

## REFERENCES

- An, C., Wang, Y., Huang, Y., Xu, Y., Jiao, L. and Yuan, H. (2014). Porous NiCo<sub>2</sub>O<sub>4</sub> nanostructures for high performance supercapacitors via a microemulsion technique. *Nano Energy*, *10*, 125-134.
- Anothumakkool, B., Bhange, S. N., Badiger, M. V. and Kurungot, S. (2014). Electrodeposited polyethylenedioxythiophene with infiltrated gel electrolyte interface: a close contest of an all-solid-state supercapacitor with its liquid-state counterpart. *Nanoscale*, *6*(11), 5944-5952.
- Appetecchi, G. B., Croce, F., Persi, L., Ronci, F. and Scrosati, B. (2000). Transport and interfacial properties of composite polymer electrolytes. *Electrochimica Acta*, *45*(8-9), 1481-1490.
- Aravinda, L. S., Nagaraja, K. K., Nagaraja, H. S., Bhat, K. U. and Bhat, B. R. (2016). Fabrication and performance evaluation of hybrid supercapacitor electrodes based on carbon nanotubes and sputtered TiO<sub>2</sub>. *Nanotechnology*, *27*(31), 314001.
- Aravindan, V., Reddy, M. V., Madhavi, S., Mhaisalkar, S. G., Subba Rao, G. V. and Chowdari, B. V. R. (2011). Hybrid supercapacitor with nano-TiP<sub>2</sub>O<sub>7</sub> as intercalation electrode. *Journal of Power Sources*, *196*(20), 8850-8854.
- Aravindan, V., Sundaramurthy, J., Jain, A., Kumar, P. S., Ling, W. C., Ramakrishna, S., Srinivasan, M. P. and Madhavi, S. (2014). Unveiling TiNb<sub>2</sub>O<sub>7</sub> as an insertion anode for lithium ion capacitors with high energy and power density. *ChemSusChem*, *7*(7), 1858-1863.
- Ariyoshi, K., Maeda, Y., Kawai, T. and Ohzuku, T. (2011). Effect of primary particle size upon polarization and cycling stability of 5-V lithium insertion material of Li [Ni<sub>1/2</sub>Mn<sub>3/2</sub>] O<sub>4</sub>. *Journal of the Electrochemical Society*, *158*(3), A281-A284.
- Augustyn, V., Simon, P. and Dunn, B. (2014). Pseudocapacitive oxide materials for high-rate electrochemical energy storage. *Energy & Environmental Science*, *7*(5), 1597-1614.
- Aurbach, D., Lu, Z., Schechter, A., Gofer, Y., Gizbar, H., Turgeman, R., Cohen, Y., Moshkovich, M. and Levi, E. (2000). Prototype systems for rechargeable magnesium batteries. *Nature*, *407*(6805), 724-727.
- Avnir, D. and Jaroniec, M. (1989). An isotherm equation for adsorption on fractal surfaces of heterogeneous porous materials. *Langmuir*, *5*(6), 1431-1433.
- Bai, S., Tan, G., Li, X., Zhao, Q., Meng, Y., Wang, Y., Zhang, Y. and Xiao, D. (2016). Pumpkin-derived porous carbon for supercapacitors with high performance. *Chemistry – An Asian Journal*, *11*(12), 1828-1836.

- Bai, W., Tong, H., Gao, Z., Yue, S., Xing, S., Dong, S., Shen, L., He, J., Zhang, X. and Liang, Y. (2015). Preparation of ZnCo<sub>2</sub>O<sub>4</sub> nanoflowers on a 3D carbon nanotube/nitrogen-doped graphene film and its electrochemical capacitance. *Journal of Materials Chemistry A*, 3(43), 21891-21898.
- Bao, F., Zhang, Z., Guo, W. and Liu, X. (2015). Facile Synthesis of Three Dimensional NiCo<sub>2</sub>O<sub>4</sub>@MnO<sub>2</sub> Core–Shell Nanosheet Arrays and its Supercapacitive Performance. *Electrochimica Acta*, 157, 31-40.
- Barzegar, F., Momodu, D. Y., Fashedemi, O. O., Bello, A., Dangbegnon, J. K. and Manyala, N. (2015). Investigation of different aqueous electrolytes on the electrochemical performance of activated carbon-based supercapacitors. *RSC Advances*, 5(130), 107482-107487.
- Beidaghi, M. and Gogotsi, Y. (2014). Capacitive energy storage in micro-scale devices: recent advances in design and fabrication of micro-supercapacitors. *Energy & Environmental Science*, 7(3), 867-884.
- Bello, A., Makgopa, K., Fabiane, M., Dodoo-Ahrin, D., Ozoemena, K. I. and Manyala, N. (2013). Chemical adsorption of NiO nanostructures on nickel foam-graphene for supercapacitor applications. *Journal of Materials Science*, 48(19), 6707-6712.
- Biswal, M., Banerjee, A., Deo, M. and Ogale, S. (2013). From dead leaves to high energy density supercapacitors. *Energy & Environmental Science*, 6(4), 1249-1259.
- Brousse, T., Taberna, P.-L., Crosnier, O., Dugas, R., Guillemet, P., Scudeller, Y., Zhou, Y., Favier, F., Bélanger, D. and Simon, P. (2007). Long-term cycling behavior of asymmetric activated carbon/MnO<sub>2</sub> aqueous electrochemical supercapacitor. *Journal of Power Sources*, 173(1), 633-641.
- Bruce, P. G., Scrosati, B. and Tarascon, J.-M. (2008). Nanomaterials for rechargeable lithium batteries. *Angewandte Chemie International Edition*, 47(16), 2930-2946.
- Cao, X., Wei, J., Luo, Y., Zhou, Z. and Zhang, Y. (2000). Spherical nickel hydroxide composite electrode. *International Journal of Hydrogen Energy*, 25(7), 643-647.
- Chang, J.-K., Huang, C.-H., Lee, M.-T., Tsai, W.-T., Deng, M.-J. and Sun, I. W. (2009a). Physicochemical factors that affect the pseudocapacitance and cyclic stability of Mn oxide electrodes. *Electrochimica Acta*, 54(12), 3278-3284.
- Chang, K.-H. and Hu, C.-C. (2006). Hydrothermal synthesis of binary Ru–Ti oxides with excellent performances for supercapacitors. *Electrochimica Acta*, 52(4), 1749-1757.
- Chang, K.-H., Hu, C.-C. and Chou, C.-Y. (2009b). Textural and pseudocapacitive characteristics of sol–gel derived RuO<sub>2</sub>·xH<sub>2</sub>O: Hydrothermal annealing vs. annealing in air. *Electrochimica Acta*, 54(3), 978-983.

- Chang, S.-K., Zainal, Z., Tan, K.-B., Yusof, N. A., Wan Yusoff, W. M. D. and Prabakaran, S. R. S. (2015). Synthesis and electrochemical properties of nanostructured nickel–cobalt oxides as supercapacitor electrodes in aqueous media. *International Journal of Energy Research*, 39(10), 1366-1377.
- Chauhan, N. P. S., Mozafari, M., Chundawat, N. S., Meghwal, K., Ameta, R. and Ameta, S. C. (2016). High-performance supercapacitors based on polyaniline–graphene nanocomposites: Some approaches, challenges and opportunities. *Journal of Industrial and Engineering Chemistry*, 36, 13-29.
- Che, H., Liu, A., Mu, J., Wu, C. and Zhang, X. (2016a). Template-free synthesis of novel flower-like  $\text{MnCo}_2\text{O}_4$  hollow microspheres for application in supercapacitors. *Ceramics International*, 42(2, Part A), 2416-2424.
- Che, H., Wang, Y. and Mao, Y. (2016b). Novel flower-like  $\text{MnCo}_2\text{O}_4$  microstructure self-assembled by ultrathin nanoflakes on the microspheres for high-performance supercapacitors. *Journal of Alloys and Compounds*, 680, 586-594.
- Chee, W. K., Lim, H. N., Zainal, Z., Huang, N. M., Harrison, I. and Andou, Y. (2016). Flexible graphene-based supercapacitors: A review. *The Journal of Physical Chemistry C*, 120(8), 4153-4172.
- Chen, C.-Y., Li, H.-X. and Davis, M. E. (1993). Studies on mesoporous materials: I. Synthesis and characterization of MCM-41. *Microporous Materials*, 2(1), 17-26.
- Chen, H., Zeng, S., Chen, M., Zhang, Y., Zheng, L. and Li, Q. (2016a). Oxygen evolution assisted fabrication of highly loaded carbon nanotube/ $\text{MnO}_2$  hybrid films for high-performance flexible pseudosupercapacitors. *Small*, 12(15), 2035-2045.
- Chen, P.-C., Shen, G., Shi, Y., Chen, H. and Zhou, C. (2010). Preparation and characterization of flexible asymmetric supercapacitors based on transition-metal-oxide nanowire/single-walled carbon nanotube hybrid thin-film electrodes. *ACS Nano*, 4(8), 4403-4411.
- Chen, T., Fan, Y., Wang, G., Yang, Q. and Yang, R. (2015). Rationally designed hierarchical  $\text{ZnCo}_2\text{O}_4$ /polypyrrole nanostructures for high-performance supercapacitor electrodes. *RSC Advances*, 5(91), 74523-74530.
- Chen, X., Li, X., Jiang, Y., Shi, C. and Li, X. (2005). Rational synthesis of  $\alpha$ - $\text{MnO}_2$  and  $\gamma$ - $\text{Mn}_2\text{O}_3$  nanowires with the electrochemical characterization of  $\alpha$ - $\text{MnO}_2$  nanowires for supercapacitor. *Solid State Communications*, 136(2), 94-96.
- Chen, X., Wu, K., Gao, B., Xiao, Q., Kong, J., Xiong, Q., Peng, X., Zhang, X. and Fu, J. (2016b). Three-dimensional activated carbon recycled from rotten potatoes for high-performance supercapacitors. *Waste and Biomass Valorization*, 7(3), 551-557.
- Chen, Y., Zhang, X., Zhang, D., Yu, P. and Ma, Y. (2011a). High performance supercapacitors based on reduced graphene oxide in aqueous and ionic liquid electrolytes. *Carbon*, 49(2), 573-580.

- Chen, Z., Augustyn, V., Wen, J., Zhang, Y., Shen, M., Dunn, B. and Lu, Y. (2011b). High-performance supercapacitors based on intertwined CNT/V<sub>2</sub>O<sub>5</sub> nanowire nanocomposites. *Advanced Materials*, 23(6), 791-795.
- Chen, Z. and Dahn, J. (2002). Reducing carbon in LiFePO<sub>4</sub>/C composite electrodes to maximize specific energy, volumetric energy, and tap density. *Journal of the Electrochemical Society*, 149(9), A1184-A1189.
- Cheng, J., Lu, Y., Qiu, K., Yan, H., Hou, X., Xu, J., Han, L., Liu, X., Kim, J.-K. and Luo, Y. (2015a). Mesoporous ZnCo<sub>2</sub>O<sub>4</sub> nanoflakes grown on nickel foam as electrodes for high performance supercapacitors. *Physical Chemistry Chemical Physics*, 17(26), 17016-17022.
- Cheng, J., Yan, H., Lu, Y., Qiu, K., Hou, X., Xu, J., Han, L., Liu, X., Kim, J.-K. and Luo, Y. (2015b). Mesoporous CuCo<sub>2</sub>O<sub>4</sub> nanograsses as multi-functional electrodes for supercapacitors and electro-catalysts. *Journal of Materials Chemistry A*, 3(18), 9769-9776.
- Cheng, J. P., Chen, X., Wu, J.-S., Liu, F., Zhang, X. B. and Dravid, V. P. (2012). Porous cobalt oxides with tunable hierarchical morphologies for supercapacitor electrodes. *CrystEngComm*, 14(20), 6702-6709.
- Cheng, Q., Tang, J., Ma, J., Zhang, H., Shinya, N. and Qin, L.-C. (2011). Graphene and nanostructured MnO<sub>2</sub> composite electrodes for supercapacitors. *Carbon*, 49(9), 2917-2925.
- Choi, C., Sim, H. J., Spinks, G. M., Lepró, X., Baughman, R. H. and Kim, S. J. (2016). Elastomeric and dynamic MnO<sub>2</sub>/CNT core-shell structure coiled yarn supercapacitor. *Advanced Energy Materials*, 6(5).
- Chou, S.-L., Wang, J.-Z., Chew, S.-Y., Liu, H.-K. and Dou, S.-X. (2008). Electrodeposition of MnO<sub>2</sub> nanowires on carbon nanotube paper as free-standing, flexible electrode for supercapacitors. *Electrochemistry Communications*, 10(11), 1724-1727.
- Chou, S., Cheng, F. and Chen, J. (2006). Electrodeposition synthesis and electrochemical properties of nanostructured  $\gamma$ -MnO<sub>2</sub> films. *Journal of Power Sources*, 162(1), 727-734.
- Conway, B. E. (1993). Two-dimensional and quasi-two-dimensional isotherms for Li intercalation and up/d processes at surfaces. *Electrochimica Acta*, 38(9), 1249-1258.
- Conway, B. E. (1997). ***Electrochemical supercapacitors: scientific fundamentals and technological applications***. 2<sup>nd</sup> ed. New York: Kluwer Academic/Plenum Publishers.
- Conway, B. E., Birss, V. and Wojtowicz, J. (1997). The role and utilization of pseudocapacitance for energy storage by supercapacitors. *Journal of Power Sources*, 66(1), 1-14.

