Toshihiko Mandai

List of Publications by Year
in descending order

74 papers	3,431 citations	159585 30 h-index	138484 58 g-index
75 all docs	75 docs citations	75 times ranked	3089 citing authors

#	Article	IF	Citations
1	Comparison between Dicationic and Monocationic Ionic Liquids: Liquid Density, Thermal Properties, Surface Tension, and Shear Viscosity. Journal of Chemical & Engineering Data, 2011, 56, 2453-2459.	1.9	314
2	Criteria for solvate ionic liquids. Physical Chemistry Chemical Physics, 2014, 16, 8761.	2.8	240
3	Li⁺ solvation in glymeâ€“Li salt solvate ionic liquids. Physical Chemistry Chemical Physics, 2015, 17, 8248-8257.	2.8	222
4	Chelate Effects in Glyme/Lithium Bis(trifluoromethanesulfonyl)amide Solvate Ionic Liquids. I. Stability of Solvate Cations and Correlation with Electrolyte Properties. Journal of Physical Chemistry B, 2014, 118, 5144-5153.	2.6	194
5	Anionic Effects on Solvate Ionic Liquid Electrolytes in Rechargeable Lithiumâ€“Sulfur Batteries. Journal of Physical Chemistry C, 2013, 117, 20509-20516.	3.1	166
6	Mechanism of Li Ion Desolvation at the Interface of Graphite Electrode and Glymeâ€“Li Salt Solvate Ionic Liquids. Journal of Physical Chemistry C, 2014, 118, 20246-20256.	3.1	155
7	Chelate Effects in Glyme/Lithium Bis(trifluoromethanesulfonyl)amide Solvate Ionic Liquids, Part 2: Importance of Solvate-Structure Stability for Electrolytes of Lithium Batteries. Journal of Physical Chemistry C, 2014, 118, 17362-17373.	3.1	137
8	Solvent Activity in Electrolyte Solutions Controls Electrochemical Reactions in Li-Ion and Li-Sulfur Batteries. Journal of Physical Chemistry C, 2015, 119, 3957-3970.	3.1	135
9	Li⁺ Solvation and Ionic Transport in Lithium Solvate Ionic Liquids Diluted by Molecular Solvents. Journal of Physical Chemistry C, 2016, 120, 15792-15802.	3.1	114
10	Effect of Ionic Size on Solvate Stability of Glyme-Based Solvate Ionic Liquids. Journal of Physical Chemistry B, 2015, 119, 1523-1534.	2.6	92
11	Thermal and Electrochemical Stability of Tetraglymeâ€“Magnesium Bis(trifluoromethanesulfonyl)amide Complex: Electric Field Effect of Divalent Cation on Solvate Stability. Journal of Physical Chemistry C, 2016, 120, 1353-1365.	3.1	88
12	Structures of [Li(glyme)]⁺ complexes and their interactions with anions in equimolar mixtures of glymes and Li[TFSA]: analysis by molecular dynamics simulations. Physical Chemistry Chemical Physics, 2015, 17, 126-129.	2.8	87
13	Li⁺ Local Structure in Hydrofluoroether Diluted Li-Glyme Solvate Ionic Liquid. Journal of Physical Chemistry B, 2016, 120, 3378-3387.	2.6	81
14	Li-ion hopping conduction in highly concentrated lithium bis(fluorosulfonyl)amide/dinitrile liquid electrolytes. Physical Chemistry Chemical Physics, 2019, 21, 9759-9768.	2.8	77
15	Li+ Ion Transport in Polymer Electrolytes Based on a Glyme-Li Salt Solvate Ionic Liquid. Electrochimica Acta, 2015, 175, 5-12.	5.2	70
16	Critical Issues of Fluorinated Alkoxyborate-Based Electrolytes in Magnesium Battery Applications. ACS Applied Materials & Interfaces, 2020, 12, 39135-39144.	8.0	65
17	Hydrogen-bonding supramolecular protic salt as an â€œall-in-oneâ€•precursor for nitrogen-doped mesoporous carbons for CO2 adsorption. Nano Energy, 2015, 13, 376-386.	16.0	64
18	Phase Diagrams and Solvate Structures of Binary Mixtures of Glymes and Na Salts. Journal of Physical Chemistry B, 2013, 117, 15072-15085.	2.6	63

