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Department of Chemical Engineering and Technology
Faculty of Food Technology
02 Nguyen Dinh Chieu Str.,
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EDUCATION

Yeungnam University, Daegu, Korea
Research Professor, 2012-2013
Doctor of Philosophy in Chemical Engineering and Technology, 2009-2012

Dalat University, Dalat, Vietnam
Master in Analytical Chemistry, 1998 - 2001

VNU University of Sciences, Hanoi, Vietnam
Bachelor in Chemistry

RESEARCH INTERESTS

- Isolation and purification of natural bioactive substances.
- Extracting technology of supercritical fluids.
- Nanocomposites based on carbon materials including carbon nanotubes and graphene.
- Synthesis of polymers and nanocomposites using green solvents such as supercritical carbon dioxide, ionic liquids, and water.

RESEARCH EXPERIENCE

- Study and extraction of Lutein from Marigold in Khanh Hoa province, Ministry of Education and Training, Vietnam, 01/2008-12/2008.
- Synthesis and application of polyvinyl alcohol, Ministry of Commerce, Industry and Energy, Korea, 3/2009-3/2013.
- Synthesis, characterization and potential application of composites based on graphene, graphene oxide and metals and metal oxides nanoparticles prepared in green solvent including supercritical carbon dioxide, ionic liquids, and water, National Research Foundation of Korea, Korea, 3/2012-3/2013.
- Synthesis of polymers and polymer-metal nanocomposites using clean solvents including supercritical carbon dioxide and ionic liquids, Ph.D Thesis, 2009-2012

TEACHING RESPONSIBILITY

Undergraduate

- General Chemistry, Nha Trang University (9/2001 - present)

Graduate

- Physical chemistry of polymer, School of Chemical Engineering, Yeungnam University, Korea (3/2012-6/2012)
- Polymer morphology, School of Chemical Engineering, Yeungnam University, Korea (9/2012-3/2013)

PUBLICATIONS and PRESENTATIONS

Journals:

1. V. H. Nguyen, Y. Haldorai, Q. L. Pham, S. K. Noh, W. S. Lyoo, J. J. Shim, *Preparation of poly(vinyl pivalate) microspheres by dispersion polymerization in an ionic liquid and saponification for the preparation of poly(vinyl alcohol) with high syndiotacticity*, European Polymer Journal 46 (2010) 2190–2198.
2. V. H. Nguyen, Y. Haldorai, Q. L. Pham, J. J. Shim, *Supercritical fluid mediated synthesis of poly(2-hydroxyethyl methacrylate)/Fe₃O₄ hybrid nanocomposite*, Materials Science and Engineering b 176 (2011) 773-778.
3. Q. L. Pham, Y. Haldorai, V. H. Nguyen, D. Tuma, J. J. Shim, *Facile synthesis of poly(p-phenylenediamine)/MWCNT nanocomposites and characterization for investigation of structural effects of carbon nanotubes*, Bulletin Materials Sciences 34 (2011) 37–43.
4. Y. Haldorai, V. H. Nguyen, J. J. Shim, *Synthesis of polyaniline/Q-CdSe composite via ultrasonically assisted dynamic inverse emulsion polymerization*, Colloid and Polymer Science 289 (2011), 849-854.
5. Y. Haldorai, V. H. Nguyen, Q. L. Pham, J. J. Shim, *Nanostructured Materials with Conducting and Magnetic Properties: Preparation of Magnetite/Conducting Copolymer Hybrid Nanocomposites by Ultrasonic Irradiation*, Composite Interfaces 18 (2011), 259-274.
6. V. H. Nguyen, J. J. Shim, *Facile Synthesis and Characterization of Carbon Nanotubes/Silver Nanohybrids Coated with Polyaniline*, Synthetic Metals 161 (2011), 2078-2082.
7. V. H. Nguyen, J. J. Shim, *Covalently Bonded Poly(Acrylic Acid)–Fe₃O₄ Nanocomposite Prepared in Supercritical CO₂ and its Adsorption Capacity for Methylene Blue*, Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry 42 (2012) 449-454.

