

December 21, 2018	Gadolinium Doping Enhances the Photoacoustic Signal of Synthetic Melanin Nanoparticles: A Dual Modality Contrast Agent for Stem Cell Imaging	ABSTRACT: In this paper, we show that gadolinium-loaded synthetic melanin nanoparticles (Gd(III)-SMNPs) exhibit up to a 40-fold enhanced photoacoustic
April 30, 2018	Intraoperative Resection Guidance with Photoacoustic and Fluorescence Molecular Imaging Using an Anti-B7-H3 Antibody-Indocyanine Green Dual Contrast Agent	Breast cancer often requires surgical treatment including breast-conserving surgical resection.
January 01, 2018	Real-Time in Vivo Photoacoustic Imaging in the Assessment of Myocardial Dynamics in Murine Model of Myocardial Ischemia	Photoacoustic imaging (PAI) is an evolving real-time imaging modality that combines the higher contrast of optical imaging with the higher spatial res
November 01, 2017	Exploration of melanoma metastases in mice brains using endogenous contrast photoacoustic imaging	Photoacoustic imaging (PAI) provides real time non-invasive and contrast agent free monitoring of some endogenous compounds concentrations that provid
January 01, 2016	Spectroscopic photoacoustic molecular imaging of breast cancer using a B7-H3-targeted ICG contrast agent	Purpose: Breast cancer imaging methods lack diagnostic accuracy, in particular for patients with dense breast tissue, and improved techniques are crit
December 24, 2019	Spectral photoacoustic imaging to estimate in vivo placental oxygenation during preeclampsia	Preeclampsia is a pregnancy-related hypertensive disorder accounting for 14% of global maternal deaths annually.
June 01, 2019	A near-infrared turn-on probe for in vivo chemoselective photoacoustic detection of fluoride ion	The detection of fluoride ion (F ⁻) in living subjects is of value for healthcare and environmental fields.
March 01, 2019	Multifunctional nanoplatform for photoacoustic imaging-guided combined therapy enhanced by CO induced ferroptosis	A multifunctional CO/thermo/chemotherapy nanoplatform is here reported, which is composed of mesoporous carbon nanoparticles (MCN) as near infrared (N

February 01, 2019	Erythrocyte-cancer hybrid membrane-camouflaged melanin nanoparticles for enhancing photothermal therapy efficacy in tumors	Cell membrane coating has emerged as an intriguing biomimetic strategy to endow nanomaterials with functions and properties inherent to source cells
January 01, 2019	Erythrocytic bioactivation of nitrite and its potentiation by far-red light	Background: Nitrite is reduced by heme-proteins and molybdenum-containing enzymes to form the important signaling molecule nitric oxide (NO), mediatin
January 01, 2019	pH/NIR-responsive semiconducting polymer nanoparticles for highly effective photoacoustic image guided chemo-photothermal synergistic therapy	ABSTRAC T Multifunctional drug delivery nanoplatform (PDPP3T@PSNiAA NPs) based on NIR absorbing semiconducting polymer nanoparticles for pH/NIR light-
January 01, 2019	Polyethyleneimine-assisted one-pot synthesis of quasi-fractal plasmonic gold nanocompo-sites as a photothermal theranostic agent	Gold nanoparticles have been thoroughly used in designing thermal ablative therapies and photoacoustic imaging for cancer owing to their unique and tu
January 01, 2019	Photoacoustic imaging of gold nanorods in the brain delivered via microbubble-assisted focused ultrasound: a tool for in vivo molecular neuroimaging	The protective barriers of the CNS present challenges during the treatment and monitoring of diseases.
January 01, 2019	Oil Core–PEG Shell Nanocarriers for In Vivo MRI Imaging	Oil-in-water emulsions represent a promising carrier for in vivo imaging because of the possibility to convey poorly water-soluble species.
January 01, 2019	Oxygenated theranostic nanoplatforms with intracellular agglomeration behavior for improving the treatment efficacy of hypoxic tumors	Hypoxia plays vital roles in the development of tumor resistance against typical anticancer therapies and local reoxygenation has proved effective to

January 01, 2019	Central action of rapamycin on early ischemic injury and related cardiac depression following experimental subarachnoid hemorrhage	Early brain injury and related cardiac consequences play a key role in the devastating outcomes after subarachnoid hemorrhage (SAH).
January 01, 2019	Chlorella-gold nanorods hydrogels generating photosynthesis-derived oxygen and mild heat for the treatment of hypoxic breast cancer	Hypoxic tumors are rarely cured because their low oxygen environment restricts the cytotoxicity of many chemotherapeutics by blocking the production o
January 01, 2019	Ordered assemblies of Fe₃O₄ and a donor-acceptor-type π-conjugated polymer in nanoparticles for enhanced photoacoustic and magnetic effects	We report that the ordered structure in the assemblies of iron oxide nanoparticles in conjugated polymer nanoparticles is the key to achieve better pr
January 01, 2019	SDF-1-loaded PLGA nanoparticles for the targeted photoacoustic imaging and photothermal therapy of metastatic lymph nodes in tongue squamous cell carcinoma	The combination of photothermal therapy and targeted chemotherapy can produce much greater cytotoxicity than chemotherapy.
December 21, 2018	Ratiometric Photoacoustic Nanoprobe for Bioimaging of Cu²⁺	Aberrant copper content implicates numerous diseases including Alzheimer's disease and Wilson's disease.
December 17, 2018	Evaluation of renal oxygen saturation using photoacoustic imaging for the early prediction of chronic renal function in a model of ischemia-induced acute kidney injury	PURPOSE: To evaluate the utility of photoacoustic imaging in measuring changes in renal oxygen saturation after ischemia-induced acute kidney injury,
December 16, 2018	Improving Stem Cell Delivery to the Trabecular Meshwork Using Magnetic Nanoparticles	Glaucoma is a major cause of blindness and is frequently associated with elevated intraocular pressure.
December 15, 2018	A Multimodal Molecular Imaging Study Evaluates Pharmacological Alteration of the Tumor Microenvironment to Improve Radiation Response	Hypoxic zones in solid tumors contribute to radioresistance, and pharmacological agents that increase tumor oxygenation prior to radiation, including

December 12, 2018	Chemodrug-Gated Biodegradable Hollow Mesoporous Organosilica Nanotheranostics for Multimodal Imaging-Guided Low-Temperature Photothermal Therapy/Chemotherapy of Cancer	Noninvasive physical treatment with relatively low intensity stimulation and the development of highly efficient anticancer medical strategy are still
December 01, 2018	Photoacoustic imaging for monitoring periodontal health: A first human study	The gold-standard periodontal probe is an aging tool that can detect periodontitis and monitor gingival health but is highly error-prone, does not ful
November 24, 2018	Indocyanine Green labeling for optical and photoacoustic imaging of Mesenchymal Stem Cells after in vivo transplantation	The transplantation of Mesenchymal Stem Cells (MSCs) holds great promise for the treatment of a plethora of human diseases, but new non-invasive proce
October 17, 2018	In vivo photoacoustic difference-spectra imaging of bacteria using photoswitchable chromoproteins	Photoacoustic (PA) imaging offers great promise for deep molecular imaging of optical reporters but has difficulties in imaging multiple molecular pro
October 10, 2018	Self-Supplied Tumor Oxygenation through Separated Liposomal Delivery of H₂O₂ and Catalase for Enhanced Radio-Immunotherapy of Cancer	The recent years have witnessed the blooming of cancer immunotherapy, as well as their combinational use together with other existing cancer treatment
September 01, 2018	Laser-activated perfluorocarbon nanodroplets: a new tool for blood brain barrier opening	A major obstacle in the monitoring and treatment of neurological diseases is the blood brain barrier (BBB), a semipermeable barrier that prevents the
September 01, 2018	Biomimetic O₂ -Evolving metal-organic framework nanoplatform for highly efficient photodynamic therapy against hypoxic tumor	Improving the supply of O ₂ and the circulation lifetime of photosensitizers for photodynamic therapy (PDT) in vivo would be a promising approach to el

