

1. Refereed Journal Articles

1. Sofiatun Anisah, Waravut Puthai, Masakoto Kanezashi, Hiroki Nagasawa, Toshinori Tsuru, Hydrothermal stability and permeation properties of TiO₂-ZrO₂ (5/5) nanofiltration membranes at high temperatures, *Separation and Purification Technology* 212 (2018) 1001-1012.
2. G Dong, X Zhang, Y Zhang, T Tsuru, Enhanced permeation through CO₂-stable dual-inorganic composite membranes with tunable nano-architected channels, *ACS Sustainable Chemistry & Engineering*, 6 (2018) 8515–8524 DOI: 10.1021/acssuschemeng.8b00792.
3. Jing Xu, Hiroki Nagasawa, Masakoto Kanezashi, Toshinori Tsuru, UV-protective TiO₂ Thin Films with High Transparency in Visible Light Region Fabricated via Atmospheric-pressure Plasma-enhanced Chemical Vapor Deposition, *ACS Applied Materials & Interfaces*, 10 (2018) 42657-42665.
4. Xin Yu, Hiroki Nagasawa, Masakoto Kanezashi and Toshinori Tsuru, Improved thermal and oxidation stability of bis(triethoxysilyl)ethane (BTESE)-derived membranes, and their gas-permeation properties, *Journal of Materials Chemistry A* 6 (2018) 23378-23387.
5. Masakoto Kanezashi, Masaaki Murata; Hiroki Nagasawa; Toshimi Nakaya; Toshinori Tsuru, Fluorine Doping of Microporous Organosilica Membranes for Pore Size Control and Enhanced Hydrophobic Properties, submitted to *ACS Omega*, 3 (2018) 8612-8620.
6. Sofiatun Anisah, Waravut Puthai, Masakoto Kanezashi, Hiroki Nagasawa, Toshinori Tsuru, Preparation, characterization, and evaluation of TiO₂-ZrO₂ nanofiltration membranes fired at different temperatures, *Journal of Membrane Science*, 564 (2018) 691–699.
7. Feng-Tao Zheng,¹ Kazuki Yamamoto, Masakoto Kanezashi, Takahiro Gunji, Toshinori Tsuru, Joji Ohshita, Preparation of Hybrid Organosilica Reverse Osmosis Membranes by Interfacial Polymerization of Bis[(trialkoxysilyl)propyl]amine, *Chemistry Letter*, 47 (2018) 1210-1212.

8. Liang Yu, Masakoto Kanezashi, Hiroki Nagasawa, Toshinori Tsuru, Role of Amine Type in CO₂ Separation Performance within Amine Functionalized Silica/organosilica Membranes: A Review, *Applied Sciences*, *Applied Sciences* 8 (2018) 1032.
9. Hiroki Inde; Masakoto Kanezashi, Hiroki Nagasawa; Toshimi Nakaya; Toshinori Tsuru, Tailoring a thermally stable amorphous SiOC structure for the separation of large molecules: The effect of calcination temperature on SiOC structures and gas permeation properties, *ACS Omega* 3 (2018) 6369-6377.
10. Kazuki Yamamoto, Haruna Muragishi, Tomonobu Mizumo, Takahiro Gunji, Masakoto Kanezashi, Toshinori Tsuru, Joji Ohshita, Diethylenedioxane-bridged microporous organosilica membrane for gas and water separation, *Separation and Purification Technology* 22 (2018) 370-376.
11. Hiroki Nagasawa, Jing Xu, Masakoto Kanezashi, Toshinori Tsuru, Atmospheric-pressure plasma-enhanced chemical vapor deposition of UV-shielding TiO₂ coatings on transparent plastics, *Materials Letters*, 228 (2018) 479-481.
12. Norihiro Moriyama, Hiroki Nagasawa, Masakoto Kanezashi, and Toshinori Tsuru, Pervaporation dehydration of aqueous solutions of various types of molecules via organosilica membranes: Effect of pore size and molecular sizes, *Separation and Purification Technology*, 207 (2018) 108–115.
13. Odtsetseg Myagmarjav, Jin Iwatsuki, Nobuyuki Tanaka, Shinji Kubo, Yoshiyuki Inagaki Mikihiro Nomura, Shin-ichi Sawada, Tetsuya Yamaki, Xin Yu, Masakoto Kanezashi, Toshinori Tsuru, Masato Machida, Tatsumi Ishihara, Masahiko Mizuno, Yasuo Hosono, Keita Miyajima, Makoto Inomata, Yoshiro Kuriki, and Nariaki Sakaba, Research and Development Program of Membrane IS Process for Hydrogen Production using Solar Heat, *International Journal of Hydrogen Energy*, accepted.
14. Genghao Gong, Hiroki Nagasawa, Masakoto Kanezashi, Toshinori Tsuru, Facile and scalable flow-induced deposition of organosilica on porous polymer supports for reverse osmosis desalination, *ACS Applied Materials & Interfaces*, 10 (2018)14070–14078. DOI: 10.1021/acsami.7b19075

