



YOUNG SOO YUN

Associate Professor, KU-KIST Graduate School of Converging Science and Technology, Korea University, 145 Anam-ro, Seongbuk-gu, Seoul, 02841 Republic of Korea
Tel.: +82-2-3290-4619 Mobile: +82-10-3338-3618 Fax: +82-2-921-0688
D.O.B: March 30, 1982
E-mail: c-ysyun@korea.ac.kr
Homepage: acml.korea.ac.kr

EDUCATION

- INHA UNIVERSITY, Incheon, Korea Aug. 2013
Ph.D. of Engineering, Polymer Science and Engineering
• Dissertation: *Nanostructured Carbon Materials Containing Electroactive Heteroatoms for Energy Storage System*
• Advisor: Dr. **Hyoung-Joon Jin**
- INHA UNIVERSITY, Incheon, Korea Feb. 2010
Master of Engineering, Polymer Science and Engineering
• Dissertation: *Cryogels of Bacterial Cellulose/Multiwalled Carbon Nanotube Composites and Their Applications*
• Advisor: Dr. **Hyoung-Joon Jin**
- INHA UNIVERSITY, Incheon, Korea Feb. 2007
Bachelor of Engineering, Chemical Engineering

PROFESSIONAL EXPERIENCE

- KOREA UNIVERSITY, Seoul, Korea Mar. 2021-Present
Associate professor, KU-KIST Graduate School of Converging Science and Technology
Associate professor, Department of Integrative Energy Engineering
- KOREA UNIVERSITY, Seoul, Korea Sep. 2019-Present
Assistant professor, KU-KIST Graduate School of Converging Science and Technology
- KANGWON NATIONAL UNIVERSITY, Samcheok, Korea Mar. 2016-Aug. 2019
Assistant professor, Chemical Engineering
- UNIVERSITY OF ILLINOIS at URBANA-CHAMPAIGN (UIUC), Illinois, US Aug. 2015-Feb. 2016
Postdoc research fellow, Materials Science and Engineering
• Research field: *3D-nanostructured materials for energy storage*
• Advisor: Dr. **Paul V. Braun**
- SEOUL NATIONAL UNIVERSITY, Seoul, Korea Sep. 2013-July 2015
Postdoc research fellow, Materials Science and Engineering
• Research field: *Post lithium-ion batteries (Sodium-ion batteries, Hybrid capacitor and Li-air batteries)*
• Advisor: Dr. **Kisuk Kang**
- SEOUL NATIONAL UNIVERSITY, Seoul, Korea Mar. 2013-Aug. 2013
Assistant research fellow, Materials Science and Engineering
• Research field: *Carbon-based anode materials for sodium-ion batteries*
• Advisor: Dr. **Kisuk Kang**
- NATIONAL RESEARCH FOUNDATION OF KOREA, Seoul, Korea Nov. 2022-Present
A review board, National Strategic R&D Programs

| | |
|--|----------------------------|
| POLYMER SOCIETY OF KOREA, Seoul, Korea <i>A board of trustees</i> | <i>Jan. 2022-Present</i> |
| POLYMER SOCIETY OF KOREA, Seoul, Korea <i>Planning Director</i> | <i>Jan. 2019-Dec. 2021</i> |
| POLYMER SOCIETY OF KOREA, Seoul, Korea <i>A member of Academy Committe</i> | <i>Jan. 2023-Dec. 2023</i> |
| THE KOREAN ELECTROCHEMICAL SOCIETY, Seoul, Korea <i>A member of Academy Division, Capacitor Division</i> | <i>Jan. 2022-Dec. 2023</i> |
| GLOBAL CONFERENCE ON INNOVATION MATERIALS 2023, Seoul, Korea <i>Co-Organizer, Emerging Materials for Rechargeable Batteries</i> | <i>Jun. 6-9, 2023</i> |

SELECTED AWARDS AND HONORS

- *Young Scientist Award* for a rising scientist with superior research achievements at the Polymer Society of Korea (Apr. 2019)
- *Best Doctoral Dissertation Award* for superior Ph.D. researcher at the Polymer Society of Korea (Apr. 2015)
- *President's Award* for Excellence as a Graduate Student at the Inha University, Korea (Aug. 2013)
- *Best Poster Award* for Excellent Presentation at the Polymer Society of Korea (Oct. 2012)
- *Inha Graduate School Dean's Award* for Excellent Papers, Korea (Feb. 2012)
- *Inha Graduate School Dean's Award* for Excellent Papers, Korea (Feb. 2011)
- *Executive director's Award* for Excellence as a Graduate Student at the Inha University, Korea (Feb. 2010)
- *Full Scholarship of Inha Vision*, Inha University, Korea (Mar. 2010-Feb. 2013)
- *Best Poster Award* for Excellent Presentation at the Polymer Society of Korea (Oct. 2009)

AREAS OF RESEARCH INTEREST

Carbonization and graphitization of polymer precursors

- Development of pyrolytic carbons, polymeric carbons and carbon-based materials
- Mechanistic study for carbonization and graphitization process
- Design of graphitic carbon structure and nanostructure

Nanostructured carbon materials

- sp² carbon allotropes such as graphene, graphene nanoribbon, CNT, and etc.
- Nanoporous carbons with/without heteroatoms
- Nanoscale effects on physicochemical properties

Next-generation Energy storage devices

- Electrochemical double layer capacitors, Pseudocapacitors, asymmetric capacitors
- Li/Na/K metal batteries, Li/Na/K-ion batteries, Li/Na/K-ion hybrid capacitors
- Li-O₂ batteries, Na-O₂ batteries and metal-S batteries.
- Multivalent-ion/metal batteries and next-generation rechargeable batteries.

JOURNAL PUBLICATIONS

(Corresponding-author/First-author publications)

1. Y. H. Heo[†], J. Lee[†], S. Ha, J. C. Hyun, D. H. Kang, J. Yoon, H. S. Kim, Y. Choi, H. -J. Jin, S. J. Kim*, **Y. S. Yun***, "3D-structured bifunctional MXene paper electrodes for protection and activation of Al metal