September 01, 2018	Alternating block copolymer-based nanoparticles as tools to modulate the loading of multiple chemotherapeutics and imaging probes	Cancer therapy often relies on the combined action of different molecules to overcome drug resistance and enhance patient outcome.
July 01, 2018	Study of Long-Term Biocompatibility and Bio-Safety of Implantable Nanogenerators	Implantable nanogenerator (i-NG) has shown great promises for enabling self-powered implantable medical devices (IMDs).
May 29, 2018	Performances of a Pristine Graphene-Microbubble Hybrid Construct as Dual Imaging Contrast Agent and Assessment of Its Biodistribution by Photoacoustic Imaging	Coupling near-infrared (NIR) nanoscale absorbing materials with microbubbles (MBs) can generate a multifunctional dual imaging contrast agent.
May 14, 2018	A Gold/Silver Hybrid Nanoparticle for Treatment and Photoacoustic Imaging of Bacterial Infection	Ag ⁺ ions are a well-known antibacterial agent, and Ag nanoparticles act as a reservoir of these Ag ⁺ ions for targeted therapy of bacterial infections.
May 11, 2018	Impact of Age on Disease Progression and Microenvironment in Oral Cancer	Despite the recognized link between aging and cancer, most preclinical studies in experimental tumor models are conducted with 6- to 8-wk-old rodents.
April 20, 2018	Magnetic resonance and photoacoustic imaging of brain tumor mediated by mesenchymal stem cell labeled with multifunctional nanoparticle introduced via carotid artery injection	OBJECTIVE: To evaluate the feasibility of visualizing bone marrow-derived human mesenchymal stem cells (MSCs) labeled with a gold-coated magnetic reso
April 06, 2018	Radiotherapy-Sensitized Tumor Photothermal Ablation Using γ-Polyglutamic Acid Nanogels Loaded with Polypyrrole	Development of versatile nanoscale platforms for cancer diagnosis and therapy is of great importance for applications in translational medicine.

April 02, 2018	Dual-modal photoacoustic and magnetic resonance tracking of tendon stem cells with PLGA/iron oxide microparticles in vitro	Reliable cell tracking is essential to understand the fate of stem cells following implantation, and thus promote the clinical application of stem cell
April 01, 2018	The combined therapeutic effects of iodine 131-labeled multifunctional copper sulfide-loaded microspheres in treating breast cancer	Compared to conventional cancer treatment, combination therapy based on well-designed nanoscale platforms may offer an opportunity to eliminate tumors
April 01, 2018	A Yolk-Shell Nanoplatfrom for Gene-Silencing-Enhanced Photolytic Ablation of Cancer	Noninvasive near-infrared (NIR) light responsive therapy is a promising cancer treatment modality; however, some inherent drawbacks of conventional ph
March 01, 2018	Deep Tumor Penetrating Bioparticulates Inspired Burst Intracellular Drug Release for Precision Chemo-Phototherapy	The relevance of personalized medicine has inspired research for individually concerted diagnosis and therapy.
February 12, 2018	In vitro photoacoustic spectroscopy of pulsatile blood flow: probing the interrelationship between red blood cell aggregation and oxygen saturation	Assessments of the appropriateness and inappropriateness of behaviors may influence conflict, cohesion, and goal attainment in multinational organizat
February 01, 2018	Biomimetic Copper Sulfide for Chemo-Radiotherapy: Enhanced Uptake and Reduced Efflux of Nanoparticles for Tumor Cells under Ionizing Radiation	Combined chemo-radiotherapy is one of most widely applied treatments for clinical cancer therapy.
January 31, 2018	Design of Phase-Changeable and Injectable Alginate Hydrogel for Imaging-Guided Tumor Hyperthermia and Chemotherapy	The objective of the present study was to construct an alginate (AG)-based phase-changeable and injectable hydrogel for imaging-guided tumor hyperther
January 22, 2018	Preclinical Ultrasound-Guided Photoacoustic Imaging of the Placenta in Normal and Pathologic Pregnancy	Placental oxygenation varies throughout pregnancy.

January 01, 2018	Visualizing the effects of metformin on tumor growth, vascularity, and metabolism in head and neck cancer	© 2018 John Wiley & Sons A/S.
January 01, 2018	Photoacoustic Imaging as an Early Biomarker of Radio Therapeutic Efficacy in Head and Neck Cancer	The negative impact of tumor hypoxia on radiotherapeutic efficacy is well recognized.
January 01, 2018	Octopod PtCu Nanoframe for Dual-Modal Imaging-Guided Synergistic Photothermal Radiotherapy	Heavy atom nanoparticles have high X-ray absorption capacity and near infrared (NIR) photothermal conversion efficiency, which could be used as radio-
January 01, 2018	Sensitization of Hypoxic Tumors to Radiation Therapy Using Ultrasound-Sensitive Oxygen Microbubbles	Purpose: Much of the volume of solid tumors typically exists in a chronically hypoxic microenvironment that has been shown to result in both chemother
January 01, 2018	Copper sulfide nanoparticles as a photothermal switch for TRPV1 signaling to attenuate atherosclerosis	Atherosclerosis is characterized by the accumulation of lipids within the arterial wall.
January 01, 2018	Generation of multiparametric MRI maps by using Gd-labelled- RBCs reveals phenotypes and stages of murine prostate cancer	Prostate Cancer (PCa) is the second most common and fifth cause of cancer-related mortality in males in Western Countries.
January 01, 2018	Photoacoustic Imaging for Noninvasive Periodontal Probing Depth Measurements	The periodontal probe is the gold standard tool for periodontal examinations, including probing depth measurements, but is limited by systematic and r
January 01, 2018	Degradable rhenium trioxide nanocubes with high localized surface plasmon resonance absorbance like gold for photothermal theranostics	The applications of inorganic theranostic agents in clinical trials are generally limited to their innate non-biodegradability and potential long-term

