# Hye Ryung Byon

List of Publications by Year
in descending order



| | | | |
|---|---|---|---|
| 47 papers | 2,844 citations | 25 h-index (236912) | 42 g-index (265191) |
| 49 all docs | 49 docs citations | 49 times ranked | 3712 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Promoting Formation of Noncrystalline Li<sub>2</sub>O<sub>2</sub> in the Liâ€“O<sub>2</sub> Battery with RuO<sub>2</sub> Nanoparticles. Nano Letters, 2013, 13, 4679-4684. | 9.1 | 437 |
| 2 | A chemistry and material perspective on lithium redox flow batteries towards high-density electrical energy storage. Chemical Society Reviews, 2015, 44, 7968-7996. | 38.1 | 388 |
| 3 | Brush-Like Cobalt Nitride Anchored Carbon Nanofiber Membrane: Current Collector-Catalyst Integrated Cathode for Long Cycle Liâ€“O<sub>2</sub> Batteries. ACS Nano, 2018, 12, 128-139. | 14.6 | 230 |
| 4 | Unexpected Li<sub>2</sub>O<sub>2</sub> Film Growth on Carbon Nanotube Electrodes with CeO<sub>2</sub> Nanoparticles in Liâ€“O<sub>2</sub> Batteries. Nano Letters, 2016, 16, 2969-2974. | 9.1 | 138 |
| 5 | Aqueous organic redox flow batteries. Nano Research, 2019, 12, 1988-2001. | 10.4 | 138 |
| 6 | Lithiumâ€“Air Batteries: Air-Breathing Challenges and Perspective. ACS Nano, 2020, 14, 14549-14578. | 14.6 | 126 |
| 7 | In Situ AFM Imaging of Liâ€“O<sub>2</sub> Electrochemical Reaction on Highly Oriented Pyrolytic Graphite with Ether-Based Electrolyte. Journal of the American Chemical Society, 2013, 135, 10870-10876. | 13.7 | 109 |
| 8 | Nanoporous NiO Plates with a Unique Role for Promoted Oxidation of Carbonate and Carboxylate Species in the Liâ€“O<sub>2</sub> Battery. Chemistry of Materials, 2015, 27, 2234-2241. | 6.7 | 104 |
| 9 | Structurally Tuning Li<sub>2</sub>O<sub>2</sub> by Controlling the Surface Properties of Carbon Electrodes: Implications for Liâ€“O<sub>2</sub> Batteries. Chemistry of Materials, 2016, 28, 8006-8015. | 6.7 | 86 |
| 10 | Nanostructuring one-dimensional and amorphous lithium peroxide for high round-trip efficiency in lithium-oxygen batteries. Nature Communications, 2018, 9, 680. | 12.8 | 85 |
| 11 | Critically Examining the Role of Nanocatalysts in Liâ€“O<sub>2</sub> Batteries: Viability toward Suppression of Recharge Overpotential, Rechargeability, and Cyclability. ACS Energy Letters, 2018, 3, 592-597. | 17.4 | 82 |
| 12 | Effects of Zn<sup>2+</sup> and H<sup>+</sup> Association with Naphthalene Diimide Electrodes for Aqueous Zn-Ion Batteries. Chemistry of Materials, 2020, 32, 6990-6997. | 6.7 | 80 |
| 13 | Thiazoleâ€Linked Covalent Organic Framework Promoting Fast Twoâ€Electron Transfer for Lithiumâ€Organic Batteries. Advanced Energy Materials, 2021, 11, 2003735. | 19.5 | 78 |
| 14 | Determining the Facile Routes for Oxygen Evolution Reaction by <i>In Situ</i> Probing of Liâ€“O<sub>2</sub> Cells with Conformal Li<sub>2</sub>O<sub>2</sub> Films. Journal of the American Chemical Society, 2018, 140, 6190-6193. | 13.7 | 64 |
