

No.	Description
53	Kitahara, T., Nakajima, H. and Tsuda, K. (2014) Water vapor exchange system installed in a polymer electrolyte fuel cell to enhance the performance without humidification, Transactions of the Japan Society of Mechanical Engineers, 80, 820. DOI: 10.1299/transjsme.2014tep0363
52	Perry, N.H., Kim, J.J., Bishop, S.R. and Tuller, H.L. (2015) Strongly coupled thermal and chemical expansion in the perovskite oxide system Sr(Ti,Fe)O <sub>3-α</sub> , Journal of Materials Chemistry A, 3 (7), 3602-3611. DOI: 10.1039/C4TA05247A
51	Niidome, Y., Tsuru, Y., Hamasaki, Y. and Nakashima, N. (2014) Spectroscopic properties and SEM observations of au-ag core-shell nanorods deposited on ITO plates, Bunseki Kagaku, 63 (11), 857-865.
50	Aydin, Ö., Koshiyama, T., Nakajima, H. and Kitahara, T. (2015) In-situ diagnosis and assessment of longitudinal current variation by electrode-segmentation method in anode-supported microtubular solid oxide fuel cells, Journal of Power Sources, 279, 218-223. DOI: 10.1016/j.jpowsour.2014.12.156
49	Hosoi, T., Yonekura, T., Sunada, K. and Sasaki, K. (2015) Exchange Current Density of SOFC Electrodes: Theoretical Relations and Partial Pressure Dependencies Rate-Determined by Electrochemical Reactions, Journal of the Electrochemical Society, 162 (1), F136-F152. DOI: 10.1149/2.0561501jes
48	Mizutani, C., Kitahara, T., Nakajima, H., Sasaki, K. and Ito, K. (2014) Analysis of water behavior in PEFC through 3D thermal and temperature distribution measurement by ultrafine thermocouples, Transactions of the Japan Society of Mechanical Engineers, 80, 820-. DOI: 10.1299/transjsme.2014tep0364
47	Chen, D. and Tuller, H.L. (2014) Voltage-controlled nonstoichiometry in oxide thin films: Pr <sub>0.1</sub> Ce <sub>0.9</sub> O <sub>2-δ</sub> case study, Advanced Functional Materials, 24 (48), 7638-7644. DOI: 10.1002/adfm.201402050
46	Chen, D., Bishop, S.R. and Tuller, H.L. (2014) Nonstoichiometry in oxide thin films operating under anodic conditions: A chemical capacitance study of the praseodymium-cerium oxide system, Chemistry of Materials, 26 (22), 6622-6627. DOI: 10.1021/cm503440v
45	Perry, N.H., Pergolesi, D., Bishop, S.R. and Tuller, H.L. (2015) Defect Chemistry and Surface Oxygen Exchange Kinetics of La-Doped Sr(Ti,Fe)O <sub>3-α</sub> in Oxygen-Rich Atmospheres, Solid State Ionics, 273, 18-24. DOI: 10.1016/j.ssi.2014.09.013
44	Toshimitsu, F. and Nakashima, N. (2014) Semiconducting Single-walled Carbon Nanotubes Sorting with a Removable Solubilizer Based on Dynamic Supramolecular Coordination Chemistry, Nature Communications, 5, 5041. DOI: 10.1038/ncomms6041
43	Kobayashi, Y., Kosaka, K., Tomida, K., Matake, N., Ito, K. and Sasaki, K. (2014) Start-Up Characteristics of Segmented-In-Series Tubular SOFC Power Modules Improved by Catalytic Combustion at Cathodes, Fuel Cells, 14 (6), 1028-1035. DOI: 10.1002/fuce.201400014
42	Yoo, J., Lee, S., Lee, C.K., Kim, C., Fujigaya, T., Park, H.J., Nakashima, N. and Shim, J.K. (2014)

	Homogeneous decoration of zeolitic imidazolate framework-8 (ZIF-8) with core-shell structures on carbon nanotubes, RSC Advances, 4 (91), 49614-49619. DOI: 10.1039/c4ra06792d
41	Fujigaya, T., Morita, J. and Nakashima, N. (2014) Grooves of Bundled Single-Walled Carbon Nanotubes Dramatically Enhance the Reactivity of Oxygen Reduction Reaction, ChemCatChem, 6 (11), 3169-1373. DOI: 10.1002/cctc.201402565