- anodes”, (Submitted)
2. S. Moon, E. Lee, J. Lee, J. Yoon, S. Ha, Y. H. Choi, J. Yeon, Y. Kim, H. -K. Lim*, H. -J. Jin*, **Y. S. Yun***, “4 V-class magnesium-ion pseudocapacitors fabricated using an in situ inverse-charging process”, (Submitted)
 3. M. Park, S. Ha, J. Park, D. H. Kang, J. C. Hyun, J. Yoon, H. -J. Jin, **Y. S. Yun***, “Multifunctional surface-engineering of 3D-lithiophilic nanocarbon scaffold for high voltage anode-minimized lithium metal batteries”, (Submitted)
 4. H. Kim[†], J. C. Hyun[†], D.- H. Kim, J. H. Kwak, J. B. Lee, J. H. Moon, J. Choi, H. -D. Lim, S. J. Yang, H. M. Jin, D. J. Ahn, K. Kang, H. -J. Jin*, H. -K. Lim*, **Y. S. Yun***, “Revisiting lithium- and sodium-ion storage in hard carbon anodes”, *Advanced Materials* (2023), accepted, IF: **32.086**
 5. S. Cho, J. C. Hyun, S. Ha, H. -J. Jin*, **Y. S. Yun***, “Sulfur-doped hard carbon hybrid anodes with dual lithiumion/metal storage bifunctionality for high-energy-density lithium-ion batteries”, *Carbon Energy* (2023), 5(1), e288, IF: **21.556**
 6. J. Yoon, S. Moon, S. Ha, H. -J. Jin*, **Y. S. Yun***, “Nanoconfinement effect of nanoporous carbon electrodes for ionic liquid-based aluminum metal anode for rechargeable aluminum batteries” *Journal of Energy Chemistry* (2022), 74, 121-127, IF: **13.599**
 7. D. H. Kang, E. Lee, B. S. Youn, S. Ha, J. C. Hyun, J. Yoon, D. Jang, S. M. Lee, S. Lee, H. -J. Jin, H. -K. Lim*, **Y. S. Yun***, “Critical factors to inhibit water-splitting side reaction in carbon-based electrode materials for zinc metal anodes”, *Carbon Energy* (2022), 4(6), 1080-1092, IF: **21.556**
 8. S. Ha[†], J. C. Hyun[†], J. H. Kwak, H. -D. Lim, B. S. Youn, S. Cho, H. -J. Jin, H. -K. Lim, S. M. Lee, **Y. S. Yun***, “Waste-induced pyrolytic carbon nanotube forest as a catalytic host electrode for highperformance aluminum metal anodes”, *Chemical Engineering Journal* (2022), 437, 135416, IF : **16.744**
 9. J. Kim, **Y. S. Yun***, “A Study on the Survival Strategies of Korean Companies in the Global Electric Vehicle Battery Market: Technology-Push Theory”, *Korean Management Consulting Review* (2022)
 10. J. Um, S. U. Yoon, H. Kim, B. S. Youn, H. -J. Jin*, H. -K. Lim*, **Y. S. Yun***, “High-performance solid-solution potassium-ion intercalation mechanism of multilayered turbostratic graphene nanosheets”, *Journal of Energy Chemistry* (2022), 67, 814-823, IF : **13.599**
 11. J. C. Hyun, Y. Choi, **Y. S. Yun***, “Carbon/Pyropolymer-based Electrode Materials for Alkali Ion Storage”, *Ceramist* (2022)
 12. J. Park, S. Ha, J. Y. Jung, J. -H. Hyun, S. -H. Yu, H. -K. Lim, N. D. Kim, **Y. S. Yun***, “Understanding the effects of interfacial lithium ion concentration on lithium metal anode”, *Advanced Science* (2022), 9, 2104145, IF : **17.521**
 13. S. Park, K. Ahn, H. -J. Jin, S. Han*, **Y. S. Yun***, “Intaligated Cu substrate containing multifunctional lithiophilic trenches for Li metal anodes”, *Chemical Engineering Journal* (2022), 428, 130939, IF : **16.744**
 14. H. Kim, J. C. Hyun, J. I. Jung, J. B. Lee, J. Choi, S. Y. Cho, H. -J. Jin*, **Y. S. Yun***, “Potassium-ion storage behavior of microstructure-engineered hard carbons”, *Journal of Materials Chemistry A* (2022), 10, 2055, IF : **14.511**
 15. J. Kim, **Y. S. Yun***, “A Study on the Revitalization of Electric Vehicle Market in Korea in the Introduction Period According to Platform Strategy”, *Korean Management Consulting Review* (2021)
 16. S. Moon, H. -K. Lim*, H. -J. Jin*, **Y. S. Yun***, “Relationship between multivalent cation charge carriers and organic solvents on nanoporous carbons in 4V-window magnesium ion supercapacitors”, *Advanced Energy Materials* (2021), 11, 2101054, IF : **29.698**
 17. J. I. Jung, S. Park, S. Ha, S. Y. Cho, H. -J. Jin*, **Y. S. Yun***, “Effects of nanopores and sulfur doping on hierarchically bunched carbon fibers to protect lithium metal anode”, *Carbon Energy* (2021), 3, 784-794, IF: **21.556**
 18. S. Ha, K. Kim, H. -K. Lim, C. M. Koo, S. J. Kim*, **Y. S. Yun***, “Lithiophilic MXene-guided lithium metal nucleation and growth behaviour”, *Advanced Functional Materials* (2021), 31, 2101261, IF : **19.924**
 19. S. Ha[†], H. J. Yoon[†], J. I. Jung, H. Kim, S. Won, J. H. Kwak, H.-D. Lim, H.-J. Jin, J. Wie*, **Y. S. Yun***, “3D-Structured Organic-Inorganic Hybrid Solid-Electrolyte-Interface Layers for Lithium Metal Anode”, *Energy Storage Materials* (2021), 37, 567-575, IF : **20.831**
 20. J. H. Kwak[†], J. C. Hyun[†], J. -H. Park, K. Y. Chung, S. -H. Yu, **Y. S. Yun***, H. -D. Lim*, “Ultra-fast and efficient calcium co-intercalation hos enabled by hierarchically 3D porous carbon nanotemplates”, *Journal of Industrial and Engineering Chemistry* (2021), 96, 397-403, IF : **6.76**
 21. S. U. Yoon[†], H. Kim[†], H.-J. Jin*, **Y. S. Yun***, “Effects of fluoroethylene carbonate-induced solid-electrolyte-interface layers on carbon-based anode materials for potassium ion batteries”, *Applied Surface Science* (2021), 547, 149193, IF: **7.391**