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19	Physicochemical properties of pentaglymeâ€“sodium bis(trifluoromethanesulfonyl)amide solvate ionic liquid. Physical Chemistry Chemical Physics, 2014, 16, 11737-11746.	2.8	60
20	Polymer Electrolytes Containing Solvate Ionic Liquids: A New Approach To Achieve High Ionic Conductivity, Thermal Stability, and a Wide Potential Window. Chemistry of Materials, 2018, 30, 252-261.	6.7	60
21	Al conductive haloaluminate-free non-aqueous room-temperature electrolytes. Journal of Materials Chemistry A, 2015, 3, 12230-12239.	10.3	52
22	Modifications in coordination structure of Mg[TFSA]₂-based supporting salts for high-voltage magnesium rechargeable batteries. Physical Chemistry Chemical Physics, 2019, 21, 12100-12111.	2.8	50
23	Effect of the cation on the stability of cationâ€“glyme complexes and their interactions with the [TFSA]^{âˆ’} anion. Physical Chemistry Chemical Physics, 2017, 19, 18262-18272.	2.8	49
24	A key concept of utilization of both non-Grignard magnesium chloride and imide salts for rechargeable Mg battery electrolytes. Journal of Materials Chemistry A, 2017, 5, 3152-3156.	10.3	46
25	Solvate Ionic Liquids for Li, Na, K, and Mg Batteries. Chemical Record, 2019, 19, 708-722.	5.8	42
26	Enhanced electrochemical properties of MgCo2O4 mesocrystals as a positive electrode active material for Mg batteries. Journal of Alloys and Compounds, 2018, 739, 793-798.	5.5	38
27	Ionic transport in highly concentrated lithium bis(fluorosulfonyl)amide electrolytes with keto ester solvents: structural implications for ion hopping conduction in liquid electrolytes. Physical Chemistry Chemical Physics, 2019, 21, 5097-5105.	2.8	35
28	Glymeâ€“Sodium Bis(fluorosulfonyl)amide Complex Electrolytes for Sodium Ion Batteries. Journal of Physical Chemistry C, 2018, 122, 16589-16599.	3.1	34
29	Determining Factor on the Polarization Behavior of Magnesium Deposition for Magnesium Battery Anode. ACS Applied Materials & Interfaces, 2020, 12, 25775-25785.	8.0	31
30	Dissociation and Diffusion of Glyme-Sodium Bis(trifluoromethanesulfonyl)amide Complexes in Hydrofluoroether-Based Electrolytes for Sodium Batteries. Journal of Physical Chemistry C, 2016, 120, 23339-23350.	3.1	30
31	Role of Coordination Structure of Magnesium Ions on Charge and Discharge Behavior of Magnesium Alloy Electrode. Journal of Physical Chemistry C, 2018, 122, 25204-25210.	3.1	30
32	Metallurgical approach to enhance the electrochemical activity of magnesium anodes for magnesium rechargeable batteries. Chemical Communications, 2020, 56, 12122-12125.	4.1	30
33	Remarkable electrochemical and ion-transport characteristics of magnesium-fluorinated alkoxyaluminateâ€“diglyme electrolytes for magnesium batteries. Materials Advances, 2021, 2, 6283-6296.	5.4	30
34	Pentaglymeâ€“K salt binary mixtures: phase behavior, solvate structures, and physicochemical properties. Physical Chemistry Chemical Physics, 2015, 17, 2838-2849.	2.8	27
35	Comparison between Cycloalkyl- and <i>n</i>-Alkyl-Substituted Imidazolium-Based Ionic Liquids in Physicochemical Properties and Reorientational Dynamics. Journal of Physical Chemistry B, 2012, 116, 2059-2064.	2.6	26
36	Structured spinel oxide positive electrodes of magnesium rechargeable batteries: High rate performance and high cyclability by interconnected bimodal pores and vanadium oxide coating. Journal of Alloys and Compounds, 2020, 816, 152556.	5.5	26

