

CURRICULUM VITAE



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EDUCATION

1998.03 ~ 2002.02: B.S.

Department of Chemical Engineering, Yonsei University,

Seoul 120-749, Republic of Korea

2002.03 ~ 2004.02: M.S.

Department of Chemical Engineering, Yonsei University,

Seoul 120-749, Republic of Korea

***Microfluidic Visualization Study: Motions of Magnetic Nanoparticles
for Biomedical Applications***

2004.03 ~ 2008.02: Ph.D.

Department of Chemical and Biomolecular Engineering, Yonsei University,

Seoul 120-749, Republic of Korea

Multifunctional Magnetic Nanoparticles for Diagnosis and Treatment of Cancer

CARRIER

2008.03 ~ 2009.03: Post Doctor

Yonsei Nanomedical Core Research Center

2009.03 ~ 2014.02: Research Assistant Professor

Severance Hospital Integrative Research Institute

for Cerebral & Cardiovascular Diseases (SIRIC), Yonsei University

2014.03 ~ Present: Assistant Professor

Department of Radiology, College of Medicine, Yonsei University

RESEARCH AREAS & INTEREST

1. Systemic Molecular Imaging (MRI-Optics-CT-PET)

- biomarker-specific molecular imaging probe
- bio-conjugation chemistry techniques
- biocompatible nanoparticles
- organic-inorganic nanocomposites
- dynamics of nanoparticles

2. Drug Delivery System

- creative design for controlling of drug release kinetics
- drug solubilizing & delivery system, RNAi
- multifunctional nanocomposites for disease diagnosis and therapy.

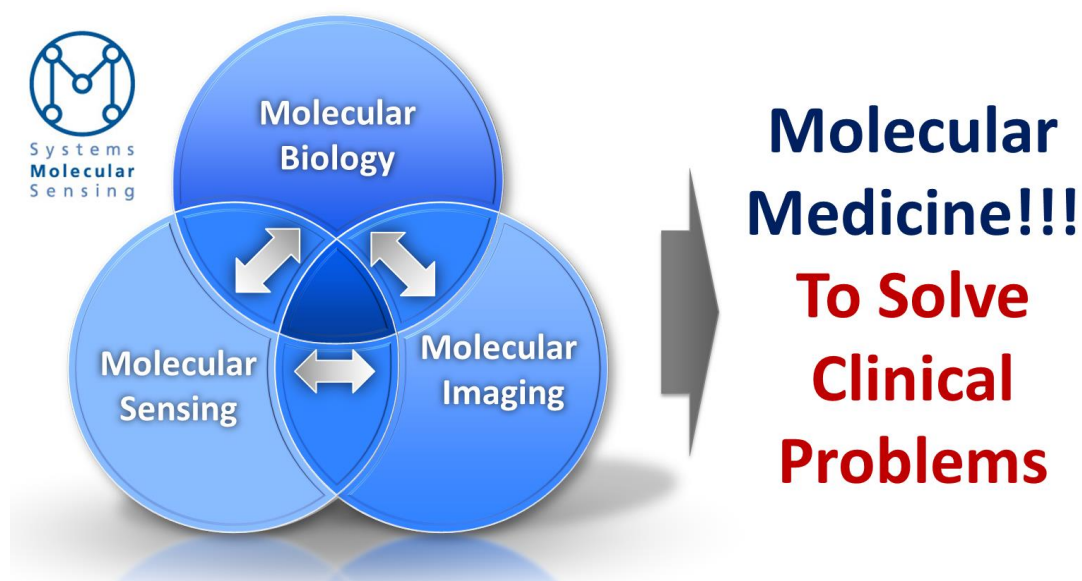
3. Biochemistry

- biological redox regulation
- cancer metabolism

4. *In Vitro* Diagnostics

- high-sensitive and efficient nano-bio sensor
for diagnosis of cancer and vascular disease

Lab. Homepage: <http://smsl.ac>



PUBLICATIONS – JOURNALS (RECENT 5 YEARS)

JOURNALS (2016)

