REFERENCES

Achenbach, E.; "Three-Dimensional and Time-Dependent Simulation of a Planar Solid Oxide Fuel Cell Stack," *J. Power. Sources*, 49, 333-348 (1994)

Aguiar, P., D. Chadwick and L. Kershenbaun; "Modelling of an Indirect Internal Reforming Solid Oxide Fuel Cell," *Chem. Eng. Sci.*, 57, 1665-1677 (2002)

Akin, F. T., Y. S. Lin and Y. Zeng; "Comparative Study on Oxygen Permeation and Oxidative Coupling of Methane on Disk-Shaped and Tubular Dense Ceramic Membrane Reactors," *Ind. Eng. Chem. Res.*, 40, 5908-5916 (2001)

Akin, F. T. and Y. S. Lin; "Oxidative Coupling of Methane in Dense Ceramic Membrane Reactor with High Yields," *AIChE. J.*, 48, 2298-2306 (2002)

Assabumrungrat, S.; "Mechanisms and Modelling of Gas separations Through Ceramic Membrane in Chemical Reaction Processes" Doctoral Dissertation, London, 1996

Assabumrungrat, S and D.A. White; "Permeation of Ethanol and Methanol Vapours Through a Porous Alumina Membrane," *Chem. Eng. Sci.*, 51, 5241-5250 (1996)

Badwal, S.P.S.; "Zirconia-Based Solid Electrolytes: Microstructure, Stability and Ionic Conductivity," *Solid State Ionics*, 52, 23-32 (1992)

Baker, R.T., I.S. Metcalfe and P.H. Middleton; "Use of a Novel Temperature-Programmable Electrochemical Cell to Investigate Electrochemically Generated surface Oxygen Species," *J. Catal.*, 155, 21-31, (1995)

Belyaev, V.D., T.I. Politova and V.A. Sobyanin; "Effect of non-Faradic Electrochemical Modification of Catalytic Activity," *Solid State Ionics*, 136-137, 721-725 (2000)

Bessette, N.F., W.J. Wepfer and J. Winnick; "A Mathematical Model of a Solid Oxide Fuel Cell," *J. Electrochem. Soc.*, 142, 3792-3800 (1995)

Bird, R.B., W.E. Steward and E.N. Lightfoot, Transport Phenomena, Wiley, New York, 1960

Cai, Z., T.N. Lan, S. Wang and M. Dokiya; "Supported $Zr(Sc)O_2$ SOFCs for reduced temperature prepared by slurry coating and co-firing," *Solid State Ionics*, 152–153, 583-590 (2002)

Charojrochkul, S., K.L. Choy and B.C.H. Steele; "Flame Assisted Vapour Deposition of Cathode for Solid Oxide Fuel Cells. 1. Microstructure control from processing parameters," *J. Euro. Ceram. Soc.*, 24, 2515–2526 (2004a)

Charojrochkul, S., R.M. Lothian, K.L. Choy and B.C.H. Steele; "Flame Assisted Vapour Deposition of Cathode for Solid Oxide Fuel Cells. 2. Modelling of processing parameters," *J. Euro. Ceram. Soc.*, 24, 2527–2535 (2004b)

Cheng, S. and X. Shuai; "Simulation of a Catalytic Membrane Reactor for Oxidative Coupling of Methane," *AIChE. J.*, 41, 1598-1601 (1995)

Choudhary, V.R., B. S. Uphade and S.A.R. Mulla; "Oxidative coupling of methane over a Sr-promoted La_2O_3 catalyst supported on a low surface area porous catalyst carrier," *Ind. Eng. Chem. Res*, 36, 3594-3601 (1997)

Coronas, J., M. Menendez, and J. Santamaria; "Methane Oxidative Coupling Using Porous Ceramic Membrane Reactors-II. Reaction Studies," *Chem. Eng. Sci.*, 49, 2015-2025 (1994a)

Coronas, J., M. Menendez, and J. Santamaria; "Development of Ceramic Membrane Reactors with a Non-uniform Permeation Pattern. Application to Methane Oxidative Coupling," *Chem. Eng. Sci.*, 49, 4749-4757 (1994b)