40	Hafez, I.H., Berber, M.R., Fujigaya, T. and Nakashima, N. (2014) Enhancement of Platinum Mass Activity on the Surface of Polymer-wrapped Carbon Nanotube-Based Fuel Cell Electrocatalysts, Scientific Reports, 4, 6295. DOI: 10.1038/srep06295
39	Berber, M.R., Hafez, I.H., Fujigaya, T. and Nakashima, N. (2014) Durability Analysis of Polymer-coated Pristine Carbon Nanotube-based Fuel Cell Electrocatalyst at Non-humidified Conditions, Journal of Materials Chemistry A, 2 (44), 19053-19059. DOI: 10.1039/C4TA03956D
38	Yang, Z., Berber, M.R. and Nakashima, N. (2014) A Polymer-Coated Carbon Black-based Fuel Cell Electrocatalyst with High CO-Tolerance and Durability in Direct Methanol Oxidation, Journal of Materials Chemistry A, 2 (44), 18875-18880. DOI: 10.1039/C4TA03185G
37	Perry, N.H., Bishop, S.R. and Tuller, H.L. (2014) Tailoring Chemical Expansion by Controlling Charge Localization: In Situ X-ray Diffraction and Dilatometric Study of (La,Sr)(Ga,Ni)O <sub>3-δ</sub> Perovskite, Journal of Materials Chemistry A, 2 (44), 18906-18916. DOI: 10.1039/C4TA02972K
36	Hong, L., Mouri, S., Miyauchi, Y., Matsuda, K. and Nakashima, N. (2014) Redox properties of a single (7,5)single-walled carbon nanotube determined by an in situ photoluminescence spectroelectrochemical method, Nanoscale, 6 (21), 12798-10804. DOI: 10.1039/c4nr03945a
35	Tsukatsune, T., Takabatake, Y., Noda, Z., daio, T., Zaitzu, A., Lyth, S.M., Hayashi, A. and Sasaki, K. (2014) Platinum-Decorated Tin Oxide and Niobium-Doped Tin Oxide PEFC Electrocatalysts: Oxygen Reduction Reaction Activity, Journal of The Electrochemical Society, 161 (12), F1208-F1213. DOI: 10.1149/2.0431412jes
34	Liu, J., Takeshi, D., Sasaki, K. and Lyth, S.M. (2014) Platinum-Decorated Nitrogen-Doped Graphene Foam Electrocatalysts, Fuel Cells, 14 (5), 728-734. DOI: 10.1002/fuce.201300258
33	Kim, C.-R., Fujigaya, T. and Nakashima, N. (2014) One-pot Synthesis of Au-Pt Core-shell Nanoparticles on Polybenzimidazole-decorated Carbon Nanotubes, Chemistry Letters, 43 (11), 1737-1739. DOI: 10.1246/cl.140663
32	Christiani, L., Hilaire, S., Sasaki, K. and Nishihara, M. (2014) Evaluation of proton conductivity of sulfonated polyimide/dihydroxy naphthalene charge-transfer complex hybrid membranes, Journal of Polymer Science Part A: Polymer Chemistry, 52 (20), 2991-2997. DOI: 10.1002/pola.27343
31	Bayer, T., Bishop, S.R., Nishihara, M., Sasaki, K. and Lyth, S.M. (2014) Characterization of a graphene oxide membrane fuel cell, Journal of Power Sources, 272, 239-247. DOI: 10.1016/j.jpowsour.2014.08.071
30	Nagahisa, R., Kuriya, D., Muramatsu, H., Takata, Y. Ogawa, K. and Ito, K. (2014) Measurement System for Solubility and Self-Diffusivity of Hydrogen Gas Dissolved in Polymer Electrolyte Membrane, Journal of the Electrochemical Society, 161 (10), F1070-F1074. DOI:

	10.1149/2.0881410jes
29	Sada, T., Fujigaya, T. and Nakashima, N. (2014) Manipulation of cell membrane using carbon nanotube scaffold as a photoresponsive stimuli generator, <i>Science and Technology of Advanced Materials</i> , 15 (4), 045002. DOI: 10.1088/1468-6996/15/4/045002
28	Yoon, J.T., Lee, S.B., Lee, C.K., Hwang, S.W., Kim, C.R., Fujigaya, T., Nakashima, N. and Shim, J.K. (2014) Graphene Oxide and Laponite Composite Films with High Oxygen-Barrier Properties, <i>Nanoscale</i> , 6 (18), 10824-10830. DOI: 10.1039/C4NR03429E
27	Itoh, T., Shimomura, T., Hayashi, A., Yamaguchi, A., Teramae, N., Ono, M., Tsunoda, T., Mizukami, F., Stucky, G.D. and Hanaoka, T.-A. (2014) Electrochemical enzymatic biosensor with long-term stability using hybrid mesoporous membrane, <i>Analyst</i> , 139 (18), 4654-4660. DOI: 10.1039/c4an00975d