15. Hiroki Nagasawa, Shunya Odagawa, Masakoto Kanezashi, Toshinori Tsuru, Acid post-treatment of sol-gel-derived ethylene-bridged organosilica membranes and their filtration performances, *Journal of Membrane Science*, 56 (2018) 196-202.
16. Hiroki Nagasawa, Yuta Yamamoto, Masakoto Kanezashi and Toshinori Tsuru, Atmospheric-Pressure Plasma-Deposition of Hybrid Silica Membranes, *Journal of Chemical Engineering of Japan* 51 (2018) 732-739.
17. Shigeru Yoshimoto, Kenji Ito, Hiroyuki Hosomi, Masaaki Takeda, and Toshinori Tsuru, Subnanopore structural change of time-elapsed silica PECVD films elucidated by slow positron annihilation and ellipsometric porosimetry, *JJAP Conference Proceedings*, accepted.
18. Norihiro Moriyama, Hiroki Nagasawa, Masakoto Kanezashi, Kenji Ito, Toshinori Tsuru, Bis(triethoxysilyl)ethane-derived organosilica membranes: pore formation mechanism and gas permeation properties, *J. Sol-Gel Sci. Tech.*, 86 (2018) 63-72.
19. Liang Yu, Masakoto Kanezashi, Hiroki Nagasawa, Norihiro Moriyama, Kenji Ito, and Toshinori Tsuru, Enhanced CO₂ Separation Performance for Tertiary Amine-silica Membranes via Thermally Induced Local Liberation of CH₃Cl, *AIChE Journal*, 64 (2018) 1528-1539. doi.org/10.1002/aic.16040
20. Masakoto Kanezashi, Takuya Matsutani, Hiroki Nagasawa, Toshinori Tsuru, Fluorine-induced microporous silica membranes: Dramatic improvement in hydrothermal stability and pore size controllability for highly permeable propylene/propane separation, *Journal of Membrane Science*, 549 (2018) 111-119
21. Feng-Tao Zheng, Kazuki Yamamoto, Masakoto Kanezashi, Toshinori Tsuru, Joji Ohshita, Preparation of bridged silica RO membranes from copolymerization of bis(triethoxysilyl)ethene/ (hydroxymethyl)triethoxysilane. Effects of ethenylene-bridge enhancing water permeability, *Journal of Membrane Science* 546 (2018) 173-178.

2. Book Chapters

1. M. Kanezashi and T. Tsuru, Transport mechanism and modeling of microporous silica membranes, Elsevier series on "Current Trends and Future Developments on

(Bio-) Membranes” Editor: Angelo Basile

2. L. Meng and T. Tsuru, Microporous silica membrane reactors, Elsevier series on “Current Trends and Future Developments on (Bio-) Membranes” Editor: Angelo Basile
3. Advanced Materials for Membrane Fabrication and Modification, Edited by Stephen Gray, Toshinori Tsuru, Yoram Cohen, and Woei Jye Lau, CRC Press, 2018.
4. H. Nagasawa and T. Tsuru, Low-temperature plasma-enhanced chemical vapor deposition of silica-based membranes: Synthesis, characterization, and gas permeation properties, in Advanced Materials for Membrane Fabrication and Modification, CRC Press, 2018.
5. 金指正言, 長澤寛規, 都留稔了, ゼル-ゲル法によるシリカ系膜の水素透過特性, in 二酸化炭素・水素分離膜の開発と応用, CMC 出版, 2018
6. 長澤 寛規, 金指 正言, 都留 稔了, シリカ系多孔膜による CO₂ 分離, in 二酸化炭素・水素分離膜の開発と応用, CMC 出版, 2018.
7. 都留稔了, 第 1 章 膜反応器総論, in 二酸化炭素・水素分離膜の開発と応用, CMC 出版, 2018.
8. 都留稔了, 長澤寛規, 金指正言, ナノ多孔性フィルムおよび膜の細孔評価技術: Nanopermporometry, Normalized Knudsen-based permeance, IR-Pososimetry 法, in 分離技術のシーズとライセンス技術の実用化, 分離技術協会, 2018.