- Corneille, J. S., He, J.-W. and Goodman, D. W. (1994). XPS characterization of ultrathin MgO films on a Mo (100) surface. *Surface Science*, 306(3), 269-278.
- Cui, J., Zhang, X., Tong, L., Luo, J., Wang, Y., Zhang, Y., Xie, K. and Wu, Y. (2015). A facile synthesis of mesoporous Co<sub>3</sub>O<sub>4</sub>/CeO<sub>2</sub> hybrid nanowire arrays for high performance supercapacitors. *Journal of Materials Chemistry A*, 3(19), 10425-10431.
- Cui, L., Li, J. and Zhang, X.-G. (2009). Preparation and properties of Co<sub>3</sub>O<sub>4</sub> nanorods as supercapacitor material. *Journal of Applied Electrochemistry*, 39(10), 1871-1876.
- Deng, J., Kang, L., Bai, G., Li, Y., Li, P., Liu, X., Yang, Y., Gao, F. and Liang, W. (2014). Solution combustion synthesis of cobalt oxides (Co<sub>3</sub>O<sub>4</sub> and Co<sub>3</sub>O<sub>4</sub>/CoO) nanoparticles as supercapacitor electrode materials. *Electrochimica Acta*, 132, 127-135.
- Devan, R. S., Patil, R. A., Lin, J.-H. and Ma, Y.-R. (2012). One-dimensional metal-oxide nanostructures: Recent developments in synthesis, characterization, and applications. *Advanced Functional Materials*, 22(16), 3326-3370.
- Devaraj, S. and Munichandraiah, N. (2005). High capacitance of electrodeposited MnO<sub>2</sub> by the effect of a surface-active agent. *Electrochemical and Solid-State Letters*, 8(7), A373-A377.
- Dong, X., Su, C.-Y., Zhang, W., Zhao, J., Ling, Q., Huang, W., Chen, P. and Li, L.-J. (2010). Ultra-large single-layer graphene obtained from solution chemical reduction and its electrical properties. *Physical Chemistry Chemical Physics*, 12(9), 2164-2169.
- Donne, S. W., Hollenkamp, A. F. and Jones, B. C. (2010). Structure, morphology and electrochemical behaviour of manganese oxides prepared by controlled decomposition of permanganate. *Journal of Power Sources*, 195(1), 367-373.
- Du, J., Zhou, G., Zhang, H., Cheng, C., Ma, J., Wei, W., Chen, L. and Wang, T. (2013a). Ultrathin porous NiCo<sub>2</sub>O<sub>4</sub> nanosheet arrays on flexible carbon fabric for high-performance supercapacitors. *ACS Applied Materials & Interfaces*, 5(15), 7405-7409.
- Du, W., Liu, R., Jiang, Y., Lu, Q., Fan, Y. and Gao, F. (2013b). Facile synthesis of hollow Co<sub>3</sub>O<sub>4</sub> boxes for high capacity supercapacitor. *Journal of Power Sources*, 227, 101-105.
- Du, X., Wang, C., Chen, M., Jiao, Y. and Wang, J. (2009). Electrochemical performances of nanoparticle Fe<sub>3</sub>O<sub>4</sub>/activated carbon supercapacitor using KOH electrolyte solution. *The Journal of Physical Chemistry C*, 113(6), 2643-2646.
- Dubal, D. P., Gomez-Romero, P., Sankapal, B. R. and Holze, R. (2015). Nickel cobaltite as an emerging material for supercapacitors: An overview. *Nano Energy*, 11, 377-399.

- Dubal, D. P., Gund, G. S., Holze, R., Jadhav, H. S., Lokhande, C. D. and Park, C.-J. (2013). Solution-based binder-free synthetic approach of RuO<sub>2</sub> thin films for all solid state supercapacitors. *Electrochimica Acta*, 103, 103-109.
- Egashira, M., Matsuno, Y., Yoshimoto, N. and Morita, M. (2010). Pseudo-capacitance of composite electrode of ruthenium oxide with porous carbon in non-aqueous electrolyte containing imidazolium salt. *Journal of Power Sources*, 195(9), 3036-3040.
- El-Kady, M. F., Strong, V., Dubin, S. and Kaner, R. B. (2012). Laser scribing of high-performance and flexible graphene-based electrochemical capacitors. *Science*, 335(6074), 1326-1330.
- Ellis, B. L., Lee, K. T. and Nazar, L. F. (2010). Positive electrode materials for li-ion and li-batteries. *Chemistry of Materials*, 22(3), 691-714.
- Fan, H., Wang, H., Zhao, N., Zhang, X. and Xu, J. (2012). Hierarchical nanocomposite of polyaniline nanorods grown on the surface of carbon nanotubes for high-performance supercapacitor electrode. *Journal of Materials Chemistry*, 22(6), 2774-2780.
- Fan, Z., Yan, J., Wei, T., Zhi, L., Ning, G., Li, T. and Wei, F. (2011). Asymmetric supercapacitors based on graphene/MnO<sub>2</sub> and activated carbon nanofiber electrodes with high power and energy density. *Advanced Functional Materials*, 21(12), 2366-2375.
- Farma, R., Deraman, M., Awitdrus, A., Talib, I. A., Taer, E., Basri, N. H., Manjunatha, J. G., Ishak, M. M., Dollah, B. N. M. and Hashmi, S. A. (2013). Preparation of highly porous binderless activated carbon electrodes from fibres of oil palm empty fruit bunches for application in supercapacitors. *Bioresource Technology*, 132, 254-261.
- Feng, Z.-P., Li, G.-R., Zhong, J.-H., Wang, Z.-L., Ou, Y.-N. and Tong, Y.-X. (2009). MnO<sub>2</sub> multilayer nanosheet clusters evolved from monolayer nanosheets and their predominant electrochemical properties. *Electrochemistry Communications*, 11(3), 706-710.
- Frackowiak, E., Khomenko, V., Jurewicz, K., Lota, K. and Béguin, F. (2006). Supercapacitors based on conducting polymers/nanotubes composites. *Journal of Power Sources*, 153(2), 413-418.
- Frackowiak, E., Metenier, K., Bertagna, V. and Beguin, F. (2000). Supercapacitor electrodes from multiwalled carbon nanotubes. *Applied Physics Letters*, 77(15), 2421-2423.
- Fu, C., Li, G., Luo, D., Huang, X., Zheng, J. and Li, L. (2014). One-step calcination-free synthesis of multicomponent spinel assembled microspheres for high-performance anodes of Li-ion batteries: a case study of MnCo<sub>2</sub>O<sub>4</sub>. *ACS Applied Materials & Interfaces*, 6(4), 2439-2449.

- Fu, R., Ma, Z. and Zheng, J. P. (2002). Proton NMR and dynamic studies of hydrous ruthenium oxide. *The Journal of Physical Chemistry B*, 106(14), 3592-3596.
- Fu, W., Li, X., Zhao, C., Liu, Y., Zhang, P., Zhou, J., Pan, X. and Xie, E. (2015). Facile hydrothermal synthesis of flowerlike ZnCo<sub>2</sub>O<sub>4</sub> microspheres as binder-free electrodes for supercapacitors. *Materials Letters*, 149, 1-4.
- Gamby, J., Taberna, P. L., Simon, P., Fauvarque, J. F. and Chesneau, M. (2001). Studies and characterisations of various activated carbons used for carbon/carbon supercapacitors. *Journal of Power Sources*, 101(1), 109-116.
- Ganesh, I., Bhattacharjee, S., Saha, B. P., Johnson, R. and Mahajan, Y. R. (2001). A new sintering aid for magnesium aluminate spinel. *Ceramics International*, 27(7), 773-779.
- Gao, L., Zhang, L., Jia, S., Liu, X., Wang, Y. and Xing, S. (2016a). Facile route to achieve hierarchical hollow MnO<sub>2</sub> nanostructures. *Electrochimica Acta*, 203, 59-65.
- Gao, Y., Chen, S., Cao, D., Wang, G. and Yin, J. (2010). Electrochemical capacitance of Co<sub>3</sub>O<sub>4</sub> nanowire arrays supported on nickel foam. *Journal of Power Sources*, 195(6), 1757-1760.
- Gao, Z., Yang, W., Wang, J., Song, N. and Li, X. (2015). Flexible all-solid-state hierarchical NiCo<sub>2</sub>O<sub>4</sub>/porous graphene paper asymmetric supercapacitors with an exceptional combination of electrochemical properties. *Nano Energy*, 13, 306-317.
- Gao, Z., Zhang, Y., Song, N. and Li, X. (2016b). Biomass-derived renewable carbon materials for electrochemical energy storage. *Materials Research Letters*, 1-20.
- Ghaemi, M., Ataherian, F., Zolfaghari, A. and Jafari, S. M. (2008). Charge storage mechanism of sonochemically prepared MnO<sub>2</sub> as supercapacitor electrode: effects of physisorbed water and proton conduction. *Electrochimica Acta*, 53(14), 4607-4614.
- Ghosh, D., Giri, S. and Das, C. K. (2013). Preparation of CTAB-assisted hexagonal platelet Co(OH)<sub>2</sub>/graphene hybrid composite as efficient supercapacitor electrode material. *ACS Sustainable Chemistry & Engineering*, 1(9), 1135-1142.
- Gomez, J. and Kalu, E. E. (2013). High-performance binder-free Co–Mn composite oxide supercapacitor electrode. *Journal of Power Sources*, 230, 218-224.
- Gong, D., Zhu, J. and Lu, B. (2016). RuO<sub>2</sub>@Co<sub>3</sub>O<sub>4</sub> heterogeneous nanofibers: a high-performance electrode material for supercapacitors. *RSC Advances*, 6(54), 49173-49178.
- González, A., Goikolea, E., Barrena, J. A. and Mysyk, R. (2016). Review on supercapacitors: Technologies and materials. *Renewable and Sustainable Energy Reviews*, 58, 1189-1206.
- Goodenough, J. B. and Park, K.-S. (2013). The li-ion rechargeable battery: A perspective. *Journal of the American Chemical Society*, 135(4), 1167-1176.

- Gregory, T. D., Hoffman, R. J. and Winterton, R. C. (1990). Nonaqueous electrochemistry of magnesium applications to energy storage. *Journal of the Electrochemical Society*, 137(3), 775-780.
- Gujar, T. P., Kim, W. Y., Puspitasari, I., Jung, K. D. and Joo, O. S. (2007a). Electrochemically deposited nanograin ruthenium oxide as a pseudocapacitive electrode. *International Journal of Electrochemical Science*, 2(9), 666-673.
- Gujar, T. P., Shinde, V. R., Lokhande, C. D., Kim, W.-Y., Jung, K.-D. and Joo, O.-S. (2007b). Spray deposited amorphous RuO<sub>2</sub> for an effective use in electrochemical supercapacitor. *Electrochemistry Communications*, 9(3), 504-510.
- Guo, M.-X., Bian, S.-W., Shao, F., Liu, S. and Peng, Y.-H. (2016). Hydrothermal synthesis and electrochemical performance of MnO<sub>2</sub>/graphene/polyester composite electrode materials for flexible supercapacitors. *Electrochimica Acta*, 209, 486-497.
- Gupta, V., Gupta, S. and Miura, N. (2010). Electrochemically synthesized nanocrystalline spinel thin film for high performance supercapacitor. *Journal of Power Sources*, 195(11), 3757-3760.
- Hadjipaschalis, I., Poullikkas, A. and Efthimiou, V. (2009). Overview of current and future energy storage technologies for electric power applications. *Renewable and Sustainable Energy Reviews*, 13(6-7), 1513-1522.
- Hai, Z., Gao, L., Zhang, Q., Xu, H., Cui, D., Zhang, Z., Tsoukalas, D., Tang, J., Yan, S. and Xue, C. (2016). Facile synthesis of core-shell structured PANI-Co<sub>3</sub>O<sub>4</sub> nanocomposites with superior electrochemical performance in supercapacitors. *Applied Surface Science*, 361, 57-62.
- Han, F., Meng, G., Zhou, F., Song, L., Li, X., Hu, X., Zhu, X., Wu, B. and Wei, B. (2015). Dielectric capacitors with three-dimensional nanoscale interdigital electrodes for energy storage. *Science Advances*, 1(9).
- Hao, P., Zhao, Z., Li, L., Tuan, C.-C., Li, H., Sang, Y., Jiang, H., Wong, C. P. and Liu, H. (2015). The hybrid nanostructure of MnCo<sub>2</sub>O<sub>4.5</sub> nanoneedle/carbon aerogel for symmetric supercapacitors with high energy density. *Nanoscale*, 7(34), 14401-14412.
- Hemmati, R. and Saboori, H. (2016). Emergence of hybrid energy storage systems in renewable energy and transport applications – A review. *Renewable and Sustainable Energy Reviews*, 65, 11-23.
- Hong Soo, C., TaeHoon, K., Ji Hyuk, I. and Chong Rae, P. (2011). Preparation and electrochemical performance of hyper-networked Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> / carbon hybrid nanofiber sheets for a battery-supercapacitor hybrid system. *Nanotechnology*, 22(40), 405402.
- Hsu, C.-T. and Hu, C.-C. (2013). Synthesis and characterization of mesoporous spinel NiCo<sub>2</sub>O<sub>4</sub> using surfactant-assembled dispersion for asymmetric supercapacitors. *Journal of Power Sources*, 242, 662-671.



