CURRICULUM VITAE

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ACADEMIC BACKGROUND

2010-Present	Professor, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
2007-2010	Associate Professor, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
2005-2007	Assistant Professor, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
2003-2005	Lecturer, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
2000-2003	Ph.D. chemical engineering, Imperial College London
1999-2000	M.Sc. chemical engineering, Imperial College London
1995-1999	B.Eng. chemical engineering, Chulalongkorn University

MANAGEMENT ROLES

2020-present	Director, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
2017-2020	Chairperson of Energy Division, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi
2010-2017	Assistant to director, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi

RESEARCH INTERESTS

My research focuses on the study of catalytic processes for alternative and renewable fuel productions as well as biorefinery application. This involves the development of new and industrially practical heterogeneous catalysts for hydrogen-rich gas, biodiesel, biomass-to-liquid and value-added chemical production. Several reactions related to fuel syntheses (i.e., reforming, transesterification, esterification, hydrolysis/dehydration, aldol-condensation/hydrogenation) have been investigated aiming at converting local feedstock (e.g. methane, natural gas, crude palm oil, lignocellulosic biomass, and industrial-wastes) into clean fuels and high-value chemical products. The investigations include the studies of feedstock purification; catalyst synthesis; reaction activity, stability and selectivity; reaction kinetics in laboratory-scale reactors; and prototype-scale catalytic reactor design and construction.

RESEARCH HONORS AND FELLOWSHIPS

2021	● Elected Associate Fellow, Academy of Sciences, Royal Society of Thailand
2020	● TORAY Science and Technology Award
2019	● TRF Senior Research Scholar (2019-2021), Thailand Research Fund
2016	● TRF Senior Research Scholar (2016-2018), Thailand Research Fund
2015	● National Researcher Award, National Research Council of Thailand ● TRF-Thomson Reuters-OHEC Research Excellence Award ● Outstanding Research Award from Thailand Research Fund
2010	● TRF-CHE-SCOPUS Researcher Award (Engineering & Multidisciplinary Technology Category) from Elsevier Inc.

2009 ● PTIT Award from Petroleum Institute of Thailand
● Excellent Research Award from National Research Council of Thailand
● Innovation Ambassador from National Innovation Agency
2008 ● Finalist of ASEAN Young Scientist and Technologist Award from ASEAN National Committee on Science & Technology
● TRF-CHE Outstanding Mid-Career Researcher Award
2007 ● Young Scientist Award from the Foundation for the Promotion of Science and Technology under Patronage of His Majesty the King
● Outstanding Research Award from Thailand Research Fund
2005 ● TRF Outstanding New Researcher Award
● Outstanding Presentation Award from Thailand Research Fund
2000 ● Ph.D. Scholarship from Imperial College London & Rolls-Royce (UK)
1999 ● M.Sc. Scholarship from British Council (UK)

SELECTED RESEARCH PROJECTS

Researches funded by industrial section (Selected)

- Development and selection of catalyst for the steam and autothermal reforming of Thailand natural gas (PTT Co.,Ltd.)
- Development of reformer unit fueled by Thailand natural gas for 1 kW SOFC (PTT Co.,Ltd.)
- Technical and economical feasibility studies on the uses of liquefied petroleum gas and industrial-waste heavy hydrocarbon (i.e. palm fatty acid and used lubricant oil) for hydrogen production (PTT Co.,Ltd.)
- Design and construction on flexible fuel reformer for converting various feedstocks to hydrogen (PTT Co.,Ltd.)
- Study on the deactivation and regeneration of spent catalyst from ROC refinery unit (SCG Co.,Ltd.)
- Technical and economical feasibility on the development of sorbents for sulfur, mercury and water removal from natural gas (PTT Co.,Ltd.)
- Development of mathematical modeling for predicting the behavior of sorbents for mercury removal (PTT Co.,Ltd.)
- Synthesis of activated carbon-based sorbent for sulfur removal form natural gas and biogas (PTT Co.,Ltd.)
- Study on H_2S removal from form natural gas and biogas by using membrane contractor technology (PTT Co.,Ltd.)
- Methanol synthesis from vent H_2 and flue gases by simultaneous reverse water-gas shift and methanol synthesis reactions (Thai Plastic & Chemical Co.,Ltd.)
- Development of non-mercury catalyst for hydrochlorination process (Thai Plastic & Chemical Co.,Ltd.)
- Integrated hydrolysis process for TOP potential lignocellulosic agricultural by-products based on “one-for-all” pretreatment technology (National Science and Technology Development Agency & SCG Chemical)
- Development of molecular-sieve from waste coal fly ash for application as water sorbent in gasohol production (Inter Pacific Paper Co.,Ltd.)
- Development of heterogeneous catalyst for the esterification of palm fatty acid distillated for biodiesel production (Pathum Palm Oil Co.,Ltd)
- Development of technology platform for utilization of palm wastes (Pathum Palm Oil Co.,Ltd)
- Development of pilot scale system for production and purification of high-value products from palm oil derivatives (Pathum Palm Oil Co.,Ltd)
- Conversion of coconut fatty acid waste to industrial detergent and lubricant (Ampol Food Processing Co.,Ltd.)