- 2016-82. Hwunjae Lee, Seung-Hyun Yang, Dan Heo, Heyoung Son, Seungjoo Haam, Jin-Suck Suh, **Jaemoon Yang*** and Yong-Min Huh, Molecular Imaging of CD44-Overexpressing Gastric Cancer in Mice Using T2 MR Imaging *JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY* **2016**, 16, 196-202 (IF: 1.556)
- 2016-83. Nam Gi Min, Minhee Ku, **Jaemoon Yang**, and Shin-Hyun Kim, Microfluidic Production of Uniform Microcarriers with Multicompartment through Phase Separation in Emulsion Drops *Chemistry of materials* **2016**, 28(5), 1430-1438 (IF: 8.354)
- 2016-84. Yoochang Hong, Eugene Lee, Minhee Ku, Jin-Suck Suh, Dae Sung Yoon, **JaemoonYang***, Femto-molar detection of cancer marker-protein based on immuno-nanoplasmonics at single-nanoparticle scale *NANOTECHNOLOGY* **2016**, 27(18), 185103 (IF:3.821)
- 2016-85. Yoochan Hong, Wonseok Cho, Jeonghun Kim, Seungyeon Hwng, Eugene Lee, Dan Heo, Minhee Ku, Jin-Suck Suh, **Jaemoon Yang*** and Jung Hyun Kim, Photothermal ablation of cancer cells using self-doped polyaniline nanoparticles *NANOTECHNOLOGY* **2016**, 27(18), 185104 (IF: 3.821)
- 2016-86. Yoochang Hong, Eugene Lee, Minhee Ku, Jin-Suck Suh, Dae Sung Yoon, **Jaemoon Yang** , Biomarker-specific conjugated nanopolyplexes for the active coloring of stem-like cancer cells *NANOTECHNOLOGY* **2016**, 27, 225101 (IF: 3.821)
- 2016-87. Hyungbeen Lee, Sang Won Lee, Gyudo Lee, Wonseok Lee, Jeong Hoon Lee, Kyo Seon Hwang, **Jaemoon Yang**, Sang Woo Lee and Dae Sung Yoon, Kelvin probe force microscopy of DNA-capped nanoparticles for single-nucleotide polymorphism detection *Nanoscale* **2016**, 8(28), 13537-44 (IF: 7.394)
- 2016-89. Minhee Ku , Myounghwa Kang , Jin-Suck Suh , Jaemoon Yang, Effects for Sequential Treatment of siAkt and Paclitaxel on Gastric Cancer Cell Lines *INTERNATIONAL JOURNAL OF MEDICAL SCIENCES* **2016**, 13(9), 708-716 (IF: 2.232)
- 2016-90. Young Han Lee, Jaemoon Yang, Ha-Kyu Jeong, Jin-Suck Suh , Assessment of the patellofemoral cartilage: Correlation of knee pain score with magnetic resonance cartilage grading and magnetization transfer ratio asymmetry of glycosaminoglycan chemical exchange saturation transfer *MAGNETIC RESONANCE IMAGING* **2016**, 35, 61-68 (IF: 1.98)

- 2016-91. Hyung Kwon Byeon, Hwi Jung Na, Yeon Ju Yang, Sooah Ko, Sun Och Yoon, Minhee Ku, Jaemoon Yang, Jae Wook Kim, Myung Jin Ban, Ji-Hoon Kim, Da Hee Kim, Jung Min Kim, Eun Chang Choi, Chang-Hoon Kim, Joo-Heon Yoon, Yoon Woo Koh, Acquired resistance to BRAF inhibition induces epithelial-to-mesenchymal transition in BRAF (V600E) mutant thyroid cancer by c-Met-mediated AKT activation *Oncotarget* 2016, [Epub ahead of print] (IF: 5.008)
- 2016-93 Minhee Ku, Su Yee Yau, Hyun-Joon Kim, Eugene Lee, Jin-Suck Suh, Dae-Eun Kim, **Jaemoon Yang***, Membrane Type-1 Matrix Metalloproteinase (MT1-MMP)-mediated Regulation of Metastatic Cancer Cell Motility and Mechanics **2015, Submitted**
- 2016-92. Hyungbeen Lee, Sang Won Lee, Gyudo Lee, Wonseok Lee, Kihwan Nam, Jeong Hoon Lee, Kyo Seon Hwang, **Jaemoon Yang**, Hyeyoung Lee, Sang Woo Lee, and Dae Sung Yoon Point mutation analysis by probing individual surface potential of DNA/Au nanosphere complexes **2015, Submitted**

JOURNALS (2015)