- Hu, C.-C., Chang, K.-H., Lin, M.-C. and Wu, Y.-T. (2006). Design and tailoring of the nanotubular arrayed architecture of hydrous RuO<sub>2</sub> for next generation supercapacitors. *Nano Letters*, 6(12), 2690-2695.
- Hu, C.-C., Chang, K.-H. and Wang, C.-C. (2007). Two-step hydrothermal synthesis of Ru–Sn oxide composites for electrochemical supercapacitors. *Electrochimica Acta*, 52(13), 4411-4418.
- Hu, C.-C. and Chen, W.-C. (2004). Effects of substrates on the capacitive performance of RuO<sub>x</sub>·nH<sub>2</sub>O and activated carbon–RuO<sub>x</sub> electrodes for supercapacitors. *Electrochimica Acta*, 49(21), 3469-3477.
- Hu, C.-C. and Wang, C.-C. (2002). Improving the utilization of ruthenium oxide within thick carbon–ruthenium oxide composites by annealing and anodizing for electrochemical supercapacitors. *Electrochemistry Communications*, 4(7), 554-559.
- Hu, Z., Xiao, X., Huang, L., Chen, C., Li, T., Su, T., Cheng, X., Miao, L., Zhang, Y. and Zhou, J. (2015). 2D vanadium doped manganese dioxides nanosheets for pseudocapacitive energy storage. *Nanoscale*, 7(38), 16094-16099.
- Hua, B., Kong, Y., Lu, F., Zhang, J., Pu, J. and Li, J. (2010). The electrical property of MnCo<sub>2</sub>O<sub>4</sub> and its application for SUS 430 metallic interconnect. *Chinese Science Bulletin*, 55(33), 3831-3837.
- Huang, G., Xu, S., Yang, Y., Sun, H. and Xu, Z. (2016). Synthesis of porous MnCo<sub>2</sub>O<sub>4</sub> microspheres with yolk-shell structure induced by concentration gradient and the effect on their performance in electrochemical energy storage. *RSC Advances*, 6(13), 10763-10774.
- Huang, T., Zhao, C., Zheng, R., Zhang, Y. and Hu, Z. (2015a). Facilely synthesized porous ZnCo<sub>2</sub>O<sub>4</sub> rodlike nanostructure for high-rate supercapacitors. *Ionics*, 21(11), 3109-3115.
- Huang, Y., Miao, Y.-E., Lu, H. and Liu, T. (2015b). Hierarchical ZnCo<sub>2</sub>O<sub>4</sub>@NiCo<sub>2</sub>O<sub>4</sub> core–sheath nanowires: bifunctionality towards high-performance supercapacitors and the oxygen-reduction reaction. *Chemistry – A European Journal*, 21(28), 10100-10108.
- Hulicova-Jurcakova, D., Seredych, M., Lu, G. Q. and Bandosz, T. J. (2009). Combined effect of nitrogen- and oxygen-containing functional groups of microporous activated carbon on its electrochemical performance in supercapacitors. *Advanced Functional Materials*, 19(3), 438-447.
- Hwang, J. Y., El-Kady, M. F., Wang, Y., Wang, L., Shao, Y., Marsh, K., Ko, J. M. and Kaner, R. B. (2015). Direct preparation and processing of graphene/RuO<sub>2</sub> nanocomposite electrodes for high-performance capacitive energy storage. *Nano Energy*, 18, 57-70.
- Inagaki, M., Konno, H. and Tanaike, O. (2010). Carbon materials for electrochemical capacitors. *Journal of Power Sources*, 195(24), 7880-7903.

- Iqbal, N., Wang, X., Ahmed Babar, A., Yu, J. and Ding, B. (2016). Highly flexible NiCo<sub>2</sub>O<sub>4</sub>/CNTs doped carbon nanofibers for CO<sub>2</sub> adsorption and supercapacitor electrodes. *Journal of Colloid and Interface Science*, 476, 87-93.
- Jadhav, P. R., Suryawanshi, M. P., Dalavi, D. S., Patil, D. S., Jo, E. A., Kolekar, S. S., Wali, A. A., Karanjkar, M. M., Kim, J.-H. and Patil, P. S. (2015). Design and electro-synthesis of 3-D nanofibers of MnO<sub>2</sub> thin films and their application in high performance supercapacitor. *Electrochimica Acta*, 176, 523-532.
- Jagadale, A. D., Kumbhar, V. S., Bulakhe, R. N. and Lokhande, C. D. (2014). Influence of electrodeposition modes on the supercapacitive performance of Co<sub>3</sub>O<sub>4</sub> electrodes. *Energy*, 64, 234-241.
- Jang, J. H., Han, S., Hyeon, T. and Oh, S. M. (2003). Electrochemical capacitor performance of hydrous ruthenium oxide/mesoporous carbon composite electrodes. *Journal of Power Sources*, 123(1), 79-85.
- Jeong, G. H., Baek, S., Lee, S. and Kim, S.-W. (2016). Metal oxide/graphene composites for supercapacitive electrode materials. *Chemistry – An Asian Journal*, 11(7), 949-964.
- Jeong, Y. and Manthiram, A. (2002). Nanocrystalline manganese oxides for electrochemical capacitors with neutral electrolytes. *Journal of the Electrochemical Society*, 149(11), A1419-A1422.
- Jia, Q. X., Song, S. G., Wu, X. D., Cho, J. H., Foltyn, S. R., Findikoglu, A. T. and Smith, J. L. (1996). Epitaxial growth of highly conductive RuO<sub>2</sub> thin films on (100) Si. *Applied Physics Letters*, 68(8), 1069-1071.
- Jiang, H., Ma, J. and Li, C. (2012). Mesoporous carbon incorporated metal oxide nanomaterials as supercapacitor electrodes. *Advanced Materials*, 24(30), 4197-4202.
- Jiang, H., Zhao, T., Li, C. and Ma, J. (2011). Hierarchical self-assembly of ultrathin nickel hydroxide nanoflakes for high-performance supercapacitors. *Journal of Materials Chemistry*, 21(11), 3818-3823.
- Jiang, J. and Dahn, J. R. (2006). Insignificant impact of designed oxygen release from high capacity Li[(Ni<sub>1/2</sub>Mn<sub>1/2</sub>)<sub>x</sub>Co<sub>y</sub>(Li<sub>1/3</sub>Mn<sub>2/3</sub>)<sub>1/3</sub>]O<sub>2</sub> (x + y = 2/3) positive electrodes during the cycling of Li-ion cells. *Electrochimica Acta*, 51(17), 3413-3416.
- Jiang, L.-b., Yuan, X.-z., Liang, J., Zhang, J., Wang, H. and Zeng, G.-m. (2016). Nanostructured core-shell electrode materials for electrochemical capacitors. *Journal of Power Sources*, 331, 408-425.
- Jokar, E., zad, A. I. and Shahrokhian, S. (2015). Synthesis and characterization of NiCo<sub>2</sub>O<sub>4</sub> nanorods for preparation of supercapacitor electrodes. *Journal of Solid State Electrochemistry*, 19(1), 269-274.

- Joshi, M., Bhattacharyya, A. and Ali, S. W. (2008). Characterization techniques for nanotechnology applications in textiles. *Indian Journal of Fibre and Textile Research*, 33(3), 304-317.
- Kalubarme, R. S., Jadhav, H. S., Ngo, D. T., Park, G.-E., Fisher, J. G., Choi, Y.-I., Ryu, W.-H. and Park, C.-J. (2015). Simple synthesis of highly catalytic carbon-free  $\text{MnCo}_2\text{O}_4@Ni$  as an oxygen electrode for rechargeable Li–O<sub>2</sub> batteries with long-term stability. *Scientific Reports*, 5, 13266.
- Kamioka, N., Ichitsubo, T., Uda, T., Imashuku, S., Taninouchi, Y.-k. and Matsubara, E. (2008). Synthesis of spinel-type magnesium cobalt oxide and its electrical conductivity. *Materials transactions*, 49(4), 824-828.
- Kandalkar, S. G., Lee, H.-M., Chae, H. and Kim, C.-K. (2011). Structural, morphological, and electrical characteristics of the electrodeposited cobalt oxide electrode for supercapacitor applications. *Materials Research Bulletin*, 46(1), 48-51.
- Khalifaoui, M., Knani, S., Hachicha, M. and Lamine, A. B. (2003). New theoretical expressions for the five adsorption type isotherms classified by BET based on statistical physics treatment. *Journal of Colloid and Interface Science*, 263(2), 350-356.
- Khalid, S., Cao, C., Wang, L. and Zhu, Y. (2016). Microwave assisted synthesis of porous  $\text{NiCo}_2\text{O}_4$  microspheres: Application as high performance asymmetric and symmetric supercapacitors with large areal capacitance. *Scientific Reports*, 6, 22699.
- Khomenko, V., Raymundo-Piñero, E. and Béguin, F. (2006). Optimisation of an asymmetric manganese oxide/activated carbon capacitor working at 2 V in aqueous medium. *Journal of Power Sources*, 153(1), 183-190.
- Kim, H. and Popov, B. N. (2002). Characterization of hydrous ruthenium oxide/carbon nanocomposite supercapacitors prepared by a colloidal method. *Journal of Power Sources*, 104(1), 52-61.
- Kim, K. J. and Heo, J. W. (2012). Electronic structure and optical properties of inverse-spinel  $\text{MnCo}_2\text{O}_4$  thin films. *Journal of the Korean Physical Society*, 60(9), 1376-1380.
- Kim, T., Ramadoss, A., Saravanakumar, B., Veerasubramani, G. K. and Kim, S. J. (2016). Synthesis and characterization of  $\text{NiCo}_2\text{O}_4$  nanoplates as efficient electrode materials for electrochemical supercapacitors. *Applied Surface Science*, 370, 452-458.
- Kong, L.-B., Liu, M., Lang, J.-W., Luo, Y.-C. and Kang, L. (2009). Asymmetric supercapacitor based on loose-packed cobalt hydroxide nanoflake materials and activated carbon. *Journal of the Electrochemical Society*, 156(12), A1000-A1004.
- Kong, L.-B., Lu, C., Liu, M.-C., Luo, Y.-C., Kang, L., Li, X. and Walsh, F. C. (2014). The specific capacitance of sol–gel synthesised spinel  $\text{MnCo}_2\text{O}_4$  in an alkaline electrolyte. *Electrochimica Acta*, 115, 22-27.

- Kötz, R. and Carlen, M. (2000). Principles and applications of electrochemical capacitors. *Electrochimica Acta*, 45(15–16), 2483-2498.
- Kruk, M., Jaroniec, M. and Sayari, A. (1997). Adsorption study of surface and structural properties of MCM-41 materials of different pore sizes. *The Journal of Physical Chemistry B*, 101(4), 583-589.
- Kuang, M., Zhang, Y. X., Li, T. T., Li, K. F., Zhang, S. M., Li, G. and Zhang, W. (2015). Tunable synthesis of hierarchical NiCo<sub>2</sub>O<sub>4</sub> nanosheets-decorated Cu/CuO<sub>x</sub> nanowires architectures for asymmetric electrochemical capacitors. *Journal of Power Sources*, 283, 270-278.
- Kulesza, P. J., Zamponi, S., Malik, M. A., Berrettoni, M., Wolkiewicz, A. and Marassi, R. (1998). Spectroelectrochemical characterization of cobalt hexacyanoferrate films in potassium salt electrolyte. *Electrochimica Acta*, 43(8), 919-923.
- Kumar, M., Subramania, A. and Balakrishnan, K. (2014). Preparation of electrospun Co<sub>3</sub>O<sub>4</sub> nanofibers as electrode material for high performance asymmetric supercapacitors. *Electrochimica Acta*, 149, 152-158.
- Lamiel, C., Nguyen, V. H., Tuma, D. and Shim, J.-J. (2016). Non-aqueous synthesis of ultrasmall NiO nanoparticle-intercalated graphene composite as active electrode material for supercapacitors. *Materials Research Bulletin*, 83, 275-283.
- Lee, H., Cho, M. S., Kim, I. H., Nam, J. D. and Lee, Y. (2010). RuO<sub>x</sub>/polypyrrole nanocomposite electrode for electrochemical capacitors. *Synthetic Metals*, 160(9–10), 1055-1059.
- Lee, H. Y., Manivannan, V. and Goodenough, J. B. (1999). Electrochemical capacitors with KCl electrolyte. *Comptes Rendus de l'Académie des Sciences - Series IIC - Chemistry*, 2(11), 565-577.
- Lee, J., Kim, J. and Hyeon, T. (2006). Recent progress in the synthesis of porous carbon materials. *Advanced Materials*, 18(16), 2073-2094.
- Lee, K.-T., Lee, J.-F. and Wu, N.-L. (2009). Electrochemical characterizations on MnO<sub>2</sub> supercapacitors with potassium polyacrylate and potassium polyacrylate-co-polyacrylamide gel polymer electrolytes. *Electrochimica Acta*, 54(26), 6148-6153.
- Lei, Y., Li, J., Wang, Y., Gu, L., Chang, Y., Yuan, H. and Xiao, D. (2014). Rapid microwave-assisted green synthesis of 3D hierarchical flower-shaped NiCo<sub>2</sub>O<sub>4</sub> microsphere for high-performance supercapacitor. *ACS Applied Materials & Interfaces*, 6(3), 1773-1780.
- Lewandowski, A., Olejniczak, A., Galinski, M. and Stepniak, I. (2010). Performance of carbon-carbon supercapacitors based on organic, aqueous and ionic liquid electrolytes. *Journal of Power Sources*, 195(17), 5814-5819.

