sakulkamruthai. "Synthesis of Biodegradable Plastics Polylactic Acid by Direct Condensation Polymerization". Thailand Research Symposium 2010, 26-30 August 2010, Bangkok Convention Center central world, Ratchaprasong, Bangkok, Thailand.
- 13. Sommai Pivsa-Art, Jaradsri Khowong, Wanlapa Fungfuang, Supatra Chitarak and Weraporn Pivsa-Art. "Development of Thermal Stability of Non-PVC Materials from Natural Rubber Latex in Dip-Molding Process". 2<sup>nd</sup> Rajamangala University of Technology Thanyaburi International Conference (2 <sup>nd</sup> RMUTIC), 24-26 November 2010, Convention Center, Chulabhorn Research Institute, Bangkok, Thailand.

- 14. Weraporn Pivsa-Art, Amorn Chaiyasat, **Sommai Pivsa-Art**, Hideki Yamane and Hitomi Ohara. Preparation of Polymer Blends Between Poly(lactic acid) and Poly(butylene adipate-co-terephthalate) and Biodegradable Polymers as Compatibilizers. **10th Eco-Energy and Materials Science and Engineering** Symposium, Ubon ratchathani, Thailand, December 5-8. 2012.
- 15. **Sommai Pivsa-Art**, Supaphorn Thumsorn, Sorapong Pavasupree, Narongchai O-Charoen, Weraporn Pivsa-Art, Hideki Yamane and Hitomi Ohara. Effect of Additive on Crystallization and Mechanical Properties of Polymer Blends of Poly(lactic acid) and Poly[(butylene succinate)-co-adipate]. **10th Eco-Energy and Materials Science and Engineering** Symposium, Ubon ratchathani, Thailand, December 5-8. 2012.
- 16. Sumonman Niamlang, Weraporn Pivsa-Art, Nutchapon Santipatee, Supawat Watcharasuwanseree, Tossamon Wongbong and **Sommai Pivsa-Art**. Kinetic Study of Poly(L-lactic acid) Pre-polymers Synthesis in a 2-Steps Direct Polycondensation Process. 10th Eco-Energy and Materials Science and Engineering Symposium, Ubon ratchathani, Thailand, December 5-8. 2012.
- 17. Rutchaneekorn Wongpajan, Weraporn Pivsa-Art, Thikanda Tong-ngok, Supansa Junngam, **Sommai Pivsa-Art**, Hideki Yamane and Hitomi Ohara. Synthesis of Poly(D-lactic acid) Using a 2-Steps Direct Polycondensation Process. **10th Eco-Energy and Materials Science and Engineering** Symposium, Ubon ratchathani, Thailand, December 5-8. 2012.
- 18. S. Pivsa-Art, S. Mathurosemontri, R. Wongpajan and S. Thumsorn. PREPARATION OF COMPOSITES OF POLY(LACTIC ACID) AND POLY(BUTYLENE SUCCINATE-CO-ADIPATE) REINFORCED WITH JUTE FIBRE. 28 th Proceedings of the Polymer Processing Society, December 11-15, 2012, Pattaya (Thailand).
- 19. Weraporn Pivsa-Art, Supaphorn Thumsorn, **Sommai Pivsa-Art**, Juraiwan Ratanapisit. Mechanical Properties and Crystallization of Talc Filled Poly(lactic acid)/Poly(butylenes succinate) Blend Composites. Antec 2013, Conference and Tradeshow, April 21-24, Duke Energy Convention Center, Cincinnati, Ohio, U.S.A.
- 20. **Sommai Pivsa- Art.** Effect of Poly( Butylene Adipate- Co- Terephthalate) Contents on Crystallization and Mechanical Properties of Polymer Blends of Poly(Lactic Acid) and Poly[(Butylene Succinate) Co- Adipate]. Antec 2013, Conference and Tradeshow, April 21- 24, Duke Energy Convention Center, Cincinnati, Ohio, U.S.A.
- 21. **Sommai Pivsa-Art**. Preparation and Biodegradability Study of Polymer Blends of Poly(Lactic Acid) and Poly[(R)-3-Hydroxybutylate-co-(R)- 3-Hydroxyvaleratate]. Antec 2013, Conference and Tradeshow, April 21-24, Duke Energy Convention Center, Cincinnati, Ohio, U.S.A.