22. S. B. Moon[†], D.-H. Kim[†], J. H. Kwak, H.-D. Lim, K. Kang, H.-J. Jin*, **Y. S. Yun***, “Unveiling the pseudocapacitive effects of ultramesopores on nanoporous carbon”, *Applied Surface Science* (2021), 537, 148037, IF: **7.391**
23. S. Park, H.-J. Jin*, **Y. S. Yun***, “Effects of carbon-based electrode materials for excess sodium metal anode-engineered rechargeable sodium batteries”, *ACS Sustainable Chemistry & Engineering* (2020), 8, 17697-17706, IF: **9.224**
24. J. H. Kwak[†], J. C. Hyun[†], S. B. Moon, H.-J. Jin, H. -D. Lim, **Y. S. Yun***, “Waste Sawdust-Derived Nanoporous Carbon as a Positive Electrode for Lithium-Ion storage”, *Macromolecular Research* (2020), 28(13), 1204-1210, IF: **2.127**
25. S. Park, H.-J. Jin, **Y. S. Yun***, “Advances in the Design of 3D-Structured Electrode Materials For Lithium-Metal Anodes”, *Advanced Materials* (2020), 2002193, IF: **32.086**
26. M. E. Lee, S. M. Lee, J. C. Choi, D. Jang, S. Lee, H.-J. Jin*, **Y. S. Yun***, “Electrolyte-Dependent Sodium Ion Transport Behaviors in Hard Carbon Anode”, *Small* (2020), 16, 2001053, IF: **15.153**
27. S. Ha, J. C. Hyun, J. H. Kwak, H. -D. Lim, **Y. S. Yun***, “Hierarchically nanoporous 3D assembly composed of functionalized onion-like graphitic carbon nanospheres for anode-minimized Li metal batteries”, *Small* (2020), 2003918, IF: **15.153**
28. J. You, B. Oh, **Y. S. Yun***, H.-J. Jin*, “Improvement in Barrier Properties Using a Large Lateral Size of Exfoliated Graphene Oxide”, *Macromolecular Research* (2020), 28(8), 709-713, IF: **2.127**
29. J. C. Hyun, J. H. Kwak, S. M. Lee, J. choi, K.-T. Lee, **Y. S. Yun***, “Hierarchically Nanoporous Pyropolymers Derived form Waste Pinecone as a Pseudocapacitive Electrode for Lithium Ion Hybrid Capacitors,” *Scientific Reports* (2020), 10:5817, IF: **4.996**
30. J. You[†], S. Won[†], H.-J. Jin, **Y. S. Yun***, J. J. Wie*, “Nano-patching defects of reduced graphene oxide by cellulose nanocrystals in scalable polymer nanocomposites”, *Carbon* (2020), 165, 18-25, IF: **11.307**
31. S. Park[†], J. C. Hyun[†], J. H. Kwak, M. E. Lee, H. J. Jin*, **Y. S. Yun***, “Synergistic combination of nanostructured sodium metal anode and capacitive cathode for advanced non-aqueous hybrid capacitors”, *Applied Surface Science* (2020), 513,145848, IF: **7.391**
32. H. Choi, S. U. Yoon, M. E. Lee, S. I. Park, Y. Myung, H.-J. Jin, J. B. Lee*, **Y. S. Yun***, “High-performance nano-hybrid anode based on FeS₂ nanocubes and nitrogen-rich graphene oxide nanoribbons for sodium ion batteries”, *Journal of Industrial and Engineering Chemistry* (2020), 81, 61-66, IF: **6.76**
33. J. C. Hyun, J. H. Kwak, **Y. S. Yun***, “Microporous waste charcoals for redox-mediated supercapacitors” *Journal of Industrial and Engineering Chemistry* (2019), 79, 204-209, IF: **6.76**
34. H.-D. Lim*, D. H. Kim, S. Park, M. E. Lee, H.-J. Jin, S. Yu, S. H. Oh, **Y. S. Yun***, “Magnesiophilic graphitic carbon nanosubstrate for highly efficient and fast-rechargeable Mg metal batteries”, *ACS Applied Materials & Interfaces* (2019), 11, 38754-38761, IF: **10.383**
35. J. C. Hyun[†], J. H. Kwak[†], M. E. Lee, J. Choi, J. Kim, S.-S. Kim, **Y. S. Yun***, “Intensification of pseudocapacitance by nanopore-engineering on carbon-based positive electrodes for lithium ion batteries”, *Materials* (2019), 12, 2733, IF: **3.748**
36. M. E. Lee, S. Lee, J. Choi, H.-J. Jin, S. Han*, **Y. S. Yun***, “Anode-free sodium metal batteries based on nano-hybrid core-shell templates”, *Small* (2019), 15, 1901274, IF: **15.153**
37. M. E. Lee, H. W. Kwak, H.-J. Jin*, **Y. S. Yun***, “Waste beverage coffee-induced hard carbon granules for sodium-ion batteries”, *ACS Sustainable Chemistry & Engineering* (2019), 7, 12734-12740, IF: **9.224**
38. M. E. Lee[†], H. W. Kwak[†], J. H. Kwak, H.-J. Jin*, **Y. S. Yun***, “Catalytic pyroprotein seed layers for sodium metal batteries”, *ACS Applied Materials & Interfaces* (2019) 11, 12401-12407, IF: **10.383**
39. H. W. Kwak, M. E. Lee, H.-J. Jin, **Y. S. Yun***, “Sodium metal hybrid capacitors based on nanostructured carbon materials”, *Journal of Power Sources* (2019) 418, 218-224, IF: **9.794**
40. J. W. Choi[†], M. E. Lee[†], S. Lee, H.-J. Jin*, **Y. S. Yun***, “Pyroprotein-derived hard carbon fibers exhibiting exceptionally high plateau capacities for sodium ion batteries”, *ACS Applied Energy Materials* (2019) 2, 1185-1191, IF: **6.959**
41. J. K. Han[†], M. E. Lee[†], H. J. Choi, H.-J. Jin*, **Y. S. Yun***, “Quantitative characterization of a voltage-dependent pseudocapacitance on heteroatom-enriched nanoporous carbons”, *Electrochimica Acta* (2019) 302, 71-77, IF: **7.336**
42. H. J. Yoon, S. K. Hong, M. E. Lee, J. Hwang, H.-J. Jin*, **Y. S. Yun***, “Sulfur-doped carbon nanotemplates for sodium metal anodes”, *ACS Applied Energy Materials* (2018) 1, 1846-1852, IF: **6.959**
43. **Y. S. Yun***, “Hierarchically microporous graphitic nanowebs exhibiting ultra-fast and stable charge storage performance”, *Nanoscale Research Letters* (2018) 13, 36, IF: **5.418**
44. J. H. Choe, J. Jeon, J. J. We, H.-J. Jin, **Y. S. Yun***, “Nanoconfinement effects of chemically reduced graphene oxide nanoribbons on poly(vinyl chloride)”, *Nanoscale* (2018) 10, 2025-2033, IF: **8.307**