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37	Haloaluminate-Free Cationic Aluminum Complexes: Structural Characterization and Physicochemical Properties. Journal of Physical Chemistry C, 2016, 120, 21285-21292.	3.1	25
38	Understanding the Reductive Decomposition of Highly Concentrated Li Salt/Sulfolane Electrolytes during Li Deposition and Dissolution. ACS Applied Energy Materials, 2021, 4, 1851-1859.	5.1	24
39	Phase Transition Behavior of MgMn₂O₄ Spinel Oxide Cathode during Magnesium Ion Insertion. Chemistry of Materials, 2021, 33, 1006-1012.	6.7	24
40	Spinel-Type MgMn₂O₄ Nanoplates with Vanadate Coating for a Positive Electrode of Magnesium Rechargeable Batteries. Langmuir, 2020, 36, 8537-8542.	3.5	22
41	Effect of Al substitution on structure and cathode performance of MgMn2O4 spinel for magnesium rechargeable battery. Journal of Alloys and Compounds, 2021, 872, 159723.	5.5	21
42	Magnesium bis(trifluoromethanesulfonyl)amide complexes with triglyme and asymmetric homologues: phase behavior, coordination structures and melting point reduction. Physical Chemistry Chemical Physics, 2018, 20, 7998-8007.	2.8	19
43	Effect of Interaction among Magnesium Ions, Anion, and Solvent on Kinetics of the Magnesium Deposition Process. Journal of Physical Chemistry C, 2020, 124, 28510-28519.	3.1	19
44	Effective 3D open-channel nanostructures of a MgMn₂O₄ positive electrode for rechargeable Mg batteries operated at room temperature. Journal of Materials Chemistry A, 2021, 9, 6851-6860.	10.3	19
45	On the Practical Applications of the Magnesium Fluorinated Alkoxyaluminate Electrolyte in Mg Battery Cells. ACS Applied Materials & Interfaces, 2022, 14, 26766-26774.	8.0	19
46	Lithium-tin Alloy/Sulfur Battery with a Solvate Ionic Liquid Electrolyte. Electrochemistry, 2015, 83, 914-917.	1.4	17
47	Promoting Reversible Cathode Reactions in Magnesium Rechargeable Batteries Using Metastable Cubic MgMn₂O₄ Spinel Nanoparticles. ACS Applied Nano Materials, 2021, 4, 8328-8333.	5.0	17
48	Fluorine-free salts for aqueous lithium-ion and sodium-ion battery electrolytes. RSC Advances, 2016, 6, 85194-85201.	3.6	15
49	Extraordinary aluminum coordination in a novel homometallic double complex salt. Dalton Transactions, 2015, 44, 11259-11263.	3.3	14
50	Phenylphosphonate surface functionalisation of MgMn₂O₄ with 3D open-channel nanostructures for composite slurry-coated cathodes of rechargeable magnesium batteries operated at room temperature. RSC Advances, 2021, 11, 19076-19082.	3.6	14
51	Linker-length dependence of the reorientational dynamics and viscosity of bis(imidazolium)-based ionic liquids incorporating bis(trifluoromethanesulfonyl)amide anions. Chemical Physics Letters, 2012, 543, 72-75.	2.6	13
52	Correlation between hydrocarbon flexibility and physicochemical properties for cyclohexyl-imidazolium based ionic liquids studied by 1H and 13C NMR. Chemical Physics Letters, 2011, 507, 100-104.	2.6	12
53	Linker-Length Dependence of Crystal Structures and Thermal Properties of Bis(imidazolium) Salts with Tetrafluoroborate Anion. Bulletin of the Chemical Society of Japan, 2012, 85, 599-605.	3.2	11
54	Magnesium Storage Performance and Mechanism of 2Dâ€Ultrathin Nanosheetâ€Assembled Spinel MgIn₂S₄ Cathode for Highâ€Temperature Mg Batteries. Small, 2019, 15, e1902236.	10.0	11