- Li, G.-C., Hua, X.-N., Liu, P.-F., Xie, Y.-X. and Han, L. (2015). Porous  $\text{Co}_3\text{O}_4$  microflowers prepared by thermolysis of metal-organic framework for supercapacitor. *Materials Chemistry and Physics*, 168, 127-131.
- Li, J., Wang, J., Liang, X., Zhang, Z., Liu, H., Qian, Y. and Xiong, S. (2013). Hollow  $\text{MnCo}_2\text{O}_4$  submicrospheres with multilevel interiors: From mesoporous spheres to yolk-in-double-shell structures. *ACS Applied Materials & Interfaces*, 6(1), 24-30.
- Li, J. and Zhitomirsky, I. (2008). Electrophoretic deposition of manganese oxide nanofibers. *Materials Chemistry and Physics*, 112(2), 525-530.
- Li, L., Zhang, Y. Q., Liu, X. Y., Shi, S. J., Zhao, X. Y., Zhang, H., Ge, X., Cai, G. F., Gu, C. D., Wang, X. L. and Tu, J. P. (2014a). One-dimension  $\text{MnCo}_2\text{O}_4$  nanowire arrays for electrochemical energy storage. *Electrochimica Acta*, 116, 467-474.
- Li, W., Liu, Q., Sun, Y., Sun, J., Zou, R., Li, G., Hu, X., Song, G., Ma, G., Yang, J., Chen, Z. and Hu, J. (2012).  $\text{MnO}_2$  ultralong nanowires with better electrical conductivity and enhanced supercapacitor performances. *Journal of Materials Chemistry*, 22(30), 14864-14867.
- Li, W., Xu, K., Song, G., Zhou, X., Zou, R., Yang, J., Chen, Z. and Hu, J. (2014b). Facile synthesis of porous  $\text{MnCo}_2\text{O}_{4.5}$  hierarchical architectures for high-rate supercapacitors. *CrystEngComm*, 16(12), 2335-2339.
- Li, X., Huang, J. and Faghri, A. (2016). A critical review of macroscopic modeling studies on  $\text{LiO}_2$  and Li-air batteries using organic electrolyte: Challenges and opportunities. *Journal of Power Sources*, 332, 420-446.
- Li, Y., Tan, B. and Wu, Y. (2006). Freestanding Mesoporous Quasi-Single-Crystalline  $\text{Co}_3\text{O}_4$  Nanowire Arrays. *Journal of the American Chemical Society*, 128(44), 14258-14259.
- Li, Z., Gu, A., Lou, Z., Sun, J., Zhou, Q. and Chan, K. Y. (2017). Facile synthesis of iron-doped hollow urchin-like  $\text{MnO}_2$  for supercapacitors. *Journal of Materials Science*, 52(9), 4852-4865.
- Li, Z., Xu, Z., Wang, H., Ding, J., Zahiri, B., Holt, C. M. B., Tan, X. and Mitlin, D. (2014c). Colossal pseudocapacitance in a high functionality-high surface area carbon anode doubles the energy of an asymmetric supercapacitor. *Energy & Environmental Science*, 7(5), 1708-1718.
- Liang, D., Tian, Z., Liu, J., Ye, Y., Wu, S., Cai, Y. and Liang, C. (2015).  $\text{MoS}_2$  nanosheets decorated with ultrafine  $\text{Co}_3\text{O}_4$  nanoparticles for high-performance electrochemical capacitors. *Electrochimica Acta*, 182, 376-382.
- Lim, E., Jo, C. and Lee, J. (2016). A mini review of designed mesoporous materials for energy-storage applications: from electric double-layer capacitors to hybrid supercapacitors. *Nanoscale*, 8(15), 7827-7833.

- Lin, K.-M., Chang, K.-H., Hu, C.-C. and Li, Y.-Y. (2009). Mesoporous RuO<sub>2</sub> for the next generation supercapacitors with an ultrahigh power density. *Electrochimica Acta*, 54(19), 4574-4581.
- Liu, B., Kong, D., Huang, Z. X., Mo, R., Wang, Y., Han, Z., Cheng, C. and Yang, H. Y. (2016a). Three-dimensional hierarchical NiCo<sub>2</sub>O<sub>4</sub> nanowire@Ni<sub>3</sub>S<sub>2</sub> nanosheet core/shell arrays for flexible asymmetric supercapacitors. *Nanoscale*, 8(20), 10686-10694.
- Liu, B., Liu, B., Wang, Q., Wang, X., Xiang, Q., Chen, D. and Shen, G. (2013a). New energy storage option: toward ZnCo<sub>2</sub>O<sub>4</sub> nanorods/nickel foam architectures for high-performance supercapacitors. *ACS Applied Materials & Interfaces*, 5(20), 10011-10017.
- Liu, C., Yu, Z., Neff, D., Zhamu, A. and Jang, B. Z. (2010). Graphene-based supercapacitor with an ultrahigh energy density. *Nano Letters*, 10(12), 4863-4868.
- Liu, H. and Wang, J. (2012). Hydrothermal synthesis and electrochemical performance of MnCo<sub>2</sub>O<sub>4</sub> nanoparticles as anode material in lithium-ion batteries. *Journal of Electronic Materials*, 41(11), 3107-3110.
- Liu, J., Cao, G., Yang, Z., Wang, D., Dubois, D., Zhou, X., Graff, G. L., Pederson, L. R. and Zhang, J.-G. (2008). Oriented nanostructures for energy conversion and storage. *ChemSusChem*, 1(8-9), 676-697.
- Liu, J., Zhang, L., Wu, H. B., Lin, J., Shen, Z. and Lou, X. W. (2014). High-performance flexible asymmetric supercapacitors based on a new graphene foam/carbon nanotube hybrid film. *Energy & Environmental Science*, 7(11), 3709-3719.
- Liu, S., Hui, K. S. and Hui, K. N. (2016b). Flower-like copper cobaltite nanosheets on graphite paper as high-performance supercapacitor electrodes and enzymeless glucose sensors. *ACS Applied Materials & Interfaces*, 8(5), 3258-3267.
- Liu, S., San Hui, K., Hui, K. N., Yun, J. M. and Kim, K. H. (2016c). Vertically stacked bilayer CuCo<sub>2</sub>O<sub>4</sub>/MnCo<sub>2</sub>O<sub>4</sub> heterostructures on functionalized graphite paper for high-performance electrochemical capacitors. *Journal of Materials Chemistry A*, 4(21), 8061-8071.
- Liu, T. C., Pell, W. G. and Conway, B. E. (1999). Stages in the development of thick cobalt oxide films exhibiting reversible redox behavior and pseudocapacitance. *Electrochimica Acta*, 44(17), 2829-2842.
- Liu, X. Y., Zhang, Y. Q., Xia, X. H., Shi, S. J., Lu, Y., Wang, X. L., Gu, C. D. and Tu, J. P. (2013b). Self-assembled porous NiCo<sub>2</sub>O<sub>4</sub> hetero-structure array for electrochemical capacitor. *Journal of Power Sources*, 239, 157-163.
- Liu, Y., Shi, K. and Zhitomirsky, I. (2017). Asymmetric supercapacitor, based on composite MnO<sub>2</sub>-graphene and N-doped activated carbon coated carbon nanotube electrodes. *Electrochimica Acta*, 233, 142-150.

- Lokhande, C. D., Dubal, D. P. and Joo, O.-S. (2011). Metal oxide thin film based supercapacitors. *Current Applied Physics*, 11(3), 255-270.
- Lokhande, V. C., Lokhande, A. C., Lokhande, C. D., Kim, J. H. and Ji, T. (2016). Supercapacitive composite metal oxide electrodes formed with carbon, metal oxides and conducting polymers. *Journal of Alloys and Compounds*, 682, 381-403.
- Lowell, S., Shields, J. E., Thomas, M. A. and Thommes, M. (2012). ***Characterization of porous solids and powders: surface area, pore size and density***. Springer Science & Business Media.
- Lu, A.-H., Salabas, E. L. and Schüth, F. (2007). Magnetic nanoparticles: Synthesis, protection, functionalization, and application. *Angewandte Chemie International Edition*, 46(8), 1222-1244.
- Lu, X., Yu, M., Wang, G., Tong, Y. and Li, Y. (2014). Flexible solid-state supercapacitors: design, fabrication and applications. *Energy & Environmental Science*, 7(7), 2160-2181.
- Ma, S.-B., Nam, K.-W., Yoon, W.-S., Yang, X.-Q., Ahn, K.-Y., Oh, K.-H. and Kim, K.-B. (2007). A novel concept of hybrid capacitor based on manganese oxide materials. *Electrochemistry Communications*, 9(12), 2807-2811.
- Mai, L.-Q., Yang, F., Zhao, Y.-L., Xu, X., Xu, L. and Luo, Y.-Z. (2011). Hierarchical MnMoO<sub>4</sub>/CoMoO<sub>4</sub> heterostructured nanowires with enhanced supercapacitor performance. *Nature Communications*, 2, 381.
- Makhlouf, M. T., Abu-Zied, B. M. and Mansoure, T. H. (2013). Effect of calcination temperature on the H<sub>2</sub>O<sub>2</sub> decomposition activity of nano-crystalline Co<sub>3</sub>O<sub>4</sub> prepared by combustion method. *Applied Surface Science*, 274, 45-52.
- Meher, S. K. and Rao, G. R. (2011). Ultralayered Co<sub>3</sub>O<sub>4</sub> for high-performance supercapacitor applications. *Journal of Physical Chemistry C*, 115(31), 15646-15654.
- Meng, Y., Wang, L., Xiao, H., Ma, Y., Chao, L. and Xie, Q. (2016). Facile electrochemical preparation of a composite film of ruthenium dioxide and carboxylated graphene for a high performance supercapacitor. *RSC Advances*, 6(40), 33666-33675.
- Min, K., Tong Tao, L., Hao, C., Sheng Mao, Z., Li Li, Z. and Yu Xin, Z. (2015). Hierarchical Cu<sub>2</sub>O/CuO/Co<sub>3</sub>O<sub>4</sub> core-shell nanowires: synthesis and electrochemical properties. *Nanotechnology*, 26(30), 304002.
- Ming, B., Li, J., Kang, F., Pang, G., Zhang, Y., Chen, L., Xu, J. and Wang, X. (2012). Microwave-hydrothermal synthesis of birnessite-type MnO<sub>2</sub> nanospheres as supercapacitor electrode materials. *Journal of Power Sources*, 198, 428-431.

- Misono, I. I., Aziz, R. A., Zain, N. K. M., Vidhyadharan, B., Krishnan, S. G. and Jose, R. (2014). High performance MnO<sub>2</sub> nanoflower electrode and the relationship between solvated ion size and specific capacitance in highly conductive electrolytes. *Materials Research Bulletin*, 57, 221-230.
- Momma, K. and Izumi, F. (2011). VESTA 3 for three-dimensional visualization of crystal, volumetric and morphology data. *Journal of Applied Crystallography*, 44(6), 1272-1276.
- Mondal, A. K., Su, D., Chen, S., Ung, A., Kim, H.-S. and Wang, G. (2015). Mesoporous MnCO<sub>2</sub>O<sub>4</sub> with a flake-like structure as advanced electrode materials for lithium-ion batteries and supercapacitors. *Chemistry – A European Journal*, 21(4), 1526-1532.
- Mondal, S. K. and Munichandraiah, N. (2008). Anodic deposition of porous RuO<sub>2</sub> on stainless steel for supercapacitor studies at high current densities. *Journal of Power Sources*, 175(1), 657-663.
- Mukhopadhyay, S. (2010). Improved sol gel spinel (MgAl<sub>2</sub>O<sub>4</sub>) coatings on graphite for application in carbon containing high alumina castables. *Journal of Sol-Gel Science and Technology*, 56(1), 66-74.
- Muneam, H., Hadi, S., Kareem, M. M. and Jackson, S. D. (2016). Preparation and characterization of (Co,Mn)(Co,Mn)<sub>2</sub>O<sub>4</sub>/MgO catalysts. *International Journal of Industrial Chemistry*, 7(1), 93-101.
- Muniraj, V. K. A., Kamaja, C. K. and Shelke, M. V. (2016). RuO<sub>2</sub>·nH<sub>2</sub>O nanoparticles anchored on carbon nano-onions: an efficient electrode for solid state flexible electrochemical supercapacitor. *ACS Sustainable Chemistry & Engineering*, 4(5), 2528-2534.
- Nagamuthu, S., Vijayakumar, S. and Muralidharan, G. (2013). Biopolymer-assisted synthesis of λ-MnO<sub>2</sub> nanoparticles as an electrode material for aqueous symmetric supercapacitor devices. *Industrial & Engineering Chemistry Research*, 52(51), 18262-18268.
- Nagarajan, N., Cheong, M. and Zhitomirsky, I. (2007). Electrochemical capacitance of MnO<sub>x</sub> films. *Materials Chemistry and Physics*, 103(1), 47-53.
- Nagaraju, D. H., Wang, Q., Beaujuge, P. and Alshareef, H. N. (2014). Two-dimensional heterostructures of V<sub>2</sub>O<sub>5</sub> and reduced graphene oxide as electrodes for high energy density asymmetric supercapacitors. *Journal of Materials Chemistry A*, 2(40), 17146-17152.
- Nam, H.-S., Kwon, J. S., Kim, K. M., Ko, J. M. and Kim, J.-D. (2010). Supercapacitive properties of a nanowire-structured MnO<sub>2</sub> electrode in the gel electrolyte containing silica. *Electrochimica Acta*, 55(25), 7443-7446.