45. S. Y. Cho, M. Kang, H. J. Yoon, H. J. Kim, C. Leal, S. Lee, H. J. Jin*, **Y. S. Yun***, “Pyrolytic carbon nanosheets for ultra-fast and -stable sodium-ion storage”, *Small* (2018) 14, 1703043, IF: **15.153**
46. M. E. Lee, S. Lee, H.-J. Jin*, **Y. S. Yun***, “Standalone macroporous graphitic nanowebs for vanadium redox flow batteries”, *Journal of Industrial and Engineering Chemistry* (2018) 60, 85-90, IF: **6.76**
47. H. J. Yoon, N. R. Kim, H.-J. Jin*, **Y. S. Yun***, “Macroporous catalytic carbon nanotemplates for sodium metal anodes”, *Advanced Energy Materials* (2018) 8, 1701261, IF: **29.698**
48. M. E. Lee[†], S. Y. Cho[†], H. J. Yoon, **Y. S. Yun***, H.-J. Jin*, High-performance Li-ion hybrid supercapacitors based on microporous pyropolymer nanoplates and orthorhombic Nb₂O₅ nanocomposites”, *Journal of Industrial and Engineering Chemistry* (2018) 57, 284-289, IF: **6.76**
49. S. Y. Cho[†], **Y. S. Yun†**, D. Jang, J. W. Jun, B. H. Kim, S. Lee, H.-J. Jin*, “Ultra Strong Pyroprotein Fibers with Long-range Ordering” *Nature Communications* (2017) 8, 74, IF: **17.694**
50. **Y. S. Yun**, H.-J. Jin*, “Sulfur-doped, reduced graphene oxide nanoribbons for sodium-ion batteries” *Materials Letters* (2017) 198, 106-109, IF: **3.574**
51. H.-D. Lim[†], **Y. S. Yun†**, Y. Ko, Y. Bae, M. Y. Song, H. J. Yoon, K. Kang*, H.-J. Jin*, “Three-dimensionally branched carbon nanowebs as air-cathode for redox-mediated Li-O₂ batteries” *Carbon* (2017) 118, 114-119, IF: **11.307**
52. H.-D. Lim[†], **Y. S. Yun†**, S. Y. Cho, K.-Y. Park, H. Park, M. Y. Song, H.-J. Jin*, K. Kang*, “All-carbon-based cathode for a true high-energy-density Li-O₂ battery” *Carbon* (2017) 114, 311-316, IF: **11.307**
53. N. R. Kim[†], J. Choi[†], H. J. Yoon, M. E. Lee, S. U. Son, H.-J. Jin*, **Y. S. Yun***, “Conversion reaction of copper sulfide-based nanohybrids for sodium-ion batteries”, *ACS Sustainable Chemistry & Engineering* (2017) 5, 9802-9808, IF: **9.224**
54. M. E. Lee, H.-J. Jin, **Y. S. Yun***, “Synergistic catalytic effects of oxygen and nitrogen functional groups on active carbon electrodes for all-vanadium redox flow batteries”, *RSC Advances* (2017) 7, 43227, IF: **4.036**
55. M. E. Lee, J. H. Choe, **Y. S. Yun***, H.-J. Jin*, “Corn stem-derived, hierarchically nanoporous carbon as electrode material for supercapacitors”, *Journal of Nanoscience and Nanotechnology* (2017) 10, 7729-7734, IF: **1.134**
56. S. Y. Cho, N. R. Kim, H.-J. Jin*, **Y. S. Yun***, “High-performance asymmetric Li-ion pseudocapacitors based on pyroprotein nanowebs”, *ChemElectroChem* (2017) 4, 2079-2083, IF: **4.782**
57. H. J. Yoon, M. E. Lee, H.-J. Jin*, **Y. S. Yun***, “Hierarchically nanoporous pyropolymer nanofibers for surface-induced sodium-ion storage”, *Electrochimica Acta* (2017) 242, 38-46, IF: **7.336**
58. N. R. Kim, S. M. Lee, M. W. Kim, H. J. Yoon, W. G. Hong, H. J. Kim, H. J. Choi, H.-J. Jin*, **Y. S. Yun*** “Amphi-charge storable pyropolymers containing multi-tiered nanopores”, *Advanced Energy Materials* (2017) 1700629, IF: **29.698**
59. J. Choi[†], N. R. Kim[†], K. Lim, K. Ku, H. J. Yoon, J. G. Kang, K. Kang, P. V. Braun, H.-J. Jin*, **Y. S. Yun***, “Tin sulfide-based nanohybrid for high performance anode of sodium-ion batteries”, *Small* (2017) 13, 1700767, IF: **15.153**
60. N. R. Kim, H. J. An, **Y. S. Yun*** H.-J. Jin*, “Li-ion battery anodes from ginkgo leaf-derived nanoporous carbon rich in redox-active heteroatoms”, *Carbon Letters* (2017) 22, 110-114, IF: **3.117**
61. M. Y. Song[†], N. R. Kim[†], H. J. Yoon, H.-J. Jin*, **Y. S. Yun***, “Long-lasting Nb₂O₅-based nanohybrid materials for Li-ion storage” *ACS Applied Materials & Interfaces* (2017) 9, 2267-2274, IF: **10.383**
62. M. Y. Song[†], N. R. Kim[†], H.-J. Jin*, **Y. S. Yun***, “Asymmetric energy storage devices based on surface-driven sodium ion storage” *ACS Sustainable Chemistry & Engineering* (2017) 5, 616-624, IF: **9.224**
63. J. H. Choe, N. R. Kim, M. E. Lee, H. J. Yoon, M. Y. Song, H.-J. Jin*, **Y. S. Yun***, “Flexible graphene stacks for sodium-ion storage”, *ChemElectroChem* (2017) 4, 716-720, IF: **4.782**
64. H. J. An[†], N. R. Kim[†], M. Y. Song, **Y. S. Yun*** H.-J. Jin*, “Fallen-leaf-derived microporous pyropolymers for supercapacitors”, *Journal of Industrial and Engineering Chemistry* (2017) 45, 223-228, IF: **6.76**
65. **Y. S. Yun**, G. Yoon, M. Park, S. Y. Cho, H.-D. Lim, H. Kim, Y. W. Park, B. H. Kim, K. Kang, H.-J. Jin*, “Restoration of thermally reduced graphene oxide by doping atomic-level *d*-electron-rich selenium” *NPG Asia Materials* (2016) 8, e338, IF: **10.761**
66. Y. Bae[†], **Y. S. Yun†**, H.-D. Lim, H. Lee, Y.-J. Kim, J. Kim, H. Park, Y. Ko, S. Lee, H. J. Kwon, H. Kim, H.-T. Kim, D. Im, K. Kang*, “Tuning the carbon crystallinity for highly stable Li-O₂ batteries” *Chemistry of Materials* (2016) 28, 8160-8169, IF: **10.508**
67. **Y. S. Yun†**, Y. H. Kim[†], M. Y. Song, N. R. Kim, K. Ku, J. S. An, K. Kang, H. J. Choi*, H.-J. Jin*, “Energy storage capabilities of nitrogen-enriched pyropolymer nanoparticles fabricated through rapid pyrolysis” *Journal of Power Sources* (2016) 331, 507, IF: **9.794**
68. **Y. S. Yun**, S. Lee, K.-Y. Park, K. Kang, H.-J. Jin*, “High and Rapid alkali cation storage in

- ultramicroporous carbonaceous materials” *Journal of Power Sources* (2016) 313, 142-151, IF: **9.794**
69. **Y. S. Yun**, Y.-U. Park, S.-J. Chang, B. H. Kim, J. Choi, J. Wang, D. Zhang, P. V. Braun, J.-H. Jin, K. Kang*, “Crumpled graphene paper for high power sodium battery anode” *Carbon* (2016) 99, 658, IF: **11.307**
 70. M. Y. Song[†], **Y. S. Yun**,[†] N. R. Kim, H.-J. Jin*, “Dispersion stability of chemically reduced graphene oxide nanoribbons in organic solvents” *RSC Advances* (2016) 6, 19389, IF: **4.036**
 71. N. R. Kim,[†] **Y. S. Yun**,[†] M. Y. Song, S. J. Hong, M. Kang, C. Leal, Y. W. Park, H.-J. Jin*, “Citrus-peel-derived, nanoporous carbon nanosheets containing redox-active heteroatoms for sodium-ion storage” *ACS Applied Materials & Interfaces* (2016) 8, 3175, IF: **10.383**
 72. N. R. Kim, S. Y. Cho, H. J. Yoon, H.-J. Jin*, **Y. S. Yun***, “3D interconnected macrostructure based on nano-scale pyroprotein units for energy storage”, *Electrochimica Acta* (2016) 222, 1887-1894, IF: **7.336**
 73. J. Choi, J. Kim, K.-T. Lee, J. Lim, J. Lee, **Y. S. Yun***, “Effect of Na₂SO₄ coating layer on the Nickel-rich Li(Ni_xCo_yMn_z)O₂ cathode materials for lithium-ion batteries”, *Advanced Materials Interfaces* (2016) 1600784, IF: **6.389**
 74. S.-Y. Cho[†], H. J. Yoon[†], N. R. Kim, **Y. S. Yun*** H.-J. Jin*, “Sodium-ion supercapacitors based on nanoporous pyroproteins containing redox-active heteroatoms” *Journal of Power Sources* (2016) 329, 536-545, IF: **9.794**
 75. J. Choi[†], N. R. Kim[†], H.-J. Jin*, **Y. S. Yun***, “Nanoporous pyropolymer nanosheets fabricated from renewable bio-resources for supercapacitors” *Journal of Industrial and Engineering Chemistry* (2016) 43, 158-163, IF: **6.76**
 76. M. Y. Song[†], S. Y. Cho[†], N. R. Kim, S.-H. Jung, J.-K. Lee, **Y. S. Yun*** H.-J. Jin*, “Alkylated and restored graphene oxide nanoribbon-reinforced isotactic-polypropylene nanocomposites” *Carbon* (2016) 108, 274-282, IF: **11.307**
 77. **Y. S. Yun**, M. Y. Song, N. R. Kim, H.-J. Jin*, “Sulfur-enriched, hierarchically nanoporous carbonaceous materials for sodium ion storage” *Synthetic Metals* (2015) 210, 357, IF: **4.000**
 78. **Y. S. Yun**, K.-Y. Park, B. Lee, S. Y. Cho, Y.-U. Park, S. J. Hong, B. H. Kim, H. Gwon, H. Kim, S. Lee, Y. W. Park, H.-J. Jin*, K. Kang*, “Sodium-ion storage in pyroprotein-based carbon nanoplates” *Advanced Materials* (2015) 27, 6914, IF: **32.086**
 79. **Y. S. Yun**, D.-H. Kim, S. J. Hong, M. H. Park, Y. W. Park, B. H. Kim, J.-H. Jin*, K. Kang*, “Microporous carbon nanosheets with redox-active heteroatoms for pseudocapacitive charge storage” *Nanoscale* (2015) 7, 15051, IF: **8.307**
 80. S. Y. Cho[†], **Y. S. Yun**[†], S. Lee, D. Jang, K.-Y. Park, B. H. Kim, K. Kang, H.-J. Jin*, “Carbonization of a stable β-sheet-rich silk protein into a pseudographitic structure” *Nature Communications* (2015) 6, 7145, IF: **17.694**
 81. **Y. S. Yun**, M. H. Park, S. J. Hong, M. E. Lee, Y. W. Park, J.-H. Jin*, “Hierarchically porous carbon nanosheets from waste coffee grounds for supercapacitors” *ACS Applied Materials & Interfaces* (2015) 7, 3684, IF: **10.383**
 82. **Y. S. Yun**, S. Y. Cho, H. Kim, J.-H. Jin*, K. Kang*, “Ultra-thin hollow carbon nanospheres for pseudocapacitive sodium-ion storage” *ChemElectroChem* (2015) 2, 359 (Back Cover), IF: **4.782**
 83. **Y. S. Yun**, J.-H. Jin*, “Free-standing graphene-based nanohybrid paper electrodes as anodes for lithium-ion batteries” *RSC Advances* (2014) 4, 38310, IF: **4.036**
 84. **Y. S. Yun**, G. Yoon, K. Kang, J.-H. Jin*, “High-performance supercapacitors based on defect-engineered carbon nanotubes” *Carbon* (2014) 80, 246, IF: **11.307**
 85. **Y. S. Yun**, H.-J. Jin, “Longitudinally unzipped carbon nanotubes for supercapacitors” *International Journal of Nanotechnology* (2014) 11, 434, IF: **0.346**
 86. **Y. S. Yun**, V.-D. Le, H. Kim, S.-J. Chang, S. J. Baek, S. Park, B. H. Kim, Y.-H. Kim, K. Kang, H.-J. Jin*, “Effects of Sulfur Doping on Graphene-based Nanosheets for Use as Anode Materials in Lithium-ion Batteries” *Journal of Power Sources* (2014) 262, 79, IF: **9.794**
 87. **Y. S. Yun**, S. Y. Cho, H.-J. Jin*, “Carbon Aerogels Based on Regenerated Silk Proteins and Graphene Oxide for Supercapacitors” *Macromolecular Research* (2014) 22, 509, IF: **2.127**
 88. **Y. S. Yun**, M. E. Lee, M. J. Joo, H.-J. Jin*, “High-performance Supercapacitors Based on Freestanding Carbon-based Composite Paper Electrodes” *Journal of Power Sources* (2014) 246, 540, IF: **9.794**
 89. **Y. S. Yun**, J.-H. Jin*, “Electrochemical Performance of Heteroatom-enriched Amorphous Carbon with Hierarchical Porous Structure as Anode for Lithium-ion Batteries” *Materials Letters* (2013) 108, 311, IF: **3.574**
 90. **Y. S. Yun**, D. J. Park, M. J. Joo, H.-J. Jin*, “3-D Ordered Bimodal Porous Carbon/Nickel oxide hybrid electrodes for supercapacitors” *Synthetic Metals* (2013) 177, 105, IF: **4.000**
 91. **Y. S. Yun**, J. M. Kim, H. H. Park, J. Lee, Y. S. Huh, H.-J. Jin*, “Free-standing Heterogeneous Hybrid

