

## REFERENCES

- [1] M. Geszke-Moritz, M. Moritz, “Quantum dots as versatile probes in medical sciences: Synthesis, modification and properties”, Mater. Sci. Eng. C, 2013, 33, 1008-1021.
- [2] H. M.E. Azzazy, M. M.H. Mansour, S. C. Kazmierczak, “From diagnostics to therapy: Prospects of quantum dots”, Clin. Biochem., 40, 2007, 917-927.
- [3] G. P.C. Drummen, “Quantum Dots-From Synthesis to Applications in Biomedicine and Life Sciences”, Int. J. Mol. Sci., 11, 2010, 154-163.
- [4] S. Modani, M. Kharwade, M. Nijhawan, “Quantum Dots: a novelty of medical field with multiple applications”, Int. J. Curr. Pharmaceut. Res., 5, 2013, 55-59.
- [5] D. Deng, J. Cao, L. Qu, S. Achilefu, Y. Gu, “Highly luminescent water-soluble quaternary Zn–Ag–In–S quantum dots for tumor cell-targeted imaging†”, Phys. Chem. Chem. Phys., 15, 2013, 5078-5083.
- [6] M. D. Regulacio, K. Y. Win, S. L. Lo, S.-Y. Zhang, X. Zhang, S. Wang, M.-Y. Han, Y. Zheng, “Aqueous synthesis of highly luminescent AgInS<sub>2</sub>–ZnS quantum dots and their biological applications†”, Nanoscale, 5, 2013, 2322-2327.
- [7] G. E. Delgado, A. J. Mora, “Structural characterization of the semiconductor chalcogenide system Ag-In-VI (VI = S, Se, Te) by X-Ray powder diffraction”, Chalcogenide Letters, 6, 2009, 635-639.
- [8] D. Wang, W. Zheng, C. Hao, Q. Peng, Y. Li, “General synthesis of I-III–VI<sub>2</sub> ternary semiconductor nanocrystals”, Chem. Commun., 22, 2008, 2556-2558.

- [9] Z. Luo, H. Zhang, J. Huang, X. Zhong, “One-step synthesis of water-soluble AgInS<sub>2</sub> and ZnS–AgInS<sub>2</sub> composite nanocrystals and their photocatalytic activities”, *J. Colloid Interf. Sci.*, 377, 2012, 27-33.
- [10] Z. Zeng, A. Wang, L. Ping, J. Yang, Q. Wang, “Encapsulation of lanthanides in ternary I–III–VI AgInS<sub>2</sub> nanocrystals and their physical properties”, *Mater. Lett.*, 141, 2015, 225-227.
- [11] W. Xiang, C. Xie, J. Wang, J. Zhong, X. Liang, H. Yang, L. Luo, Z. Chen, “Studies on highly luminescent AgInS<sub>2</sub> and Ag–Zn–In–S quantum dots”, *J. Alloy. Compd.*, 588, 2014, 114-121.
- [12] E.S. Aazam, “Photocatalytic oxidation of cyanide under visible light by Pt doped AgInS<sub>2</sub> nanoparticles”, *J. Ind. Eng. Chem.*, 20, 2014, 4008-4013.
- [13] A. Tadjarodi, A. H. Cheshmehavar, M. Imani, “Preparation of AgInS<sub>2</sub> nanoparticles by a facile microwave heating technique; study of effective parameters, optical and photovoltaic characteristics”, *Appl. Surf. Sci.*, 263, 2012, 449-456.
- [14] W. Zhang, D. Li, Z. Chen, M. Sun, W. Li, Q. Lin, X. Fu, “Microwave hydrothermal synthesis of AgInS<sub>2</sub> with visible light photocatalytic activity”, *Mater. Res. Bull.*, 46, 2011, 975-982.
- [15] J. Hu, Q. Lu, K. Tang, Y. Qian, G. Zhou, X. Liu, “Solvothermal reaction route to nanocrystalline semiconductors AgMS<sub>2</sub> (M = Ga, In)”, *Chem. Commun.*, 12, 1999, 1093-1094.
- [16] L. Hai-Tao, Z. Jia-Song, L. Xiao-Juan, Z. Jing-Feng, X. Wei-Dong, “L-cysteine-assisted Synthesis of AgInS<sub>2</sub> Microspheres”, *J. Inorg. Mater.*, 26, 2011, 1221-1226.
- [17] K. Byrappa, T. Adschari, “Hydrothermal technology for nanotechnology”, *Progr. Cryst. Growth Char. Mater.*, 53, 2007, 117-166.