- Naveen, A. N., Manimaran, P. and Selladurai, S. (2015a). Cobalt oxide (Co<sub>3</sub>O<sub>4</sub>)/graphene nanosheets (GNS) composite prepared by novel route for supercapacitor application. *Journal of Materials Science: Materials in Electronics*, 26(11), 8988-9000.
- Naveen, A. N. and Selladurai, S. (2014). Investigation on physiochemical properties of Mn substituted spinel cobalt oxide for supercapacitor applications. *Electrochimica Acta*, 125, 404-414.
- Naveen, A. N. and Selladurai, S. (2015b). A 1-D/2-D hybrid nanostructured manganese cobaltite-graphene nanocomposite for electrochemical energy storage. *RSC Advances*, 5(80), 65139-65152.
- Naveen, A. N. and Selladurai, S. (2015c). Novel low temperature synthesis and electrochemical characterization of mesoporous nickel cobaltite-reduced graphene oxide (RGO) composite for supercapacitor application. *Electrochimica Acta*, 173, 290-301.
- Naveen, A. N. and Selladurai, S. (2016). Novel synthesis of highly porous three-dimensional nickel cobaltite for supercapacitor application. *Ionics*, 22(8), 1471-1483.
- Nguyen, T. T., Nguyen, V. H., Deivasigamani, R. K., Kharismadewi, D., Iwai, Y. and Shim, J.-J. (2016). Facile synthesis of cobalt oxide/reduced graphene oxide composites for electrochemical capacitor and sensor applications. *Solid State Sciences*, 53, 71-77.
- Ohzuku, T., Nagayama, M., Tsuji, K. and Ariyoshi, K. (2011). High-capacity lithium insertion materials of lithium nickel manganese oxides for advanced lithium-ion batteries: toward rechargeable capacity more than 300 mA h g<sup>-1</sup>. *Journal of Materials Chemistry*, 21(27), 10179-10188.
- Opitz, A., Badami, P., Shen, L., Vignarooban, K. and Kannan, A. M. (2017). Can Li-Ion batteries be the panacea for automotive applications? *Renewable and Sustainable Energy Reviews*, 68, Part 1, 685-692.
- Paknahad, P., Askari, M. and Ghorbanzadeh, M. (2015). Characterization of nanocrystalline CuCo<sub>2</sub>O<sub>4</sub> spinel prepared by sol-gel technique applicable to the SOFC interconnect coating. *Applied Physics A*, 119(2), 727-734.
- Pandolfo, A. G. and Hollenkamp, A. F. (2006). Carbon properties and their role in supercapacitors. *Journal of Power Sources*, 157(1), 11-27.
- Pang, M. J., Jiang, S., Long, G. H., Ji, Y., Han, W., Wang, B., Liu, X. L., Xi, Y. L., Xu, F. Z. and Wei, G. D. (2016). Mesoporous NiCo<sub>2</sub>O<sub>4</sub> nanospheres with a high specific surface area as electrode materials for high-performance supercapacitors. *RSC Advances*, 6(72), 67839-67848.

- Pang, S. C., Anderson, M. A. and Chapman, T. W. (2000). Novel electrode materials for thin-film ultracapacitors: comparison of electrochemical properties of sol-gel-derived and electrodeposited manganese dioxide. *Journal of the Electrochemical Society*, 147(2), 444-450.
- Park, B.-O., Lokhande, C. D., Park, H.-S., Jung, K.-D. and Joo, O.-S. (2004). Performance of supercapacitor with electrodeposited ruthenium oxide film electrodes—effect of film thickness. *Journal of Power Sources*, 134(1), 148-152.
- Patake, V. D. and Lokhande, C. D. (2008). Chemical synthesis of nano-porous ruthenium oxide (RuO<sub>2</sub>) thin films for supercapacitor application. *Applied Surface Science*, 254(9), 2820-2824.
- Patake, V. D., Pawar, S. M., Shinde, V. R., Gujar, T. P. and Lokhande, C. D. (2010). The growth mechanism and supercapacitor study of anodically deposited amorphous ruthenium oxide films. *Current Applied Physics*, 10(1), 99-103.
- Patil, U. M., Kulkarni, S. B., Jamadade, V. S. and Lokhande, C. D. (2011). Chemically synthesized hydrous RuO<sub>2</sub> thin films for supercapacitor application. *Journal of Alloys and Compounds*, 509(5), 1677-1682.
- Pei, Z., Li, Z. and Zheng, X. (2016). Porous materials for lithium-ion batteries. *Journal of Nanoscience and Nanotechnology*, 16(9), 9028-9049.
- Pendashteh, A., Moosavifard, S. E., Rahmanifar, M. S., Wang, Y., El-Kady, M. F., Kaner, R. B. and Mousavi, M. F. (2015a). Highly ordered mesoporous CuCo<sub>2</sub>O<sub>4</sub> nanowires, a promising solution for high-performance supercapacitors. *Chemistry of Materials*, 27(11), 3919-3926.
- Pendashteh, A., Palma, J., Anderson, M. and Marcilla, R. (2015b). Nanostructured porous wires of iron cobaltite: novel positive electrode for high-performance hybrid energy storage devices. *Journal of Materials Chemistry A*, 3(32), 16849-16859.
- Pendashteh, A., Rahmanifar, M. S., Kaner, R. B. and Mousavi, M. F. (2014). Facile synthesis of nanostructured CuCo<sub>2</sub>O<sub>4</sub> as a novel electrode material for high-rate supercapacitors. *Chemical Communications*, 50(16), 1972-1975.
- Perera, S. D., Patel, B., Nijem, N., Roodenko, K., Seitz, O., Ferraris, J. P., Chabal, Y. J. and Balkus, K. J. (2011). Vanadium oxide nanowire–carbon nanotube binder-free flexible electrodes for supercapacitors. *Advanced Energy Materials*, 1(5), 936-945.
- Peters, J. F., Baumann, M., Zimmermann, B., Braun, J. and Weil, M. (2017). The environmental impact of Li-Ion batteries and the role of key parameters – A review. *Renewable and Sustainable Energy Reviews*, 67, 491-506.
- Petric, A. and Ling, H. (2007). Electrical conductivity and thermal expansion of spinels at elevated temperatures. *Journal of the American Ceramic Society*, 90(5), 1515-1520.

- Portet, C., Taberna, P. L., Simon, P. and Flahaut, E. (2005a). Influence of carbon nanotubes addition on carbon-carbon supercapacitor performances in organic electrolyte. *Journal of Power Sources*, 139(1-2), 371-378.
- Portet, C., Taberna, P. L., Simon, P., Flahaut, E. and Laberty-Robert, C. (2005b). High power density electrodes for carbon supercapacitor applications. *Electrochimica Acta*, 50(20), 4174-4181.
- Qing, X., Liu, S., Huang, K., Lv, K., Yang, Y., Lu, Z., Fang, D. and Liang, X. (2011). Facile synthesis of  $\text{Co}_3\text{O}_4$  nanoflowers grown on Ni foam with superior electrochemical performance. *Electrochimica Acta*, 56(14), 4985-4991.
- Qiu, K., Lu, Y., Cheng, J., Yan, H., Hou, X., Zhang, D., Lu, M., Liu, X. and Luo, Y. (2015a). Ultrathin mesoporous  $\text{Co}_3\text{O}_4$  nanosheets on Ni foam for high-performance supercapacitors. *Electrochimica Acta*, 157, 62-68.
- Qiu, K., Lu, Y., Zhang, D., Cheng, J., Yan, H., Xu, J., Liu, X., Kim, J.-K. and Luo, Y. (2015b). Mesoporous, hierarchical core/shell structured  $\text{ZnCo}_2\text{O}_4/\text{MnO}_2$  nanocone forests for high-performance supercapacitors. *Nano Energy*, 11, 687-696.
- Qu, Q., Zhang, P., Wang, B., Chen, Y., Tian, S., Wu, Y. and Holze, R. (2009a). Electrochemical performance of  $\text{MnO}_2$  nanorods in neutral aqueous electrolytes as a cathode for asymmetric supercapacitors. *The Journal of Physical Chemistry C*, 113(31), 14020-14027.
- Qu, Q. T., Shi, Y., Tian, S., Chen, Y. H., Wu, Y. P. and Holze, R. (2009b). A new cheap asymmetric aqueous supercapacitor: Activated carbon/ $\text{NaMnO}_2$ . *Journal of Power Sources*, 194(2), 1222-1225.
- Rajagopal, R. R., Aravinda, L. S., Rajarao, R., Bhat, B. R. and Sahajwalla, V. (2016). Activated carbon derived from non-metallic printed circuit board waste for supercapacitor application. *Electrochimica Acta*, 211, 488-498.
- Ramani, M., Haran, B. S., White, R. E., Popov, B. N. and Arsov, L. (2001). Studies on activated carbon capacitor materials loaded with different amounts of ruthenium oxide. *Journal of Power Sources*, 93(1-2), 209-214.
- Razmjoo, P., Sabour, B., Dalvand, S., Aghazadeh, M. and Ganjali, M. R. (2014). Porous  $\text{Co}_3\text{O}_4$  nanoplates: Electrochemical synthesis, characterization and investigation of supercapacitive performance. *Journal of the Electrochemical Society*, 161(5), D293-D300.
- Reddy, M. V., Xu, Y., Rajarajan, V., Ouyang, T. and Chowdari, B. V. R. (2015). Template free facile molten synthesis and energy storage studies on  $\text{MCo}_2\text{O}_4$  (M= Mg, Mn) as anode for li-ion batteries. *ACS Sustainable Chemistry & Engineering*, 3(12), 3035-3042.
- Reddy, R. N. and Reddy, R. G. (2003). Sol-gel  $\text{MnO}_2$  as an electrode material for electrochemical capacitors. *Journal of Power Sources*, 124(1), 330-337.

- Reddy, R. N. and Reddy, R. G. (2004). Synthesis and electrochemical characterization of amorphous MnO<sub>2</sub> electrochemical capacitor electrode material. *Journal of Power Sources*, 132(1–2), 315-320.
- Roberts, A. J. and Slade, R. C. T. (2010). Synthesis of birnessite type MnO<sub>2</sub> nanotubes and their application in aqueous supercapacitors. *ECS Transactions*, 28, 33-46.
- Rusi and Majid, S. R. (2015). Electrodeposited Mn<sub>3</sub>O<sub>4</sub>-NiO-Co<sub>3</sub>O<sub>4</sub> as a composite electrode material for electrochemical capacitor. *Electrochimica Acta*, 175, 193-201.
- Salunkhe, R. R., Jang, K., Yu, H., Yu, S., Ganesh, T., Han, S.-H. and Ahn, H. (2011). Chemical synthesis and electrochemical analysis of nickel cobaltite nanostructures for supercapacitor applications. *Journal of Alloys and Compounds*, 509(23), 6677-6682.
- Sato, T., Masuda, G. and Takagi, K. (2004). Electrochemical properties of novel ionic liquids for electric double layer capacitor applications. *Electrochimica Acta*, 49(21), 3603-3611.
- Sevilla, M., Ferrero, G. A. and Fuertes, A. B. (2016). Graphene-cellulose tissue composites for high power supercapacitors. *Energy Storage Materials*, 5, 33-42.
- Shakir, I., Sarfraz, M., Rana, U. A., Nadeem, M. and Al-Shaikh, M. A. (2013). Synthesis of hierarchical porous spinel nickel cobaltite nanoflakes for high performance electrochemical energy storage supercapacitors. *RSC Advances*, 3(44), 21386-21389.
- Shan, Y. and Gao, L. (2007). Formation and characterization of multi-walled carbon nanotubes/Co<sub>3</sub>O<sub>4</sub> nanocomposites for supercapacitors. *Materials Chemistry and Physics*, 103(2–3), 206-210.
- Shanmugavani, A. and Selvan, R. K. (2016). Improved electrochemical performances of CuCo<sub>2</sub>O<sub>4</sub>/CuO nanocomposites for asymmetric supercapacitors. *Electrochimica Acta*, 188, 852-862.
- Shao, J., Li, W., Zhou, X. and Hu, J. (2014). Magnetic-field-assisted hydrothermal synthesis of 2 x 2 tunnels of MnO<sub>2</sub> nanostructures with enhanced supercapacitor performance. *CrystEngComm*, 16(43), 9987-9991.
- Sharma, P. and Bhatti, T. S. (2010). A review on electrochemical double-layer capacitors. *Energy Conversion and Management*, 51(12), 2901-2912.
- Sharma, Y., Sharma, N., Subba Rao, G. V. and Chowdari, B. V. R. (2008). Studies on spinel cobaltites, FeCo<sub>2</sub>O<sub>4</sub> and MgCo<sub>2</sub>O<sub>4</sub> as anodes for Li-ion batteries. *Solid State Ionics*, 179(15–16), 587-597.
- Sharma, Y., Sharma, N., Subba Rao, G. V. and Chowdari, B. V. R. (2007). Nanophase ZnCo<sub>2</sub>O<sub>4</sub> as a high performance anode material for li-ion batteries. *Advanced Functional Materials*, 17(15), 2855-2861.