Costamagna, P. and K. Honegger; "Modeling of solid oxide heat exchanger integrated stacks and simulation at high fuel utilization," *J. Electrochem. Soc.*, 145, 3995–4007 (1998)

Costamagna, P., A. Selimovic, M. D. Borghi and G. Agnew; "Electrochemical model of the integrated planar solid oxide fuel cell (IP-SOFC)," *Chem. Eng. J.*, 102, 61–69 (2004)

Cvetanovic, R.J. and Y. Amenomiya, Application of a temperature-programmed desorption technique to catalyst studies, Advance in catalysis and related subjects, vol 17, Academic Press, New York, 1967

Elshof, , H.J.M., Bouwmeester and H. Verweij; "Oxidative coupling of methane in a mixed-conducting perovskite membrane reactor," *App. Catal. A.*, 130, 195-212 (1995)

Eng, D. and M. Stoukides; "Catalytic and electrocatalytic methane oxidation with solid oxide membranes," *Catal. Rev. Sci. Eng.*, 33, 375-412 (1991)

Ewing, G.W.; Instrumental Methods of Chemical Analysis, McGraw-Hill Book, Singapore, 1987

Farr, R.D. and C.G. Vayenas; "Ammonia High Temperature Solid Electrolyte Fuel Cell," *J. Electrochem. Soc.*, 127, 1478-1483 (1980)

Gesser H.D. and N.R. Hunter; "A review of C-1 conversion Chemistry," *Catal. Today.*, 42, 183-189 (1998)

Goto, S., T. Tagawa, S. Assabumrungrat and P. Praserthdam; "Simulation of Membrane Microreactor for Fuel Cell with Methane Feed," *Catal. Today*, 82, 223-232 (2003)

Guczi L., R.A. VanSanten and K.V. Sarma; "Low-temperature coupling of methane," *Catal. Rev. Sci. Eng.*, 38, 249-296 (1996).

Guo, X.M., K. Hidajat, C.B. Ching and H.F. Chen; "Oxidative Coupling of Methane in a Solid Oxide Membrane Reactor," *Ind. Eng. Chem. Res*, 36, 3576-3582 (1997)

Guo, X.M., K. Hidajat and C.B. Ching; "Simulation of a Solid Oxide Fuel Cell for Oxidative Coupling of Methane," *Catal. Today*, 50, 109-116 (1999)

Han, J., G. Xomeritakis and Y.S. Lin; "Oxygen Permeation Through Thin Zirconia/Yttria Membranes Prepared by EVD," *Solid State Ionics*, 93, 263-272 (1997)

Hirschenhofer, J.H., D.B. Stauffer, R.R. Engleman and M.G. Klett; Fuel Cell Handbook, 4th ed., Parsons Corporation Reading, USA, 1998

Imai H. and T. Tagawa; "Oxidative Coupling of Methane over $LaAlO_3$," *J. Chem. Soc., Chem. Commun.*, 52-53, (1986)

Imai H., T. Tagawa and N. Kamide; "Oxidative Coupling of Methane Over Amorphous Lanthanum Aluminum Oxides," *J. Catal.*, 106, 394-400 (1987)

Imai H., T. Tagawa, N. Kamide and S. Wada, Proc, *9th Intern. Congress. Catal.*, 2, 952 (1988)

Ishihara, T., Y. Tsuruta, T. Todaka, H. Nishiguchi and Y. Takita; "Fe Doped $LaGaO_3$ Perovskite Oxide as an Oxygen Separating Membrane for CH_4 Partial Oxidation," *Solid State Ionics*, 152-153, 709-714 (2002)

Ji, S., T. Xiao, S. Li, L. Chou, B. Zhang, C. Xu, R. Hou, A.P.E. York and M.L.H. Green; "Surface WO4 tetrahedron: the essence of the oxidative coupling of methane over M–W–Mn/SiO_2 catalysts," *J. Catal.*, 220, 47–56 (2003)