Researches funded by governmental section (Selected)

- Design of hydrogen production unit based on the feedstock available in Thailand for application in SOFC (Thailand Research Fund)
- Development of 1 kW Solid Oxide fuel Cell fueled by ethanol (National Science and

Technology Development Agency)

- Hydrogen production from the steam reforming of crude and purified ethanol (National Science and Technology Development Agency)
- Development of high surface area perovskite-based material for application in Solid Oxide Fuel Cell (National Research Council of Thailand)
- Productions of alternative fuels including Gas-to-Liquid (GTL), Biomass-to-Liquid (BTL), Synthesis gas, and Dimethyl Ether (DME) from available feedstock in Thailand (Thailand Research Fund)
- Development of sustainable “zero-waste” biofuel production processes from local feedstock by integrating the production with by-product utilization processes (Thailand Research Fund)
- Development of “Integrative Biorefinery Platforms and Prototypes” for efficient converting of local feedstocks to biofuels and valuable chemicals (National Science and Technology Development Agency)
- Conversion of lignocellulosic biomass to liquid alkane-based fuel via catalytic multi-step aqueous-phase process (S&T Postgraduate Education and Research Development Office)
- Design and construction of prototype system for converting local lignocellulosic biomass to sugar and ethanol by the efficient combination of catalytic-thermochemical and biochemical processes (S&T Postgraduate Education and Research Development Office)

INTERNATIONAL JOURNALS/PATENTS

International Journal Publications (242 articles with more than >7300 citation)