26	Andersson, M., Nakajima, H., Kitahara, T., Shimizu, A., Koshiyama, T., Paradis, H., Yuan, Jinliang, Y. and Sundén, B. (2014) Comparison of humidified hydrogen and partly pre-reformed natural gas as fuel for solid oxide fuel cells applying computational fluid dynamics, <i>International Journal of Heat and Mass Transfer</i> , 77, 1008-1022. DOI: 10.1016/j.ijheatmasstransfer.2014.06.033
25	Knauth, P., Engel, J., Bishop, S.R., Tuller, H.L. (2015) Study of compaction and sintering of nanosized oxide powders by in situ electrical measurements and dilatometry: Nano CeO <sub>2</sub> -case study, <i>Journal of Electroceramics</i> , 34 (1), 82-90. DOI: 10.1007/s10832-014-9946-9
24	Hanasaki, M., Uryu, C., Daio, T., Kawabata, T., Tachikawa, Y., Lyth, S.M., Shiratori, Y., Taniguchi, S. and Sasaki, K. (2014) SOFC durability against standby and shutdown cycling, <i>Journal of the Electrochemical Society</i> , 161 (9), F850-F860. DOI: 10.1149/2.0421409jes
23	Sada, T., Fujigaya, T. and Nakashima, N. (2014) Layer-by-Layer Assembly of Trivalent Metal Cation and Anionic Polymer in Nanoporous Anodic Aluminum Oxide with 35nm Pore, <i>Chemistry Letters</i> , 43 (9), 1478-1480. DOI: 10.1246/cl.140489
22	Zhao, L., Perry, N.H., Sasaki, K., Bishop, S.R. (2014) Electronic and ionic conductivity of Eu <sub>0.2</sub> Ce <sub>0.8</sub> O <sub>2-δ</sub> , <i>Solid State Ionics</i> , 263, 75-79. DOI: 10.1016/j.ssi.2014.05.010
21	Barile, C.J., Tse, E.C.M., Li, Y., Sobyra, T. B., Zimmerman, S. C., Hosseini, A. and Gewirth, A.A. (2014) Proton switch for modulating oxygen reduction by a copper electrocatalyst embedded in a hybrid bilayer membrane, <i>Nature Materials</i> , 13, 619-623. DOI: 10.1038/nmat3974
20	Engel, J., Bishop, S.R., Vayssieres, L. And Tuller, H.L. (2014) In Situ Electrical Characterization of Anatase TiO <sub>2</sub> Quantum Dots, <i>Advanced Functional Materials</i> , 24 (31), 4952-4958. DOI: 10.1002/adfm.201400203
19	Engel, J., Bishop, S.R., Vayssieres, L., and Tuller, H.L. (2014) In Situ Electrical Characterization of Anatase TiO <sub>2</sub> Quantum Dots, <i>Advanced Functional Materials</i> , 24 (31), 4952-4958. DOI: 10.1002/adfm.201400203
18	Liu, J., Takeshi, D., Sasaki, K. and Lyth, S.M. (2014) Defective graphene foam: A platinum catalyst support for PEMFCs, <i>Journal of the Electrochemical Society</i> , 161 (9), F838-F844. DOI: 10.1149/2.0231409jes

17	Ishikawa, Y., Shiozawa, M., Kondo, M. , Ito, K. (2014) Theoretical analysis of supercooled states of water generated below the freezing point in a PEFC, <i>International Journal of Heat and Mass Transfer</i> , 74, 215-227. DOI: 10.1016/j.ijheatmasstransfer.2014.03.038
16	Hong, L., Toshimitsu, F., Niidome, Y., Nakashima, N. (2014) Microenvironment effect on the electronic potentials of individual (6,5)single-walled carbon nanotubes, <i>Journal of Materials Chemistry C</i> , 2 (26), 5223-5228. DOI: 10.1039/c4tc00495g
15	Imazu, N., Fujigaya, T., Nakashima, N. (2014) Fabrication of flexible transparent conductive films from long double-walled carbon nanotubes, <i>Science and Technology of Advanced Materials</i> , 15 (2), 025005. DOI: 10.1088/1468-6996/15/2/025005
14	Marrocchelli, D., Chatzichristodoulou, C. and Bishop, S.R. (2014) Defining chemical expansion: The choice of units for the stoichiometric expansion, <i>Physical Chemistry Chemical Physics</i> , 16 (20), 9229-9232. DOI: 10.1039/c4cp01096e