Kao, Y.K., L. Lei and Y.S. Lin; "A Comparative Simulation Study on Oxidative Coupling of Methane in Fixed-Bed and Membrane Reactors," *Ind. Eng. Chem. Res.*, 36, 3583-3593 (1997)

Keller, G. E. and M.M. Bhasin; "Synthesis of Ethylene via Oxidative Coupling of Methane. I. Determination of Active Catalysts," *J. Catal.*, 73, 9-19 (1982)

Kharton, V.V., A.A. Yaremchenko, A.V. Kovalevsky, A.P. Viskup, E.N. Naumovich and P.F. Kerko; "Perovskite-type oxides for high-temperature oxygen separation membranes," *J. Memb. Sci.*, 163, 307-317 (1999)

Kharton, V.V., A.V. Kovalevsky, A.P. Viskup, F.M. Figueiredo, J.R. Frade, A.A. Yaremchenko and E.N. Naumovich; "Faradaic efficiency and oxygen permeability of $Sr_{0.97}Ti_{0.60}Fe_{0.40}O_{3-\delta}$ perovskite," *Solid State Ionics*, 128, 117-130 (2000)

Kharton, V.V., A.P. Viskup, I.P. Marozau and E.N. Naumocich; "Oxygen Permeability of Perovskite-Type $Sr_{0.7}Ce_{0.3}MnO_{3-\delta}$," *Mater. Lett.*, 57, 3017-3021 (2003)

Lafarga, D., J. Santamaria and M. Menendez; "Methane Oxidative Coupling Using Porous Ceramic Membrane Reactors-I, Reactor Development," *Chem. Eng. Sci.*, 49, 2005-2013 (1994)

Lane, G. S. and E.E., Wolf; "Methane Utilization by Oxidative Coupling: I. A Study of Reaction in the Gas Phase During the Cofeeding of Methane and Oxygen," *J. Catal.*, 113, 144-63 (1988)

Larminie, J. and A. Dicks; Fuel Cell Systems Explained, John Wiley & Sons, Great Britain, 2000

Lee, S., K.S. Lee, S.K. Woo, J.W. Kim, T. Ishihara and D.K. Kim; "Oxygen-Permeating Property of $LaSrBFeO_3$ (B=Co,Ga) Perrovskite Membrane Surface-Modified by $LaSrCoO_3$," *Solid State Ionics*, 158, 287-296 (2003)

Li, Z., M. Behruzi., L. Fuerst and D. Stovet, in: S.C. Singhal, H. Iwahara (Eds.), SOFC-III, PV 93-4, The Electrochemical Society, Pennington, NJ, 1993, p.171

Liu, S., X. Tan, K. Li and R. Hughes; "Mathane Coupling Using Catalytic Membrane Reactors," *Catal. Rev. Sci. Eng.*, 43, 147-198 (2001).

Liu, J. and S. Barnett; "Operation of Anode-Supportde Solid Oxide Fuel Cells on Methane and Natural Gas," *Solid State Ionics*, 158, 11-16 (2003)

Lunsford, J. H.; "Catalytic Conversion of Methane to More Useful Chemicals and Fuel: a Challenge for the 21st Century," *Catal. Today*, 63, 165 (2000)

McCabe, W.L., J.C. Smith and P. Harriott, Unit Operations of Chemical Engineering, McGraw-Hill, Singapore, 2001

Metcalfe, I.S.; "Electrochemical promotion of catalysis: The Use of Transition State Theory for the Prediction of Reaction Rate Modification," *Solid State Ionics*, 152-153, 669-674 (2002)

Michaels, J.N. and C.G. Vayenas; "Styrene Production from Ethylbenzene on Platinum in a Zirconia Electrochemical Reactor," *J. Electrochem. Soc.*, 131, 2544-2550 (1984)

Minh, N.Q.; Science and Technology of Zirconia V, Technomic Publishing Company, Lancaster, PA, 1993

Minh, N.Q.; "Solid oxide fuel cell technology—features and applications," *Solid State Ionics*, 174, 271-277 (2004)