1. Khan, M.J., Karim, Z., Charnnok, B., Poonsawat, T., Posoknistakul, P., Laosiripojana, N., Wu, K.C.W., Sakdaronnarong, C. Fabrication and Characterization of Functional Biobased Membranes from Postconsumer Cotton Fabrics and Palm Waste for the Removal of Dyes (2023) International Journal of Molecular Sciences, 24 (7), accepted
2. Laobuthee, A., Khankhuean, A., Panith, P., Veranitisagul, C., Laosiripojana, N. Ni-Fe Cocatalysts on Magnesium Silicate Supports for the Depolymerization of Kraft Lignin (2023) ACS Omega, 8 (9), pp. 8675-8682.
3. Weerasai, K., Laosiripojana, N., Imman, S., Kreetachat, T., Suriyachai, N. Reusable alkaline catalyzed organosolv pretreatment and delignification of bagasse for sugar platform biorefinery (2023) Biomass Conversion and Biorefinery, 13 (3), pp. 1751-1761.
4. Sereewatthanawut, I., Sornchamni, T., Siri-nguan, N., Laosiripojana, N., Li, K., Tongnan, V., Maneesard, P., Swadchaipong, N., Hartley, U.W. Two-steps thermochemical cycles of H2O/CO2 co-splitting over Ba0.95La0.05FeO3 (BLF) in a packed bed reactor and micro-channel reactor (2023) Reaction Kinetics, Mechanisms and Catalysis, accepted
5. Chotirotsukon, C., Jirachavala, K., Raita, M., Pongchaiphol, S., Hararak, B., Laosiripojana, N., Champreda, V. Effects of thermal and physical modification on functional properties of organosolv lignin from sugarcane bagasse and its application in cosmeceutical products (2023) Frontiers in Chemical Engineering, 5, In Press
6. Hajidariyor, T., Nuntawad, N., Somsaen, P., Prukdamrongchai, R., Cherdchoo, H., Posoknistakul, P., Khemthong, P., Wanmolee, W., Arjfuk, P., Pongchaikul, P., Laosiripojana, N., Wu, K.C.W., Sakdaronnarong, C. Cryo-Induced Cellulose-Based Nanogel from Elaeis guineensis for Antibiotic Delivery Platform (2023) International Journal of Molecular Sciences, 24 (2), art. no. 1230
7. Chotirotsukon, C., Khattab, S.M.R., Kobayashi, N., Katahira, M., Laosiripojana, N., Champreda, V., Watanabe, T. Microwave-accelerated glycerolysis of sugarcane trash using Lewis acid, AlK(SO4)2, for bioethanol production (2022) Industrial Crops and Products, 190, art. no. 115849
8. Sangjan, A., Boonsith, S., Sansanaphongpricha, K., Thinbanmai, T., Ratchahat, S., Laosiripojana, N., Wu, K.C.-W., Shin, H.S., Sakdaronnarong, C. Facile preparation of aqueous-soluble fluorescent polyethylene glycol functionalized carbon dots from palm waste by one-pot hydrothermal carbonization for colon cancer nanotheranostics (2022) Scientific Reports, 12 (1), art. no. 10550
9. Sangsiri, P., Laosiripojana, N., Laosiripojana, W., Daorattanachai, P. Activity of a Sulfonated