January 01, 2018	Bacteria-like mesoporous silica-coated gold nanorods for positron emission tomography and photoacoustic imaging-guided chemo-photothermal combined therapy	Mesoporous silica nanoshell (MSN) coating has been demonstrated as a versatile surface modification strategy for various kinds of inorganic functional
January 01, 2018	Prevascularization of dermal substitutes with adipose tissue-derived microvascular fragments enhances early skin grafting	Split-thickness skin grafts (STSG) are still the gold standard for the treatment of most skin defects.
January 01, 2018	Selective cancer treatment via photodynamic sensitization of hypoxia-responsive drug delivery	The precise and selective delivery of chemodrugs into tumors represents a critical requirement for anti-cancer therapy.
January 01, 2018	Perfluorooctyl bromide & indocyanine green co-loaded nanoliposomes for enhanced multimodal imaging-guided phototherapy	As a highly biocompatible NIR dye, indocyanine green (ICG) has been widely explored for cancer treatment due to its various energy level transition pa
January 01, 2018	Development and evaluation of a CEACAM6-targeting theranostic nanomedicine for photoacoustic-based diagnosis and chemotherapy of metastatic cancer	Metastasis is the leading cause of cancer-related deaths.
January 01, 2018	2D Ultrathin MXene-Based Drug-Delivery Nanoplatfor for Synergistic Photothermal Ablation and Chemotherapy of Cancer	Two-dimensional (2D) MXenes, as a new 2D functional material nanosystem, have been extensively explored for broad applications.
January 01, 2018	[ASAP] Gadolinium Metallofullerene-Polypyrrole Nanoparticles for Activatable Dual-Modal Imaging-Guided Photothermal Therapy	Accurate diagnosis of tumor is promising to guide photothermal therapy (PTT) for efficacious tumor ablation with minimal damage to healthy tissues.
January 01, 2018	Development of Citrate-Based Dual-Imaging Enabled Biodegradable Electroactive Polymers	Increasing occurrences of degenerative diseases, defective tissues, and severe cancers heighten the importance of advanced biomedical treatments, wh

January 01, 2018	Photoacoustic imaging of integrin-overexpressing tumors using a novel ICG-based contrast agent in mice	PhotoAcoustic Imaging (PAI) is a biomedical imaging modality currently under evaluation in preclinical and clinical settings.
January 01, 2018	Molecular imaging of tumor photoimmunotherapy: Evidence of photosensitized tumor necrosis and hemodynamic changes	Near-infrared photoimmunotherapy (NIR PIT) employs the photoabsorbing dye IR700 conjugated to antibodies specific for cell surface epidermal growth fa
January 01, 2018	Clinical translation of a novel photoacoustic imaging system for examining the temporal artery	The objective was to provide a clinical setup for photoacoustic imaging (PAI) of the temporal artery in humans and to describe the challenges encounte
January 01, 2018	Dichroism-sensitive photoacoustic computed tomography	Photoacoustic computed tomography (PACT), a fast-developing modality for deep tissue imaging, images the spatial distribution of optical absorption.
January 01, 2018	A laser-activated multifunctional targeted nanoagent for imaging and gene therapy in a mouse xenograft model with retinoblastoma Y79 cells	Retinoblastoma (RB) is the most common intraocular malignancy of childhood that urgently needs early detection and effective therapy methods.
January 01, 2018	Nuclear factor 90 promotes angiogenesis by regulating HIF-1α/VEGF-A expression through the PI3K/Akt signaling pathway in human cervical cancer article	© 2018 The Author(s).
January 01, 2018	A catalase-loaded hierarchical zeolite as an implantable nanocapsule for ultrasound-guided oxygen self-sufficient photodynamic therapy against pancreatic cancer	Photodynamic therapy (PDT) is an alternative strategy for treating pancreatic cancer (PC) in clinics.
January 01, 2018	Multi-layered tumor-targeting photothermal-doxorubicin releasing nanotubes eradicate tumors in vivo with negligible systemic toxicity	Multi-layered single-walled carbon nanotubes, termed SWNT@BSA@Au-S-PEG-FA@DOX, which integrate photothermal therapy with small molecule drug delivery,

January 01, 2018	Preoperative measurement of cutaneous melanoma and nevi thickness with photoacoustic imaging	Photoacoustic imaging (PAI) is an emerging biomedical imaging technology, which can potentially be used in the clinic to preoperatively measure melano
January 01, 2018	Improved photoacoustic-based oxygen saturation estimation with SNR-regularized local fluence correction	As photoacoustic (PA) imaging makes its way into the clinic, accuracy of PA-based metrics becomes increasingly important.
January 01, 2018	Design of injectable agar-based composite hydrogel for multi-mode tumor therapy	We designed an injectable hydrogel by dissolving MoS ₂ /Bi ₂ S ₃ -PEG (MBP), doxorubicin (DOX) and agar into water for the concurrent tumor photothermal and
January 01, 2018	Au-PLGA Hybrid Nanoparticles with Catalase-Mimicking and near-Infrared Photothermal Activities for Photoacoustic Imaging-Guided Cancer Therapy	© 2018 American Chemical Society. Imaging-guided diagnosis and therapy has been highlighted in the area of nanomedicines.
January 01, 2018	An Easy-to-Fabricate Clearable CuS-Superstructure-Based Multifunctional Theranostic Platform for Efficient Imaging Guided Chemo-Photothermal Therapy	Despite drug delivery systems (DDSs) have been receiving ever-increasing attention, development of a simple, effective, sensitive and clearable drug d
January 01, 2018	Synthesis of Hollow Biomineralized CaCO₃-Polydopamine Nanoparticles for Multimodal Imaging-Guided Cancer Photodynamic Therapy with Reduced Skin Photosensitivity	The development of activatable nanoplatforms to simultaneously improve diagnostic and therapeutic performances while reducing side effects is highly a
January 01, 2018	Wulff in a cage gold nanoparticles as contrast agents for computed tomography and photoacoustic imaging	A core-shell nanostructure yields balanced contrast production for both CT and photoacoustics.

January 01, 2018	One-pot synthesis of pH-responsive charge-switchable PEGylated nanoscale coordination polymers for improved cancer therapy	Nanoscale coordination polymers (NCPs) are promising nanomedicine platforms featured with biodegradability and versatile functionalities.
January 01, 2018	Facile fabrication of highly photothermal-effective albumin-assisted gold nanoclusters for treating breast cancer	Gold nanoclusters (AuNCs) have been considered to be a promising candidate for hyperthermia-based anticancer therapy.
January 01, 2018	Photoacoustic imaging of synovial tissue hypoxia in experimental post-traumatic osteoarthritis.	OBJECTIVES: This pilot study aimed to investigate the feasibility of non-invasively assessing synovial tissue hypoxia in vivo using photoacoustic (PA)
January 01, 2018	Small PLGA nanocapsules Co-encapsulating copper sulfide nanodots and fluorocarbon compound for photoacoustic imaging-guided HIFU synergistic therapy	A nanometer-sized inorganic/organic hybrid enhancement agent is constructed for photoacoustic imaging-guided high intensity focused ultrasound therap
January 01, 2018	Multispectral Photoacoustic Imaging of Tumor Protease Activity with a Gold Nanocage-Based Activatable Probe	Tumor proteases have been recognized as significant regulators in the tumor microenvironment, but the current strategies for in vivo protease imaging
January 01, 2018	Photoacoustic imaging of tumour vascular permeability with indocyanine green in a mouse model	Background: We analysed the haemodynamics of indocyanine green (ICG) in mouse organs and tumours and evaluated responses to anti-angiogenic agents in
January 01, 2018	Biodegradable Hollow Mesoporous Organosilica Nanotheranostics for Mild Hyperthermia-Induced Bubble-Enhanced Oxygen-Sensitized Radiotherapy	Alleviation of tumor hypoxia has been the premise for improving the effectiveness of radiotherapy, which hinges upon the advanced delivery and rapid r