Minh, N.Q. and T. Takahashi; Science and Technology of Ceramic Fuel Cells, Elsevier Science B.V., Netherlands, 1995

Moe, K.K., T. Tagawa and S. Goto; "Preparation of Electrode Catalyst for SOFC Reactor by Ultrasonic Mist Pyrolysis of Aqueous Solution," *J. Ceram. Soc. Japan.*, 106, 242-247 (1998a)

Moe, K.K., T. Tagawa and S. Goto; "Preparation of Electrode Catalyst for SOFC Reactor by Ultrasonic Mist Pyrolysis: Effect of Spray Time," *J. Ceram. Soc. Japan.*, 106, 754-758 (1998b)

Nakagawa, N., H. Sagara and K. Kato; "Catalytic Activity of Ni-YSZ-CeO_2 Anode for the Steam Reforming of Methane in a Direct Internal-Reforming Solid Oxide Fuel Cell," *J. Power. Sources*, 92, 88-94 (2001)

Neophytides, S.G. and C.G. Vayenas; "TPD and Cyclic Voltammetric Investigation of the Origin of Promotion in Catalysis," *J. Phys. Chem.*, 99, 17063-17067 (1995)

Nigara, Y., J. Mizusaki and M. Ishigame; "Measurement of Oxygen Permeability in CeO_2 doped CSZ," *Solid State Ionics*, 79, 208-211 (1995)

Nozaki, T and K. Fujimoto; "Oxide Ion Transport for Selective Oxidative Coupling of Methane with New Membrane Reactor," *AIChE*, 40, 870-877 (1994)

Pacchioni, G., F. Illas, S. Neophytides and C.G. Vayenas; "Quantum-Chemical Study of Electrochemical Promotion in Catalysis," *J. Phys. Chem.*, 100, 16653-16661 (1996)

Petrolekas, P.D., S. Balomenou and C.G. Vayenas; "Electrochemical promotion of ethylene oxidation on Pt catalyst films deposited on CeO_2," *J. Electrochem. Soc.*, 145, 1202-1206 (1998)

Platon, C.E. and W.J. Thomson; "A comparison of LSCF-6428 and Bys for the oxidative conversion of methane and ethane," *Ind. Eng. Chem. Res.*, 41, 6637-6641 (2002)

Pujare N.U. and A.F. Sammells; "Methane activation to C_2 hydrocarbon species in solid oxide fuel cell," *J. Electrochem. Soc.*, 135, 2544-2545 (1988)

Shao, Z., G. Xiong, Y. Cong and W. Yang; "Synthesis and Oxygen Permeation Study of Novel Perovskite-Type $BaBi_xCo_{0.2}Fe_{0.8-x}O_{3-\delta}$ Ceremic Membrane," *J. Memb. Sci.*, 164, 167-176 (2000)

Shaula, A.L., A.A. Yaremchenko, V.V. Kharton, D.I. Logvinovich, E.N. Naumovich, A.V. Kovalevsky, J.R. Frade and F.M.B. Marques; "Oxygen permeability of $LaGaO_3$-based ceramic membranes," *J. Memb. Sci.*, 221, 69-77 (2003)

Siskind, C.S.; Electrical Circuits: Direct and Alternating Current, 2nd ed., McGraw-Hill Book, Tokyo, Japan, 1965

Sobyanin, V.A. and V.D. Belyaev; "Gas-Phase Electrocatalysis; Methane Oxidation to Syngas in a Solid Oxide Fuel Cell Reactor," *Solid State Ionics*, 136-137, 747-752 (2000)

Spinicci R., P. Marini, S. De Rossi, M. Faticanti and P. Porta; "Oxidative Coupling of Methane on LaAlO3 Perovskites Partially Substituted with Alkali or Alkali-earth Ions," *J. Mol. Cat. A: Chem*, 176, 253–265 (2001)