- 22. **Sommai Pivsa- Art**, Sutthiphon Thanabat, Gidsadakorn Phasuk and Tatree Bumrungsuk. Improvement of Thermal Stability of Plastisol Dip Molding Products. Antec 2014, April 28-30, Rio All-Suites Hotel, Las Vegas, U.S.A.
- 23. Sommai Pivsa-Art, Sumonman Niamlang, Weraporn Pivsa-Art, Nutchapon Santipatee, Tossamon Wongborh, Sorapong Pavasupree, Kiyoaki Ishimoto, Hitomi Ohara. Scale-Up of Polymerization Process of Biodegradable Polymer Poly (lactic acid) Synthesis Using Direct Polycondensation Method. International Symposium on the Fusion Technologies 2014 (ISFT2014) Jeonju, S. KOREA 30 July-3 August, 2014
- 24. **Sommai Pivsa-Art**, Jutamas Kord-Sa-Ard, Wanida Sijong, Weraporn Pivsa-Art, Hitomi Ohara, and Hideki Yamane. Biodegradation of Micro-braided Yarn in Landfilled. *12<sup>th</sup>* Eco-Energy and Materials Science and Engineering Symposium, Krabi, Thailand, June 11-14, 2015.
- 25. Weraporn Pivsa-Art, Sumonman Nuangrang, **Sommai Pivsa-Art**, Rinlada Sirisangsawang. Synthesis of Stereocomplex Poly(lactic acid) From L- and D-Lactic Acid Oligomers. *12<sup>th</sup>* Eco-Energy and Materials Science and Engineering Symposium, Krabi, Thailand, June 11-14, 2015.
- 26. **Sommai Pivsa-Art**, Jutamas Kord-Sa-Ard, Weraporn Pivsa-Art, Rutchaneekorn Wongpajan, Hitomi Ohara, and Hideki Yamane. Effect of Compatibilizer on PLA/PP Dry Blend for Injection Molding. *12<sup>th</sup>* **Eco-Energy and Materials Science and Engineering** Symposium, Krabi, Thailand, June 11-14, 2015. 27. **Sommai PIVSA-ART**, Nichanan PHANSROY, Hitomi OHARA. Biodegradable Copolyesteramides of L-Lactic Acid and **&**-Caprolactam Oligomers. 5th International Conference on Bio-based Polymers (ICBP2015), June 24 27, 2015, Singapore.
- 28. **Sommai Pivsa- Art**, Supakij Suttiruengwong. Development of Biobased and Biodegradable Polymers for Packaging in Thailand. International Packaging Seminar 2015, Tokyo University, Tokyo, Japan, July 1-3, 2015.
- 29. Sommai Pivsa-Art, Natee Srisawat, Rinlada Sirisangsawang and Weraporn Pivsa-Art.

Biodegradable Composite Braided Yarn Reinforced With Natural Fibers. Thailand Research Expo 2015, Centara Grand & Bangkok Convention Centre at Central World, Bangkok, Thailand, August 16 to 20, 2015.