January 01, 2018	Switchable Photoacoustic Intensity of Methylene Blue via Sodium Dodecyl Sulfate Micellization	The interaction between methylene blue (MB) and sodium dodecyl sulfate (SDS) has been widely studied spectroscopically, but details about their intera
January 01, 2018	Mesopore-Induced Aggregation of Cobalt Protoporphyrin for Photoacoustic Imaging and Antioxidant Protection of Stem Cells	With the ever-accelerating development of functional materials design and fabrication, various nanomaterial-based molecular imaging platforms with imp
January 01, 2018	Biomimetic nanoparticles delivered hedgehog pathway inhibitor to modify tumour microenvironment and improved chemotherapy for pancreatic carcinoma	© 2018 Informa UK Limited, trading as Taylor & Francis Group The unique tumour microenvironment (TM) of pancreatic ductal adenocarcinoma (PDA) includi
January 01, 2018	Highly Crystalline Multicolor Carbon Nanodots for Dual-Modal Imaging-Guided Photothermal Therapy of Glioma	Imaging-guided site-specific photothermal therapy (PTT) of glioma and other tumors in central nervous system presents a great challenge for the curren
January 01, 2018	Photoacoustic Oxygenation Quantification in Patients with Raynaud's: First-in-Human Results	The purpose of this study was to investigate the use of photoacoustic imaging for quantifying fingertip oxygenation as an approach to diagnosing and m
December 01, 2017	Photoacoustic imaging for in vivo quantification of placental oxygenation in mice	Accurate analysis of placental and fetal oxygenation is critical during pregnancy.
July 01, 2017	Drug "Pent-Up" in Hollow Magnetic Prussian Blue Nanoparticles for NIR-Induced Chemo-Photothermal Tumor Therapy with Trimodal Imaging	The study reports a biocompatible smart drug delivery system based on a doxorubicin (DOX) blending phase-change material of 1-pentadecanol loaded holl
June 27, 2017	Fibrin-Targeted and H₂O₂-Responsive Nanoparticles as a Theranostics for Thrombosed Vessels	A thrombus (blood clot) is formed in injured vessels to maintain the integrity of vasculature.

June 01, 2017	Lanthanide-integrated supramolecular polymeric nanoassembly with multiple regulation characteristics for multidrug-resistant cancer therapy	Cancer treatment can in principle be enhanced by the synergistic effects of chemo- and nucleic acid-based combination therapies but the lack of effici
May 31, 2017	Marriage of Albumin–Gadolinium Complexes and MoS 2 Nanoflakes as Cancer Theranostics for Dual-Modality Magnetic Resonance/Photoacoustic Imaging and Photothermal Therapy	The construction of safe and stable theranostics is beneficial to realize simultaneous cancer diagnosis and treatment.
May 01, 2017	Orthogonal near-infrared upconversion co-regulated site-specific O2 delivery and photodynamic therapy for hypoxia tumor by using red blood cell microcarriers	Pre-existing hypoxia in tumors can result in an inadequate oxygen supply during photodynamic therapy (PDT), which in turn hampers photodynamic efficac
April 01, 2017	In vivo photoacoustics and high frequency ultrasound imaging of mechanical high intensity focused ultrasound (HIFU) ablation	The thermal effect of high intensity focused ultrasound (HIFU) has been clinically exploited over a decade, while the mechanical HIFU is still largely
March 24, 2017	Phase-Transition Nanodroplets for Real-Time Photoacoustic/Ultrasound Dual-Modality Imaging and Photothermal Therapy of Sentinel Lymph Node in Breast Cancer	Pathological status of lymph nodes (LNs) plays a critical role in staging and treatment for the patients with breast cancer.
March 01, 2017	NH4HCO3 gas-generating liposomal nanoparticle for photoacoustic imaging in breast cancer	In this study, we have developed a biodegradable nanomaterial for photoacoustic imaging (PAI).
March 01, 2017	Photoacoustic signal characterization of cancer treatment response: Correlation with changes in tumor oxygenation	Frequency analysis of the photoacoustic radiofrequency signals and oxygen saturation estimates were used to monitor the in-vivo response of a novel, t
February 01, 2017	Ultrasound-guided spectral photoacoustic imaging of hemoglobin oxygenation during development	Few technologies are capable of imaging in vivo function during development.

January 24, 2017	Theranostic Liposomes with Hypoxia-Activated Prodrug to Effectively Destruct Hypoxic Tumors Post-Photodynamic Therapy	Photodynamic therapy (PDT), a noninvasive cancer therapeutic method triggered by light, would lead to severe tumor hypoxia after treatment.
January 20, 2017	Core-shell and co-doped nanoscale metal-organic particles (NMOPs) obtained via post-synthesis cation exchange for multimodal imaging and synergistic thermo-radiotherapy	Nanoscale metal-organic particles (NMOPs) have recently shown great promise in the area of nanomedicine owing to their tunable compositions, highly en
January 12, 2017	Real-Time Monitoring of Placental Oxygenation during Maternal Hypoxia and Hyperoxygenation Using Photoacoustic Imaging	PURPOSE: This preclinical study aimed to evaluate placental oxygenation in pregnant rats by real-time photoacoustic (PA) imaging on different days of
January 01, 2016	Image Monitoring of the Impaired Phagocytic Activity of Kupffer Cells and Liver Oxygen Saturation in a Mouse Cholangitis Model Using Contrast-Enhanced Ultrasound Imaging and Photoacoustic Imaging	Bile duct ligation (BDL) can cause cholangitis, which is known to induce impaired Kupffer cell (KC) function and increased oxygen consumption in a mou
January 01, 2016	High-intensity focused ultrasound-triggered nanoscale bubble-generating liposomes for efficient and safe tumor ablation under photoacoustic imaging monitoring	High-intensity focused ultrasound (HIFU) is widely applied to tumors in clinical practice due to its minimally invasive approach.
January 01, 2016	Molecularly Engineered Theranostic Nanoparticles for Thrombosed Vessels: H₂O₂-Activatable Contrast-Enhanced Photoacoustic Imaging and Antithrombotic Therapy	A thrombus (blood clot), composed mainly of activated platelets and fibrin, obstructs arteries or veins, leading to various life-threatening diseases.
January 01, 2016	Proteoglycan-targeting applied to hypoxia-activated prodrug therapy in chondrosarcoma: first proof-of-concept	Due to its abundant chondrogenic matrix and hypoxic tissue, chondrosarcoma is chemo- and radio-resistant.