Stambouli, A.B., E. Traversa; "Solid oxide fuel cells (SOFCs): a Review of an Environmentally Clean and Efficient Source of Energy," *Renew. and Sustainable Energ. Rev.*, 6, 433–455 (2002)

Steele, B.C.H.; "Material Science and Engineering: The Enabling Technology for the Commercialisation of Fuel Cell Systems," *J. Material. Sci.*, 36, 1053-1068 (2001)

Stoukides, M; "Solid-electrolyte Membrane Reactors: Current Experience and Future Outlook," *Catal. Rev. Sci. Eng.*, 42, 1-70 (2000)

Tagawa T. and H. Imai; "Mechanistic Aspects of Oxidative Coupling of Methane over $LaAlO_3$," *J. Chem. Soc., Faraday Trans. 1*, 84, 923-929 (1988)

Tagawa, T., K.K. Moe, T. Hiramatsu and S. Goto; "Design of Electrode for Solid Oxide Fuel Cells Reactor," *Solid State Ionics*, 106, 227-235 (1998)

Tagawa, T., K.K. Moe, M. Ito and S. Goto; "Fuel Cell Type Reactor for Chemicals-Energy Co-Generation," *Chem. Eng. Sci.*, 54, 1553-1557 (1999)

Tagawa, T., K. Kuroyanagi, S. Goto, S. Assabumrungrat and P. Praserthdam; "Selective Oxidation of Methane in an SOFC-Type Reactor: Effect of Applied Potential," *Chem. Eng. J.*, 93, 3-9 (2003)

Teraoka, Y., Y. Honbe, J. Ishii, H. Furukawa and I. Moriguchi; "Catalytic Effects in Oxygen Permeation Through Mixed-Conductive LSCF Perrovskite Membranes," *Solid State Ionics*, 152-153, 681-687 (2002)

Tong, J., W. Yang, B. Zhu and R. Cai; "Investigation of Ideal Zirconium-Doped Perovskite-Type Ceramic Membrane Materials for Oxygen Separation," *J. Memb. Sci.*, 203, 175-189 (2002)

Tsiplakides, D., S. Neophytides and C.G. Vayenas; "Investigation of Electrochemical Promotion Using Temperature-Programmed Desorption and Work Function Measurement," *Solid State Ionics*, 136-137, 839-847, (2000)

Vernoux, P., F. Gaillard, L. Bultel, E. Siebert and M. Primet, "Electrochemical Promotion of Propane and Propene Oxidation on Pt/YSZ," *J. Catal.*, 208, 412-421, (2002)

Vayenas, C.G., M.M. Jaksic, S. Bebelis and S.G. Neophytides, in: P. Horsman, B.E. Conway, R.E. White (Eds.), Mod. Aspects Electrochem., vol. 29, Plenum, New York, 1996, p. 57.

Vayenas, C.G., D. Archonta and D. Tsiplakides; "Scanning Tunneling Microscopy Observation of the Origin of Electrochemical Promotion and Metal-Support Interactions," *J. Electroanal. Chem.*, 554-555, 301-306 (2003)

Vickermen, J.C.; Surface Analysis: The Principal Techniques, John Wiley & Sons, Great Britain, 1998

Voskresenskaya, E.N., V.G. Roguleva and A.G. Anshits; "Oxidant activation over structural defects of oxide catalysts in oxidative methane coupling," *Catal. Rev. Sci.Eng.* 37, 101-143 (1995)

Wada, S., T. Tagawa and H. Imai; "Kinetics and Mechanism of Oxidative Coupling of Methane over Lanthanum-Boron Oxide," *App. Catal.*, 47, 277-286 (1989)

Wada, W., T. Tagawa and H. Imai; "Oxidative coupling of methane over lanthanum oxides including 3B elements," *React. Kinet. Catal. Lett.*, 43, 31-35 (1991)

Wang, W. and Y.S. Lin; "Analysis of Oxidative Coupling of Methane in Dense Oxide Membrane Reactors," *J. Memb. Sci.*, 103, 219-233 (1995)