- [18] B.S. Sekhon, S.R. Kamboj, “Inorganic nanomedicine-part 1.”, Nanomed.: nanotechnol., boil. Med., 6, 2010, 516-522.
- [19] J. Tripathya, A. M. Raichura, “Designing carboxymethyl cellulose based layer-by-layer capsules as a carrier for protein delivery”, Colloid Surf. B: Biointerfac., 101, 2013, 487-492.
- [20] N. Habibi, “Preparation of biocompatible magnetite-carboxymethyl cellulose nanocomposite: Characterization of nanocomposite by FTIR, XRD, FESEM and TEM”, Spectrochim. Acta Part A: Molecul. Biomolecul. Spectr., 131, 2014, 55-58.
- [21] Z. Liu, Y. Jiao, Y. Wang, C. Zhou, Z. Zhang, “Polysaccharides-based nanoparticles as drug delivery systems”, Adv. Drug Deliv. Rev., 60, 2008, 1650-1662.
- [22] R. G. Aswathy, B. Sivakumar, D. Brahatheeswaran, S. Raveendran, T. Ukai, T. Fukuda, Y. Yoshida, T. Maekawa, D. N. Sakthikumar, “Multifunctional Biocompatible Fluorescent Carboxymethyl cellulose Nanoparticles”, Journal of Biomaterials and Nanobiotechnology, 3, 2012, 254-261.
- [23] C. Peng, Q. Zhao, C. Gao, “Sustained delivery of doxorubicin by porous  $\text{CaCO}_3$  and chitosan/alginate multilayers-coated  $\text{CaCO}_3$  microparticles”, Colloid. Surface. Physicochem. Eng. Aspect., 353, 2010, 132-139.
- [24] M. Moros, B. Hernández, E. Garet, J. T. Dias, B. Sáez, V. Grazú, A. González-Fernández, C. Alonso, J. M. de la Fuente, “Monosaccharides *versus* PEG-Functionalized NPs: Influence in the Cellular Uptake”, J. Am. Chem. Soc., 6, 2012, 1565-1577.
- [25] “Shimadzu XRD-7000 X-Ray Diffractometer “The Fridge”, Shimadzu.

- [26] Centre for Microscopy & Microanalysis, “XRD - X-Ray Diffraction”, <http://www.uq.edu.au/nanoworld/index.html?page=160084>, 8 February 2015.
- [27] “AMICUS Ultra DLD X-Ray Photoelectron Spectroscopy”, [http://www.barascientific.com/products/shimadzu/scientific/surface/thai/XP\\_S/AMICUS-Ultra-DLD.php](http://www.barascientific.com/products/shimadzu/scientific/surface/thai/XP_S/AMICUS-Ultra-DLD.php). 8 February 2015.
- [28] “What is X-Ray Photoelectron Spectroscopy (XPS)?”, Thermo Scientific, <http://xpssimplified.com/whatisxps.php>. 8 February 2015.
- [29] Science and technology service center, <http://www.stsc.science.cmu.ac.th/new/index.php/welcome/content/20#>. 8 February 2015.
- [30] B. Voutou, E.-C. Stefanaki, “Electron Microscopy: The Basics”, Physics of Advanced Materials Winter School, 2008.
- [31] “Dynamic Light Scattering: An Introduction in 30 Minutes”, Malvern Instruments, Malvern, Worcestershire, UK.
- [32] “Zetasizer Nano-S (Malvern Instruments)”, <http://www.indiana.edu/~physbio/equip/dynamic-light-scattering.html>. 8 February 2015.
- [33] “Tensor 27 FT-IR Spectrometer”, <http://www.aparatura.ro/spectrometru-ftir-tensor-27-p-13253.html?language=en>. 8 February 2015.
- [34] “Introduction to Fourier Transform Infrared Spectrometry”, Thermo Nicolet, Madison, WI, USA.
- [35] “Thermogravimetric Analysis (TGA)”, Perkin Elmer, Waltham, MA, USA.
- [36] “TGA-50/51 Thermo Gravimetric Analyzer”, <http://www.barascientific.com/products/shimadzu/analytical/physical/eng/TA/TGA-50.php>. 8 February 2015.