- Shen, L., Che, Q., Li, H. and Zhang, X. (2014). Mesoporous NiCo<sub>2</sub>O<sub>4</sub> nanowire arrays grown on carbon textiles as binder-free flexible electrodes for energy storage. *Advanced Functional Materials*, 24(18), 2630-2637.
- Shinde, V. R., Mahadik, S. B., Gujar, T. P. and Lokhande, C. D. (2006). Supercapacitive cobalt oxide (Co<sub>3</sub>O<sub>4</sub>) thin films by spray pyrolysis. *Applied Surface Science*, 252(20), 7487-7492.
- Shruthi, B., Bheema Raju, V. and Madhu, B. J. (2015). Synthesis, spectroscopic and electrochemical performance of pasted β-nickel hydroxide electrode in alkaline electrolyte. *Spectrochimica Acta Part A: Mol. and Biomol. Spectrosc.*, 135, 683-689.
- Simon, P. and Gogotsi, Y. (2008). Materials for electrochemical capacitors. *Nature Materials*, 7(11), 845-854.
- Snook, G. A., Kao, P. and Best, A. S. (2011). Conducting-polymer-based supercapacitor devices and electrodes. *Journal of Power Sources*, 196(1), 1-12.
- Su, Y., Wu, F., Bao, L. and Yang, Z. (2007). RuO<sub>2</sub>/activated carbon composites as a positive electrode in an alkaline electrochemical capacitor. *New Carbon Materials*, 22(1), 53-57.
- Subramanian, V., Hall, S. C., Smith, P. H. and Rambabu, B. (2004). Mesoporous anhydrous RuO<sub>2</sub> as a supercapacitor electrode material. *Solid State Ionics*, 175(1-4), 511-515.
- Subramanian, V., Zhu, H. and Wei, B. (2006). Nanostructured MnO<sub>2</sub>: Hydrothermal synthesis and electrochemical properties as a supercapacitor electrode material. *Journal of Power Sources*, 159(1), 361-364.
- Sun, K., Guo, D., Zheng, X., Zhu, Y., Zheng, Y., Ma, M., Zhao, G. and Ma, G. (2016a). Nitrogen-doped porous carbon derived from rapeseed residues for high-performance supercapacitors. *International Journal of Electrochemical Science*, 11(6), 4743-4754.
- Sun, S., Li, S., Wang, S., Li, Y., Han, L., Kong, H. and Wang, P. (2016b). Fabrication of hollow NiCo<sub>2</sub>O<sub>4</sub> nanoparticle/graphene composite for supercapacitor electrode. *Materials Letters*, 182, 23-26.
- Sun, W., Lipka, S. M., Swartz, C., Williams, D. and Yang, F. (2016c). Hemp-derived activated carbons for supercapacitors. *Carbon*, 103, 181-192.
- Sun, Y., Xiao, X., Ni, P., Shi, Y., Dai, H., Hu, J., Wang, Y., Li, Z. and Li, Z. (2014). DNA-templated synthesis of nickel cobaltite oxide nanoflake for high-performance electrochemical capacitors. *Electrochimica Acta*, 121, 270-277.
- Surjit, S., Kusha Kumar, N. and Chandra Sekhar, R. (2015). Electrodeposition of spinel MnCo<sub>2</sub>O<sub>4</sub> nanosheets for supercapacitor applications. *Nanotechnology*, 26(45), 455401.

- Taberna, P., Simon, P. and Fauvarque, J.-F. (2003). Electrochemical characteristics and impedance spectroscopy studies of carbon-carbon supercapacitors. *Journal of the Electrochemical Society*, 150(3), A292-A300.
- Taer, E., Deraman, M., Talib, I. A., Awitdrus, A., Hashmi, S. and Umar, A. (2011). Preparation of a highly porous binderless activated carbon monolith from rubber wood sawdust by a multi-step activation process for application in supercapacitors. *International Journal of Electrochemical Science*, 6(8), 3301-3315.
- Tang, P., Zhao, Y., Xu, C. and Ni, K. (2013). Enhanced energy density of asymmetric supercapacitors via optimizing negative electrode material and mass ratio of negative/positive electrodes. *Journal of Solid State Electrochemistry*, 17(6), 1701-1710.
- Tao, Y., Ruiyi, L., Zaijun, L. and Yinjun, F. (2014). A facile and scalable strategy for synthesis of size-tunable NiCo<sub>2</sub>O<sub>4</sub> with nanocoral-like architecture for high-performance supercapacitors. *Electrochimica Acta*, 134, 384-392.
- Tholkappian, R., Naveen, A. N., Sumithra, S. and Vishista, K. (2015). Investigation on spinel MnCo<sub>2</sub>O<sub>4</sub> electrode material prepared via controlled and uncontrolled synthesis route for supercapacitor application. *Journal of Materials Science*, 50(17), 5833-5843.
- Toupin, M., Brousse, T. and Bélanger, D. (2002). Influence of microstructure on the charge storage properties of chemically synthesized manganese dioxide. *Chemistry of Materials*, 14(9), 3946-3952.
- Toupin, M., Brousse, T. and Bélanger, D. (2004). Charge storage mechanism of MnO<sub>2</sub> electrode used in aqueous electrochemical capacitor. *Chemistry of Materials*, 16(16), 3184-3190.
- Trasatti, S. (1980). *Electrodes of conductive metallic oxides*. Elsevier Scientific Software.
- Trasatti, S. (1991). Physical electrochemistry of ceramic oxides. *Electrochimica Acta*, 36(2), 225-241.
- Trasatti, S. and Kurzweil, P. (1994). Electrochemical supercapacitors as versatile energy stores. *Platinum Metals Review*, 38(2), 46-56.
- Vidhyadharan, B., Misnon, I. I., Aziz, R. A., Padmasree, K. P., Yusoff, M. M. and Jose, R. (2014a). Superior supercapacitive performance in electrospun copper oxide nanowire electrodes. *Journal of Materials Chemistry A*, 2(18), 6578.
- Vidhyadharan, B., Zain, N. K. M., Misnon, I. I., Aziz, R. A., Ismail, J., Yusoff, M. M. and Jose, R. (2014b). High performance supercapacitor electrodes from electrospun nickel oxide nanowires. *Journal of Alloys and Compounds*, 610, 143-150.

- Vidyadharan, B., Aziz, R. A., Misnon, I. I., Anil Kumar, G., Ismail, J., Yusoff, M. M. and Jose, R. (2014). High energy and power density asymmetric supercapacitors using electrospun cobalt oxide nanowire anode. *Journal of Power Sources*.
- Vijayakumar, S., Lee, S.-H. and Ryu, K.-S. (2015). Hierarchical CuCo<sub>2</sub>O<sub>4</sub> nanobelts as a supercapacitor electrode with high areal and specific capacitance. *Electrochimica Acta*, 182, 979-986.
- Vijayakumar, S., Ponnalagi, A. K., Nagamuthu, S. and Muralidharan, G. (2013). Microwave assisted synthesis of Co<sub>3</sub>O<sub>4</sub> nanoparticles for high-performance supercapacitors. *Electrochimica Acta*, 106, 500-505.
- Vijayanand, S., Kannan, R., Potdar, H. S., Pillai, V. K. and Joy, P. A. (2013). Porous Co<sub>3</sub>O<sub>4</sub> nanorods as superior electrode material for supercapacitors and rechargeable Li-ion batteries. *Journal of Applied Electrochemistry*, 43(10), 995-1003.
- Wan, Y. and Zhao. (2007). On the controllable soft-templating approach to mesoporous silicates. *Chemical Reviews*, 107(7), 2821-2860.
- Wang, D.-W., Li, F. and Cheng, H.-M. (2008). Hierarchical porous nickel oxide and carbon as electrode materials for asymmetric supercapacitor. *Journal of Power Sources*, 185(2), 1563-1568.
- Wang, D., Ni, W., Pang, H., Lu, Q., Huang, Z. and Zhao, J. (2010a). Preparation of mesoporous NiO with a bimodal pore size distribution and application in electrochemical capacitors. *Electrochimica Acta*, 55(22), 6830-6835.
- Wang, G., Liu, H., Horvat, J., Wang, B., Qiao, S., Park, J. and Ahn, H. (2010b). Highly ordered mesoporous cobalt oxide nanostructures: synthesis, characterisation, magnetic properties, and applications for electrochemical energy devices. *Chemistry – A European Journal*, 16(36), 11020-11027.
- Wang, G., Zhang, L. and Zhang, J. (2012a). A review of electrode materials for electrochemical supercapacitors. *Chemical Society Reviews*, 41(2), 797-828.
- Wang, H. and Dai, H. (2013a). Strongly coupled inorganic-nano-carbon hybrid materials for energy storage. *Chemical Society Reviews*, 42(7), 3088-3113.
- Wang, J., He, X., Paillard, E., Laszczynski, N., Li, J. and Passerini, S. (2016a). Lithium- and manganese-rich oxide cathode materials for high-energy lithium ion batteries. *Advanced Energy Materials*, 6(21), 1600906-n/a.
- Wang, K., Shi, Z., Wang, Y., Ye, Z., Xia, H., Liu, G. and Qiao, G. (2015a). Co<sub>3</sub>O<sub>4</sub> nanowires@MnO<sub>2</sub> nanolayer or nanoflakes core-shell arrays for high-performance supercapacitors: The influence of morphology on performance. *Journal of Alloys and Compounds*, 624, 85-93.
- Wang, L., Liu, X., Wang, X., Yang, X. and Lu, L. (2010c). Preparation and electrochemical properties of mesoporous Co<sub>3</sub>O<sub>4</sub> crater-like microspheres as supercapacitor electrode materials. *Current Applied Physics*, 10(6), 1422-1426.

- Wang, L., Wang, X., Xiao, X., Xu, F., Sun, Y. and Li, Z. (2013b). Reduced graphene oxide/nickel cobaltite nanoflake composites for high specific capacitance supercapacitors. *Electrochimica Acta*, *111*, 937-945.
- Wang, N., Pang, H., Peng, H., Li, G. and Chen, X. (2009). Hydrothermal synthesis and electrochemical properties of MnO<sub>2</sub> nanostructures. *Crystal Research and Technology*, *44*(11), 1230-1234.
- Wang, P., Zhao, Y.-J., Wen, L.-X., Chen, J.-F. and Lei, Z.-G. (2014a). Ultrasound–microwave-assisted synthesis of MnO<sub>2</sub> supercapacitor electrode materials. *Industrial & Engineering Chemistry Research*, *53*(52), 20116-20123.
- Wang, Q., Chen, D. and Zhang, D. (2015b). Electrospun porous CuCo<sub>2</sub>O<sub>4</sub> nanowire network electrode for asymmetric supercapacitors. *RSC Advances*, *5*(117), 96448-96454.
- Wang, Q., Du, J., Zhu, Y., Yang, J., Chen, J., Wang, C., Li, L. and Jiao, L. (2015c). Facile fabrication and supercapacitive properties of mesoporous zinc cobaltite microspheres. *Journal of Power Sources*, *284*, 138-145.
- Wang, Q., Xu, J., Wang, X., Liu, B., Hou, X., Yu, G., Wang, P., Chen, D. and Shen, G. (2014). Core–shell CuCo<sub>2</sub>O<sub>4</sub>@MnO<sub>2</sub> nanowires on carbon fabrics as high-performance materials for flexible, all-solid-state, electrochemical capacitors. *ChemElectroChem*, *1*(3), 559-564.
- Wang, Q., Zhu, L., Sun, L., Liu, Y. and Jiao, L. (2015d). Facile synthesis of hierarchical porous ZnCo<sub>2</sub>O<sub>4</sub> microspheres for high-performance supercapacitors. *Journal of Materials Chemistry A*, *3*(3), 982-985.
- Wang, S., Sun, S., Li, S., Gong, F., Li, Y., Wu, Q., Song, P., Fang, S. and Wang, P. (2016b). Time and temperature dependent multiple hierarchical NiCo<sub>2</sub>O<sub>4</sub> for high-performance supercapacitors. *Dalton Transactions*, *45*(17), 7469-7475.
- Wang, T., Dong, F. and Zhang, Y. X. (2016c). Diverse birnessite MnO<sub>2</sub> nanosheets-based nanocomposites for supercapacitors. *Materials Letters*, *171*, 319-322.
- Wang, X., Han, X., Lim, M., Singh, N., Gan, C. L., Jan, M. and Lee, P. S. (2012b). Nickel cobalt oxide-single wall carbon nanotube composite material for superior cycling stability and high-performance supercapacitor application. *The Journal of Physical Chemistry C*, *116*(23), 12448-12454.
- Wang, X. and Shen, G. (2015e). Intercalation pseudo-capacitive TiNb<sub>2</sub>O<sub>7</sub>@carbon electrode for high-performance lithium ion hybrid electrochemical supercapacitors with ultrahigh energy density. *Nano Energy*, *15*, 104-115.
- Wang, X., Wang, X., Huang, W., Sebastian, P. J. and Gamboa, S. (2005). Sol–gel template synthesis of highly ordered MnO<sub>2</sub> nanowire arrays. *Journal of Power Sources*, *140*(1), 211-215.