Carbon-Based Catalyst Derived from Organosolv Lignin toward Esterification of Stearic Acid under Near-Critical Alcohol Conditions (2022) ACS Omega, 7 (44), pp. 40025-40033.
10. Kutrakul, N., Liu, A., Ratchahat, S., Posoknistakul, P., Laosiripojana, N., Wu, K.C.-W., Sakdaronnarong, C. Highly selective catalytic conversion of raw sugar and sugarcane bagasse to lactic acid over YbCl3, ErCl3, and CeCl3 Lewis acid catalysts without alkaline in a hot-compressed water reaction system (2022) Chemical Engineering Research and Design, 187, pp. 549-569.
11. Saengsrichan, A., Khemthong, P., Wanmolee, W., Youngjan, S., Phanthasri, J., Arjfuk, P., Pongchaikul, P., Ratchahat, S., Posoknistakul, P., Laosiripojana, N., Wu, K.C.-W., Sakdaronnarong, C. Platinum/carbon dots nanocomposites from palm bunch hydrothermal synthesis as highly efficient peroxidase mimics for ultra-low H2O2 sensing platform through dual mode of colorimetric and fluorescent detection (2022) Analytica Chimica Acta, 1230, art. no. 340368
12. Owkusumsirisakul, J., Keeriang, T., Laosiripojana, N., Issro, C. Investigation on the effects of carbonization parameters on carbon material produced from durian shell (2022) Biomass Conversion and Biorefinery, 12 (10), pp. 4719-4727.
13. Pongchaiphol, S., Suriyachai, N., Hararak, B., Raita, M., Laosiripojana, N., Champreda, V. Physicochemical characteristics of organosolv lignins from different lignocellulosic agricultural wastes (2022) International Journal of Biological Macromolecules, 216, pp. 710-727.
14. Charnnok, B., Laosiripojana, N. Integrative process for rubberwood waste digestibility improvement and levulinic acid production by hydrothermal pretreatment with acid wastewater conversion process (2022) Bioresource Technology, 360, art. no. 127522
15. Sangsiri, P., Laosiripojana, N., Daorattanachai, P. Synthesis of sulfonated carbon-based catalysts from organosolv lignin and methanesulfonic acid: Its activity toward esterification of stearic acid (2022) Renewable Energy, 193, pp. 113-127.
16. Saengsrichan, A., Saikate, C., Silasana, P., Khemthong, P., Wanmolee, W., Phanthasri, J., Youngjan, S., Posoknistakul, P., Ratchahat, S., Laosiripojana, N., Wu, K.C.-W., Sakdaronnarong, C. The Role of N and S Doping on Photoluminescent Characteristics of Carbon Dots from Palm Bunches for Fluorimetric Sensing of Fe3+ Ion (2022) International Journal of Molecular Sciences, 23 (9), art. no. 5001
17. Khongchamnan, P., Suriyachai, N., Kreetachat, T., Laosiripojana, N., Weerasai, K., Champreda, V., Suwannahong, K., Sakulthaew, C., Chokejaroenrat, C., Imman, S. Optimization of Liquid Hot Water Pretreatment and Fermentation for Ethanol Production from Sugarcane Bagasse Using Saccharomyces cerevisiae (2022) Catalysts, 12 (5), art. no. 463
18. Praikaew, W., Kiatkittipong, W., Aiouache, F., Najdanovic-Visak, V., Termtanun, M., Lim, J.W., Lam, S.S., Kiatkittipong, K., Laosiripojana, N., Boonyasuwat, S., Assabumrungrat, S. Mechanism of CaO catalyst deactivation with unconventional monitoring method for glycerol carbonate production via transesterification of glycerol with dimethyl carbonate (2022) International Journal of Energy Research, 46 (2), pp. 1646-1658.
19. Totong, S., Laosiripojana, W., Laosiripojana, N., Daorattanachai, P. Nickel and Rhenium Mixed Oxides-Doped Graphene Oxide (MOs/GO) Catalyst for the Oxidative Depolymerization of Fractionated Bagasse Lignin (2022) Industrial and Engineering Chemistry Research, 61 (1), pp. 215-223.
20. Chysirichote, T., Phaiboonsilpa, N., Laosiripojana, N. High Production of Cellulase and Xylanase in Solid-State Fermentation by Trichoderma reesei Using Spent Copra and Wheat Bran in Rotary Bioreactor (2022) Industrial and Engineering Chemistry Research, In Press
21. Preechakun, T., Pongchaiphol, S., Raita, M., Champreda, V., Laosiripojana, N. Detoxification of hemicellulose-enriched hydrolysate from sugarcane bagasse by activated carbon and macroporous adsorption resin (2022) Biomass Conversion and Biorefinery, In Press
22. Raita, M., Wanmolee, W., Suriyachai, N., Payomhorm, J., Laosiripojana, N. Lignocellulosic biomass and its potential derivative products (2022) A-Z of Biorefinery: A Comprehensive View, pp. 79-120.
23. Areepak, C., Jiradechakorn, T., Chuetor, S., Phalakornkule, C., Sriariyanun, M., Raita, M., Champreda, V., Laosiripojana, N. Improvement of lignocellulosic pretreatment efficiency by combined chemo - Mechanical pretreatment for energy consumption reduction and biofuel production (2022) Renewable Energy, 182, pp. 1094-1102.