- Papaers Based on Mesoporous γ -MnO₂ Particles and Carbon Nanotubes for Lithium-ion Battery Anodes” *Journal of Power Sources* (2013) 244, 747, IF: **9.794**
92. **Y. S. Yun**, C. Im, H. H. Park, Y. Tak, H.-J. Jin*, “Hierachically Porous Carbon Nanofibers Containing Numerous Heteroatoms for Supercapacitors” *Journal of Power Sources* (2013) 234, 285, IF: **9.794**
 93. **Y. S. Yun**, S. Y. Cho, J. Shim, B. H. Kim, S.-J. Chang, S. J. Baek, Y. S. Huh, Y. Tak, Y. W. Park, S. Park, H.-J. Jin*, “Microporous Carbon Nanoplates from Regenerated Silk Proteins for Supercapacitors” *Advanced Materials* (2013) 25, 1993, IF: **32.086**
 94. **Y. S. Yun**, H.-R. Pyo, J. Y. Lee, I.-J. Chin, H.-J. Jin*, “Synergistic Effects of Alkylated Graphene Oxide on the Properties of Polypropylene-based Carbon Nanocomposites” *Journal of Nanoscience and Nanotechnology* (2013) 13, 7062, IF: **1.134**
 95. **Y. S. Yun**, H. H. Park, H.-J. Jin*, “Pseudocapacitive Effects of N-doped Carbon Nanotube Electrodes in Supercapacitors” *Materials* (2012) 5, 1258, IF: **3.748**
 96. **Y. S. Yun**, D. H. Kim, B. Kim, H. H. Park, H.-J. Jin*, “Transparent Conducting Films Based on Graphene Oxide/Silver Nanowire Hybrids with High Flexibility” *Synthetic Metals* (2012) 162, 1364, IF: **4.000**
 97. **Y. S. Yun**, D. Kim, H. H. Park, Y. Tak, H.-J. Jin*, “3D Hierarchical Porous Carbons Containing Numerous Nitrogen Atoms as Catalyst Supports for PEMFCs” *Synthetic Metals* (2012) 162, 2337, IF: **4.000**
 98. **Y. S. Yun**, J. Shim, Y. Tak, H. J. Jin*, “Nitrogen-enriched Multimodal Porous Carbons for Supercapacitors, Fabricated from Inclusion Complexes Hosted by Urea Hydrates”, *RSC Advances* (2012) 2, 4353, IF: **4.036**
 99. **Y. S. Yun**, D. Kim, Y. Tak, H.-J. Jin*, “Porous Graphene/Carbon Nanotube Composite Cathode for Proton Exchange Membrane Fuel Cell”, *Synthetic Metals* (2011) 161, 2460, IF: **4.000**
 100. **Y. S. Yun**, Y. H. Bae, D. H. Kim, J. Y. Lee, I.-J. Chin, H.-J. Jin*, “Reinforcing Effects of Adding Alkylated Graphene Oxide to Polypropylene”, *Carbon* (2011) 49, 3553, IF: **11.307**
 101. **Y. S. Yun**, Y. H. Bae, J. Y. Lee, I.-J. Chin, H.-J. Jin*, “Effects of Carbon Black-Carbon Nanotube Complex Fillers on the Properties of Isotactic Polypropylene Nanocomposites”, *Journal of Nanoscience and Nanotechnology* (2011) 11, 5928, IF: **1.134**
 102. **Y. S. Yun**, H. Bak, S. Y. Cho, H.-J. Jin*, “Adsorption Behavior of Carbon Nanotubes on Polystyrene Surfaces”, *Journal of Nanoscience and Nanotechnology* (2011) 11, 1668, IF: **1.134**
 103. **Y. S. Yun**, H. Bak, S. Y. Cho, H.-J. Jin*, “Morphology and Pore Characteristics of Bacterial Cellulose/Multiwalled Carbon Nanotube Composite Cryogels”, *Journal of Nanoscience and Nanotechnology* (2011) 11, 806, IF: **1.134**
 104. **Y. S. Yun**, H. Bak, H.-J. Jin*, “Monolithic Macroporous Carbon Cryogel Prepared from Natural Polymers”, *Journal of the Korean Physical Society* (2010) 57, 1950, IF: **0.657**
 105. **Y. S. Yun**, H. I. Kwon, H. Bak, E. J. Lee, J.-S. Yoon, H.-J. Jin*, “Morphological Effects of Alkylated Multivalled Carbon Nanotubes on Poly(L-lactic acid)-Based Composites”, *Macromolecular Research* (2010) 18, 828, IF: **2.127**
 106. **Y. S. Yun**, S. Y. Cho, H.-J. Jin*, “Flow-induced Liquid Crystalline Solutions Prepared from Aspect Ratio-Controlled Bacterial Cellulose Nanowhiskers”, *Molecular Crystals and Liquid Crystals* (2010) 519, 141, IF: **0.672**
 107. **Y. S. Yun**, H. Bak, H.-J. Jin*, “Porous Carbon Nanotube Electrodes Supported by Natural Polymeric Membranes for PEMFC”, *Synthetic Metals* (2010) 160, 561, IF: **4.000**