13	Bishop, S. R., Nakamura, T. and Amezawa, K. (2014) Chemically-induced expansion of $Zr_{0.2}Ce_{0.8}O_{2-\delta}$ , <i>Solid State Ionics</i> , 261, 1-4. DOI: 10.1016/j.ssi.2014.03.026
12	Fukumaru, T., Saegusa, Y., Fujigaya, T., Nakashima, N. (2014) Fabrication of poly(p-phenylenebenzobisoxazole) film using a soluble poly(o -alkoxyphenylamide) as the precursor, <i>Macromolecules</i> , 47 (6), 2088-2095. DOI: 10.1021/ma4024526
11	Fukumaru, T., Toshimitsu, F., Fujigaya, T. and Nakashima, N. (2014) Effects of the chemical structure of polyfluorene on selective extraction of semiconducting single-walled carbon nanotubes, <i>Nanoscale</i> , 6 (11), 5879-5886. DOI: 10.1039/c4nr00809j
10	Kanda, K., Noda, Z., Nagamatsu, Y., Higashi, T., Taniguchi, S., Lyth, S. M., Hayashi, A., Sasaki, K. (2014) Negligible Start-Stop-Cycle Degradation in a PEFC Utilizing Platinum-Decorated Tin Oxide Electrocatalyst Layers with Carbon Fiber Filler, <i>ECS Electrochemistry Letters</i> , 3 (4), F15-F18. DOI: 10.1149/2.005404eel
9	Liu, J.F., Takeshi, D., Orejon, D., Sasaki, K., Lyth, S. M. (2014) Defective Nitrogen-Doped Graphene Foam: A Metal-Free, Non-Precious Electrocatalyst for the Oxygen Reduction Reaction in Acid, <i>Journal of the Electrochemical Society</i> , 161 (4), F544-F550. DOI: 10.1149/2.095404jes
8	Takabatake, Y., Noda, Z., Lyth, S.M., Hayashi, A. and Sasaki, K. (2014) Cycle durability of metal oxide supports for PEFC electrocatalysts, <i>International Journal of Hydrogen Energy</i> , 39 (10), 5074-5082. DOI: 10.1016/j.ijhydene.2014.01.094
7	Park, E., Taniguchi, S., Daio, T., Chou, J.-T. and Sasaki, K. (2014) Comparison of chromium poisoning among solid oxide fuel cell cathode materials, <i>Solid State Ionics</i> , 262, 421-427. DOI: 10.1016/j.ssi.2014.01.047
6	Bishop, S. R., Marrocchelli, D., Chatzichristodoulou, C., Perry, N. H., Mogensen, M. B., Tuller, H. L. and Wachsman, E. D. (2014) Chemical Expansion: Implications for Electrochemical Energy Storage and Conversion Devices, <i>Annual Review of Materials Research</i> , 44, 205-239. DOI: 10.1146/annurev-matsci-070813-113329
5	Rupp, J. L. M., Fabbri, E., Marrocchelli, D., Han, J.-W., Chen, D., Traversa, E., Tuller, H. L. and

Division: Electrochemical Energy Conversion  
Year: 2014

	Yildiz, B. (2014) Scalable Oxygen-Ion Transport Kinetics in Metal-Oxide Films: Impact of Thermally Induced Lattice Compaction in Acceptor Doped Ceria Films, <i>Advanced Functional Materials</i> , 24 (11), 1562-1574. DOI: 10.1002/adfm.201302117
4	Fujigaya, T., Kim, C., Matsumoto, K. and Nakashima, N (2014) Palladium-based anion-exchange membrane fuel cell using koh-doped polybenzimidazole as the electrolyte, <i>ChemPlusChem</i> , 79 (3), 400-405. DOI: 10.1002/cplu.201300377
3	Kim, J., Bishop, S. R., Thompson, N. J., Chen, D. and Tuller, H. L. (2014) Investigation of Nonstoichiometry in Oxide Thin Films by Simultaneous in situ Optical Absorption and Chemical Capacitance Measurements: Pr Doped Ceria - Case Study, <i>Chemistry of Materials</i> , 26 (3), 1374-1379. DOI: 10.1021/cm403066p
2	Berber, M.R., Fujigaya, T. and Nakashima, N (2014) High-temperature polymer electrolyte fuel cell using poly(vinylphosphonic acid) as an electrolyte shows a remarkable durability, <i>ChemCatChem</i> , 6 (2), 567-571. DOI: 10.1002/cctc.201300884
1	Fujigaya, T., Hirata, S. and Nakashima, N. (2014) A Highly-Durable Fuel Cell Electrocatalyst Based on Polybenzimidazole-coated Stacked Graphene, <i>Journal of Materials Chemistry A</i> , 2, 3888-3893. DOI: 10.1039/C3TA14469K