24. Panyadee, R., Saengsrichan, A., Posoknistakul, P., Laosiripojana, N., Ratchahat, S., Matsagar, B.M., Wu, K.C.-W., Sakdaronnarong, C. Lignin-derived syringol and acetosyringone from palm bunch using heterogeneous oxidative depolymerization over mixed metal oxide catalysts under microwave heating (2021) Molecules, 26 (24), art. no. 7444
25. Imman, S., Kreetachat, T., Khongchamnan, P., Laosiripojana, N., Champreda, V., Suwannahong, K., Sakulthaew, C., Chokejaroenrat, C., Suriyachai, N. Optimization of sugar recovery from pineapple leaves by acid-catalyzed liquid hot water pretreatment for bioethanol production (2021) Energy Reports, 7, pp. 6945-6954.
26. Tongnan, V., Ait-Lahcen, Y., Wongsartsai, C., Khajonvittayakul, C., Siri-Nguan, N., Laosiripojana, N., Hartley, U.W. Process intensification of methane production via catalytic hydrogenation in the presence of ni-ceo2/cr2o3 using a micro-channel reactor (2021) Catalysts, 11 (10), art. no. 1224
27. Khajonvittayakul, C., Tongnan, V., Amornraksa, S., Laosiripojana, N., Hartley, M., Hartley, U.W. Co2 hydrogenation to synthetic natural gas over ni, fe and co–based ceo2–cr2o3 (2021) Catalysts, 11 (10), art. no. 1159
28. Pongchaiphol, S., Preechakun, T., Raita, M., Champreda, V., Laosiripojana, N. Characterization of Cellulose-Chitosan-Based Materials from Different Lignocellulosic Residues Prepared by the Ethanosolv Process and Bleaching Treatment with Hydrogen Peroxide (2021) ACS Omega, 6 (35), pp. 22791-22802.
29. Pongchaiphol, S., Chotirotsukon, C., Raita, M., Champreda, V., Laosiripojana, N. Two-Stage Fractionation of Sugarcane Bagasse by a Flow-through Hydrothermal/Ethanosolv Process (2021) Industrial and Engineering Chemistry Research, 60 (34), pp. 12629-12639.
30. Boonamnuay, T., Laosiripojana, N., Assabumrungrat, S., Kim-Lohsoontorn, P. Effect 3A and 5A molecular sieve on alcohol-assisted methanol synthesis from CO2 and H2 over Cu/ZnO catalyst (2021) International Journal of Hydrogen Energy, 46 (60), pp. 30948-30958.
31. Khamhaeng, P., Laosiripojana, N., Assabumrungrat, S., Kim-Lohsoontorn, P. Techno-economic analysis of hydrogen production from dehydrogenation and steam reforming of ethanol for carbon dioxide conversion to methanol (2021) International Journal of Hydrogen Energy, 46 (60), pp. 30891-30902.
32. Saychu, P., Thanasiriruk, M., Khajonvittayakul, C., Viratikul, R., Tongnan, V., Hartley, M., Wongsakulphasatch, S., Laosiripojana, N., Hartley, U.W. Catalytic performance of Na-Mn2O3-based catalysts towards oxidative coupling of methane (2021) Catalysis Today, 375, pp. 225-233.
33. Khongchamnan, P., Wanmolee, W., Laosiripojana, N., Champreda, V., Suriyachai, N., Kreetachat, T., Sakulthaew, C., Chokejaroenrat, C., Imman, S. Solvothermal-Based Lignin Fractionation From Corn Stover: Process Optimization and Product Characteristics (2021) Frontiers in Chemistry, 9, art. no. 697237
34. Sittipunsakda, O., Kemacheevakul, P., Laosiripojana, N., Chuangchote, S. Photocatalytic hydrogen production from urine using sr-doped tio2 photocatalyst with subsequent phosphorus recovery via struvite crystallization (2021) Catalysts, 11 (8), art. no. 1012
35. Siabbamrung, P., Quitain, A.T., Kida, T., Laosiripojana, N., Boonnoun, P., Shotipruk, A. Solid acid catalyst prepared via one-step microwave-assisted hydrothermal carbonization: Enhanced stability towards intensified production of 5-hydroxymethylfurfural in water/γ-valerolactone/NaCl (2021) Molecular Catalysis, 512, art. no. 111772
36. Khajonvittayakul, C., Tongnan, V., Namo, N., Phonbubpha, C., Laosiripojana, N., Hartley, M., Hartley, U.W. Tar steam reforming for synthesis gas production over Ni-based on ceria/zirconia and La0.3Sr0.7Co0.7Fe0.3O3 in a packed-bed reactor (2021) Chemosphere, 277, art. no. 130280
37. Imman, S., Khongchamnan, P., Wanmolee, W., Laosiripojana, N., Kreetachat, T., Sakulthaew, C., Chokejaroenrat, C., Suriyachai, N. Fractionation and characterization of lignin from sugarcane bagasse using a sulfuric acid catalyzed solvothermal process (2021) RSC Advances, 11 (43), pp. 26773-26784.
38. Khamhangdatepon, T., Tongnan, V., Hartley, M., Sornchamni, T., Siri-Nguan, N., Laosiripojana, N., Li, K., Hartley, U.W. Mechanisms of synthesis gas production via thermochemical cycles over La0·3Sr0·7Co0·7Fe0·3O3 (2021) International Journal of Hydrogen Energy, 46 (48), pp. 24666-24675.