| 15 | A structured three-dimensional polymer electrolyte with enlarged active reaction zone for Liâ€“O2 batteries. Scientific Reports, 2014, 4, 7127. | 3.3 | 61 |
| 16 | A dendrite- and oxygen-proof protective layer for lithium metal in lithiumâ€“oxygen batteries. Journal of Materials Chemistry A, 2019, 7, 3857-3862. | 10.3 | 61 |
| 17 | High Energy Efficiency and Stability for Photoassisted Aqueous Lithiumâ€“Iodine Redox Batteries. ACS Energy Letters, 2016, 1, 806-813. | 17.4 | 52 |
| 18 | One-pot production of ceria nanosheet-supported PtNi alloy nanodendrites with high catalytic performance toward methanol oxidation and oxygen reduction. Journal of Materials Chemistry A, 2020, 8, 25842-25849. | 10.3 | 41 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Designing Redoxâ€Stable Cobaltâ€“Polypyridyl Complexes for Redox Flow Batteries: Spinâ€Crossover Delocalizes Excess Charge. Advanced Energy Materials, 2018, 8, 1702897. | 19.5 | 38 |
| 20 | Charge Compensation Mechanism of Lithium-Excess Metal Oxides with Different Covalent and Ionic Characters Revealed by <i>Operando</i> Soft and Hard X-ray Absorption Spectroscopy. Chemistry of Materials, 2020, 32, 139-147. | 6.7 | 37 |
| 21 | Reducing Time to Discovery: Materials and Molecular Modeling, Imaging, Informatics, and Integration. ACS Nano, 2021, 15, 3971-3995. | 14.6 | 36 |
| 22 | Mutual Conservation of Redox Mediator and Singlet Oxygen Quencher in Lithiumâ€“Oxygen Batteries. ACS Catalysis, 2019, 9, 9914-9922. | 11.2 | 33 |
| 23 | Oxidation Stability of Organic Redox Mediators as Mobile Catalysts in Lithiumâ€“Oxygen Batteries. ACS Energy Letters, 2020, 5, 2122-2129. | 17.4 | 31 |
| 24 | Naphthalene diimide as a two-electron anolyte for aqueous and neutral pH redox flow batteries. Journal of Materials Chemistry A, 2020, 8, 11218-11223. | 10.3 | 30 |
| 25 | Mechanistic Study Revealing the Role of the Br<sub>3</sub><sup>âˆ’</sup>/Br<sub>2</sub> Redox Couple in CO<sub>2</sub>â€Assisted Liâ€“O<sub>2</sub> Batteries. Advanced Energy Materials, 2020, 10, 1903486. | 19.5 | 29 |
| 26 | Advances in electrochemical energy storage with covalent organic frameworks. Materials Advances, 0, , . | 5.4 | 26 |
| 27 | Machine learning assisted synthesis of lithium-ion batteries cathode materials. Nano Energy, 2022, 98, 107214. | 16.0 | 24 |
| 28 | Synthesis of Redox-Active Phenanthrene-Fused Heteroarenes by Palladium-Catalyzed Câ€“H Annulation. Organic Letters, 2020, 22, 1280-1285. | 4.6 | 23 |
| 29 | Nanostructured LiMnO<sub>2</sub> with Li<sub>3</sub>PO<sub>4</sub> Integrated at the Atomic Scale for High-Energy Electrode Materials with Reversible Anionic Redox. ACS Central Science, 2020, 6, 2326-2338. | 11.3 | 22 |
| 30 | Systematic Designs of Dicationic Heteroarylpyridiniums as Negolytes for Nonaqueous Redox Flow Batteries. ACS Energy Letters, 2021, 6, 3390-3397. | 17.4 | 21 |
| 31 | Nanometer-Scale Surface Roughness of a 3-D Cu Substrate Promoting Li Nucleation in Li-Metal Batteries. ACS Applied Energy Materials, 2021, 4, 2644-2651. | 5.1 | 14 |