3. Review Articles

1. Toshinori Tsuru, Silica-Based Membranes with Molecular-Net-Sieving Properties: Development and Applications, Journal of Chemical Engineering of Japan, 51 (2018) 713-725.
2. 都留稔了, 森山教洋, 長澤寛規, 金指正言, シリカおよびオルガノシリカ膜のナノ/サブナノチューニングと水素分離への応用, 膜, 43 (2018) 180-187.
3. 金指正言, 都留稔了, シリカ系分子ふるい膜のネットワーク制御と Normalized

Knudsen-based Permeance (NKP)法による細孔径評価, ゼオライト 35 (2018) 13-22.

4. 都留稔了, ロバスト RO/NF 膜の開発とフレキシブルセラミック膜への展開, 工業材料, 66 (2018) 26-30.

4. Invited and Keynote Lectures

1. 都留稔了, ゴルゲル法による触媒膜の開発と触媒膜型反応への応用, 第3回東日本キャタリシスセミナー, 2018.11.30
2. 都留稔了, ナノ/サブナノ多孔性シリカ膜の現状と新しい展開, 「未来を拓く無機膜・環境エネルギー技術シンポジウム」, 2018.11.6
3. 都留稔了, シリカ系多孔質分離膜の高度化と触媒膜反応器への応用, 化学工学会秋季大会, 2018.9.19
4. 長澤寛規, 大気圧プラズマ CVD 法によるシリカ膜の製膜とガス分離への応用, 第67回 CVD 研究会 「第29回夏季セミナー」, 2018.8.6
5. T. Tsuru, T. Omura, H. Nagasawa, M. Kanezashi, Filtration of oily water using ceramic membranes: Effect of membrane materials and pore sizes, International Conference on Inorganic Membranes (ICIM), Dresden, Germany, Keynote, 2018.6.22
6. T. Tsuru, Membrane Technology for Sustainable Development Goals: Application to water and energy, MIRAI workshop, University of Gothenburg, Sweden, 2018.6.7.
7. 都留稔了, ゴルゲル法シリカ膜の開発と触媒膜型反応器によるプロセス強化, 中国地区化学工学懇話会講演会, 2018.5.31
8. 都留稔了, 多孔質膜のナノ/サブナノチューニングと水素分離への応用, 日本膜学会年会, 2018.5.9
9. 都留稔了, 多孔性セラミック膜の開発と各種分離プロセスへの応用, 中国四国地区化学工学懇話会, 特別講演, 2018.4.20
10. T. Tsuru, Silica-Based Membranes with Molecular-Net-Sieving Properties: Development and Applications, International Symposium on Advanced Membranes

& Sustainable Technologies, Tianjin, China, 2018.4.14

11. 都留稔了, 多孔性セラミック膜の開発と分離プロセス工学への貢献, 化学工学会第 83 年会 学会賞記念講演, 2018.3.13
12. 金指正言, 長澤寛規, 都留稔了, ゼルゲル法によりネットワーク構造を制御したシリカ系膜の炭化水素透過特性, 化学工学会第 83 年会, 関西大学, 依頼講演, 2018.3.13
13. 長澤寛規, 大気圧プラズマを用いたシリカ膜の低温製膜と気体分離への応用, 化学工学会第 83 年会, 関西大学, 研究奨励賞記念講演, 2018.3.14
14. M. Kanezashi, "Pore size controllability and gas permeation properties of sol-gel derived amorphous silica membranes, International Institute for Carbon-Neutral Energy Research (I2CNER) workshop 2018, Kyushu University, Invited lecture, 2018.2.2