- 2015-72. Yoochan Hong, Seungyeon Hwang, Dan Heo, Bongjune Kim, Minhee Ku, Eugene Lee, Seungjoo Haam, Dae Sung Yoon, **Jaemoon Yang***, Jin-Suck Suh*, A magnetic polyaniline nanohybrid for MR imaging and redox sensing of cancer cells *Nanoscale* **2015**, 7, 1661-1666 (IF: 6.739)
- 2015-73. Young Han Lee, Dan Heo, Myeonghwan Hwang, Bongjune Kim, Soeckgu Kang, Seungjoo Haam, Jin-Suck Suh, **Jaemoon Yang***, Yong-Min Huh*, T2- and T2*-weighted MRI of rat glioma using polysorbate-coated magnetic nanocrystals as a blood-pool contrast agent *RSC Advances*, **2015**, 5, 19708-19714 (IF: 3.708)
- 2015-74. Hyonchol Jang, **Jaemoon Yang**, Eugene Lee, Jae-Ho Cheong Metabolism in embryonic and cancer stemness *ARCHIVES OF PHARMACAL RESEARCH*, **2015** 38, 381-388 (IF: 1.540)
- 2015-75. Jeonghun Kim, Eugene Lee, Yoochan Hong, Byeonggwon Kim, Minhee Ku, Dan Heo, Jihye Choi, Jongbeom Na, Seungjoo Haam, Yong-Min Huh, Jin-Suck Suh, Eunkyong Kim, **Jaemoon Yang***, Self-doped conjugated Polymeric Nanoassembly by Simplified Process for Optical Cancer Theragnosis *ADVANCED FUNCTIONAL MATERIALS*, **2015**, 25,2260-2269 (IF: 10.439)
- 2015-76. Yoochan Hong, Seungyeon Hwang, Dae Sung Yoon, **Jaemoon Yang***, Scattering

- analysis of single polyaniline nanopaticles for acidic environmental sensing *SENSORS AND ACTUATORS B-CHEMICAL* **2015**, 218, 31-36 (IF: 3.535)
- 2015-77. Eugene Lee⁺, **Jaemoon Yang**⁺, Minhee Ku, Jin-Suck Suh, Yong-Min Huh, Nam Hee Kim, Chang Bum Park, Yeonji Park, Eun Sung Park, Jong In Yook, Gordon Mills, Jae-Ho Cheong Metabolic stress induces a Wnt-dependent cancer stem cell-like state transition *Cell Death & Disease* **2015**, 6, e1805 (IF:5.177) (*co-first author)
- 2015-78. Young Han Lee, **Jaemoon Yang**, Jin-Suck Suh Detection and Correction of Laterality Errors in Radiology Reports *JOURNAL OF DIGITAL IMAGING* **2015**, 28, 412-416 (IF: 1.200)
- 2015-79. Bongjune Kim⁺, **Jaemoon Yang**⁺, Young Han Lee, Myeong-Hoom Kim, Dan Heo, Eugene Lee, Jin-Suck Suh, Seungjoo Haam, Yong-Min Huh Compensatory UTE/T2W Imaging of Vascular Macrophages in Hyperlipidemic Rabbits *PLoS One* **2015**, 10(5), e0124572 (IF: 3.534) (*co-first author)
- 2015-80. Dan Heo, Minhee Ku, Chanjoo Lee, Seungjoo Haam, Jin-Suck Suh, Yong-Min Huh, Shang Wook Park*, **Jaemoon Yang*** Galactosylated Magnetic Nanovectors for Regulation of Lipid Metabolism based on RNAi and MR imaging *NANOTECHNOLOGY* **2015**, 26, 335101 (IF: 3.821)
- 2015-81. Minhee Ku, Yoochan Hong, Dan Heo, Eugene Lee, Seungyeon Hwang, Jin-Suck Suh, **Jaemoon Yang*** *In vivo* Sensing of Proteolytic Activity with an NSET-based NIR Fluorogenic Nanosensor *BIOSENSORS & BIOELECTRONICS* **2015**, 77, 471-477(IF: 6.409)

JOURNALS (2014)