(Co-author publications)

108. S. Cho, J. Yoon, **Y. S. Yun**, H. -J. Jin*, “Improved Cyclability of Lithium-Ion Batteries Using Pyroprotein-Assisted Silicon Anodes”, *ACS Applied Energy Materials* (2022), 5, 15538-15547, IF: **6.959**
109. S. Chae[†], S. Yi[†], J. -H. Lee, J. Yoon, S. J. Kim, **Y. S. Yun**, J. C. Hyun, S. Doo, S. Lee, J. Lee, C. M. Koo*, “Highly Defective Ti₃CNT_x-MXene-Based Fiber Membrane Anode for Lithium Metal Batteries”, *Energy Storage Materials* (2022), 52, 76-84, IF: **20.831**
110. J. H. Kwak[†], S. Shin[†], Y. Jeoun, Y. Lee, S. Yu, **Y. S. Yun**, Y. -E. Sung, S. -H. Yu, H. -D. Lim*, “Facile synthesis of three-dimensional conducting scaffold with magnesiophilic decorations toward non-dendritic Mg-metal batteries”, *Journal of Power Sources* (2022), 541, 231724, IF: **9.794**
111. J. Mo[†], Y. Ko[†], **Y. S. Yun**, J. Huh, J. Cho*, “Carbonization/Interfacial Assembly-Driven Electroplating Approach for Water-Splitting Textile Electrodes with Remarkably Low Overpotentials and High Operational Stability”, *Energy & Environmental Science* (2022), 15, 3815-3829, IF: **39.714**
112. M. H. Lee, J. Lee, S. -K. Jung, D. Kang, M. S. Park, G. D. Cha, K. W. Cho, J. -H. Song, S. Moon, **Y. S. Yun**, S. J. Kim, Y. W. Lim, D. -H. Kim*, K. Kang*, “A Biodegradable Secondary Battery and its Biodegradation Mechanism for Eco-Friendly Energy-Storage Systems”, *Advanced Materials* (2021),

- 2004902, IF : **32.086**
113. M. Lee, Y. Yoo, J. H. Kwak, **Y. S. Yun**, H. -G. Jung, D. Byun, S. H. Oh*, H. -D. Lim*, “Effect of surface characteristics of carbon host on electrochemical performance of nonaqueous Li-O₂ batteries”, *Chemical Engineering Journal* (2021), 412, 128549, IF : **16.744**
114. J. Park, Z. L. Xu, G. Yoon, S. K. Park, J. Wang, H. Hyun, H. Park, J. Lim, Y. J. Ko, **Y. S. Yun**, K. Kang*, “Stable and high-power calcium-ion batteries enabled by calcium intercalation into graphite”, *Advanced Materials* (2020), 32, 1904411, IF: **32.086**
115. J. H. Choi, **Y. S. Yun**, H.-J. Jin, “Improved moisture barrier performance in poly(vinylidene chloride) film by controlling hydrophobicity of graphene oxide”, *Polymer-Korea* (2018) 42, 377, IF: **0.473**
116. J. W. Jeon,[†] S. Y. Cho,[†] Y. J. Jeong, D. S. Shin, N. R. Kim, **Y. S. Yun**, H.-T. Kim, S.-B. Choi, W. G. Hong, H.J. Kim, H.-J. Jin*, B. H. Kim*, “Pyroprotein-based electronic textiles with high stability”, *Advanced Materials* (2017) 29, 1605479, IF: **32.086**
117. M. E. Lee, J. H. Choe, **Y. S. Yun**, H.-J. Jin, “Con stem-derived, hierarchically nanoporous carbons as electrode materials for supercapacitors”, *Journal of Nanoscience and Nanotechnology* (2017), 17, 7729-7734, IF: **1.134**
118. S. Lee, M. E. Lee, M. Y. Song, S. Y. Cho, **Y. S. Yun**, H.-J. Jin*, “Morphologies and surface properties of cellulose-based activated carbon nanoplates”, *Carbon Letters* (2016) 20, 32-38, IF: **3.117**
119. M. H. Park, **Y. S. Yun**, S. Y. Cho, N. R. Kim, H.-J. Jin*, “Waste coffee grounds-derived nanoporous carbon nanosheets for supercapacitors”, *Carbon Letters* (2016) 19, 66-71, IF: **3.117**
120. K.-Y. Park, I. Park, H. Kim, G. Yoon, H. Gwon, Y. Cho, **Y. S. Yun**, J.-J. Kim, S. Lee, D. Ahn, Y. Kim, H. Kim, I. Hwang, W.-S. Yoon, K. Kang*, “Lithium-excess olivine electrode for lithium rechargeable batteries”, *Energy & Environmental Science* (2016) 9, 2902, IF : **39.714**
121. Y. Bae, H.-D. Lim, **Y. S. Yun**, K. Kang*, “Catalytic effects of heteroatom-doped graphene nanosheets on the performance of Li-O₂ batteries”, *Journal of Electrochemical Science and Technology* (2014) 5, 49, IF: **2.774**
122. M. J. Joo, **Y. S. Yun**, H.-J. Jin*, “Hierarchical porous carbon/polianiline hybrid for use in supercapacitors”, *Journal of Nanoscience and Nanotechnology* (2014) 14, 9194, IF: **1.134**
123. M. E. Lee, **Y. S. Yun**, H.-J. Jin*, “Hierarchical porous carbon/MnO₂ hybrids as supercapacitor electrodes”, *Journal of Nanoscience and Nanotechnology* (2014) 14, 9178, IF: **1.134**
124. S. Y. Cho, **Y. S. Yun**, H.-J. Jin*, “Carbon nanofibers prepared by the carbonization of self-assembled cellulose nanocrystals” *Macromolecular Research* (2014) 22, 753, IF: **2.127**
125. J. Lee, **Y. S. Yun**, B. Kim, S. Y. Cho, H.-J. Jin*, “Nylon 610/graphene oxide composites prepared by in-situ interfacial polymerization”, *Journal of Nanoscience and Nanotechnology* (2014) 14, 5703, IF: **1.134**
126. Y. Choi, **Y. S. Yun**, S. Y. Cho, M. E. Lee, H.-J. Jin*, “Pentacene crystal formation on the surface of silk fibroin films” *Fibers and Polymers* (2013) 14, 2006, IF: **2.347**
127. H. H. Park, Y. Choi, B. Kim, **Y. S. Yun**, H.-J. Jin*, “Free-standing nitrogen-doped reduced graphene oxide anode for lithium-ion batteries”, *Journal of Nanoscience and Nanotechnology* (2013) 13, 7950, IF: **1.134**
128. B. Kim, Y. Choi, S. Y. Cho, **Y. S. Yun**, H.-J. Jin*, “Silver nanowire catalysts on carbon nanotubes-incorporated bacterial cellulose membrane electrodes for oxygen reduction reaction”, *Journal of Nanoscience and Nanotechnology* (2013) 13, 7454, IF: **1.134**
129. H. H. Park, Y. Choi, D. J. Park, S. Y. Cho, **Y. S. Yun**, H. J. Jin*, “Enhanced dielectric properties of electrospun titanium dioxide/polyvinylidene fluoride nanofibrous composites”, *Fibers and Polymers* (2013) 14, 1521, IF: **2.347**
130. S. Y. Cho, H. H. Park, **Y. S. Yun**, H.-J. Jin*, “Cellulose nanowhisker-incorporated poly(lactic acid) composites for high thermal stability”, *Fibers and Polymers* (2013) 14, 1001, IF: **2.347**
131. S. Y. Cho, H. H. Park, **Y. S. Yun**, H.-J. Jin*, “Influence of cellulose nanofibers on the morphology and physical properties poly(lactic acid) foaming by supercritical carbon dioxide”, *Macromolecular Research* (2013) 21, 529, IF: **2.127**
132. C. Im, **Y. S. Yun**, B. Kim, H. H. Park, H.-J. Jin*, “Amorphous carbon nanotube/MnO₂/graphene oxide ternary composite electrodes for electrochemical capacitors”, *Journal of Nanoscience and Nanotechnology* (2013) 13, 1765, IF: **1.134**
133. J. Lee, **Y. S. Yun**, D. H. Kim, H. H. Park, H.-J. Jin*, “Nanocomposites of polystyrene/polystyrene-grafted graphene oxides synthesized by in-situ bulk polymerization”, *Journal of Nanoscience and Nanotechnology* (2013) 13, 1769, IF: **1.134**
134. Z. Xiong, **Y. S. Yun**, H.-J. Jin*, “Applications of carbon nanotubes for lithium ion battery anodes”, *Materials* (2013) 6, 1138, IF: **3.748**
135. A. Grinou, **Y. S. Yun**, S. Y. Cho, H. H. Park, H.-J. Jin*, “Dispersion of Pt nanoparticle-doped reduced graphene oxide using aniline as a stabilizer”, *Materials* (2012) 5, 2927, IF: **3.748**