8. V. H. Nguyen, Y. P. Ren, Y. R. Lee, D. Tuma, B. K. Min, J. J. Shim, *Microwave-assisted Synthesis of Carbon Nanotube-TiO₂ Nanocomposites in Ionic liquid for the Photocatalytic Degradation of Methylene Blue*, *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry* 42 (2012) 296-301.
9. V. H. Nguyen, B. K. Kim, Y. L. Jo, J. J. Shim, *Preparation and antibacterial activity of silver nanoparticles-decorated graphene composites*, *Journal of Supercritical Fluids* 72 (2012) 28-35.
10. V. H. Nguyen, J. J. Shim, *Supercritical fluid-assisted synthesis of a carbon nanotubes-grafted biocompatible polymer composite*, *Composite Interfaces* 20 (2013) 155-162.
11. S. Kalathil, V. H. Nguyen, J. J. Shim, M. M. Khan, J. Lee, M. H. Cho, *Enhanced performance of a microbial fuel cell using CNT/MnO₂ nanocomposite as bioanode material*, *Journal of Nanoscience and Nanotechnology* 13 (2013).
12. Q. L. Pham, V. H. Nguyen, Y. Haldorai, J. J. Shim, *Polymerization of Vinyl Pivalate in Supercritical Carbon Dioxide and the Saponification for the Preparation of Syndiotacticity-rich Polyvinyl Alcohol*, *Korea Journal of Chemical Engineering* 30 (2013) 1153-1161.
13. V. H. Nguyen, L. Tang, J. J. Shim, *Electrochemical property of graphene oxide/polyaniline composite prepared by in situ interfacial polymerization*, *Colloid and Polymer Science*, DOI 10.1007/s00396-013-2940-y.

Presentations

1. V. H. Nguyen, Y. Haldorai, Q. L. Pham, T. Q. Zong, S. Johari, J. J. Shim, *Synthesis of Biocompatible Polymer/Fe₃O₄ Magnetic Nanocomposites in Supercritical Carbon Dioxide*, Proc. KICChE, April 2009 (Korea).
2. V. H. Nguyen, Q. L. Pham, Y. Haldorai, J. J. Shim, *Dispersion Polymerization of Vinyl Pivalate in an Green Ionic Liquid*, Proc. KICChE, Nov. 2009 (Korea).
3. V. H. Nguyen, S. Johari, T. Q. Zong, J. J. Shim, *Synthesis and characterization of Multiwall Carbon Nanotubes-grafted Poly(2-hydroxyethyl methacrylate) biomaterials nanocomposites in Supercritical Carbon Dioxide*, Proc. KSCT, May 2010 (Korea).
4. V. H. Nguyen, Y. Haldorai, Q. L. Pham, T. Q. Zong, J. J. Shim, *In-situ Preparation of Biopolymer/Fe₃O₄ Hybrid Nanocomposites in Supercritical Carbon Dioxide*, Proc. IEEE Nano, Aug. 2010 (Korea).
5. V. H. Nguyen, Y. Haldorai, L. Q. Pham, S. Johari, J. J. Shim, *Synthesis of Fe₃O₄/poly(2-hydroxyethyl methacrylate) Magnetic Biomaterial Nanocomposites in Supercritical CO₂*, Proc. NCSS, Sept. 2010 (Japan).