- Wang, X., Wu, X., Xu, B. and Hua, T. (2016d). Coralloid and hierarchical  $\text{Co}_3\text{O}_4$  nanostructures used as supercapacitors with good cycling stability. *Journal of Solid State Electrochemistry*, 20(5), 1303-1309.
- Wang, Y., Lei, Y., Li, J., Gu, L., Yuan, H. and Xiao, D. (2014b). Synthesis of 3D-nanonet hollow structured  $\text{Co}_3\text{O}_4$  for high capacity supercapacitor. *ACS Applied Materials & Interfaces*, 6(9), 6739-6747.
- Wang, Y., Pan, A., Zhu, Q., Nie, Z., Zhang, Y., Tang, Y., Liang, S. and Cao, G. (2014c). Facile synthesis of nanorod-assembled multi-shelled  $\text{Co}_3\text{O}_4$  hollow microspheres for high-performance supercapacitors. *Journal of Power Sources*, 272, 107-112.
- Wang, Y., Shen, C., Niu, L., Li, R., Guo, H., Shi, Y., Li, C., Liu, X. and Gong, Y. (2016e). Hydrothermal synthesis of  $\text{CuCo}_2\text{O}_4/\text{CuO}$  nanowire arrays and RGO/ $\text{Fe}_2\text{O}_3$  composites for high-performance aqueous asymmetric supercapacitors. *Journal of Materials Chemistry A*, 4(25), 9977-9985.
- Wang, Y., Song, Y. and Xia, Y. (2016f). Electrochemical capacitors: mechanism, materials, systems, characterization and applications. *Chemical Society Reviews*, 45(21), 5925-5950.
- Wang, Z., Wang, F., Li, Y., Hu, J., Lu, Y. and Xu, M. (2016g). Interlinked multiphase Fe-doped  $\text{MnO}_2$  nanostructures: A novel design for enhanced pseudocapacitive performance. *Nanoscale*, 8(13), 7309-7317.
- Wei, J., Nagarajan, N. and Zhitomirsky, I. (2007). Manganese oxide films for electrochemical supercapacitors. *Journal of Materials Processing Technology*, 186(1-3), 356-361.
- Wei, T.-Y., Chen, C.-H., Chien, H.-C., Lu, S.-Y. and Hu, C.-C. (2010). A cost-effective supercapacitor material of ultrahigh specific capacitances: spinel nickel cobaltite aerogels from an epoxide-driven sol-gel process. *Advanced Materials*, 22(3), 347-351.
- Wei, W., Cui, X., Chen, W. and Ivey, D. G. (2011). Manganese oxide-based materials as electrochemical supercapacitor electrodes. *Chemical Society Reviews*, 40(3), 1697-1721.
- Wen, S., Jung, M., Joo, O.-S. and Mho, S.-i. (2006). EDLC characteristics with high specific capacitance of the CNT electrodes grown on nanoporous alumina templates. *Current Applied Physics*, 6(6), 1012-1015.
- Whittingham, M. S. (2004). Lithium batteries and cathode materials. *Chemical Reviews*, 104(10), 4271-4302.
- Wu, C., Cai, J., Zhang, Q., Zhou, X., Zhu, Y., Li, L., Shen, P. and Zhang, K. (2015a). Direct growth of urchin-like  $\text{ZnCo}_2\text{O}_4$  microspheres assembled from nanowires on nickel foam as high-performance electrodes for supercapacitors. *Electrochimica Acta*, 169, 202-209.

- Wu, C., Deng, S., Wang, H., Sun, Y., Liu, J. and Yan, H. (2014a). Preparation of novel three-dimensional NiO/ultrathin derived graphene hybrid for supercapacitor applications. *ACS Applied Materials & Interfaces*, 6(2), 1106-1112.
- Wu, C., Yang, S., Cai, J., Zhang, Q., Zhu, Y. and Zhang, K. (2016). Activated microporous carbon derived from almond shells for high energy density asymmetric supercapacitors. *ACS Applied Materials & Interfaces*, 8(24), 15288-15296.
- Wu, H., Lou, Z., Yang, H. and Shen, G. (2015b). A flexible spiral-type supercapacitor based on ZnCo<sub>2</sub>O<sub>4</sub> nanorod electrodes. *Nanoscale*, 7(5), 1921-1926.
- Wu, J., Mi, R., Li, S., Guo, P., Mei, J., Liu, H., Lau, W.-M. and Liu, L.-M. (2015c). Hierarchical three-dimensional NiCo<sub>2</sub>O<sub>4</sub> nanoneedle arrays supported on Ni foam for high-performance supercapacitors. *RSC Advances*, 5(32), 25304-25311.
- Wu, J. B., Lin, Y., Xia, X. H., Xu, J. Y. and Shi, Q. Y. (2011a). Pseudocapacitive properties of electrodeposited porous nanowall Co<sub>3</sub>O<sub>4</sub> film. *Electrochimica Acta*, 56(20), 7163-7170.
- Wu, N.-L., Kuo, S.-L. and Lee, M.-H. (2002). Preparation and optimization of RuO<sub>2</sub>-impregnated SnO<sub>2</sub> xerogel supercapacitor. *Journal of Power Sources*, 104(1), 62-65.
- Wu, Y. Q., Chen, X. Y., Ji, P. T. and Zhou, Q. Q. (2011b). Sol-gel approach for controllable synthesis and electrochemical properties of NiCo<sub>2</sub>O<sub>4</sub> crystals as electrode materials for application in supercapacitors. *Electrochimica Acta*, 56(22), 7517-7522.
- Wu, Z., Pu, X., Zhu, Y., Jing, M., Chen, Q., Jia, X. and Ji, X. (2015d). Uniform porous spinel NiCo<sub>2</sub>O<sub>4</sub> with enhanced electrochemical performances. *Journal of Alloys and Compounds*, 632, 208-217.
- Wu, Z., Zhu, Y. and Ji, X. (2014b). NiCo<sub>2</sub>O<sub>4</sub>-based materials for electrochemical supercapacitors. *Journal of Materials Chemistry A*, 2(36), 14759-14772.
- Xia, J., Chen, F., Li, J. and Tao, N. (2009). Measurement of the quantum capacitance of graphene. *Nature Nanotechnology*, 4(8), 505-509.
- Xia, X.-h., Tu, J.-p., Mai, Y.-j., Wang, X.-l., Gu, C.-d. and Zhao, X.-b. (2011a). Self-supported hydrothermal synthesized hollow Co<sub>3</sub>O<sub>4</sub> nanowire arrays with high supercapacitor capacitance. *Journal of Materials Chemistry*, 21(25), 9319-9325.
- Xia, X., Tu, J., Mai, Y., Chen, R., Wang, X., Gu, C. and Zhao, X. (2011b). Graphene sheet/porous NiO hybrid film for supercapacitor applications. *Chemistry – A European Journal*, 17(39), 10898-10905.
- Xiang, D., Yin, L., Wang, C. and Zhang, L. (2016). High electrochemical performance of RuO<sub>2</sub>-Fe<sub>2</sub>O<sub>3</sub> nanoparticles embedded ordered mesoporous carbon as a supercapacitor electrode material. *Energy*, 106, 103-111.

- Xiao, J. and Yang, S. (2011). Sequential crystallization of sea urchin-like bimetallic (Ni, Co) carbonate hydroxide and its morphology conserved conversion to porous NiCo<sub>2</sub>O<sub>4</sub> spinel for pseudocapacitors. *RSC Advances*, 1(4), 588-595.
- Xiao, W., Xia, H., Fuh, J. Y. H. and Lu, L. (2009). Growth of single-crystal  $\alpha$ -MnO<sub>2</sub> nanotubes prepared by a hydrothermal route and their electrochemical properties. *Journal of Power Sources*, 193(2), 935-938.
- Xie, L., Li, K., Sun, G., Hu, Z., Lv, C., Wang, J. and Zhang, C. (2013). Preparation and electrochemical performance of the layered cobalt oxide (Co<sub>3</sub>O<sub>4</sub>) as supercapacitor electrode material. *Journal of Solid State Electrochemistry*, 17(1), 55-61.
- Xiong, S., Yuan, C., Zhang, X., Xi, B. and Qian, Y. (2009). Controllable synthesis of mesoporous Co<sub>3</sub>O<sub>4</sub> nanostructures with tunable morphology for application in supercapacitors. *Chemistry – A European Journal*, 15(21), 5320-5326.
- Xu, C., Li, B., Du, H., Kang, F. and Zeng, Y. (2008). Electrochemical properties of nanosized hydrous manganese dioxide synthesized by a self-reacting microemulsion method. *Journal of Power Sources*, 180(1), 664-670.
- Xu, J., Gao, L., Cao, J., Wang, W. and Chen, Z. (2010). Preparation and electrochemical capacitance of cobalt oxide (Co<sub>3</sub>O<sub>4</sub>) nanotubes as supercapacitor material. *Electrochimica Acta*, 56(2), 732-736.
- Xu, J., Liu, S. and Liu, Y. (2016a). Co<sub>3</sub>O<sub>4</sub>/ZnO nanoheterostructure derived from core-shell ZIF-8@ZIF-67 for supercapacitors. *RSC Advances*, 6(57), 52137-52142.
- Xu, J., Wang, L., Zhang, J., Qian, J., Liu, J., Zhang, Z., Zhang, H. and Liu, X. (2016b). Fabrication of porous double-urchin-like MgCo<sub>2</sub>O<sub>4</sub> hierarchical architectures for high-rate supercapacitors. *Journal of Alloys and Compounds*, 688, Part B, 933-938.
- Xu, M., Kong, L., Zhou, W. and Li, H. (2007). Hydrothermal synthesis and pseudocapacitance properties of  $\alpha$ -MnO<sub>2</sub> hollow spheres and hollow urchins. *The Journal of Physical Chemistry C*, 111(51), 19141-19147.
- Xu, N., Sun, X., Zhang, X., Wang, K. and Ma, Y. (2015). A two-step method for preparing Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub>-graphene as an anode material for lithium-ion hybrid capacitors. *RSC Advances*, 5(114), 94361-94368.
- Xu, Y., Wang, X., An, C., Wang, Y., Jiao, L. and Yuan, H. (2014). Facile synthesis route of porous MnCo<sub>2</sub>O<sub>4</sub> and CoMn<sub>2</sub>O<sub>4</sub> nanowires and their excellent electrochemical properties in supercapacitors. *Journal of Materials Chemistry A*, 2(39), 16480-16488.
- Yan, D., Zhang, H., Chen, L., Zhu, G., Li, S., Xu, H. and Yu, A. (2014). Biomimetic synthesis of mesoporous Co<sub>3</sub>O<sub>4</sub> microtubules and their pseudocapacitive performance. *ACS Applied Materials & Interfaces*, 6(18), 15632-15637.

- Yan, J., Fan, Z., Sun, W., Ning, G., Wei, T., Zhang, Q., Zhang, R., Zhi, L. and Wei, F. (2012). Advanced asymmetric supercapacitors based on Ni(OH)<sub>2</sub>/graphene and porous graphene electrodes with high energy density. *Advanced Functional Materials*, 22(12), 2632-2641.
- Yan, Y., Li, B., Guo, W., Pang, H. and Xue, H. (2016). Vanadium based materials as electrode materials for high performance supercapacitors. *Journal of Power Sources*, 329, 148-169.
- Yang, M. H. and Choi, B. G. (2016a). Rapid one-step synthesis of conductive and porous MnO<sub>2</sub>/graphene nanocomposite for high performance supercapacitors. *Journal of Electroanalytical Chemistry*, 776, 134-138.
- Yang, Q., Lu, Z., Sun, X. and Liu, J. (2013a). Ultrathin Co<sub>3</sub>O<sub>4</sub> nanosheet arrays with high supercapacitive performance. *Scientific Reports*, 3.
- Yang, W., Gao, Z., Ma, J., Wang, J., Wang, B. and Liu, L. (2013b). Effects of solvent on the morphology of nanostructured Co<sub>3</sub>O<sub>4</sub> and its application for high-performance supercapacitors. *Electrochimica Acta*, 112, 378-385.
- Yang, X.-h., Wang, Y.-g., Xiong, H.-m. and Xia, Y.-y. (2007). Interfacial synthesis of porous MnO<sub>2</sub> and its application in electrochemical capacitor. *Electrochimica Acta*, 53(2), 752-757.
- Yang, X., Qu, F., Niu, H., Wang, Q., Yan, J. and Fan, Z. (2015). High-performance aqueous asymmetric supercapacitor based on spinel LiMn<sub>2</sub>O<sub>4</sub> and nitrogen-doped graphene/porous carbon composite. *Electrochimica Acta*, 180, 287-294.
- Yang, Y., Liu, T., Zhang, L., Zhao, S., Zeng, W., Hussain, S., Deng, C., Pan, H. and Peng, X. (2016b). Facile synthesis of nickel doped walnut-like MnO<sub>2</sub> nanoflowers and their application in supercapacitor. *Journal of Materials Science: Materials in Electronics*, 27(6), 6202-6207.
- Yao, M., Hu, Z., Xu, Z. and Liu, Y. (2015). Template synthesis of 1D hierarchical hollow Co<sub>3</sub>O<sub>4</sub> nanotubes as high performance supercapacitor materials. *Journal of Alloys and Compounds*, 644, 721-728.
- Yi, H., Hu, C., Fang, H., Yang, B., Yao, Y., Ma, W. and Dai, Y. (2011). Optimized electrochemical performance of LiMn<sub>0.9</sub>Fe<sub>0.1-x</sub>Mg<sub>x</sub>PO<sub>4</sub>/C for lithium ion batteries. *Electrochimica Acta*, 56(11), 4052-4057.
- Yin, J., Zhu, Y., Yue, X., Wang, L., Zhu, H. and Wang, C. (2016). From environmental pollutant to activated carbons for high-performance supercapacitors. *Electrochimica Acta*, 201, 96-105.
- Yong-gang, W. and Xiao-gang, Z. (2004). Preparation and electrochemical capacitance of RuO<sub>2</sub>/TiO<sub>2</sub> nanotubes composites. *Electrochimica Acta*, 49(12), 1957-1962.

