１．査読つき論文

（2025）

1. S. Lawal, Y. Takahashi, N. Moriyama, H. Nagasawa, T. Tsuru, M. Kanezashi*: Fabricating hydrothermally robust ceramic membranes from amorphous yttrium-doped SiO_2-ZrO_2 composites. *Journal of the European Ceramic Society*, 45: 116826 (p.1-13), 2025.
2. G. Sushanti, N. Moriyama, H. Nagasawa, M. Kanezashi, T. Tsuru*: Surface oxidation via water plasma for increased H_2 permselectivity of Allylhydridopolycarbosilane (AHPCS)-derived SiC membrane. *Journal of Membrane Science*, 716: 123521 (p.1-10), 2025.
3. N. Moriyama, S. Shiozaki, H. Nagasawa, M. Kanezashi, T. Tsuru*: Activity-based permeance for the generalized modeling of reverse osmosis and pervaporation. *AIChE J.*, 71: e18585 (p.1-10), 2025.
4. H. Nagasawa*, M. Kawasaki, N. Moriyama, M. Kanezashi, T. Tsuru: Silica-polysiloxane nanocomposite membrane via 2-step atmospheric-pressure (PECVD) for precise molecular-sieving H_2 separation. *Separation and Purification Technology*, 361: 131631 (p.1-10), 2025.
5. N. Moriyama, S. Shiozaki, S. Hatashita, H. Nagasawa, T. Iwashita, K. Yamamoto, T. Gunji, M. Kanezashi, T. Tsuru*: Design of organosilica membranes to optimize reverse osmosis for the concentration of alcohols. *Journal of Membrane Science*, 721: 123819 (p.1-9), 2025.
6. K. Ishizaki, R. Izumi, N. Moriyama, H. Nagasawa, T. Tsuru, M. Kanezashi*: Investigation into oxygen separation properties at extremely low temperature through bridged-type organosilica membranes with controlled microporous structure. *Journal of Membrane Science*, 723: 123955 (p.1-11), 2025.
7. G. Sushanti, N. Moriyama, H. Nagasawa, M. Kanezashi, T. Tsuru*: Pervaporation performance of allylhydridopolycarbosilane (AHPCS)-derived Silicon Carbide (SiC) membranes for alcohol dehydration. *Separation and Purification Technology*, 369: 133137 (p.1-12), 2025.
8. X. Niu, N. Moriyama, H. Nagasawa, T. Tsuru, M. Kanezashi*****: Hydrothermally robust carbon-silica-zirconia ceramic membranes for efficient pervaporation dehydration. *Journal of Membrane Science*, 730: 124197 (p.1-13), 2025.
9. N. Moriyama, Y. Miki, H. Nagasawa, T. Tsuru, K. Ito, Y. Hasegawa, M. Kanezashi*: Simple strategy for fabrication of thin amine-polysiloxane hybrid membranes supported by microfiltration membranes. *Industrial & Engineering Chemistry Research*, 64: 9773-9781, 2025.
10. W.-W. Yan, N. Moriyama, H. Nagasawa, M. Kanezashi, T. Tsuru*: Green ammonia production via a catalytic membrane reactor: Proof of concept through experiments and mathematical simulations. *AIChE Journal*, 71: e18863 (p.1-11), 2025.
11. S. Aoyama, H. Nagasawa*, N. Moriyama, K. Ito, T. Tsuru, M. Kanezashi: Ultrathin highly porous molecular-sieve silica membranes developed by facile process using atmospheric-pressure plasma modification. *ACS Materials Letters*, 7: 3058-3064, 2025.
12. T. Yoshio, K. Horata, Y. Adachi, T. Tsuru, M. Kanezashi*****, J. Ohshita*: Effects of aryl substituents on the performance of polysilsesquioxane-based CO_2 separation membranes. *Journal of Sol-Gel Science and Technology*, 116: 849-858, 2025.
13. X. Niu, R. Uchino, N. Moriyama, H. Nagasawa, T. Tsuru, M. Kanezashi*****: Enhanced MeOH selective pervaporation of carbon-polyimide-POSS membranes via water plasma treatment: synergistic effects of microporosity and hydrophilicity. *ACS Sustainable Chemistry & Engineering*, 13: 14140-14151, 2025.
14. U. Anggarini*, D. Rahayu, F. A. Oktaviola, N. C. Sukmana, W.-W. Yan, H. Nagasawa, T. Tsuru, M. Kanezashi*: Investigation of CO_2/N_2 separation capabilities for various amine-functionalized organosilica membranes: synthesis and sorption study evaluation. *Journal of Sol-Gel Science and Technology*, 116: 1230-1251, 2025.
15. N. Moriyama, M. Ike, S. Hatashita, H. Nagasawa, T. Tsuru*, M. Kanezashi*****: Metal-doped organosilica membranes for steam/gas separation applications: From permselectivity and stability perspectives. *Chemistry - An Asian Journal*, 20: e00887 (p.1-11), 2025.
16. I. Rana, N. Moriyama, H. Nagasawa, T. Tsuru, M. Kanezashi*****: Fabrication of highly hydrophobic inorganic–organic silica membranes for application in organic solvent nanofiltration (OSN). *Industrial & Engineering Chemistry Research*, 64: 19960-19970, 2025.
17. J. Ohshita*, K. Horata, T. Kaneko, Y. Adachi, M. Kanezashi*: Preparation of polysilsesquioxane-based RO membranes with urea units for water desalination. *Membranes*, 15: 322 (p.1-12), 2025.