January 01, 2016	Red blood cell membrane-camouflaged melanin nanoparticles for enhanced photothermal therapy	Photothermal therapy (PTT) has represented a promising noninvasive approach for cancer treatment in recent years.
January 01, 2016	Tumor vasculature normalization by orally fed erlotinib to modulate the tumor microenvironment for enhanced cancer nanomedicine and immunotherapy	The abnormal tumor vasculature is one of key reasons that lead to the limited tumor perfusion as well as hypoxic and immunosuppressive tumor microenvi
January 01, 2016	Photoacoustic Imaging of Embryonic Stem Cell-Derived Cardiomyocytes in Living Hearts with Ultrasensitive Semiconducting Polymer Nanoparticles	Human embryonic stem cell-derived cardiomyocytes (hESC-CMs) have become promising tools to repair injured hearts.
January 01, 2016	Visualizing Changes in Cdkn1c Expression Links Early-Life Adversity to Imprint Mis-regulation in Adults	Imprinted genes are regulated according to parental origin and can influence embryonic growth and metabolism and confer disease susceptibility.
January 01, 2016	Black hollow silicon oxide nanoparticles as highly efficient photothermal agents in the second near-infrared window for in vivo cancer therapy	Semiconductor nanoparticles with localized surface plasmon resonance (LSPR) have gained increasing interest due to their potential for use in nanomedi
January 01, 2016	Reactive Oxygen Species (ROS)-Responsive Nanomedicine for RNAi Cancer Therapy	Although much effort has been dedicated to the development of efficient siRNA delivery for cancer therapy, delivery nanomaterials that can particularl
January 01, 2016	Non-invasive monitoring of the therapeutic response in sorafenib-treated hepatocellular carcinoma based on photoacoustic imaging	PURPOSE: We investigated the changes of tissue oxygen saturation (sO ₂) in sorafenib-treated HCC (hepatocellular carcinoma) mouse models using photoacou

January 01, 2016	CuS-Based Theranostic Micelles for NIR-Controlled Combination Chemotherapy and Photothermal Therapy and Photoacoustic Imaging	Cancer remains a major threat to human health due to low therapeutic efficacies of currently available cancer treatment options.
January 01, 2016	Highly versatile SPION encapsulated PLGA nanoparticles as photothermal ablaters of cancer cells and as multimodal imaging agents	We have designed versatile polymeric nanoparticles with cancer cell specific targeting capabilities via aptamer conjugation after the successful encap
January 01, 2016	Engineered Zn(II)-dipicolylamine-gold nanorod provides effective prostate cancer treatment by combining siRNA delivery and photothermal therapy	Combination cancer treatment has emerged as a critical approach to achieve remarkable anticancer effect.
January 01, 2016	Polyaniline-loaded γ-polyglutamic acid nanogels as a platform for photoacoustic imaging-guided tumor photothermal therapy	We report the facile synthesis of polyaniline (PANI)-loaded γ -polyglutamic acid (γ -PGA) nanogels (NGs) for photoacoustic (PA) imaging-guided photother
January 01, 2016	Seeding density is a crucial determinant for the in vivo vascularisation capacity of adipose tissue-derived microvascular fragments	© 2017, AO Research Institute. All rights reserved.
January 01, 2016	Photoacoustic Imaging of Human Mesenchymal Stem Cells Labeled with Prussian Blue–Poly(L-lysine) Nanocomplexes	Acoustic imaging is affordable and accessible without ionizing radiation.
January 01, 2016	Bottom-up synthesis of WS₂ nanosheets with synchronous surface modification for imaging guided tumor regression	Two-dimensional transition metal dichalcogenides (TMDs) have been receiving great attention as NIR photothermal transducing agent in tumor phototherma
January 01, 2016	BSA-Bioinspired Gadolinium Hybrid-Functionalized Hollow Gold Nanoshells for NIRF/PA/CT/MR Quadmodal Diagnostic Imaging-Guided Photothermal/Photodynamic Cancer Therapy	Multimodal imaging guided synergistic therapy promises more accurate diagnosis and higher therapeutic efficiency than single imaging modality or their

January 01, 2016	Propofol (2,6-diisopropylphenol) is an applicable immersion anesthetic in the axolotl with potential uses in hemodynamic and neurophysiological experiments	The Mexican axolotl (<i>Ambystoma mexicanum</i>) is an important model species in regenerative biology.
January 01, 2016	Optical clearing and fluorescence deep-tissue imaging for 3D quantitative analysis of the brain tumor microenvironment	© 2017 The Author(s) Background: Three-dimensional visualization of the brain vasculature and its interactions with surrounding cells may shed light on
January 01, 2016	Limiting the protein corona: A successful strategy for in vivo active targeting of anti-HER2 nanobody-functionalized nanostars	Gold nanoparticles hold great promise as anti-cancer theranostic agents against cancer by actively targeting the tumor cells.
January 01, 2016	Can photoacoustic imaging quantify surface-localized J-aggregating nanoparticles?	We investigate the feasibility of photoacoustic (PA) imaging to quantify the concentration of surface-localized nanoparticles, using tissue-mimicking
January 01, 2016	A feasibility study of photoacoustic imaging of ex vivo endoscopic mucosal resection tissues from Barrett's esophagus patients	Background and study aims Accurate endoscopic detection of dysplasia in patients with Barrett's esophagus (BE) remains a major clinical challenge.
January 01, 2016	Rational Design of Branched Nanoporous Gold Nanoshells with Enhanced Physico-Optical Properties for Optical Imaging and Cancer Therapy	Reported procedures on the synthesis of gold nanoshells with smooth surfaces have merely demonstrated efficient control of shell thickness and particle
January 01, 2016	Phase Transition Nanoparticles as Multimodality Contrast Agents for the Detection of Thrombi and for Targeting Thrombolysis: In Vitro and in Vivo Experiments	Thrombotic disease is extremely harmful to human health, and early detection and treatment can improve the prognosis and reduce mortality.

January 01, 2016	Self-assembly of semiconducting-plasmonic gold nanoparticles with enhanced optical property for photoacoustic imaging and photothermal therapy	Although various noble metal and semiconducting molecules have been developed as photoacoustic (PA) agents, the use of semiconducting polymer-metal na
January 01, 2016	Photoacoustic-Guided Surgery with Indocyanine Green-Coated Superparamagnetic Iron Oxide Nanoparticle Clusters	A common cause of local tumor recurrence in brain tumor surgery results from incomplete surgical resection.
January 01, 2016	Copper Sulfide Perfluorocarbon Nanodroplets as Clinically Relevant Photoacoustic/Ultrasound Imaging Agents	We have developed laser-activated perfluorocarbon nanodroplets containing copper sulfide nanoparticles (CuS NPs) for contrast-enhanced ultrasound and
January 01, 2016	Ultra-small Iron-Gallic Acid Coordination Polymer Nanoparticles for Chelator-free Labeling of 64Cu and Multimodal Imaging-guided Photothermal Therapy	Cancer nanotechnology has become the hot topic nowadays.
January 01, 2016	Photoacoustic imaging of lymphatic pumping	The lymphatic system is crucial for maintaining fluid balance in tissues and for immune cell trafficking; however, there are only a few methods for im
January 01, 2016	Enhanced photothermal therapy of biomimetic polypyrrole nanoparticles through improving blood flow perfusion	In this study, we reported a strategy to improve delivery efficiency of a long-circulation biomimetic photothermal nanoagent for enhanced photothermal
January 01, 2016	Two-Dimensional Tantalum Carbide (MXenes) Composite Nanosheets for Multiple Imaging-Guided Photothermal Tumor Ablation	MXenes, an emerging family of graphene- analogues two-dimensional (2D) materials, have attracted continuous and tremendous attention in many applicati
January 01, 2016	Oxygenation Status in Chronic Leg Ulcer After Topical Hemoglobin Application May Act as a Surrogate Marker to Find the Best Treatment Strategy and to Avoid Ineffective Conservative Long-term Therapy	Purpose: Chronic leg ulcers can be a challenge to treat and long-term therapy a significant cost factor in western public health budgets.