- Yu, G., Hu, L., Liu, N., Wang, H., Vosgueritchian, M., Yang, Y., Cui, Y. and Bao, Z. (2011). Enhancing the supercapacitor performance of graphene/MnO<sub>2</sub> nanostructured electrodes by conductive wrapping. *Nano Letters*, 11(10), 4438-4442.
- Yu, G., Xie, X., Pan, L., Bao, Z. and Cui, Y. (2013). Hybrid nanostructured materials for high-performance electrochemical capacitors. *Nano Energy*, 2(2), 213-234.
- Yu, M., Wang, Z., Han, Y., Tong, Y., Lu, X. and Yang, S. (2016). Recent progress in the development of anodes for asymmetric supercapacitors. *Journal of Materials Chemistry A*, 4(13), 4634-4658.
- Yu, Z., Tetard, L., Zhai, L. and Thomas, J. (2015). Supercapacitor electrode materials: nanostructures from 0 to 3 dimensions. *Energy & Environmental Science*, 8(3), 702-730.
- Yuan, A.-B., Zhou, M., Wang, X.-L., Sun, Z.-H. and Wang, Y.-Q. (2008). Synthesis and characterization of nanostructured manganese dioxide used as positive electrode material for electrochemical capacitor with lithium hydroxide electrolyte. *Chinese Journal of Chemistry*, 26(1), 65-69.
- Yuan, C., Wu, H. B., Xie, Y. and Lou, X. W. (2014). Mixed transition-metal oxides: design, synthesis, and energy-related applications. *Angew. Chem - Int. Ed.*, 53(6), 1488-1504.
- Yuan, Y. F., Xia, X. H., Wu, J. B., Huang, X. H., Pei, Y. B., Yang, J. L. and Guo, S. Y. (2011). Hierarchically porous Co<sub>3</sub>O<sub>4</sub> film with mesoporous walls prepared via liquid crystalline template for supercapacitor application. *Electrochemistry Communications*, 13(10), 1123-1126.
- Yue, L., Ma, J., Zhang, J., Zhao, J., Dong, S., Liu, Z., Cui, G. and Chen, L. (2016). All solid-state polymer electrolytes for high-performance lithium ion batteries. *Energy Storage Materials*, 5, 139-164.
- Zang, J., Bao, S.-J., Li, C. M., Bian, H., Cui, X., Bao, Q., Sun, C. Q., Guo, J. and Lian, K. (2008). Well-aligned cone-shaped nanostructure of polypyrrole/RuO<sub>2</sub> and its electrochemical supercapacitor. *The Journal of Physical Chemistry C*, 112(38), 14843-14847.
- Zhai, Y., Mao, H., Liu, P., Ren, X., Xu, L. and Qian, Y. (2015). Facile fabrication of hierarchical porous rose-like NiCo<sub>2</sub>O<sub>4</sub> nanoflake/MnCo<sub>2</sub>O<sub>4</sub> nanoparticle composites with enhanced electrochemical performance for energy storage. *Journal of Materials Chemistry A*, 3(31), 16142-16149.
- Zhang, D., Ryu, K., Liu, X., Polikarpov, E., Ly, J., Tompson, M. E. and Zhou, C. (2006). Transparent, conductive, and flexible carbon nanotube films and their application in organic light-emitting diodes. *Nano Letters*, 6(9), 1880-1886.
- Zhang, D., Yan, H., Lu, Y., Qiu, K., Wang, C., Zhang, Y., Liu, X., Luo, J. and Luo, Y. (2014a). NiCo<sub>2</sub>O<sub>4</sub> nanostructure materials: morphology control and electrochemical energy storage. *Dalton Transactions*, 43(42), 15887-15897.

- Zhang, G. and David Lou, X. W. (2013a). Controlled growth of NiCo<sub>2</sub>O<sub>4</sub> nanorods and ultrathin nanosheets on carbon nanofibers for high-performance supercapacitors. *Scientific Reports*, 3, 1470.
- Zhang, H., Zhang, X., Zhang, D., Sun, X., Lin, H., Wang, C. and Ma, Y. (2013b). One-step electrophoretic deposition of reduced graphene oxide and ni(oh)<sub>2</sub> composite films for controlled syntheses supercapacitor electrodes. *The Journal of Physical Chemistry B*, 117(6), 1616-1627.
- Zhang, J., Zhao, X., Huang, Z., Xu, T. and Zhang, Q. (2016a). High-performance all-solid-state flexible supercapacitors based on manganese dioxide/carbon fibers. *Carbon*, 107, 844-851.
- Zhang, J. and Zhao, X. S. (2012). On the configuration of supercapacitors for maximizing electrochemical performance. *ChemSusChem*, 5(5), 818-841.
- Zhang, K., Zeng, W., Zhang, G., Hou, S., Wang, F., Wang, T. and Duan, H. (2015a). Hierarchical CuCo<sub>2</sub>O<sub>4</sub> nanowire@NiCo<sub>2</sub>O<sub>4</sub> nanosheet core/shell arrays for high-performance supercapacitors. *RSC Advances*, 5(85), 69636-69641.
- Zhang, L. L. and Zhao, X. S. (2009). Carbon-based materials as supercapacitor electrodes. *Chemical Society Reviews*, 38(9), 2520-2531.
- Zhang, L. L., Zhou, R. and Zhao, X. S. (2010). Graphene-based materials as supercapacitor electrodes. *Journal of Materials Chemistry*, 20(29), 5983-5992.
- Zhang, N., Fu, C., Liu, D., Li, Y., Zhou, H. and Kuang, Y. (2016b). Three-dimensional pompon-like MnO<sub>2</sub>/graphene hydrogel composite for supercapacitor. *Electrochimica Acta*, 210, 804-811.
- Zhang, S. and Pan, N. (2015b). Supercapacitors performance evaluation. *Advanced Energy Materials*, 5(6), 1401401-n/a.
- Zhang, Y.-Z., Wang, Y., Xie, Y.-L., Cheng, T., Lai, W.-Y., Pang, H. and Huang, W. (2014b). Porous hollow Co<sub>3</sub>O<sub>4</sub> with rhombic dodecahedral structures for high-performance supercapacitors. *Nanoscale*, 6(23), 14354-14359.
- Zhang, Y., Ma, M., Yang, J., Su, H., Huang, W. and Dong, X. (2014c). Selective synthesis of hierarchical mesoporous spinel NiCo<sub>2</sub>O<sub>4</sub> for high-performance supercapacitors. *Nanoscale*, 6(8), 4303-4308.
- Zhang, Y., Xuan, H., Xu, Y., Guo, B., Li, H., Kang, L., Han, P., Wang, D. and Du, Y. (2016c). One-step large scale combustion synthesis mesoporous MnO<sub>2</sub>/MnCo<sub>2</sub>O<sub>4</sub> composite as electrode material for high-performance supercapacitors. *Electrochimica Acta*, 206, 278-290.
- Zhao, A., Masa, J., Xia, W., Maljusch, A., Willinger, M.-G., Clavel, G., Xie, K., Schlögl, R., Schuhmann, W. and Muhler, M. (2014). Spinel Mn-Co oxide in N-doped carbon nanotubes as a bifunctional electrocatalyst synthesized by oxidative cutting. *Journal of the American Chemical Society*, 136(21), 7551-7554.

- Zhao, B., Huang, S.-Y., Wang, T., Zhang, K., Yuen, M. M. F., Xu, J.-B., Fu, X.-Z., Sun, R. and Wong, C.-P. (2015a). Hollow SnO<sub>2</sub>@Co<sub>3</sub>O<sub>4</sub> core-shell spheres encapsulated in three-dimensional graphene foams for high performance supercapacitors and lithium-ion batteries. *Journal of Power Sources*, 298, 83-91.
- Zhao, C., Ge, Z., Zhou, Y., Huang, Y., Wang, G. and Qian, X. (2017a). Solar-assisting pyrolytically reclaimed carbon fiber and their hybrids of MnO<sub>2</sub>/RCF for supercapacitor electrodes. *Carbon*, 114, 230-241.
- Zhao, E., Qin, C., Jung, H.-R., Berdichevsky, G., Nese, A., Marder, S. and Yushin, G. (2016a). Lithium titanate confined in carbon nanopores for asymmetric supercapacitors. *ACS Nano*, 10(4), 3977-3984.
- Zhao, J., Guan, B., Hu, B., Xu, Z., Wang, D. and Zhang, H. (2017b). Vulcanizing time controlled synthesis of NiS microflowers and its application in asymmetric supercapacitors. *Electrochimica Acta*, 230, 428-437.
- Zhao, S., Liu, T., Javed, M. S., Zeng, W., Hussain, S., Zhang, Y. and Peng, X. (2016b). Rational synthesis of Cu-doped porous  $\delta$ -MnO<sub>2</sub> microsphere for high performance supercapacitor applications. *Electrochimica Acta*, 191, 716-723.
- Zhao, S., Liu, T., Shi, D., Zhang, Y., Zeng, W., Li, T. and Miao, B. (2015b). Hydrothermal synthesis of urchin-like MnO<sub>2</sub> nanostructures and its electrochemical character for supercapacitor. *Applied Surface Science*, 351, 862-868.
- Zhao, X., Sanchez, B. M., Dobson, P. J. and Grant, P. S. (2011). The role of nanomaterials in redox-based supercapacitors for next generation energy storage devices. *Nanoscale*, 3(3), 839-855.
- Zhao, Y. and Wang, C.-A. (2016c). Nano-network MnO<sub>2</sub>/polyaniline composites with enhanced electrochemical properties for supercapacitors. *Materials & Design*, 97, 512-518.
- Zheng, J. P., Cygan, P. J. and Jow, T. R. (1995). Hydrous ruthenium oxide as an electrode material for electrochemical capacitors. *Journal of the Electrochemical Society*, 142(8), 2699-2703.
- Zheng, J. P. and Xin, Y. (2002). Characterization of RuO<sub>2</sub>·xH<sub>2</sub>O with various water contents. *Journal of Power Sources*, 110(1), 86-90.
- Zhi, M., Xiang, C., Li, J., Li, M. and Wu, N. (2013). Nanostructured carbon-metal oxide composite electrodes for supercapacitors: a review. *Nanoscale*, 5(1), 72-88.
- Zhong, C., Deng, Y., Hu, W., Qiao, J., Zhang, L. and Zhang, J. (2015). A review of electrolyte materials and compositions for electrochemical supercapacitors. *Chemical Society Reviews*, 44(21), 7484-7539.

- Zhou, G., Zhu, J., Chen, Y., Mei, L., Duan, X., Zhang, G., Chen, L., Wang, T. and Lu, B. (2014a). Simple method for the preparation of highly porous ZnCo<sub>2</sub>O<sub>4</sub> nanotubes with enhanced electrochemical property for supercapacitor. *Electrochimica Acta*, 123, 450-455.
- Zhou, Q., Xing, J., Gao, Y., Lv, X., He, Y., Guo, Z. and Li, Y. (2014b). Ordered assembly of NiCo<sub>2</sub>O<sub>4</sub> multiple hierarchical structures for high-performance pseudocapacitors. *ACS Applied Materials & Interfaces*, 6(14), 11394-11402.
- Zhou, X., Shen, X., Xia, Z., Zhang, Z., Li, J., Ma, Y. and Qu, Y. (2015a). Hollow Fluffy Co<sub>3</sub>O<sub>4</sub> Cages as Efficient Electroactive Materials for Supercapacitors and Oxygen Evolution Reaction. *ACS Applied Materials & Interfaces*, 7(36), 20322-20331.
- Zhou, X., Wang, A., Pan, Y., Yu, C., Zou, Y., Zhou, Y., Chen, Q. and Wu, S. (2015b). Facile synthesis of a Co<sub>3</sub>O<sub>4</sub>@carbon nanotubes/polyindole composite and its application in all-solid-state flexible supercapacitors. *Journal of Materials Chemistry A*, 3(24), 13011-13015.
- Zhu, T., Xie, Y., Zhang, G., He, Z., Lu, Y., Guo, H., Lin, C. and Chen, Y. (2015a). Magnetic-field-assisted synthesis of Co<sub>3</sub>O<sub>4</sub> nanoneedles with superior electrochemical capacitance. *Journal of Nanoparticle Research*, 17(12), 1-12.
- Zhu, Y., Chen, J., Zhao, N., Lin, W., Lai, C. and Wang, Q. (2015b). Large-scale synthesis of uniform NiCo<sub>2</sub>O<sub>4</sub> nanoparticles with supercapacitive properties. *Materials Letters*, 160, 171-174.
- Zhu, Y., Ji, X., Wu, Z., Song, W., Hou, H., Wu, Z., He, X., Chen, Q. and Banks, C. E. (2014a). Spinel NiCo<sub>2</sub>O<sub>4</sub> for use as a high-performance supercapacitor electrode material: Understanding of its electrochemical properties. *Journal of Power Sources*, 267, 888-900.
- Zhu, Y., Wang, J., Wu, Z., Jing, M., Hou, H., Jia, X. and Ji, X. (2015c). An electrochemical exploration of hollow NiCo<sub>2</sub>O<sub>4</sub> submicrospheres and its capacitive performances. *Journal of Power Sources*, 287, 307-315.
- Zhu, Y., Wu, Z., Jing, M., Song, W., Hou, H., Yang, X., Chen, Q. and Ji, X. (2014b). 3D network-like mesoporous NiCo<sub>2</sub>O<sub>4</sub> nanostructures as advanced electrode material for supercapacitors. *Electrochimica Acta*, 149, 144-151.
- Zolfaghari, A., Ataherian, F., Ghaemi, M. and Gholami, A. (2007). Capacitive behavior of nanostructured MnO<sub>2</sub> prepared by sonochemistry method. *Electrochimica Acta*, 52(8), 2806-2814.
- Zou, R., Xu, K., Wang, T., He, G., Liu, Q., Liu, X., Zhang, Z. and Hu, J. (2013). Chain-like NiCo<sub>2</sub>O<sub>4</sub> nanowires with different exposed reactive planes for high-performance supercapacitors. *Journal of Materials Chemistry A*, 1(30), 8560-8566.