| 32 | Singlet Oxygen in Lithiumâˆ’Oxygen Batteries. Batteries and Supercaps, 2021, 4, 286-293. | 4.7 | 13 |
| 33 | Sodium fluorideâ€rich solid electrolyte interphase for sodiumâ€“metal and sodiumâ€“oxygen batteries. Bulletin of the Korean Chemical Society, 2021, 42, 1519-1523. | 1.9 | 13 |
| 34 | Trapping of Stable [4<i>n</i>+1] Ï€â€Electron Species from Peripherally Substituted, Conformationally Rigid, Antiaromatic Hexaphyrins. Chemistry - A European Journal, 2019, 25, 3525-3531. | 3.3 | 12 |
| 35 | Solid Electrolyte Interphase Revealing Interfacial Electrochemistry on Highly Oriented Pyrolytic Graphite in a Water-in-Salt Electrolyte. Journal of Physical Chemistry C, 2020, 124, 20135-20142. | 3.1 | 12 |
| 36 | Understanding the interfacial reactions of LiCoO<sub>2</sub> positive electrodes in aqueous lithium-ion batteries. Materials Chemistry Frontiers, 2021, 5, 3657-3663. | 5.9 | 11 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Alteration of oxygen evolution mechanisms in layered LiCoO<sub>2</sub> structures by intercalation of alkali metal ions. Journal of Materials Chemistry A, 2022, 10, 10967-10978. | 10.3 | 10 |
| 38 | Unexpectedly Large Contribution of Oxygen to Charge Compensation Triggered by Structural Disordering: Detailed Experimental and Theoretical Study on a Li<sub>3</sub>NbO<sub>4</sub>â€“NiO Binary System. ACS Central Science, 2022, 8, 775-794. | 11.3 | 10 |
| 39 | Promoting lithium electrodeposition towards the bottom of 3-D copper meshes in lithium-based batteries. Journal of Power Sources, 2020, 472, 228495. | 7.8 | 9 |
| 40 | Triple Hierarchical Porous Carbon Spheres as Effective Cathodes for Liâ€“O<sub>2</sub> Batteries. Journal of the Electrochemical Society, 2019, 166, A455-A463. | 2.9 | 8 |
| 41 | Coverage of capping ligands determining the selectivity of multi-carbon products and morphological evolution of Cu nanocatalysts in electrochemical reduction of CO<sub>2</sub>. Journal of Materials Chemistry A, 2021, 9, 11210-11218. | 10.3 | 8 |
| 42 | Instability of a Noncrystalline NaO<sub>2</sub> Film in Naâ€“O<sub>2</sub> Batteries: The Controversial Effect of the RuO<sub>2</sub> Catalyst. Journal of Physical Chemistry C, 2018, 122, 19678-19686. | 3.1 | 7 |
| 43 | Tubular MoSSe/carbon nanotube electrodes for hybrid-ion capacitors. Electrochimica Acta, 2021, 374, 137971. | 5.2 | 7 |
| 44 | Investigating the Promise of Incorporating a Redox Mediator in Liâ€“O2/CO2 batteries. ECS Meeting Abstracts, 2019, , . | 0.0 | 0 |
| 45 | (Invited) Understanding Interfacial Reaction of LiCoO2 Positive Electrode in Aqueous Lithium-Ion Batteries. ECS Meeting Abstracts, 2019, , . | 0.0 | 0 |
| 46 | Unveiling the Underlying Mechanism of CO2-Assisted Liâ€“O2 Batteries in the Presence of a Br3 â€“/Br2 Redox Couple. ECS Meeting Abstracts, 2020, MA2020-01, 442-442. | 0.0 | 0 |
| 47 | Promoting Lithium Electrodeposition Towards the Bottom of 3-D Copper Meshes in Lithium-Based Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 231-231. | 0.0 | 0 |