- [37] “PerkinElmer LAMBDA 25/35/45”, <http://www.labwrench.com/?equipment.view/equipmentNo/2948/PerkinElmer/LAMBDA-25-35-45/>. 8 February 2015.
- [38] S. Behera, S. Ghanty, F. Ahmad, S. Santra, S. Banerjee, “UV-Visible Spectrophotometric Method Development and Validation of Assay of Paracetamol Tablet Formulation”, *J. Anal. Bioanal. Techniques*, 3, 2012, 1-6.
- [39] “Biochemical equipment”, <http://www.ik-pan.krakow.pl/mlbke/equipment.html>. 8 February 2015.
- [40] T. H. Gfroerer, “Photoluminescence in Analysis of Surfaces and Interfaces”, *Encyclopedia of Analytical Chemistry*, 9209-9231.
- [41] K. R. Spring, “Fluorescence Microscopy”, *Encyclopedia of Optical Engineering*, 2013, 548-555.
- [42] Instrument in CEMI, “Leica DMI 4000B Fluorescence microscope”, <http://www.cemithai.com/instrument.php>. 8 February 2015.
- [43] “Introduction to Flow Cytometry: A Learning Guide”, BD Biosciences, San Jose, CA.
- [44] Instrument in CEMI, “Beckman Flow cytometer”, <http://www.cemithai.com/instrument.php>. 8 February 2015.
- [45] B. Y.S. Kim, M.D., Ph.D., J. T. Rutka, M.D., Ph.D., W. C.W. Chan, Ph.D., “Nanomedicine”, *New Engl. J. Med.*, 363, 2010, 2434-2443.
- [46] L. Liu, R. Hu, I. Roy, G. Lin, L. Ye, J. L. Reynolds, J. Liu, J. Liu, S. A. Schwartz, X. Zhang, K.-T. Yong, “Synthesis of Luminescent Near-Infrared AgInS<sub>2</sub> Nanocrystals as Optical Probes for In Vivo Applications”, *Theranostics*, 3, 2013, 109-115.

- [47] B. Sivakumar, R. G. Aswathy, Y. Nagaoka, M. Suzuki, T. Fukuda, Y. Yoshida, T. Maekawa, D. N. Sakthikumar, “Multifunctional Carboxymethyl Cellulose-Based Magnetic Nanovector as a Theragnostic System for Folate Receptor Targeted Chemotherapy, Imaging, and Hyperthermia against Cancer”, *Langmuir*, 29, 2013, 3453-3466.
- [48] Q. Ma, Z.-H. Lin, N. Yang, Y. Li, X.-G. Su, “A novel carboxymethyl chitosan–quantum dot-based intracellular probe for  $Zn^{2+}$  ion sensing in prostate cancer cells”, *Acta Biomater.*, 10, 2014, 868-874.
- [49] Powder Diffract. File, JCPDS-ICDD, 12 Campus Boulevard, Newtown Square, PA 19073-3273, USA, 2001.
- [50] O. Amiri, M. Salavati-Niasari, M. Sabet, D. Ghanbari, “Synthesis and characterization of  $CuInS_2$  microsphere under controlled reaction conditions and its application in low-cost solar cells”, *Mater. Sci. Semicond. Process.*, 16, 2013, 1485-1494.
- [51] L. Shen, “Biocompatible Polymer/Quantum Dots Hybrid Materials: Current Status and Future Developments”, *J. Funct. Biomater.*, 2, 2011, 355-372.
- [52] C. Pilapong, S. Thongtem, T. Thongtem, “Environmentally Benign Synthesis of Bi~2S~3 Quantum Dot Using Microwave-Assisted Approach”, *J. Nanosci. Nanotechnol.*, 13, 2013, 2189-2192.
- [53] L. Tan, S. Liu, X. Li, I. S. Chronakis, Y. Shen, “A new strategy for synthesizing  $AgInS_2$  quantum dots emitting brightly in near-infrared window for in vivo imaging”, *Colloids and Surfaces B: Biointerfaces*, 125, 2015, 222-229.
- [54] T. Liming, H. Meiya, J. Yingyan, “Synthesis and characterization of a silica-supported carboxymethylcellulose platinum complex and its catalytic behaviors for hydrogenation of aromatics”, *Chin. J. Polymer Sci.*, 14, 1996, 199-204.