- 30. **Sommai Pivsa- Art**, Narongchai O- Charoen, Sorapong Pavasupree, Weraporn Pivsa- Art, Rutchaneekorn Wongpajan and Jutamas Kord-Sa-Ard. Cosmetic Packaging from Poly (lactic acid) and Polypropylene Using Injection Molding Process. Thailand Research Expo 2015, Centara Grand & Bangkok Convention Centre at Central World, Bangkok, Thailand, August 16 to 20, 2015.
- 31. **S. Pivsa-Art**, W. Pivsa-Art, H. Yamane and H. Ohara. Biodegradable Polymer Composite of Poly(lactic acid) blends and Natural Fibers. Asian Workshop on Polymer Processing 2015 (AWPP2015), NUS University Town™ (UTown®), National University of Singapore (NUS), 1-4 December 2015.
- 32. Prapudsorn Wannid, Weraporn Pivsa-Art, Nanjaporn Roungpaisan, Natee Srisawad, Takanori Negoro and **Sommai Pivsa-Art**. Effect of PEG plasticizer on PLA nonwoven. 13th Eco-Energy and Materials Science and Engineering Symposium, Udonthani, Thailand, 1-4 December 2016.
- 33. Atitiya Wongkorn, Weraporn Pivsa-Art, Nanjaporn Roungpaisan, Suchalinee Mathurosemontri, Toshikazu Umemura, Hiroyuki Hamada and **Sommai Pivsa-Art**. Effect of Oxyethylene co-Monomer on POM/PLA Multifilament. 13th Eco-Energy and Materials Science and Engineering Symposium, Udonthani, Thailand, 1-4 December 2016.
- 34. Atitiya Wongkorn, Weraporn Pivsa-Art, Nanjaporn Roungpaisan, Toshikazu Umemura, Hiroyuki Hamada and **Sommai Pivsa-Art**. Biodegradable POM/PLA Multifilament for Fishing String. 1st International Symposium on Application of High-voltage, Plasmas & Micro/Nano Bubbles to Agriculture and Aquaculture (ISHPMNB 2017), 5-6 January 2017.
- 35. Weraporn Pivsa-Art, Narayut Thitawiriyo, Chitaya Watsing, Chaipipat Muanmuang, Kraiwit Sopromin, Komsan Sunyikhan, Prapudsorn Wannid, Atitiya Wongkorn and **Sommai Pivsa-Art**. Determination of Formaldehyde Content in Vegetable and Squid. 1st International Symposium on Application of High-voltage, Plasmas & Micro/Nano Bubbles to Agriculture and Aquaculture (ISHPMNB 2017), 5-6 January 2017.
- 36. Prapudsorn Wannid, Weraporn Pivsa-Art, Natee Srisawad, Takanori Negoro and **Sommai Pivsa-Art**. The Secondary Backing Part of Green Carpet from PLA Nonwoven. International Polymer Conference of Thailand (PCT-7), Amari Watergate Hotel, Bangkok, Thailand, June 1 2, 2017.
- 37. Komson Sunyikhan, Nanjaporn Roungpaisan, Natee Srisawad, Takanori Nagoro, **Sommai Pivsa-Art**, Weraporn Pivsa-Art. Effect of Winding Speed on Property of Recycled Poly(ethylene Terephthalate) (RPET) Fiber. International Polymer Conference of Thailand (PCT-7), Amari Watergate Hotel, Bangkok, Thailand, June 1 2, 2017.