39. Ngoenthong, N., Tongnan, V., Sornchamni, T., Siri-nguan, N., Laosiripojana, N., Hartley, U.W. Application of a micro-channel reactor for process intensification in high purity syngas production via H2O/CO2 co-splitting (2021) International Journal of Hydrogen Energy, 46 (48), pp. 24581-24590.
40. Praikaew, W., Kiatkittipong, W., Aiouache, F., Najdanovic-Visak, V., Ngaosuwan, K., Wongsawaeng, D., Lim, J.W., Lam, S.S., Kiatkittipong, K., Laosiripojana, N., Boonyasuwat, S., Assabumrungrat, S. Process and energy intensification of glycerol carbonate production from glycerol and dimethyl carbonate in the presence of eggshell-derived cao heterogeneous catalyst (2021) Energies, 14 (14), art. no. 4249
41. Thanasiriruk, M., Saychoo, P., Khajonvittayakul, C., Tongnan, V., Hartley, U.W., Laosiripojana, N. Optimizing operating conditions for Oxidative Coupling Methane (OCM) in the presence of NaCl-MnOx/SiO2 (2021) Applied Science and Engineering Progress, 14 (3), pp. 477-488.
42. Pongsiriyakul, K., Kiatkittipong, W., Adhikari, S., Lim, J.W., Lam, S.S., Kiatkittipong, K., Dankeaw, A., Reubroycharoen, P., Laosiripojana, N., Faungnawakij, K., Assabumrungrat, S. Effective Cu/Re promoted Ni-supported γ-Al2O3 catalyst for upgrading algae bio-crude oil produced by hydrothermal liquefaction (2021) Fuel Processing Technology, 216, art. no. 106670
43. Kaewmeesri, R., Nonkumwong, J., Kiatkittipong, W., Laosiripojana, N., Faungnawakij, K. Deoxygenations of palm oil-derived methyl esters over mono- And bimetallic NiCo catalysts (2021) Journal of Environmental Chemical Engineering, 9 (2), art. no. 105128
44. Wanmolee, W., Beltramini, J.N., Bartley, J., Laosiripojana, N., Doherty, W.O.S. One step liquefaction of hardwood lignin to oligomers soluble in polymerizable solvents (2021) Industrial Crops and Products, 162, art. no. 113259
45. Suriyachai, N., Wanmolee, W., Khongchamnan, P., Laosiripojana, N., Champreda, V., Kreetachat, T., Imman, S. Effects of Modified Activated Carbon on Microwave-Accelerated Organosolv Fractionation of Rice Husk (2021) ACS Omega, 6 (8), pp. 5389-5398.
46. Chuetor, S., Ruiz, T., Barakat, A., Laosiripojana, N., Champreda, V., Sriariyanun, M. Evaluation of rice straw biopowder from alkaline-mechanical pretreatment by hydro-textural approach (2021) Bioresource Technology, 323, art. no. 124619
47. Chotirotsukon, C., Raita, M., Yamada, M., Nishimura, H., Watanabe, T., Laosiripojana, N., Champreda, V. Sequential fractionation of sugarcane bagasse using liquid hot water and formic acid-catalyzed glycerol-based organosolv with solvent recycling (2021) Bioenergy Research, 14 (1), pp. 135-152.
48. Damaurai, J., Preechakun, T., Raita, M., Champreda, V., Laosiripojana, N. Investigation of Alkaline Hydrogen Peroxide in Aqueous Organic Solvent to Enhance Enzymatic Hydrolysis of Rice Straw (2021) Bioenergy Research, 14 (1), pp. 122-134.
49. Sarabut, J., Charojrochkul, S., Sornchamni, T., Laosiripojana, N., Assabumrungrat, S., Hartley, U.W., Kim-Lohsoontorn, P. Erratum to 'Effect of strontium and zirconium doped barium cerate on the performance of proton ceramic electrolyser cell for syngas production from carbon dioxide and steam' [Int J Hydrogen Energy 44 (2019) 20634–20640] (International Journal of Hydrogen Energy (2021) International Journal of Hydrogen Energy, 46 (13), p. 9266.
50. Muangsuwan, C., Kriprasertkul, W., Ratchahat, S., Liu, C.-G., Posoknistakul, P., Laosiripojana, N., Sakdaronnarong, C. Upgrading of Light Bio-oil from Solvothermolysis Liquefaction of an Oil Palm Empty Fruit Bunch in Glycerol by Catalytic Hydrodeoxygenation Using NiMo/Al2O3or CoMo/Al2O3Catalysts (2021) ACS Omega, 6 (4), pp. 2999-3016.
51. Khamhangdatepon, T., Sornchamni, T., Siri-Nguan, N., Laosiripojana, N., Hartley, U.W. A dual reactor for isothermal thermochemical cycles of h2 o/co2 co-splitting using la0.3 sr0.7 co0.7 fe0.3 o3 as an oxygen carrier (2021) Processes, 9 (6), art. no. 1018
52. Kaewmeesri, R., Nonkumwong, J., Witoon, T., Laosiripojana, N., Faungnawakij, K. Effect of water and glycerol in deoxygenation of coconut oil over bimetallic nico/sapo-11 nanocatalyst under n2 atmosphere (2020) Nanomaterials, 10 (12), art. no. 2548, pp. 1-15.
53. Suriyachai, N., Weerasai, K., Upajak, S., Khongchamnan, P., Wanmolee, W., Laosiripojana, N., Champreda, V., Suwannahong, K., Imman, S. Efficiency of catalytic liquid hot water pretreatment for conversion of corn stover to bioethanol (2020) ACS Omega, 5 (46), pp. 29872-29881.
54. Temluxame, P., Laosiripojana, N., Assabumrungrat, S., Puengjinda, P., Kim-Lohsoontorn, P.