January 01, 2016	What is new in nanoparticle-based photoacoustic imaging?	Photoacoustic imaging combines the high temporal and spatial resolution of ultrasound with the good contrast and spectral tuning of optical imaging.
January 01, 2016	Hemispherical photoacoustic imaging of myocardial infarction: in vivo detection and monitoring	Objectives: This study aimed to demonstrate the capacity for noninvasive localisation and characterisation of myocardial infarction (MI) in vivo using
January 01, 2016	Albumin-Templated Manganese Dioxide Nanoparticles for Enhanced Radioisotope Therapy	Although nanoparticle-based drug delivery systems have been widely explored for tumor-targeted delivery of radioisotope therapy (RIT), the hypoxia zon
January 01, 2016	Chelator-Free and Biocompatible Melanin Nanoplatfrom with Facile-Loading Gadolinium and Copper-64 for Bioimaging	Development of a chelator-free and biocompatible platform for the facile construction of gadolinium ³⁺ (Gd ³⁺)- loaded nanoparticle based probes for in
January 01, 2016	Energy-Absorbing and Local Plasmonic Nanodiamond/Gold Nanocomposites for Sustained and Enhanced Photoacoustic Imaging	Photoacoustic (PA) imaging is a laser-mediated optical ultrasound-based visualization that allows imaging of optical energy absorbers in deep tissue,
January 01, 2016	Spatiotemporal Optoacoustic Mapping of Tumor Hemodynamics in a Clinically Relevant Orthotopic Rabbit Model of Head and Neck Cancer	The purpose of this study was to investigate the usefulness of photoacoustic imaging (PAI) for spatiotemporal mapping of tumor hemodynamics in a rabbi
January 01, 2016	A triple-synergistic strategy for combinational photo/radiotherapy and multi-modality imaging based on hyaluronic acid-hybridized polyaniline-coated WS 2 nanodots	In this study, we report a strategy for integrating hyaluronic acid (HA), polyaniline (PANI), WS2 nanodots (WS2), and chlorin e6 (Ce6) into a single n

January 01, 2016	A Theranostic Nanoplatfrom: Triple-Model Imaging Guided Synergistic Cancer Therapy Based on Liposomes Conjugated Mesoporous Silica Nanoparticles	Mesoporous silica nanoparticles (MSNs) have long since been investigated to provide a versatile drug-delivery platform due to their multitudinous meri
November 21, 2016	Skeletonization algorithm-based blood vessel quantification using in vivo 3D photoacoustic imaging	Blood vessels are the only system to provide nutrients and oxygen to every part of the body.
November 11, 2016	Photoacoustic Imaging for the Detection of Hypoxia in the Rat Femoral Artery and Skeletal Muscle Microcirculation	Photoacoustic (PA) imaging is an emerging technology that combines structural and functional imaging of tissues using laser and ultrasound energy.
October 12, 2016	Ultrasound Triggered Tumor Oxygenation with Oxygen-Shuttle Nanoperfluorocarbon to Overcome Hypoxia-Associated Resistance in Cancer Therapies	Tumor hypoxia is known to be one of critical reasons that limit the efficacy of cancer therapies, particularly photodynamic therapy (PDT) and radiothe
September 01, 2016	Tunable, biodegradable gold nanoparticles as contrast agents for computed tomography and photoacoustic imaging	Gold nanoparticles (AuNP) have been proposed for many applications in medicine.
August 17, 2016	A Multimodal Imaging Approach for Longitudinal Evaluation of Bladder Tumor Development in an Orthotopic Murine Model	Bladder cancer is the fourth most common malignancy amongst men in Western industrial- ized countries with an initial response rate of 70% for the non
August 01, 2016	Photoacoustic Imaging in Oncology: Translational Preclinical and Early Clinical Experience	Photoacoustic imaging has evolved into a clinically translatable platform with the potential to complement existing imaging techniques for the managem
August 01, 2016	Functional Flow Patterns and Static Blood Pooling in Tumors Revealed by Combined Contrast-Enhanced Ultrasound and Photoacoustic Imaging	Alterations in tumor perfusion and microenvironment have been shown to be associated with aggressive cancer phenotypes, raising the need for noninvasi

August 01, 2016	Multifunctional polyelectrolyte microcapsules as a contrast agent for photoacoustic imaging in blood	The polyelectrolyte microcapsules that can be accurate either visualized in biological media or in tissue would enhance their further in vivo applic
July 28, 2016	Contrast agents for molecular photoacoustic imaging	Photoacoustic imaging (PAI) is an emerging tool that bridges the traditional depth limits of ballistic optical imaging and the resolution limits of di
July 01, 2016	Simultaneous assessment of red blood cell aggregation and oxygen saturation under pulsatile flow using high-frequency photoacoustics	In the present paper, the optical wavelength dependence on the photoacoustic (PA) assessment of the pulsatile blood flow was investigated by means of
June 29, 2016	Graphene Meets Microbubbles: A Superior Contrast Agent for Photoacoustic Imaging	Coupling graphene with a soft polymer surface offers the possibility to build hybrid constructs with new electrical, optical, and mechanical propertie
June 20, 2016	Preclinical efficacy of bevacizumab with CRLX101, an investigational nanoparticle-drug conjugate, in treatment of metastatic triple-negative breast cancer	VEGF-pathway targeting antiangiogenic drugs, such as bevacizumab, when combined with chemotherapy have changed clinical practice for the treatment of
June 15, 2016	Narrow Absorption NIR Wavelength Organic Nanoparticles Enable Multiplexed Photoacoustic Imaging	Photoacoustic (PA) imaging is an emerging hybrid optical-ultrasound based imaging technique that can be used to visualize optical absorbers in deep t
June 08, 2016	Gold Nanoparticle Coated Carbon Nanotube Ring with Enhanced Raman Scattering and Photothermal Conversion Property for Theranostic Applications	We report a new type of carbon nanotube ring (CNTR) coated with gold nanoparticles (CNTR@AuNPs) using CNTR as a template and surface attached redox-ac

June 06, 2016	Photoacoustic imaging of angiogenesis in a subcutaneous islet transplant site in a murine model	Islet transplantation (IT) is an established clinical therapy for select patients with type-1 diabetes.
April 12, 2016	High Resolution Ultrasound and Photoacoustic Imaging of Orthotopic Lung Cancer in Mice: New Perspectives for Onco-Pharmacology	Objectives: We have developed a relevant preclinical model associated with a specific imaging protocol dedicated to onco-pharmacology studies in mice.
March 01, 2016	Cuffing-based photoacoustic flowmetry in humans in the optical diffusive regime	Measuring blood flow speed in the optical diffusive regime in humans has been a long standing challenge for photoacoustic tomography.
February 01, 2016	Monitoring Prostate Tumor Growth in an Orthotopic Mouse Model Using Three-Dimensional Ultrasound Imaging Technique	Prostate cancer (CaP) is the most commonly diagnosed and the second leading cause of death from cancer in males in USA.
January 01, 2015	Plasmonic fluorescent CdSe/Cu₂S hybrid nanocrystals for multichannel imaging and cancer directed photo-thermal therapy	A simple, crude Jatropha curcas (JC) oil-based synthesis approach, devoid of any toxic phosphine and pyrophoric ligands, to produce size and shape tun
January 01, 2015	Photoacoustic monitoring of tumor and normal tissue response to radiation	Hypoxia is a recognized characteristic of tumors that influences efficacy of radiotherapy (RT).
January 01, 2015	Ultrasound-guided photoacoustic imaging for the selective detection of EGFR-expressing breast cancer and lymph node metastases	We assessed the use of ultrasound (US)-guided photoacoustic imaging (PAI) and anti-EGFR antibody-conjugated gold nanorods (anti-EGFR-GNs) to non-inva
January 01, 2015	Quantitative photoacoustic elastography in humans	Wereport quantitative photoacoustic elastography (QPAE) capable of measuring Young's modulus of biological tissue in vivo in humans.