- 38. Atitiya Wongkorn, Weraporn Pivsa-Art, Nanjaporn Roungpaisan, Suchalinee Mathurosemontri, Toshikazu Umemura, Hiroyuki Hamada and **Sommai Pivsa-Art**. Effect of PLA Grade and Tensile Test Methods on Tensile Property POM/PLA Multifilament. International Polymer Conference of Thailand (PCT-7), Amari Watergate Hotel, Bangkok, Thailand, June 1 2, 2017.
- 39. Prapudsorn Wannid, Weraporn Pivsa-Art, Nanjaporn Roungpaisan, Takanori Negoro and **Sommai Pivsa-Art**. Effect of Air Jet Pressure on Carpet Backing Fabrication Process. IE Network Conference 2017, The Empress Hotel, Chiang Mai, July 12-15, 2017, p. 689-695.
- 40. Atitiya Wongkorn, Weraporn Pivsa-Art, Nanjaporn Roungpaisan, Suchalinee Mathurosemontri, Toshikazu Umemura, Masaki Nagata and **Sommai Pivsa-Art.** Melt Spinning Process of Polymer Blend of Polyoxymethylene and Poly(lactic acid). IE Network Conference 2017, The Empress Hotel, Chiang Mai, July 12-15, 2017, p. 689-695, p. 604-608.
- 41. Prapadsorn Wannid, Weraporn Pivsa-Art, Takanori Negoro, **Sommai Pivsa-Art.** Microfiber Nonwoven for Carpet Part from Poly(lactic acid) Using Cotton Candy Process. 14th Eco-Energy and Materials Science and Engineering Symposium, Kyoto, Japan, April 03-06, 2018.
- 42. Weraporn Pivsa-Art, Chaiyapop Siraworakun, **Sommai Pivsa-Art.** Improvement of Water Cooling System for Oil in Water Cosmetic Cream Production Process. 14th Eco-Energy and Materials Science and Engineering Symposium, Kyoto, Japan, April 03-06, 2018.
- 43. Weraporn Pivsa-Art, **Sommai Pivsa-Art**. Biocomposites of Poly(lactic acid)/Poly(butylene succinate) Reinforced With Kenaf. 14th Eco-Energy and Materials Science and Engineering Symposium, Kyoto, Japan, April 03-06, 2018.
- 44. Prapadsorn Wannid, Weraporn Pivsa-Art, Takanori Negoro, **Sommai Pivsa-Art.** Green Carpet from Biodegradable Polymer. The 5th Packaging & Materials Innovation Symposium (PMIS) 2018, Faculty of Engineering, Kasetsart University, May 3 4, 2018.
- 45. Atitiya Wongkorn, Weraporn Pivsa-Art, Toshikazu Umemura, Masaki Nagata and **Sommai Pivsa-Art**. Effect of Lubricant on POM/PLA Multifilament. The 5th Packaging & Materials Innovation Symposium (PMIS) 2018, Faculty of Engineering, Kasetsart University, May 3 4, 2018.

- 46. Nattathaporn Wongtawon, Nattapon Yingsakda, Panuchit Samart, **Sommai Pivsa-Art** and Weraporn Pivsa-Art. Effect of Poly(ethylene glycol) on Polymer Blends of Polyoxymethylene and Poly(lactic acid). The 5th Packaging & Materials Innovation Symposium (PMIS) 2018, Faculty of Engineering, Kasetsart University, May 3 4, 2018.
- 47. Komson Sunyikhan, **Sommai Pivsa-Art,** Takanori Negoro, and Weraporn Pivsa-Art. Bicomponent Fiber of Recycled Poly(ethylene terephthalate) / Nano Titanium Dioxide. The 5th Packaging & Materials Innovation Symposium (PMIS) 2018, Faculty of Engineering, Kasetsart University, May 3 4, 2018.
- 48. Weraporn Pivsa-Art, and **Sommai Pivsa-Art**. Emulsion Polymerization of Acrylonitrile monomer using potassium persulfate initiator in Micro/Nanobubble water, The 3rd international symposium on application of high-voltage, plasma and micro/nanobubble (fine bubble) to agriculture and aquaculture 9-12 May 2018 Morioka, Japan.
- 49. Saowaluk Boonyod, Weraporn Pivsa-Art, Wirachai Roynarin and **Sommai Pivsa-Art**. The Effects of Processes, Property, and Benefits of Poly(lactic acid) on Reduction of Petroleum and Energy Utilization. 14 th Conference on Energy Network of Thailand (ENETT14 th ) 13 15 June 2018, Novotel Rayong ,Thailand.
- 50. Saowaluk Boonyod, Weraporn Pivsa-Art and **Sommai Pivsa-Art**. Effects of Plastic Waste on Energy Consumption and Carbon Dioxide Emissions on the Community. 11th Thailand Renewable Energy for Community Conference (TREC-11). 28-31 November 2018, Chaiyaphum Rajabhat University ,Thailand.
- 51. Saowaluk Boonyod, Weraporn Pivsa-Art and **Sommai Pivsa-Art**. Fabrication of Poly(lactic acid) Non-wonven Fiber by Melt-blown Method for Antimicrobial Applications. Asian Workshop on Polymer Processing (AWPP). December, 10 -13, 2018, Chiangmai Grandview Hotel, Chiang Mai, Thailand, p.89.
- 52. Danu Hunskunatai, Weraporn Pivsa-Art and **Sommai Pivsa-Art**. Multi-fuctional recycled Poly(ethylene terephthalate) fiber for thermal insulation. Asian Workshop on Polymer Processing (AWPP). December, 10 -13, 2018, Chiangmai Grandview Hotel, Chiang Mai, Thailand, p.78.