- [55] S. H. Chaki, A. Agarwal, "Growth, surface microtopographic and thermal studies of CuInS<sub>2</sub>", *J. Cryst. Growth*, 308, 2007, 176-179.
- [56] S. H. Chaki, "Thermal decomposition studies of CuInS<sub>2</sub>", *Front. Mater. Sci. China*, 2, 2008, 322-325.
- [57] B. Mao, C.-H. Chuang, J. Wang, C. Burda, "Synthesis and Photophysical Properties of Ternary I-III-VI AgInS<sub>2</sub> Nanocrystals: Intrinsic versus Surface States", *J. Phys. Chem. C*, 115, 2011, 8945-8954.
- [58] D. H. Jara, S. J. Yoon, K. G. Stamplecoskie, P. V. Kamat, "Size-Dependent Photovoltaic Performance of CuInS<sub>2</sub> Quantum Dot-Sensitized Solar Cells", *Chem. Mater.*, 26, 2014, 7221-7228.
- [59] P. Gupta, M. Ramrakhiani, "Influence of the Particle Size on the Optical Properties of CdSe Nanoparticles", *The Open Nanoscience Journal*, 3, 2009, 15-19.
- [60] A. Babu, A. K. Templeton, A. Munshi, R. Ramesh, "Nanoparticle-based drug delivery for therapy of lung cancer: progress and challenges", *Journal of Nanomaterials*, 14, 2013.
- [61] S. Lv, M. Li, Z. Tang, W. Song, H. Sun, H. Liu, X. Chen, "Doxorubicin-loaded amphiphilic polypeptide-based nanoparticles as an efficient drug delivery system for cancer therapy", *Acta Biomaterialia*, 9, 2013, 9330-9342.
- [62] The Dow Chemical Company, "Carboxymethylcellulose", [http://www.dow.com/dowwolff/en/industrial\\_solutions/polymers/carboxymethylcellulose/](http://www.dow.com/dowwolff/en/industrial_solutions/polymers/carboxymethylcellulose/) 8 May 2015.

- [63] R. Firdessa, T.A. Oelschlaeger, H. Moll, "Identification of multiple cellular uptake pathways of polystyrenenanoparticles and factors affecting the uptake: Relevance for drugdelivery systems", Eur. J. Cell Biol., 93, 2014, 323-337.
- [64] K. El-Boubbou, D. C. Zhu, C. Vasileiou, B. Borhan, D. Prosperi, W. Li, X. Huang, "Magnetic Glyco-Nanoparticles: A Tool To Detect, Differentiate, and Unlock the Glyco-Codes of Cancer via Magnetic Resonance Imaging", J. Am. Chem. Soc., 132, 2010, 4490-4499.
- [65] J.M. de la Fuente, D. Alcántara, S. Penadés, "Cell Response to Magnetic Glyconanoparticles: Does the Carbohydrate Matter?", IEEE Transactions on Nanobioscience, 6, 2007, 275-281.
- [66] P. C. Patel, D. A. Giljohann, W. L. Daniel, D. Zheng, A. E. Prigodich, C. A. Mirkin, "Scavenger Receptors Mediate Cellular Uptake of Polyvalent Oligonucleotide-Functionalized Gold Nanoparticles", Bioconjugate Chem., 21, 2010, 2250-2256.
- [67] C. H. J. Choi, L. Hao, S. P. Narayan, E. Auyeung, C. A. Mirkin, "Mechanism for the endocytosis of spherical nucleic acid nanoparticle conjugates", Proc. Natl. Acad. Sci. U S A., 110, 2013, 7625-7630.
- [68] R. Vácha, F.J. Martínez-Veracoechea, D. Frenkel, "Receptor-Mediated Endocytosis of Nanoparticles of Various Shapes", Nano Lett., 11, 2011, 5391-5395.
- [69] L. Song, V. H.B. Ho, C. Chen, Z. Yang, D. Liu, R. Chen, D. Zhou, "Efficient, pH-Triggered Drug Delivery Using a pH-Responsive DNA-Conjugated Gold Nanoparticle", Adv. Healthc. Mater., 2, 2013, 275-280.