January 01, 2015	Re-assessing the enhanced permeability and retention effect in peripheral arterial disease using radiolabeled long circulating nanoparticles	Abstract As peripheral arterial disease (PAD) results in muscle ischemia and neovascularization, it has been claimed that nanoparticles can passively
January 01, 2015	Chlorosome-Inspired Synthesis of Templated Metallochlorin-Lipid Nanoassemblies for Biomedical Applications	Chlorosomes are vesicular light-harvesting organelles found in photosynthetic green sulfur bacteria.
January 01, 2015	Long circulating reduced graphene oxide–iron oxide nanoparticles for efficient tumor targeting and multimodality imaging	Polyethylene glycol (PEG) surface modification is one of the most widely used approaches to improve the solubility of inorganic nanoparticles, prevent
January 01, 2015	Multifunctional Fe₃O₄ @ Au core/shell nanostars: a unique platform for multimode imaging and photothermal therapy of tumors	We herein report the development of multifunctional folic acid (FA)-targeted Fe ₃ O ₄ @ Au nanostars (NSs) for targeted multi-mode magnetic resonance (MR
January 01, 2015	Multimodal near-infrared-emitting PluS Silica nanoparticles with fluorescent , photoacoustic , and photothermal capabilities	Purpose: The aim of the present study was to develop nanoprobe with theranostic features, including – at the same time – photoacoustic, near-infrared
January 01, 2015	Porphyrin Nanodroplets: Sub-micrometer Ultrasound and Photoacoustic Contrast Imaging Agents	Ultrasound offers significant potential as a molecular imaging modality when imaging microbubble agents owing to single-bubble sensitivity.
January 01, 2015	Photoacoustic imaging of real-time oxygen changes in chronic leg ulcers after topical application of a haemoglobin spray: a pilot study	Objective: To use a non-invasive measurement of oxygen saturation in chronic leg ulcers after the application of a topical haemoglobin spray to invest

January 01, 2015	Stable J-aggregation enabled dual photoacoustic and fluorescence nanoparticles for intraoperative cancer imaging	J-aggregates display nanoscale optical properties which enable their use in fluorescence and photoacoustic imaging applications.
January 01, 2015	Multi-Wavelength Photoacoustic Visualization of High Intensity Focused Ultrasound Lesions	High intensity focused ultrasound (HIFU) thermal therapies are limited by deficiencies in existing image-guidance techniques.
January 01, 2015	Accelerated Blood Clearance Phenomenon Reduces the Passive Targeting of PEGylated Nanoparticles in Peripheral Arterial Disease	Peripheral arterial disease (PAD) is a leading global health concern.
January 01, 2015	Dual-enhanced photothermal conversion properties of reduced graphene oxide-coated gold superparticles for light-triggered acoustic and thermal theranostics	A rational design of highly efficient photothermal agents that possess excellent light-to-heat conversion properties is a fascinating topic in nanotechnology.
December 21, 2015	Folding Up of Gold Nanoparticle Strings into Plasmonic Vesicles for Enhanced Photoacoustic Imaging	The stepwise self-assembly of hollow plasmonic vesicles with vesicular membranes containing strings of gold nanoparticles (NPs) is reported.
November 01, 2015	Label-free Detection of Lymph Node Metastases with US-guided Functional Photoacoustic Imaging	Summary: Photoacoustic imaging imparts the ability to distinguish materials according to their differences in optical absorption (ie, their color) within
November 01, 2015	Handheld photoacoustic probe to detect both melanoma depth and volume at high speed in vivo	In the United States, Black infants have significantly worse birth outcomes than White infants.
October 27, 2015	Tumor-Specific Formation of Enzyme-Instructed Supramolecular Self-Assemblies as Cancer Theranostics	Despite the effort of developing various nanodelivery systems, most of them suffer from undesired high uptakes by the reticuloendothelial system, such

October 21, 2015	Validating tyrosinase homologue melA as a photoacoustic reporter gene for imaging Escherichia coli	To understand the pathogenic processes for infectious bacteria, appropriate research tools are required for replicating and characterizing infections.
September 22, 2015	Sequential Drug Release and Enhanced Photothermal and Photoacoustic Effect of Hybrid Reduced Graphene Oxide-Loaded Ultrasmall Gold Nanorod Vesicles for Cancer Therapy	We report a hybrid reduced graphene oxide (rGO)-loaded ultrasmall plasmonic gold nanorod vesicle (rGO-AuNRVe) (~65 nm in size) with remarkably amplifi
September 01, 2015	Photoacoustic imaging of salivary glands	In this work, we utilized photoacoustic imaging (PAI) with co-registered ultrasound (US) to non-invasively assess salivary gland function in vivo.
August 12, 2015	In vivo photoacoustic flowmetry at depths of the diffusive regime based on saline injection	We propose a saline injection-based method to quantify blood flow velocity in vivo with acoustic-resolution photoacoustic tomography.
July 01, 2015	Prophylactic Edaravone Prevents Transient Hypoxic-Ischemic Brain Injury	Background and Purpose—Hypoperfusion-induced thrombosis is an important mechanism for postsurgery stroke and cognitive decline, but there are no per
June 23, 2015	Determination of biodistribution of ultrasmall, near-infrared emitting gold nanoparticles by photoacoustic and fluorescence imaging	This study compares fluorescence and photoacoustic (PA) imaging of ex vivo tumors and organs from tumor-bearing mice injected intravenously with ultra
June 01, 2015	Combined Ultrasound and Photoacoustic Imaging to Noninvasively Assess Burn Injury and Selectively Monitor a Regenerative Tissue-Engineered Construct	Current biomedical imaging tools have limitations in accurate assessment of the severity of open and deep burn wounds involving excess bleeding and se