136. D. H. Kim, Y. S. Yun, H.-J. Jin*, “Difference of dispersion behavior between graphene oxide and oxidized carbon nanotubes in polar organic solvents”, *Current Applied Physics* (2012) 12, 637, IF: **2.856**
137. A. Grinou, Y. S. Yun, H.-J. Jin*, “Polyaniline nanofiber-coated polystyrene/graphene oxide core-shell microsphere composites”, *Macromolecular Research* (2012) 20, 84, IF: **2.127**
138. M. Kang, H. Bak, Y. S. Yun, H.-J. Jin*, “Enhanced thermal properties of graphene oxide-incorporated polymeric microspheres”, *Journal of Nanoscience and Nanotechnology* (2012) 12, 3571, IF: **1.134**
139. A. Grinou, H. Bak, Y. S. Yun, H.-J. Jin*, “Polyaniline/silver nanoparticle-doped multiwalled carbon nanotube composites”, *Journal of Dispersion Science and Technology* (2012) 33, 750 IF: **2.021**
140. B. Kim, H. H. Park, Y. Choi, D. H. Kim, Y. S. Yun, H.-J. Jin*, “Controlling the aspect ratio of silver nanowires by variation of polyvinylpyrrolidone/AgNO₃ contents”, *Molecular Crystals and Liquid Crystals* (2012) 566, 112, IF: **0.672**
141. S. Heo, Y. S. Yun, S. Y. Cho, H.-J. Jin*, “Flexible bio-composites based on silks and celluloses”, *Journal of Nanoscience and Nanotechnology* (2012) 12, 811 IF: **1.134**
142. A. Grinou, Y. S. Yun, S. Y. Cho, H.-J. Jin*, “Alkylated graphene nanosheet composites with polyaniline nanofibers”, *Journal of Nanoscience and Nanotechnology* (2011) 11, 6323 IF: **1.134**
143. D. H. Kim, Y. S. Yun, H. Bak, S. Y. Cho, H.-J. Jin*, “Electro-conducting polymeric films prepared from the hybrids of carbon nanotubes and graphene nanosheets” *Current Applied Physics* (2011) 11, S376, IF: **2.856**
144. H.-S. Kim, H. I. Kwon, Y. S. Yun, H. Bak, J. S. Yoon, H.-J. Jin*, “Nanoporous silica membranes fabricated using multiwalled carbon nanotubes”, *Journal of Nanoscience and Nanotechnology* (2011) 11, 4434, IF: **1.134**
145. H. Bak, Y. S. Yun, S. Y. Cho, M. K. Kang, H.-J. Jin*, “Incorporation of multiwalled carbon nanotubes on the surface of polystyrene microspheres via in situ suspension polymerization”, *Macromolecular Research* (2011) 19, 227, IF: **2.127**
146. S. Y. Cho, Y. S. Yun, E. S. Kim, M. S. Kim, H.-J. Jin*, “Stem cell response to multiwalled carbon nanotube-incorporated regenerated silk fibroin films”, *Journal of Nanoscience and Nanotechnology* (2011) 11, 801, IF: **1.134**
147. D.-Y. Kim, Y. S. Yun, H. Bak, S. Y. Cho, H.-J. Jin*, “Aspect ratio control of acid modified multiwalled carbon nanotubes”, *Current Applied Physics* (2010) 10, 1046, IF: **2.856**
148. H. Bak, S. Y. Cho, Y. S. Yun, H.-J. Jin*, “Electrically conductive transparent films based on nylon 6 membranes and single-walled carbon nanotubes”, *Current Applied Physics* (2010) 10, S468, IF: **2.856**
149. Y. Kim, H.-S. Kim, Y. S. Yun, H. Bak, H.-J. Jin*, “Ag-doped multiwalled Carbon nanotube/polymer composite electrodes”, *Journal of Nanoscience and Nanotechnology* (2010) 10, 3571, IF: **1.134**
150. H.-S. Kim, H. I. Kwon, S.-M. Kwon, Y. S. Yun, J.-S. Yoon, H.-J. Jin*, “Electrical and mechanical properties of poly(L-lactide)/carbon nanotubes/clay nanocomposites”, *Journal of Nanoscience and Nanotechnology* (2010) 10, 3576, IF: **1.134**
151. P. Chen, Y. S. Yun, H. Bak, S. Y. Cho, H.-J. Jin*, “Multiwalled carbon nanotubes-embedded electrospun bacterial cellulose nanofibers”, *Molecular Crystals and Liquid Crystals* (2010) 519, 169, IF: **0.672**
152. Y. Kim, S. Y. Cho, Y. S. Yun, H.-J. Jin*, “Electroconductive adhesives based on polyurethane with multiwalled carbon nanotubes”, *Modern Physics Letters B* (2009) 23, 3739, IF: **1.948**
153. Y. Kim, H. S. Kim, H. Bak, Y. S. Yun, S. Y. Cho, H.-J. Jin*, “Transparent Conducting Films Based on Nanofibrous Polymeric Membranes and Single-walled Carbon Nanotubes”, *Journal of Applied Polymer Science* (2009) 114, 2864, IF: **3.057**
154. P. Chen, H. S. Kim, S. M. Kwon, Y. S. Yun, H.-J. Jin*, “Regenerated Bacterial Cellulose/Multi-walled Carbon Nanotubes Composite Fibers Prepared by Wet-spinning”, *Current Applied Physics* (2009) 9, E96, IF: **2.856**
155. D.-Y. Kim, Y. S. Yun, S.-M. Kwon, H.-J. Jin, “Preparation of Aspect Ratio-controlled Carbon Nanotubes”, *Molecular Crystals and Liquid Crystals* (2009) 510, 79, IF: **0.672**
156. S.-M. Kwon, H.-S. Kim, D.-Y. Kim, Y. S. Yun, H.-J. Jin*, “Polystyrene Composite Containing Crosslinked Polystyrene-multiwalled Carbon Nanotube Balls”, *Journal of Applied Polymer Science* (2008) 110, 3737, IF: **3.057**