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55	Tuning the performance of a Mg negative electrode through grain boundaries and alloying toward the realization of Mg batteries. Journal of Materials Chemistry A, 2021, 9, 15207-15216.	10.3	10
56	Effects of Cyclic-Hydrocarbon Substituents and Linker Length on Physicochemical Properties and Reorientational Dynamics of Imidazolium-Based Ionic Liquids. Journal of Physical Chemistry B, 2012, 116, 2090-2095.	2.6	9
57	Crystal Structures and Cathode Properties of Chemically and Electrochemically Delithiated Li_xNi_{0.5}Mn_{0.5}O₂ with Applications to Mg Rechargeable Batteries. Journal of the Electrochemical Society, 2020, 167, 100547.	2.9	9
58	Ultrathin Magnesium Metal Anode â€" An Essential Component for Highâ€Energyâ€Density Magnesium Battery Materialization. Batteries and Supercaps, 2022, 5, .	4.7	7
59	Revisiting Delithiated Li_{1.2}Mn_{0.54}Ni_{0.13}Co_{0.13}O<sub>2 Structural Analysis and Cathode Properties in Magnesium Rechargeable Battery Applications. Electrochemistry, 2021, 89, 329-333.	1.4	6
60	Room Temperature Operation of Magnesium Rechargeable Batteries with a Hydrothermally Treated ZnMnO₃ Defect Spinel Cathode. Electrochemistry, 2022, 90, 027005-027005.	1.4	6
61	Synthesis, cathode property and crystal, electronic and local structures of Mg2Mo3O8 as Mg rechargeable battery cathode material. Solid State Ionics, 2020, 354, 115413.	2.7	5
62	Electrochemical Properties and Crystal and Electronic Structures of Spinel Î±MgCo_{2â^'}<i>_x</i>Mn<i>_x</i>O<sub> for Magnesium Secondary Batteries. Electrochemistry, 2022, 90, 027002-027002.	1.4	2
63	Magnesium Batteries: Magnesium Storage Performance and Mechanism of 2Dâ€Ultrathin Nanosheetâ€Assembled Spinel MgIn₂S₄ Cathode for Highâ€Temperature Mg Batteries (Small 36/2019). Small, 2019, 15, 1970191.	10.0	0
64	A Key Concept of Utilization of Both Magnesium Chloride and Imide Salts for High Temperature Rechargebale Mg Battery Electrolytes. ECS Meeting Abstracts, 2017, , .	0.0	0
65	Electrochemical Properties of Lithium-Air Secondary Batteries with Catalyst-Modified Carbon Electrodes. ECS Meeting Abstracts, 2018, , .	0.0	0
66	Effects of Co-Substitution of Layered Perovskite Lsfo on Oer Activity in Alkaline Media. ECS Meeting Abstracts, 2018, , .	0.0	0
67	Ionic Liquid Based Electrolytes for High Voltage Magnesium Rechargeable Batteries. ECS Meeting Abstracts, 2018, , .	0.0	0
68	Interfacial Behavior of Magnesium Ions at Electrode/Electrolyte Interface during Magnesium Deposition Reaction. ECS Meeting Abstracts, 2019, , .	0.0	0
69	Critical Issues of Fluorinated Alkoxyborate-Based Electrolytes in Magnesium Battery Applications. ECS Meeting Abstracts, 2020, MA2020-02, 864-864.	0.0	0
70	Application of Spinel MgMn2-X Al x O4 As Cathode for Mg Rechargeable Battery. ECS Meeting Abstracts, 2020, MA2020-02, 3473-3473.	0.0	0
71	Strategy and Issue for Li-S Batteries with High Energy Density. ECS Meeting Abstracts, 2020, MA2020-02, 3529-3529.	0.0	0
72	Crystal Structures and Cathode Properties of Delithiated LixNi0.5Mn0.5O2 for Mg Rechargeable Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 214-214.	0.0	0

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73	Preparation of conductive Cu1.5Mn1.5O4 and Mn3O4 spinel mixture powders as positive active materials in rechargeable Mg batteries operative at room temperature. Journal of Sol-Gel Science and Technology, 0, , .	2.4	0
74	(Digital Presentation) Mass Spectroscopic Products Analysis during Charging of Li-O₂ Cell with Tegdme Based Electrolyte. ECS Meeting Abstracts, 2022, MA2022-01, 58-58.	0.0	0