- 53. Sakda Preechawattanasakul, Weraporn Pivsa-Art and **Sommai Pivsa-Art**. A study of the properties of fibers and yands from recycled rag abd residual polyester yands. Asian Workshop on Polymer Processing (AWPP). December, 10 -13, 2018, Chiangmai Grandview Hotel, Chiang Mai, Thailand, p.79.
- 54. Jakkaphat Preedawat, Supranee Potipiro, Weraporn Pivsa-Art, and **Sommai Pivsa-Art**. Air Filter from Biodegradable Plastic Produced by a Melt Jet Spinning Process. The 6Th Packaging & Materials Innovation Symposium. Faculty of Engineering, Kasetsart University, May 2 3, 2019. p. 22.
- 55. Apinya Kunchanacha, Jidapa Prangsre, Weraporn Pivsa-Art, and **Sommai Pivsa-Art**. Multifilament Fiber of Polyoxymethylene and Poly(Buthylene Succinate). The 6Th Packaging & Materials Innovation Symposium. Faculty of Engineering, Kasetsart University, May 2-3, 2019. p. 63.
- 56. Saowaluk Boonyod, Kiyoshi Yoshikawa, **Sommai Pivsa-Art** and Weraporn Pivsa-Art. Extraction of Berberine from Coscinium Fenestratum with High Oxygen Content Water. 4th International symposium on Application of High-voltage, Plasma & Micro/Nano Bubble (Fine Bubble) to Agriculture and Aquaculture (4th ISHPMNB), Ayutthaya, Thailand, May 18-21, 2019, p. 92.
- 57. Sakda Preechawattanasakul, **Weraporn Pivsa-Art**, Kiyoshi Yoshikawa and Sommai Pivsa-Art. Cotton Dyeing with Natural Indigo in Micro/nano Bubble Oxygen Water. 4th International symposium on Application of High-voltage, Plasma & Micro/Nano Bubble (Fine Bubble) to Agriculture and Aquaculture (4th ISHPMNB), Ayutthaya, Thailand, May 18-21, 2019, p. 91.
- 58. Saowaluk Boonyod, **Weraporn Pivsa-Art** and Sommai Pivsa-Art. Production of Non-Woven Fibers from Biodegradable Polymers using a Melt Jet Spinning Method. The 2nd International Conference on Applied Science, Engineering and Interdisciplinary Studies 2019 (2nd ASEIS 2019) and The 4th Prachachuen Research Network National and International Conference (4th PRNCON), July 4-5, 2019, at Victoria Meeting Room, President Building Rajamangala University of Technology Thanyaburi, Pathumthani, Thailand.
- 59. Sakda Preechawattanasakul, **Weraporn Pivsa-Art** and Sommai Pivsa-Art. Polymer composite from poly(lactic acid) and poly(butylene succinate). The 2nd International Conference on Applied Science, Engineering and Interdisciplinary Studies 2019 (2nd ASEIS 2019) and The 4th Prachachuen Research Network National and International Conference (4th PRNCON), July 4-5, 2019, at Victoria Meeting Room, President Building Rajamangala University of Technology Thanyaburi, Pathumthani, Thailand.