（2026）

1. W.-W. Yan, G. Sushanti, N. Moriyama, H. Nagasawa, M. Kanezashi, T. Tsuru*: Sulfonic-acid organosilica membrane with high water affinity for fuel-efficient steam recovery from humid gases over wide temperature range of 80-250 °C. *Journal of Membrane Science*, 738: 124824 (p.1-12), 2026.

2. X. Niu, Z. Liu. N. Moriyama, H. Nagasawa, T. Tsuru, M. Kanezashi*: Microstructure-engineered carbon-silica-zirconia membrane for highly efficient methanol pervaporation recovery. *Journal of Membrane Science*, 738: 124886 (p.1-13), 2026.
3. L. Cheng, M. Guo*, N. Moriyama, H. Nagasawa, M. Kanezashi*: Side chain modification of silicone rubber membranes for efficient aromatic/aliphatic hydrocarbons separation. *Separation and Purification Technology*, 386: 136509 (p.1-11), 2026.
4. G. Muhammad, H. Nagasawa*, T. Hamura, N. Moriyama, T. Tsuru, M. Kanezashi: Fabrication of nanoporous membranes by atmospheric-pressure plasma-enhanced chemical vapor deposition using porogen approach. *Chemistry - An Asian Journal Accepted*

２．著書

1. 森山教洋，金指正言*: 水素エネルギーの科学と技術-カーボンニュートラル実現のキーテクノロジー-，第5節 5.5 膜分離による水素精製. P.178-188，コロナ社，2026.

３．総説，一般記事など

1. X. Niu, M. Kanezashi*: Microstructure engineering of silica-derived membranes and their applications in molecular separation. *Bulletin of the Chemical Society of Japan*, 98: uoaf030 (p.1-24), 2025.

４．学会などからの招待講演，基調講演

1. 金指正言，“サブナノレベルでのマイクロポーラス構造制御によるシリカ系多孔膜の創製”，ケムステ V シンポ：構造から機能へ：ケイ素系元素ブロック材料研究の最前線（主催：日本セラミックス協会，web 開催（2025.8.8），依頼講演
2. M. Kanezashi, “Microstructure engineering of robust ceramic composite structure for molecular separation”, International Symposium on Inorganic Membranes (ISIM2025), Kuala Lumpur (2025.8.18), Invited lecture
3. M. Kanezashi, “Tailoring the microporous silica-based structure and application to oxygen separation at low temperature”, 15th Conference of Aseanian Membrane Society (AMS15), Kuala Lumpur (2025.8.20), Invited talk
4. 金指正言，“細孔構造を制御したシリカ系多孔膜の創製と分子混合物分離への応用”，FlowST オータムワークショップ，長野（2025.11.18），招待講演
5. 長澤寛規，“オルガノシリカ膜を用いた RO/NF プロセスによる有機溶剤回収”，2024 年度春季膜工学サロン，神戸大学 (2025.3.31)，依頼講演
6. H. Nagasawa, Microporous Silica Membranes for Advanced Molecular Separations, KUUB-ICChEAS 2025, Banjarmasin, Indonesia (2025. 10. 15), Keynote lecture.

５．受賞

1. 相馬 健人，中国地区化学工学懇話会懇話会長賞 (2025/3)
2. 相馬 健人，広島大学大学院先進理工系科学研究科学生表彰 (2025/3)
3. Gusni Sushanti，広島大学学生表彰 (2025/3)
4. 三好俊輔，膜シンポジウム2025学生賞 (2025/11)
5. 石﨑一俊，エクセレント・スチューデント・スカラーシップ (2025/12)
6. Niu Xinpu，エクセレント・スチューデント・スカラーシップ (2025/12)

６．その他の特記事項

1. ACS Sustainable Chemistry & Engineeringのcover artに採択

https://pubs.acs.org/toc/ascecg/13/34

７．学位取得者

博士（工学）

1. Gusni Sushanti, Development of Silicon Carbide (SiC)-based microporous membranes and their application to gas and liquid phase separations (シリコンカーバイド (SiC) 微細孔膜の開発と気相および液相分離への応用)
2. 青山 舜，大気圧プラズマ表面改質によるシリカ膜の細孔構造・親和性制御と水系分離への応用

修士（工学）

1. 古川未希，オゾン処理を用いた低温テンプレート除去による高透過シリカ膜の製膜
2. 相馬健人，金属錯体を用いたシリカ系マイクロポーラス構造制御と気体透過特性評価
3. 牧原大晟，オルガノシリカ膜の細孔径制御と有機水溶液の逆浸透濃縮への応用
4. 久保卓也，オルガノシリカ膜を用いた中～高温における水蒸気/ガス分離と透過挙動解析
5. 畑下さくら，C2架橋型オルガノシリカを用いた細孔構造制御と有機溶媒分離膜への応用
6. 内野稜平，Polyhedral Oligomeric Silsesquioxane (POSS) 含有有機無機ハイブリッドによる細孔構造制御と分子ふるい膜への応用
7. 今吉真崇，大気圧プラズマ気液界面重合法を用いたLayered-hybridシリカ膜の構造最適化

学士（工学）

1. 児島一輝，AP-PECVD法を用いたSi系サブナノ多孔膜の構造制御と透過特性評価
2. 長岡悠菜，オルガノシリカ膜の水熱安定性評価とピュアスチーム製造の検討
3. 小林隆太，半導体プロセスに適用可能なN_2/SF_6分離膜の作製
4. 廣本慎吾，大気圧プラズマCVDによる水素分離膜の製膜と水素精製プロセスへの応用
5. 市丸幹人，大気圧プラズマ表面改質を用いて作製した高多孔性シリカ膜の有機溶媒水溶液の浸透気化への応用