- 2014-65. Ji Won Park, Sook Hee Ku, Hyung-Ho Moon, Minhyung Lee, Donghoon Choi, **Jaemoon Yang**, Yong-Min Huh, Ji Hoon Jeong, Tae Gwan Park, Hyejung Mok, Sun Hwa Kim, Cross-linked iron oxide nanoparticles for therapeutic engineering and in vivo monitoring of mesenchymal stem cells in cerebral ischemia model *Macromolecular Bioscience* **2014**, 57, 171-178 (IF: 3.742)
- 2014-66. Yoochan Hong, Minhee Ku, Jin-Suck Suh, Yong-Min Huh, Dae Sung Yoon, **Jaemoon Yang***, Molecular sensing for biomarkers of invasive cancer cells using localized surface plasmon resonance *Journal of Biomedical Optics* **2014**, 19(5), 51202 (IF: 2.881)
- 2014-67. Jihye Choi, Yeonji Park, Eun Bi Choi, Yoochan Hong, Hyun-Ouk Kim, Jin-Suck Suh, **Jaemoon Yang**, Yong-Min Huh, Seungjoo Haam, Aptamer-conjugated gold nanorod for photothermal ablation of epidermal growth factor receptor-overexpressed epithelial cancer *Journal of Biomedical Optics* **2014**, 19(5), 51203 (IF: 2.881)
- 2014-68. Yoochan Hong, Minhee Ku, Dan Heo, Seungyeon Hwang, Eugene Lee, Joseph Park, Jihye Choi, Hyeon Jung Leec, Miran Seo, Eun Jig Leec, Jong In Yook, Seungjoo Haam, Yong-Min Huh, Dae Sung Yoon, Jin-Suck Suh, **Jaemoon Yang***, Molecular recognition of proteolytic activity in metastatic cancer cells using fluorogenic gold nanoprobe *Biosensors and Bioelectronics* **2014**, 57, 171-178 (IF: 5.437)
- 2014-69. Dan Heo, Eugene Lee, Minhee Ku, Seungyeon Hwang, Bongjune Kim, Yeonji Park, Young Han Lee, Yong-Min Huh, Seungjoo Haam, Jae-Ho Cheong, **Jaemoon Yang***, Jin-Suck Suh, Maleimidyl magnetic nanoplateform for facile molecular MRI *Nanotechnology* **2014**, 25, 275102 (IF: 3.842)
- 2014-70. Seung Jae Oh, Sang-Hoon Kim, Young Bin Ji, Ki Young Jeong, Yeonji Park, **Jaemoon Yang**, Dong Woo Park, Sam Kyu Noh, Seok-Gu Kang, Yong-Min Huh, Joo-Hiuk Son, Jin-Suck Suh, Study of freshly excised brain tissues using terahertz imaging *Biomedical Optics Express* **2014**, 5(8), 2837-42 (IF: 3.497)
- 2014-71. Honsoul Kim, Sang Kil Lee, Yoo Min Kim, Eun-Hye Lee, Soo-Jeong Lim, Se Hoon Kim, **Jaemoon Yang**, Joon Seok Lim, Woo Jin Hyung Fluorescent Iodized Emulsion for Pre- and Intraoperative Sentinel Lymph Node Imaging: Validation in a Preclinical Model *RADIOLOGY* **2015**, 275(1), 196-204 (IF: 6.214)