PATENTS

H.-J. Jin, Y. S. Yun, Y. Tak, J. Shim, “*Preparing Method of Nitrogen-enriched Multimodal Porous Carbons by Host Urea Hydrates*”

- Korea Patent Application No.: 10-2011-0026067 (23. Mar. 2011)

- Korea Patent Registration No.: 10-1250945 (29. Mar. 2013)

H.-J. Jin, D. H. Kim, **Y. S. Yun**, B. Kim, *“Transparent Conductive Films by Graphene Oxide/Silver Nanowire Having High Flexibilities”*

- Korea Patent Application No.: 10-2012-0026780 (23. Mar. 2011)
- Korea Patent Registration No.: 10-1324281 (25. Oct. 2013)

H.-J. Jin, **Y. S. Yun**, *“Carbon Nanoplates Using Silk Proteins and the Manufacturing Method”*

- Korea Patent Application No.: 10-2012-0100349 (11. Sep. 2012)
- Korea Patent Registration No.: 10-1418864 (07. Jul. 2014)

H.-J. Jin, **Y. S. Yun**, *“Manufacturing Method of Carbon Aerogels”*

- Korea Patent Application No.: 10-2013-0064086 (04. Jun. 2013)
- Korea Patent Registration No.: 10-1427731 (01. Aug. 2014)

H.-J. Jin, **Y. S. Yun**, *“Sulfur-doped Graphene-based Nanosheets for Lithium-ion Battery Anodes”*

- Korea Patent Application No.: 10-2012-0128525 (14. Nov. 2012)
- Korea Patent Registration No.: 10-1451349 (08. Oct. 2014)

H.-J. Jin, **Y. S. Yun**, *“Free-standing Carbon Nanotube/Metal Oxide Particle Composite Film and the Manufacturing Method”*

- Korea Patent Application No.: 10-2012-0143475 (11. Dec. 2012)
- Korea Patent Registration No.: 10-1451354 (08. Oct. 2014)

H.-J. Jin, **Y. S. Yun**, *“Lithium-ion Battery Anode Material with Amorphous Carbon”*

- Korea Patent Application No.: 10-2013-0136431 (11. Nov. 2013)
- Korea Patent Registration No.: 10-1563889 (22. Oct. 2015)

H.-J. Jin, **Y. S. Yun**, *“Manufacturing Method for Film Type Electrode”*

- Korea Patent Application No.: 10-2013-0136433 (11. Nov. 2013)
- Korea Patent Registration No.: 10-1563896 (22. Oct. 2015)

H.-J. Jin, **Y. S. Yun**, *“Selenium-doped Graphene Nanosheets”*

- Korea Patent Application No.: 10-2014-0025890 (05. Mar. 2014)
- Korea Patent Registration No.: 10-1565565 (28. Oct. 2015)

H.-J. Jin, **Y. S. Yun**, *“Manufacturing Method of Sodium ion battery anode material”*

- Korea Patent Application No.: 10-2014-0037724 (31. Mar. 2014)
- Korea Patent Registration No.: 10-1602168 (04. Mar. 2016)

H.-J. Jin, S. Y. Cho, K. Kang, **Y. S. Yun**, H.-D. Lim, *“Mesh-type carbon support for lithium-air battery cathode”*

- Korea Patent Application No.: 10-2014-0143416 (22. Oct. 2014)
- Korea Patent Registration No.: 10-1650782 (18. Aug. 2016)

H.-J. Jin, **Y. S. Yun**, *“Energy-storing Porous Carbon-based Nanosheet Obtained from the Coffee Grounds”*

- Korea Patent Application No.: 10-2015-0024424 (17. Feb. 2015)
- Korea Patent Registration No.: 10-1730436 (20. Apr. 2017)

H.-J. Jin, K. Kang, S. Y. Cho, **Y. S. Yun**, *“Ultra-thin hollow carbon nanospheres for sodium ion storing and manufacturing method thereof”*

- Korea Patent Application No.: 10-2015-0055249 (20. Apr. 2015)
- Korea Patent Registration No.: 10-1790234 (19. Oct. 2018)

H.-J. Jin, **Y. S. Yun**, N. R. Kim, *“Citrus-peel-derived nano-structured carbon materials, energy storage device using the same and method for preparing the same”*

- Korea Patent Application No.: 10-2016-0102573 (11. Aug. 2016)
- Korea Patent Registration No.: 10-1818032 (8. Jan. 2018)

H.-J. Jin, S. Y. Cho, Y. S. Yun, S. Lee, “*Carbon materials induced from proteins and method for preparing the same*”

- Korea Patent Application No.: 10-2016-0061380 (19. May 2016)
- Korea Patent Registration No.: 10-1860436 (16. May 2018)

H.-J. Jin, S. Y. Cho, Y. S. Yun, S. Lee, “*Pyroprotein fiber having aligned poly-hexagonal carbon structure and method for preparing the same*”

- Korea Patent Application No.: 10-2017-0080759 (26. Jun. 2017)
- Korea Patent Registration No.: 10-1927860 (5. Dec. 2018)

H.-J. Jin, H. J. Yoon, Y. S. Yun, “*Catalytic Carbon Nanotemplate for Sodium Metal Battery Anode and Method for Preparing the Same*”

- Korea Patent Application No.: 10-2017-0127658 (29. Sep. 2017)
- Korea Patent Registration No.: 10-1972952 (22. Apr. 2019)

H.-J. Jin, S. Y. Cho, Y. S. Yun, S. Lee, “*Carbon materials induced from proteins and method for preparing the same*”

- Korea Patent Application No.: 10-2018-054817 (14. May 2018)
- Korea Patent Registration No.: 10-1927864 (05. Dec. 2018)

Y. S. Yun, “*Sodium Metal hybrid Capacitor*”

- Korea Patent Application No.: 10-2019-0034531 (26. Mar. 2019)
- Korea Patent Registration No.: 10-2180310 (12. Nov. 2020)

Y. S. Yun, “*S-doped Catalytic Carbon Nanotemplate for Sodium Metal Battery Anode and Method for Preparing the Same*”

- Korea Patent Application No.: 10-2019-0038391 (02. Apr. 2019)
- Korea Patent Registration No.: 10-2246094 (23. Apr. 2021)

Y. S. Yun, “*Sodium Metal Anode Having Pyroprotein Thin Film layers and Method for Manufacturing the Same, Sodium Ion battery Including the Anode*”

- Korea Patent Application No.: 10-2019-0071804 (17. Jun. 2019)
- Korea Patent Registration No.: 10-2285471 (28. Jul. 2021)

Y. S. Yun, “*Core-Shell Structured Nanohybrid Template for Sodium Metal Battery, Sodium Metal Battery Using the Same and Method for Preparing the Same*”

- Korea Patent Application No.: 10-2019-0133013 (24. Oct. 2019)
- Korea Patent Registration No.: 10-2285471 (05. Aug. 2021)

H. -D. Lim, S. H. Oh, H. -G. Jung, M. Lee, H. Kim, S. O. Kim, Y. S. Yun, “*Carbon Nanotemplate for Magnesium Metal Battery Anode and Method for Preparing the Same*”

- Korea Patent Application No.: 10-2019-0157936 (02. Dec. 2019)
- Korea Patent Registration No.: 10-2300948 (06. Sep. 2021)