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23.H. Nagasawa, T. Kagawa, T. Noborio, M. Kanezashi, A. Ogata, T. Tsuru: Ultrafast synthesis of silica-based molecular sieve membranes in dielectric barrier discharge at low temperature and atmospheric pressure. /Journal of the American Chemical Society Accepted/

24.I. Maity, H. Nagasawa, T. Tsuru, P. Bhattacharyya: Correlation between ammonia selectivity and temperature dependent functional group tuning of GO. /IEEE Transactions on Nanotechnology Accepted/

２．著書

３．総説，一般記事など

1.金指正言: (巻頭言) 炭化水素分離に貢献する分離膜の最前線の特集にあたって．膜(/MEMBRANE/)，45: 261, 2020.

2.金指正言: ゾルーゲル法によりマイクロポーラス構造を制御したシリカ系膜のプロピレン/プロパン透過特性．膜(/MEMBRANE/)，45: 275-280, 2020.

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5.Cuijing Liu, Guanying Dong, Toshinori Tsuru^, Hideto Matsuyama, Organic solvent reverse osmosis membranes for organic liquid mixture separation: A review, Journal of Membrane Science, accepted.

４．学会などからの招待講演，基調講演

1.M. Kanezashi, “Development of silica-derived molecular sieving membranes via controlling microporous structure, AIChE Annual Meeting, in Honor of Jerry Lin IV, Invited Talks, 2020.11.19

2.Toshinori Tsuru, Organosilica-based ceramic membranes for organic solvent reverse osmosis (OSRO): Experimental verification and theoretical prediction, International Congress on Membranes & Membrane Processes 2020 (ICOM2020), London (Online – Live), 202012 (Keynote)

3.Toshinori Tsuru, Organosilica and SiC-based membranes: Development and application to selective removal of water vapor from steam/gas mixtures at moderate-to-high temperatures, The 16th International Conference on Inorganic Membranes (ICIM 16), Taipei, 202007 (Keynote)

4.都留稔了，日本膜学会，オルガノシリカ膜による有機溶媒混合物の逆浸透分離，日本膜学会年会 2020

5.都留稔了，シリカ系分離膜の Molecular-Net-Sieving 制御と液相および気相系分離の高度化，化学工学会年会，2020/03/17

５．受賞

1.金指正言，令和 2 年度 Phoenix Outstanding Researcher Award，広島大学(2020.11)

2.長澤寛規，村田守，金指正言，都留稔了，2019 年度化学工学論文集優秀論文賞，高分子多孔膜を支持体とするオルガノシリカ layered hybrid 膜のゾル–ゲル製膜における縮重合温度の影響と蒸気透過特性，化学工学論文集，45 (2019) 177-183 (2020.9)

3.Hiroki Nagasawa, Yuta Yamamoto, Masakoto Kanezashi, Toshinori Tsuru, Outstanding Paper Award of 2018, Journal of Chemical Engineering of Japan, Atmospheric-Pressure Plasma-Enhanced Chemical Vapor Deposition of Hybrid Silica Membranes, Journal of Chemical Engineering of Japan 51 (2018) 732-739. (2020.3)

以下学生賞

1.佐藤宇亮：中国地区化学工学懇話会学生奨励賞(河村祐治記念賞) (2020.3)

2.川崎貢功：中国地区化学工学懇話会学生奨励賞(河村祐治記念賞) (2020.3)

3.井上遼太：エクセレント・スチューデント・スカラーシップ(2020.2)

4.岡田拓也：エクセレント・スチューデント・スカラーシップ(2020.2)

６．開催した講演会

７．その他の特記事項

８．学位取得者

博士（工学）

1.Qing Wang, Development of high-performance SiC-based membranes derived from preceramic precursors and application to gas separation and pervaporation (PV)

2.Meng Guo, Development of organosilica membranes for the separation of light hydrocarbons

3.Guanying Dong, High-performance organosilica membranes for separation of organic solvent mixtures in reverse osmosis and pervaporation

修士（工学）

1.横治真人，Allylhydridopolycarbosilane (AHPCS) を用いた SiC 系ガス分離膜の作製と特性評価

2.畑岡直弥，フッ素系シリカ膜の水熱安定性と気体透過特性

3.井上遼太，橋架けオルガノシリカを用いた細孔構造制御と低温気体分離膜への応用

4.岡田拓也，大気圧プラズマを用いた気液界面重合によるシリカ膜の作製

学士（工学）

1.潮崎俊一，セラミック膜を用いた有機溶液系逆浸透分離

2.佐藤宇亮，浸透気化メタノール分離のための BTESA 膜の作製とエステル交換膜型反応器への応用

3.長岡嵩大，疎水性シリカ膜の作製と透過特性評価

4.渡辺健太，Polyhedral Oligomeric Silsesquioxane (POSS) 骨格を有するカーボン膜の作製と透過特性

5.川崎貢功，大気圧プラズマ CVD 法による高分子支持体へのシリカ膜の作製

6.平山　匠，大気圧プラズマと超音波霧化を組み合わせたセラミック多孔膜製膜法の開発