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- 2013-55. **Jaemoon Yang**, Eugene Lee, Minhee Ku, Yong-Min Huh, and Jae-Ho Cheong, Functional Nanoplatforms for Enhancement of Chemotherapeutic Index *Anti-Cancer Agents in Medicinal Chemistry* **2013**, 13(2), 212-221 (IF: 2.61)
- 2013-56. Bongjune Kim, **Jaemoon Yang**, Eun-Kyung Lim, Joseph Park, Jin-Suck Suh, Hyo-Seon Park, Yong-Min Huh, Seungjoo Haam, Double-ligand modulation for engineering magnetic nanoclusters *Nanoscale Research Letters* **2013**, 8, 104 (IF: 2.524)
- 2013-57. Taeyun Kwon, Jinsung Park, Gyudo Lee, Kihwan Nam, Yong-Min Huh, Seong-Wook Lee, **Jaemoon Yang**, Chang Young Lee, Kilho Eom, Carbon Nanotube-Patterned Surface-Based Recognition of Carcinoembryonic Antigens in Tumor Cells for Cancer Diagnosis *The Journal of Physical Chemistry Letters* **2013**, 4(7), 1126–1130 (IF: 6.585)
- 2013-58. Jungmin Park , Minhee Ku , Eunjung Kim , Yeonji Park , Yoochan Hong , Seungjoo Haam , Jae-Ho Cheong , Eun Sung Park , Jin-Suck Suh, Yong-Min Huh and **Jaemoon Yang***, CD44-specific Supramolecular Hydrogel for Fluorescence Molecular Imaging of Stem-like Gastric Cancer Cells *Integrative Biology* **2013**, 5, 669-672 (IF: 4.321)
- 2013-59. Jihye Choi, Yoochan Hong, Eugene Lee, Myeong-Hoon Kim, Dae Sung Yoon, Jin-Suck Suh, Yong-Min Huh, Seungjoo Haam, **Jaemoon Yang***, Redox-sensitive Colorimetric Polyaniline Nanoprobes Synthesized by Solvent-Shifting Process *Nano Research* **2013**, 5.46, 356-364 (IF: 7.392)
- 2013-60. Eunjung Kim, **Jaemoon Yang**, Hyun-Ouk Kim, Yonghee An, Eun-Kyung Lim, Gyudo Lee, Taeyun Kwon, Jae-Ho Cheong, Jin-Suck Suh, Yong-Min Huh, Seungjoo Haam, Hyaluronic acid receptor-targetable imidazolized nanovectors for induction of gastric cancer cell death by RNA interference *Biomaterials* **2013**, 34(17), 4327-38 (IF: 7.604)
- 2013-61. Sang-Yoon Kim, **Jaemoon Yang**, Bongjune Kim, Jungmin Park, Yong-Min Huh, Seungjoo Haam, Jungho Hwang, Continuous Coaxial Electrohydrodynamic Atomization System for Water-stable Wrapping of Magnetic Nanoparticles *Small* **2013**, 9(13), 2325–2330 (IF: 7.823)
- 2013-62. Bongjune Kim, **Jaemoon Yang**, Myeonghwan Hwang, Jihye Choi, Hyun-Ouk Kim, Eunji Jang, Jung Hwan Lee, Sung-Ho Ryu, Jin-Suck Suh, Yong-Min Huh, Seungjoo Haam, Aptamer-modified magnetic nanoprobe for molecular MR imaging of VEGFR2 on angiogenic vasculature *Nanoscale Research Letters* **2013**, 8, 399 (IF: 2.524)

- 2013-63. Soonyoung Cha, Yoochan Hong, **Jaemoon Yang**, Inhee Maeng, Seung Jae Oh, Kiyoun Jeong, Jin-Suck Suh, Seungjoo Haam, Yong-Min Huh, Hyunyong Choi, Ultrafast Spin-Resolved Spectroscopy Reveals Dominant Exciton Dynamics in Conducting Polymer Polyaniline *The Journal of Physical Chemistry Letters* **2013**, 117(39), 20371-20375 (IF: 6.585)
- 2013-64. Seung-Hyun Yang, Dan Heo, Eugene Lee, Eunjung Kim, Eun-Kyung Lim, Young Han Lee, Seungjoo Haam, Jin-Suck Suh, Yong-Min Huh, **Jaemoon Yang**, Sahng Wook Park, Galactosylated manganese ferrite nanoparticles for targeted MR imaging of asialoglycoprotein receptor *Nanotechnology* **2013**, 24, 475103 (IF: 3.842)