Phase transformation and electrical properties of bismuth oxide doped scandium cerium and gadolinium stabilized zirconia (0.5Gd0.5Ce10ScSZ) for solid oxide electrolysis cell (2020) International Journal of Hydrogen Energy, 45 (55), pp. 29953-29965.
55. Tepamatr, P., Laosiripojana, N., Sesuk, T., Charojrochkul, S. Effect of samarium and praseodymium addition on water gas shift performance of Co/CeO2 catalysts (2020) Journal of Rare Earths, 38 (11), pp. 1201-1206.
56. Wongsartsai, C., Tongnan, V., Sornchamni, T., Siri-nguan, N., Laosiripojana, N., Hartley, M., Hartley, U.W. CO2 utilization via methanation using 40%Ni/CexCr1-xO2 as a novel catalyst: a comparative study of packed-bed and micro-channel reactors (2020) Reaction Kinetics, Mechanisms and Catalysis, 131 (1), pp. 101-117.
57. Tumkot, L., Quitain, A.T., Boonnoun, P., Laosiripojana, N., Kida, T., Shotipruk, A. Synergizing sulfonated hydrothermal carbon and microwave irradiation for intensified esterification reaction (2020) ACS Omega, 5 (37), pp. 23542-23548.
58. Posoknistakul, P., Tangkrakul, C., Chaosuanphae, P., Deepentham, S., Techasawong, W., Phonphirunrot, N., Bairak, S., Sakdaronnarong, C., Laosiripojana, N. Fabrication and characterization of lignin particles and their ultraviolet protection ability in PVA composite film (2020) ACS Omega, 5 (33), pp. 20976-20982.
59. Suriyachai, N., Chuangchote, S., Laosiripojana, N., Champreda, V., Sagawa, T. Synergistic effects of co-doping on photocatalytic activity of titanium dioxide on glucose conversion to value-added chemicals (2020) ACS Omega, 5 (32), pp. 20373-20381.
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International Patents

1. Patent “Catalyst for 1,3-butadiene production from ethanol” Applicant: Siam Cement Public Company Limited (WO 2016182516 A1)
2. Patent “Method for lignocellulose pretreatment” Applicant: PTT Global Chemicals PCL (US20170241076)
3. Patent “A process for fractionation of lignocellulosic biomass” Applicant: PTT Global Chemicals (WO2017086887)