White J.H., E.A. Needham, R.L. Cook and A.F. Sammells; "The electrochemical oxidative dimerization of methane," *Solid State Ionics.*, 53, 149-161 (1992)

Xia, C., S. Zha, W. Yang, R. Peng, D. Peng and G. Meng; "Preparation of Yttria Stabilized Zirconia Membranes on Porous Substrates by a Dip-Coating Process," *Solid State Ionics*, 133, 287-294 (2000)

Xu, S and W.J. Thomson, "Perovskite-type oxide membranes for the oxidative coupling of methane," *AIChE. J.*, 43, 2731-2740 (1997)

Yamada, K., N. Takahashi and C.J. Wen; "Design and Evaluation of an Electric Vehicle Using Solid Oxide Fuel Cells," *J. Chem. Eng. Japan*, 35, 1290-1297 (2002)

Yamamoto, O.; "Solid Oxide Fuel Cells: Fundamental Aspect and Pospects," *Electrochim. Acta*, 45, 2423-2435 (2000)

Yasuda, I., K. Ogasawara, M. Hishinuma, T. Kawada, and M. Dokiya; "Oxygen Tracer Diffusion Coefficient of (La,Sr)$MnO_{3\pm\delta}$," *Solid State Ionics*, 86-88, 1197-1201 (1996)

Zeng, Y and Y. S. Lin; "Oxygen Permeation and Oxidative Coupling of Methane in Yttria Doped Bismuth Oxide Membrane Reactor," *J. Catal.*, 193, 58-64 (2000)

Zeng, Y and Y. S. Lin; "Oxidative Coupling of Methane on Improved Bismuth Oxide Membrane Reactors," *AIChE. J.*, 47, 436-444 (2001)

Zhu, Q and B. Fan; "Low Temperature Sintering of 8YSZ Electrolyte Film for Intermediate Temperature Solid Oxide Fuel Cells," *Solid State Ionics*, 176, 889-894 (2005)

APPENDICES

APPENDIX A

CALCULATION OF EFFECTIVE MEMBRANE AREA

The effective membrane area was calculated from log mean diameter of a tube-type YSZ membrane and coating length of LSM cathode catalyst. The dimension of YSZ tube is; thickness = 1.5 mm, inside diameter (D_i) = 18 mm, outside diameter (D_o) = 21 mm, total length = 500 mm, LSM coating length = 242 mm). The log mean diameter was calculated from Eq. (A1)

$$D_{\text{ln mean}} = \frac{D_o - D_i}{\ln(D_o / D_i)} \qquad \text{(A1)}$$

$$D_{\text{ln mean}} = \frac{21-18}{\ln(21/18)} = 19.5 \text{ mm}$$

The effective membrane area $= \pi \times 19.5 \times 242 = 14825 \text{ mm}^2$

$= 0.0148 \text{ m}^2$

APPENDIX B

GAS ANALYSIS INSTRUMENT

Products of OCM reaction from SOFC reactor were directly online to gas chromatographs. The conditions of gas chromatographs are summarized in Table B1.

Table B1 Operating conditions of gas chromatographs.

Gas Chromatograph	**Shimadzu GC8A**
Detector	TCD
Column	MS-5A, Porapak-Q
Carrier gas	He (99.98 %)
Carrier gas flow rate	30 ml/min
Column temperature	
- Initial	80 °C
- Final	80 °C
Detector temperature	110 °C
Injector temperature	110 °C
Current	80 mA