- 60. Danu Hunskunatai, Weraporn Pivsa-Art and **Sommai Pivsa-Art**. Multi-functional recycled poly(ethylene terephthalate) fiber for thermal insulation. The 2nd International Conference on Applied Science, Engineering and Interdisciplinary Studies 2019 (2nd ASEIS 2019) and The 4th Prachachuen Research Network National and International Conference (4th PRNCON), July 4-5, 2019, at Victoria Meeting Room, President Building Rajamangala University of Technology Thanyaburi, Pathumthani, Thailand.
- 61. Jutamas Kord-Sa-Ard, Weraporn Pivsa-Art and Sommai Pivsa-Art. Effect of Natural Fibers on Mechanical Property of Poly(lactic acid) and Polypropylene Composite. Rajamangala Manufacturing and Management Technology Conference: RMTC 2020, 3-4 September, 2020, K.P. Grand Hotel, Chanthaburi, Thailand.
- 62. Jutamas Kord-Sa-Ard, Weraporn Pivsa-Art and Sommai Pivsa-Art. Thermal Property of Poly(lactic acid)/Polypropylene/Bamboo Fiber Composite for Injection Molding Application. The 6<sup>th</sup> International Conference on Engineering, Applied Sciences and Technology (ICEAST), July 1-4, 2020 at Electrical Engineering Dept., King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand.
- 63. Attiya Wongkorn, Weraporn Pivsa-Art and Sommai Pivsa-Art. Biodegradation of POM/PLA Multifilament in Sea Water. The 6<sup>th</sup> International Conference on Engineering, Applied Sciences and Technology (ICEAST), July 1-4, 2020 at Electrical Engineering Dept., King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand.
- 64. Piyakamon Thongtang, Sommai Pivsa-Art, Weraporn Pivsa-Art. POLY(BUTYLENE SUCCINATE)
  BIOCOMPOSITE MATERIAL REINFORCED WITH CELLULOSE MICROFIBERS FROM PALM BUNCH
  PRODUCED BY A HYDROTHERMAL PROCESS. The 5th International Conference on Smart Materials
  and Nanotechnology (SmartMat@2020), 1st-4thDecember 2020, Nongnooch Garden, Pattaya,
  Thailand.
- 65. Tanadech Chinsaard, Weraporn Pivsa-Art, Sommai Pivsa-Art. A MELT JET SPINNING PROCESS OF POLY (BUTYLENE SUCCINATE) FOR AIR CONDITIONER FILTER. The 5th International Conference on Smart Materials and Nanotechnology (SmartMat@2020), 1st-4thDecember 2020, Nongnooch Garden, Pattaya, Thailand.

#### Journal

- 1. S. Pivsa-Art, K. Okuro, M. Miura, S. Murata, and M. Nomura, "Acylation of 2-Methoxynaphthalene with Acyl Chlorides in the Presence of a Catalytic Amount of Lewis Acids", J. Chem. Soc., Perkin Trans. 1,1703-1707 (1994).
- 2. S. Pivsa-Art, Y. Fukui, M. Miura, and M. Nomura, "Copper-Promoted Reaction of Aryl Iodides with Activated Methine Compounds", Bull. Chem. Soc. Jpn., 69, 2039-2042 (1996).
- 3. S. Pivsa-Art, T. Satoh, M. Miura, and M. Nomura, "Palladium-Catalyzed Reaction of Aryl Bromides with Dialkylacetylenes to Produce Allenic Compounds", Chem. Lett., 823-824 (1997).
- 4. S. Pivsa-Art, T. Satoh, Y. Kawamura, M. Miura, and M. Nomura, "Palladium-Catalyzed Arylation of Azole Compounds with Aryl Halides in the Presence of Alkali Metal Carbonates and the Use of Copper Iodide in the Reaction", Bull. Chem. Soc. Jpn., 71, 467-473 (1998)
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| 2008           |  |
|----------------|--|
| Funding agency | National Metal and Materials Technology Center                             |
|                | National Science and Technology Development Agency: NSTDA - Thailand       |
| Project name   | Preparation of Poly(lactic acid) and (Poly[(R)-3-hydroxybutyrate-co-(R)-3- |
|                | hydroxyvalerate] (PHBV) blends for Textile Industrials                     |
| Amount         | 1,480,000 baht   |