6. V. H. Nguyen, Y. Haldorai, Q. L. Pham, T. Q. Zong, S. Johari, J. J. Shim, *In-situ Preparation of Fe₃O₄-graft-Poly(acrylic acid) Composite in Supercritical CO₂ and Its Adsorption Capacity of Water-soluble Dyes*, Proc. KIChE, Oct. 2010 (Korea).
7. V. H. Nguyen, Q. L. Pham, T. Q. Zong, J. J. Shim, *Polyacrylic Acid-Coated Fe₃O₄ Nanocomposite Prepared in Supercritical CO₂ and Its Adsorption Capacity of Some Dyes*, ICSST Oct. 2010 (China).
8. V. H. Nguyen, Q. L. Pham, Y. Haldorai, J. J. Shim, *Facile and Efficient Synthesis of Carbon Nanotubes/Silver Nanohybrids Coated with Polyaniline in aqueous medium*, Proc. KSCT, Nov. 2010 (Korea).
9. V. H. Nguyen, T. Q. Zong, J. J. Shim, *Preparation of Fe₃O₄-graft-Poly(acrylic acid) Composite in Supercritical CO₂ and Its Adsorption Capacity of Water-soluble Dyes*, 8th Korea-China Clean Energy Workshop, Nov. 24-27, Daejeon, 2010 (Korea).
10. V. H. Nguyen, J. J. Shim, *Facile Synthesis of Conducting Composites of Graphene Oxide and Poly(o-phenylenediamine) in Aqueous Medium*, Proc. KIChE, April 2011 (Korea).
11. V. H. Nguyen, Y. A. Lee, J. J. Shim, *Graphene Decorated with Palladium Nanocrystals Using Supercritical Carbon Dioxide as a Green Solvent*, Proc. KSCT, April 2011 (Korea).
12. V. H. Nguyen, J. J. Shim, *Supercritical Fluid-Assisted Decoration Of Graphene Sheets With Nanocrystals*, Proc. ICCDU, Dijon, June 2011 (France).
13. V. H. Nguyen, J. J. Shim, *Clean Synthesis of Nanoparticulate Metals in Graphene Sheets: A Supercritical Route*, Proc. ICSST, Jeju, Nov. 2011 (Korea).
14. V. H. Nguyen, J. J. Shim, *Characterization of Graphene-ZrO₂ Composite Prepared in [Bmim][BF₄]*, Proc. KIChE, October 2011 (Korea).
15. V. H. Nguyen, J. J. Shim, *Supercritical Carbon Dioxide Mediated Synthesis and Antibacterial Activities of Ag Nanoparticle-Decorated Graphene Composites*, Proc. KSCT, November 2011 (Korea).
16. V. H. Nguyen, Y. Lee, J. J. Shim, *Synthesis of Conductive Nanocomposites of Graphene Oxide and Graphene with Poly(o-phenylenediamine)*, Proc. KSCT, November 2011 (Korea).
17. V. H. Nguyen, J.J. Shim, *Applications of Supercritical Fluids and Ionic Liquids in Separation and Synthesis*, Proc. NCMS 2011, September 2011 (China).
18. V. H. Nguyen, J. J. Shim, *Facile and Efficient Synthesis of Graphene-TiO₂ Composites in Ionic Liquid*, Proc. APCChE2012, Feb. 2012 (Singapore).
19. V. H. Nguyen, J. J. Shim, *Silver Nanoparticles Decorated Graphene and Graphene Oxide Nanocomposite in Supercritical CO₂: Antibacterial Activity*, Proc. APCChE2012, Feb. 2012 (Singapore).

20. V. H. Nguyen, W. Shi, J. J. Shim, *Preparation of Silica Aerogels via Supercritical Fluid Drying Technique*, Proc. APCCHE2012, Feb. 2012 (Singapore).
21. V. H. Nguyen, J. J. Shim, *Supercritical Fluid-Assisted Synthesis of Carbon Nanotubes-grafted Biocompatible Polymer Composites*, Proc. SCET2012, May 2012 (China).
22. V. H. Nguyen, J. J. Shim, *Ionic Liquid Mediated Synthesis of CNT-TiO₂ Nanocomposites as Photocatalyst*, Proc. SCET2012, May 2012 (China).
23. V. H. Nguyen, Y. Lee, J. J. Shim, *Green Synthesis of Graphene Oxide-Polyaniline Composites via Interfacial Method*, Proc. KICChE, April 2012 (Korea).
24. V. H. Nguyen, J. J. Shim, *Green Synthesis of Carbon Nanotubes-grafted Poly(2-hydroxyethyl methacrylate) Composites*, Proc. IWGC-7, August 2012 (Japan).
25. V. H. Nguyen, J. J. Shim, *Ionic Liquid-assisted Synthesis of Conductive Composites via Interfacial Method*, (Invited speaker) Proc. MTMS'12, September 2012 (Japan).
26. V. H. Nguyen, J. J. Shim, *Synthesis of Graphene-based Nanocomposites in Ionic Liquids*, (Invited speaker) Proc. KU-YU Joint Symposium, October 2012 (Japan).
27. V. H. Nguyen, Y. Lee, J. J. Shim, *Efficient Extractions of Binder Materials from Powder Injected Metals using Supercritical CO₂*, Proc. KICChE, October 2012 (Korea).
28. V. H. Nguyen, N. M. Islam, J. J. Shim, *Supercritical Carbon Dioxide as Reaction Medium for Atom Transfer Radical Polymerization of Vinyl Pivalate*, Proc. KICChE, October 2012 (Korea).
29. V. H. Nguyen, J. J. Shim, *Electrochemical Detection of Hydrogen Peroxide Based on Graphene Oxide/Polyaniline Composites*, Proc. KSCT, November 2012 (Korea).
30. V. H. Nguyen, Y. Lee, J. J. Shim, *Effect of Supercritical CO₂ Cosolvents on Extraction of Binder Materials from Powder Injected Metals*, Proc. KSCT, November 2012 (Korea).
31. V. H. Nguyen, L. Tang, J. J. Shim, *One-step Clean Synthesis of Graphene-ZrO₂ Composites*, Proc. KSCT, November 2012 (Korea).