APPENDIX C

LIST OF PUBLICATIONS

International Publications

1) Worapon Kiatkittipong, Tomohiko Tagawa, Shigeo Goto, Suttichai Assabumrungrat and Piyasan Praserthdam; "TPD Study in LSM/YSZ/LaAlO System for the Use of Fuel Cell Type Reactor," *Solid State Ionics*, 166, 127-136 (2004).
2) Worapon Kiatkittipong, Tomohiko Tagawa, Shigeo Goto, Suttichai Assabumrungrat and Piyasan Praserthdam "Oxidative Coupling of Methane in LSM/YSZ/LaAlO SOFC Reactor," *J. Chem. Eng. Japan*, 37, 1461-1470 (2004).
3) Worapon Kiatkittipong, Tomohiko Tagawa, Shigeo Goto, Suttichai Assabumrungrat and Piyasan Praserthdam "Oxygen Transport Through LSM/YSZ/LaAlO System for the Use of Fuel Cell Type Reactor," *Chem. Eng. J.*, 106, 35-42 (2005).
4) Worapon Kiatkittipong, Shigeo Goto, Tomohiko Tagawa, Suttichai Assabumrungrat and Piyasan Praserthdam "Simulation of Oxidative Coupling of Methane in Solid Oxide Fuel Cell Type Reactor for C_2 Hydrocarbons and Electricity Co-Generation," revised in Journal of Chemical Engineering of Japan.
5) Worapon Kiatkittipong, Tomohiko Tagawa, Shigeo Goto, Suttichai Assabumrungrat, and Piyasan Praserthdam "Comparison of Different Reactors for C2 Hydrocarbons Production," submitted to Chemical Engineering Journal.

International Conferences

1) Tomohiko Tagawa, Worapon Kiatkittipong, Shigeo Goto, Suttichai Assabumrungrat and Piyasan Praserthdam "Evaluation of Anode Catalyst for SOFC Type Reactor Using TPD" the 92nd General Meeting on Catalysis Society of Japan, Tokushima, Japan, September 18-21, 2003 (oral presentation).

2) Worapon Kiatkittipong, Tomohiko Tagawa, Shigeo Goto, Suttichai Assabumrungrat and Piyasan Praserthdam "Oxygen Transport Through LSM/YSZ/LaAlO System for Use of Fuel Cell Type Reactor" Asian Pacific Confederation of Chemical Engineering (APCChE 2004), Kitakyushu, Japan, October 17-21, 2004 (poster presentation).
3) W. Kiatkittipong, S. Goto, T. Tagawa, S. Assabumrungrat and P. Praserthdam "Scale-up Simulation of LSM/YSZ/LaAlO SOFC Reactor for Oxidative Coupling of Methane" Regional Symposium on Chemical Engineering (RSCE 2004), Bangkok, Thailand, December 1-3, 2004 (oral presentation).
4) W. Kiatkittipong, S. Assabumrungrat, P. Praserthdam, S. Goto and T. Tagawa, "Simulation of Oxidative Coupling of Methane in Solid Oxide Fuel Cell Type Reactor for C2 Hydrocarbons and Electricity Co-Generation" 5th International Symposium on Catalysis in Multiphase Reactors (CAMURE-5) & 4th International Symposium on Multifunctional Reactors (ISMR-4), Portoro-Portorose, Slovenia, June 15-18, 2005 (poster presentation).

National Conferences

1) Worapon Kiatkittipong, Suttichai Assabumrungrat, Piyasan Praserthdam, Tomohiko Tagawa and Shigeo Goto "Co-Generation of C2 Hydrocarbons and Electric Power from Methane in a Solid Oxide Fuel Cell Type Reactor" RGJ–Ph.D. Congress VI supported by The Thailand Research Fund (TRF), Pattaya, Chonburi, Thailand, April 28-30, 2005 (oral presentation).

VITA

Mr. Worapon Kiatkittipong was born in May 29, 1978 in Phichit, Thailand. He finished high school from Bodindecha (Sing Singhasaenee) School, Bangkok in 1995. He received his Bachelor's Degree in Chemical Engineering, from the Department of Chemical Engineering, Kasetsart University in 1999 and Master's Degree in Chemical Engineering, Chulalongkorn University in 2002. Then, he has continued study in Doctoral degree of Chemical Engineering at Chulalongkorn University since June 2002. He received the Royal Golden Jubilee Scholarship from the Thailand Research Fund. In second year of his doctoral course, he did the research in Professor Shigeo Goto's Laboratory, Department of Chemical Engineering, Nagoya University. He also received the scholarship from Nagoya University Program for Academic Exchange (NUPACE) supported by AIEJ during the stay there for one year.