| 2009           |  |
|----------------|--|
| Funding agency | National Metal and Materials Technology Center                                 |
|                | National Science and Technology Development Agency: NSTDA - Thailand           |
| Project name   | Synthesis of Biodegradable Plastics from Polymer Blends between                |
|                | Polyamide-4 and Poly(trimethylene terephthalate)                               |
| Amount         | 600,000 baht   |
| Funding agency | National Research Council of Thailand  |
| Project name   | Production of Biodegradable Plastics Poly(I-lactic acid) for Plastics Industry |
|                | in Thailand  |
| Amount         | 1,500,000 baht   |
| Funding agency | National Innovation Agency (NIA), Thailand                                     |
| Project name   | Preparation of Poly(D-lactic acid) from D-Lactic acid using Direct-            |
|                | Condensation Polymerization Process  |
| Amount         | 500,000 baht   |
| Funding agency | National Innovation Agency (NIA), Thailand                                     |
| Project name   | Separation of D,L-lactic acid by Membrane Process                              |
| Amount         | 1,149,586 บาท  |
| Funding agency | National Innovation Agency (NIA), Thailand                                     |
| Project name   | Synthesis of a Pilot Scale Poly(lactic acid) by Direct Condensation            |
|                | Polymerization of Lactic Acid  |
| Amount         | 4,282,176 baht   |
| Funding agency | National Innovation Agency (NIA), Thailand                                     |
| Project name   | Preparation of Polymer Blends between Poly (L-lactic acid) and Poly(butylene-  |
|                | succinate-co-adipate) for Blow Film Industrial Application                     |
| Amount         | 1,000,000 baht   |

| <u>2010</u>    |  |
|----------------|--|
| Funding agency | National Metal and Materials Technology Center                               |
|                | National Science and Technology Development Agency: NSTDA - Thailand         |
| Project name   | Preparation of Composite Materials between Natural Fibers and Polymer Blends |
|                | of Poly(lactic acid) (PLA) and Poly(butylene succinate-co-adipate) (PBSA)    |
| Amount         | 642,000 baht   |
| 2012           |  |
| Funding agency | National Research Council of Thailand  |
| Project name   | Preparation of Copolyesteramides Biodegradable Polymer from Lactic Acid      |
| Amount         | and Polyamide Monomers for Packaging Films 462,000 baht                      |
| <u>2016</u>    |  |
| Funding agency | Thailand Science Research and Innovation (TSRI)                              |
|                | Research and Researchers for Industries                                      |
| Project name   | Carpet Backing from Biodegradable Plastics Prepared by Cotton Candy          |
|                | Process  |
| Amount         | 500,000 baht   |
| 2017           |  |
| Funding agency | Thailand Science Research and Innovation (TSRI)                              |
| Project name   | Development of area based system management by using innovation:             |
|                | Optimization of waste management and create value-added products in area     |
|                | based of Pathumthani Provinces   |
| Amount         | 5,000,000 baht   |
| Funding agency | Thailand Science Research and Innovation (TSRI)                              |
|                | Research and Researchers for Industries                                      |
| Project name   | Multifilament Strings from Polyoxymethylene (POM) and Poly(lactic acid)      |
|                | (PLA) Blends   |
| Amount         | 500,000 baht   |

| 2017           |  |
|----------------|--|
| Funding agency | Thailand Science Research and Innovation (TSRI)  |
| Project name   | Research and Researchers for Industries  Development of multi-functional polyester fibers for thermal insulation application |
| Amount         | 500,000 baht   |
| 2019           |  |
| Funding agency | Biodiversity-based Economy Development Office (Public Organization),   |
|                | BEDO   |
| Project name   | Conversion of Biodegradable Plastics mixed with biomass waste  |
| Amount         | 1,500,000 baht   |