National Patents

1. สิทธิบัตร กระบวนการปรับสภาพลิกโนเซลลูโลส (ยื่นจดร่วมกับบริษัท พีทีที โกลบอล เคมิคอล จำกัด (มหาชน)) (no. 1401005962)
2. สิทธิบัตร กระบวนการแยกองค์ประกอบของชีวมวลลิกโนเซลลูโลส (ยื่นจดร่วมกับบริษัท พีทีที โกลบอล เคมิคอล จำกัด (มหาชน)) (no. 1501006873)
3. อนุสิทธิบัตร กระบวนการปรับสภาพชีวมวลลิกโนเซลลูโลสโดยการใช้ของเหลวปรับสภาพที่ประกอบด้วยสารประกอบอัลคอกไซด์ของโลหะอัลคาไลน์ (alkali metal alkoxide) (ยื่นจดร่วมกับบริษัท พีทีที โกลบอล เคมิคอล จำกัด (มหาชน)) (no. 1603001146)
4. สิทธิบัตร การพัฒนาตัวเร่งปฏิกิริยาสำหรับกระบวนการผลิต 1,3 Butadiene แบบ One-step process (ยื่นจดร่วมกับบริษัทปูนซิเมนต์ไทย จำกัด (มหาชน)) (no. 1701006588)
5. อนุสิทธิบัตร กระบวนการผลิตแอลดีไฮด์โดยใช้เอนไซม์แอลกอฮอล์ออกซิเดสจากยีสต์ทนร้อน (no. 1803001066)
6. อนุสิทธิบัตร เอนไซม์ตรึงรูปสำหรับผลิตแอลดีไฮด์จากแอลกอฮอล์ และกรรมวิธีการผลิตแอลดีไฮด์โดยใช้เอนไซม์ตรึงรูปดังกล่าวเป็นตัวเร่งปฏิกิริยา (no. 1803001718)
7. สิทธิบัตร กระบวนการผลิตไซลิทอลจากน้ำตาลโมเลกุลเดี่ยวด้วยการเร่งปฏิกิริยาเชิงแสง วันที่ยื่นจด 31 มี.ค. 2560 (เลขที่ยื่นจด 1401007893)
8. การบำบัดชีวมวลด้วยกระบวนการน้ำร้อนความดันสูงที่มีการเติมตัวเร่งปฏิกิริยาด่าง (โจทย์วิจัยจากบริษัท พีทีที โกลบอล เคมิคอล จำกัด (มหาชน)) (no. 1403000889)
9. กรรมวิธีการสกัดลิกนินจากน้ำยางดำจากกระบวนการผลิตเยื่อกระดาษ (โจทย์วิจัยจากบริษัท SCG Paper) (no. 1301005102)
10. ตัวเร่งปฏิกิริยากลุ่มโลหะฟอสเฟตในการผลิตอนุพันธ์ฟิวแรนจากชีวมวลและอนุพันธ์ของชีวมวล และกรรมวิธีการเตรียมตัวเร่งดังกล่าว (โจทย์วิจัยจากบริษัท ปตท. จำกัด) (no. 1101003175)
11. ตัวเร่งปฏิกิริยาชีวภาพสำหรับกระบวนการผลิตไบโอดีเซล และการใช้ (โจทย์วิจัยจากโรงงานน้ำมันพืชปทุม) (no. 1101001495)
12. กระบวนการผลิตตัวดูดซับจำพวกโมเลกูลาร์ซีฟจากเถ้าลอยโรงไฟฟ้าถ่านหิน (โจทย์วิจัยจากบริษัท อินเตอร์แปซิฟิกเปเปอร์) (no. 1201003154)
13. เทคนิคการชะล้างสิ่งเจือปนด้วยกรดสำหรับการปรับปรุงคุณภาพเถ้าลอยจากถ่านหิน (โจทย์วิจัยจากบริษัท อินเตอร์แปซิฟิกเปเปอร์) (no. 1001001732)
14. การแยกอลูมิเนียมและกระดาษออกจากกล่องบรรจุเครื่องดื่มยูเอชทีโดยใช้วิธีการสกัดโดยตัวทำละลาย (โจทย์วิจัยจากบริษัทดาต้าแพค จำกัด) (no. 1203001259)