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- 2012-41. Kilho Eom, Huihun Jung, Gyudo Lee, Jinsung Park, Kihwan Nam, Sang Woo Lee, Dae Sung Yoon, **Jaemoon Yang** and Taeyun Kwon , Nanomechanical actuation driven by light-induced DNA fuel *Chemical Communications* **2012**, 48, 955-957 (IF: 6.378)
- 2012-42. Joseph Park, **Jaemoon Yang(1st author)**, Eun-Kyung Lim, Eunjung Kim, Jihye Choi, Joo Kyung Ryu, Nam Hee Kim, Jin-Suck Suh, Jong In Yook, Yong-Min Huh and Seungjoo Haam, Anchored Proteinase-Targetable Opto-Magnetic Nanoprobes for Molecular Imaging of Invasive Cancer Cells *Angewandte Chemie International Edition* **2012**, 51(4), 945–948 (IF: 13.734)
- 2012-43. Jihye Choi, **Jaemoon Yang**, Doyeon Bang, Joseph Park, Jin-Suck Suh, Yong-Min Huh, and Seungjoo Haam, Targetable Gold Nanorods for Epithelial Cancer Therapy Guided by Near-IR Absorption Imaging *Small* **2012**, 8 (5), 746–753 (IF: 7.823)
- 2012-44. Gyudo Lee, Kilho Eom, Joseph Park, **Jaemoon Yang***, Seungjoo Haam, Yong-Min Huh, Joo Kyung Ryu, Nam Hee Kim, Jong In Yook, Sang Woo Lee, Dae Sung Yoon, Taeyun Kwon, Real-Time Quantitative Monitoring of Specific Peptide Cleavage by a Proteinase for Cancer Diagnosis *Angewandte Chemie International Edition* **2012**, 51(24), 5837-5841 (IF: 13.734)
- 2012-45. Yoochan Hong, Yong-Min Huh, Dae Sung Yoon, and **Jaemoon Yang***, Nanobiosensors based on Localized Surface Plasmon Resonance for Biomarker Detection *Journal of Nanomaterials* **2012**, 759830-13 (IF: 1.547)
- 2012-46. Jinsung Park, Doyeon Bang, Kuewhan Jang, Seungjoo Haam, **Jaemoon Yang*** and Sungsoo Na, The work function of doped polyaniline nanoparticles observed by Kelvin probe force microscopy *Nanotechnology* **2012**, 23(36), 365705-365711 (IF: 3.842)
- 2012-47. Yoochan Hong, Eugene Lee, Jihye Choi, Seung Jae Oh, Seungjoo Haam, Yong-Min Huh, Dae Sung Yoon, Jin-Suck Suh, **Jaemoon Yang***, Gold Nanorods-mediated Photothermal Modulation for Localized Ablation of Cancer Cells *Journal of Nanomaterials* **2012**, Article number 825060 (IF: 1.547)
- 2012-48. Eunjung Kim, **Jaemoon Yang**, Joseph Park, Soonhag Kim, Nam Hee Kim, Jong In Yook, Jin-Suck Suh, Seungjoo Haam, and Yong-Min Huh, Consecutive Targetable Smart Nanoprobe for Molecular Recognition of Cytoplasmic microRNA in Metastatic Breast Cancer *ACS Nano* **2012**, 6(10), 8525-8535 (IF: 12.062)
- 2012-49. Gyudo Lee, Hyungbeen Lee, Kihwan Nam, Jae-Hee Han, **Jaemoon Yang**, Sang Woo

- Lee, Dae Sung Yoon, Kilho Eom and Taeyun Kwon, Nanomechanical characterization of chemical interaction between gold nanoparticles and chemical functional groups *Nanoscale Research Letters* **2012**, 7(1), 608 (IF: 2.524)
- 2012-50. Eugene Lee, Yoochan Hong, Jihye Choi, Seungjoo Haam, Jin-Suck Suh, Yong-Min Huh, and **Jaemoon Yang***, Highly Selective CD44-specific Gold Nanorods for Photothermal Ablation of Tumorigenic Subpopulations Generated in MCF7 Mammospheres *Nanotechnology* **2012**, 23(46), 465101 (IF: 3.842)
- 2012-51. Kihwan Nam , Kilho Eom , **Jaemoon Yang**, Jinsung Park , Gyudo Lee , Kuewhan Jang , Hyungbeen Lee , Sang Woo Lee , Dae Sung Yoon, Chang Young Lee and Taeyun Kwon, Aptamer-functionalized nano-pattern based on carbon nanotube for sensitive, selective protein detection *Journal of Materials Chemistry* **2012**, 22, 23348-23356 (IF: 6.626)
- 2012-52. Seung-Hyun Yang, Dan Heo, Jinsung Park, Sungsoo Na, Jin-Suck Suh, Seungjoo Haam, Sahng Wook Park, Yong-Min Huh, **Jaemoon Yang***, Role of Surface Charge in Cytotoxicity of Charged Manganese Ferrite Nanoparticles towards Macrophages *Nanotechnology* **2012**, 23(50), 505702 (IF: 3.842)
- 2012-53. Joseph Park, Doyeon Bang, Eunjung Kim, **Jaemoon Yang**, Eun-Kyung Lim, Jihye Choi, Byunghoon Kang, Jin-Suck Suh, Hyo Seon Park, Yong-Min Huh, Seungjoo Haam, Effect of Ligand Structure on MnO Nanoparticles for Enhanced T1 Magnetic Resonance Imaging of Inflammatory Macrophages *European Journal of Inorganic Chemistry* **2012**, 36, 5960–5965 (IF: 3.12)
- 2012-54. Kuewhan Jang, Kilho Eom, Gyudo Lee, Jae-Hee Han, Seungjoo Haam, **Jaemoon Yang**, Eunseon Kim, Woo-Jae Kim, Taeyun Kwon , Water-stable single-walled carbon nanotubes coated by pyrenyl polyethylene glycol for fluorescence imaging and photothermal therapy *BioChip Journal* **2012**, 6(4), 396-403 (IF: 0.82)