May 01, 2015	Parts per billion detection of uranium with a porphyrinoid-containing nanoparticle and in vivo photoacoustic imaging	In the United States, Black infants have significantly worse birth outcomes than White infants.
April 01, 2015	Photoacoustic Imaging of Vascular Hemodynamics: Validation with Blood Oxygenation Level-Dependent MR Imaging	Purpose To noninvasively assess vascular hemodynamics with photoacoustic imaging (PAI) and blood oxygenation level-dependent (BOLD) magnetic resonance
March 30, 2015	In situ conversion of porphyrin microbubbles to nanoparticles for multimodality imaging	Converting nanoparticles or monomeric compounds into larger supramolecular structures by endogenous ^{1,2} or external ^{3,4} stimuli is increasingly popular
March 17, 2015	2H,3H-Decafluoropentane-Based Nanodroplets: New Perspectives for Oxygen Delivery to Hypoxic Cutaneous Tissues	Perfluoropentane (PFP)-based oxygen-loaded nanobubbles (OLNBs) were previously proposed as adjuvant therapeutic tools for pathologies of different e
January 01, 2015	Nanoparticle Probes for Structural and Functional Photoacoustic Molecular Tomography	Nowadays, nanoparticle probes have received extensive attention largely due to its potential biomedical applications in structural, functional, and mo
January 01, 2015	Comparison of Photoacoustically Derived Hemoglobin and Oxygenation Measurements with Contrast-Enhanced Ultrasound Estimated Vascularity and Immunohistochemical Staining in a Breast Cancer Model	In this preliminary study, we compared two noninvasive techniques for imaging intratumoral physiological conditions to immunohistochemical staining in
January 01, 2015	Gold nanoparticles for photoacoustic imaging.	Photoacoustic (PA) imaging is a biomedical imaging modality that provides functional information regarding the cellular and molecular signatures of ti

January 01, 2015	Design of hybrid MnO₂-polymer-lipid nanoparticles with tunable oxygen generation rates and tumor accumulation for cancer treatment	Manganese dioxide (MnO ₂) nanoparticles (NPs) were discovered in previous work to be effective in improving tumor oxygenation (hypoxia) and reducing
January 01, 2015	Protein-based photothermal theranostics for imaging-guided cancer therapy	The development of imageable photothermal theranostics has attracted considerable attention for imaging guided photothermal therapy (PTT) with high tu
January 01, 2015	Prediction of Tumor Recurrence and Therapy Monitoring Using Ultrasound-Guided Photoacoustic Imaging	Selection and design of individualized treatments remains a key goal in cancer therapeutics; prediction of response and tumor recurrence following a g
January 01, 2015	Multi-stimuli responsive Cu₂S nanocrystals as trimodal imaging and synergistic chemo-photothermal therapy agents	A size and shape tuned, multifunctional metal chalcogenide, Cu ₂ S-based nanotheranostic agent is developed for trimodal imaging and multimodal therap
January 01, 2015	Phototheranostic Porphyrin Nanoparticles Enable Visualization and Targeted Treatment of Head and Neck Cancer in Clinically Relevant Models	Head and neck cancer is the fifth most common type of cancer worldwide and remains challenging for effective treatment due to the proximity to critica
December 23, 2014	Linear-array-based photoacoustic imaging of human microcirculation with a range of high frequency transducer probes	Photoacoustic imaging (PAI) with a linear-array-based probe can provide a convenient means of im- aging the human microcirculation within its native s
November 07, 2014	Photoacoustic Tomography of Human Hepatic Malignancies Using Intraoperative Indocyanine Green Fluorescence Imaging	Recently, fluorescence imaging following the preoperative intravenous injection of indocyanine green has been used in clinical settings to identify he

October 29, 2014	Transferring Biomarker into Molecular Probe: Melanin Nanoparticle as a Naturally Active Platform for Multimodality Imaging	Developing multifunctional and easily prepared nanoplateforms with integrated different modalities is highly challenging for molecular imaging.
October 01, 2014	Dye-Loaded Ferritin Nanocages for Multimodal Imaging and Photothermal Therapy	Multimodal imaging-guided photothermal therapy (PTT), for the therapy of cancer, based on a ferritin (FRT) nanocage loaded with the near-infrared dye
October 01, 2014	Sentinel Lymph Node Biopsy Revisited: Ultrasound-Guided Photoacoustic Detection of Micrometastases Using Molecularly Targeted Plasmonic Nanosensors	Metastases rather than primary tumors are responsible for killing most patients with cancer.
September 10, 2014	A dual gold nanoparticle system for mesenchymal stem cell tracking	Stem cell-based therapies have demonstrated improved outcomes in preclinical and clinical trials for treating cardiovascular ischemic diseases.
September 01, 2014	Cellulose nanoparticles are a biodegradable photoacoustic contrast agent for use in living mice	Molecular imaging with photoacoustic ultrasound is an emerging field that combines the spatial and temporal resolution of ultrasound with the contrast
August 26, 2014	Stimuli-Responsive Photoacoustic Nanoswitch for in Vivo Sensing Applications	Photoacoustic imaging provides high-resolution images at depths beyond the optical diffusion limit.
July 06, 2014	Non-invasive multimodal functional imaging of the intestine with frozen micellar naphthalocyanines	There is a need for safer and improved methods for non-invasive imaging of the gastrointestinal tract.
June 17, 2014	Multi-wavelength photoacoustic imaging of inducible tyrosinase reporter gene expression in xenograft tumors	Photoacoustic imaging is an emerging hybrid imaging technology capable of breaking through resolution limits of pure optical imaging technologies impo

June 01, 2014	Contrast-enhanced magneto-photo-acoustic imaging in vivo using dual-contrast nanoparticles	By mapping the distribution of targeted plasmonic nanoparticles (NPs), photoacoustic (PA) imaging offers the potential to detect the pathologies in th
May 01, 2014	Multimodal Ultrasound-Photoacoustic Imaging of Tissue Engineering Scaffolds and Blood Oxygen Saturation In and Around the Scaffolds	Preclinical, noninvasive imaging of tissue engineering polymeric scaffold structure and/or the physiological processes such as blood oxygenation remai
April 22, 2014	Multifunctional Albumin–MnO₂ Nanoparticles Modulate Solid Tumor Microenvironment by Attenuating Hypoxia, Acidosis, Vascular Endothelial Growth Factor and Enhance Radiation Response	Insufficient oxygenation (hypoxia), acidic pH (acidosis), and elevated levels of reactive oxygen species (ROS), such as H ₂ O ₂ , are characteristic abnor
April 16, 2014	Aggregate Enhanced Trimodal Porphyrin Shell Microbubbles for Ultrasound, Photoacoustic, and Fluorescence Imaging	Microbubbles (MBs) are currently used as ultrasound (US) contrast agents and as delivery vehicles for site-specific US-triggered drug and gene deliver
March 01, 2014	Ultrasound-guided photoacoustic imaging: current state and future development	Photoacoustic imaging, frequently coregistered with ultrasonic imaging, can provide functional and cellular/ molecular information about tissue within
January 28, 2014	Indocyanine Green-Loaded Photoacoustic Nanodroplets: Dual Contrast Nanoconstructs for Enhanced Photoacoustic and Ultrasound Imaging	Recently, perfluorocarbon (PFC) nanodroplets were introduced as contrast agents for imaging and image-guided therapy.
January 26, 2014	Semiconducting polymer nanoparticles as photoacoustic molecular imaging probes in living mice	Photoacoustic (PA) imaging holds great promise for the visualization of physiology and pathology at the molecular level with deep tissue penetration a

January 01, 2014	Dual In Vivo Photoacoustic and Fluorescence Imaging of Assessment , and Surgical Guidance	Biomarker-specific imaging probes offer ways to improve molecular diagnosis, intraoperative margin assessment, and tumor resection.
January 01, 2014	Detection of Melanoma Metastases in Resected Human Lymph Nodes by Noninvasive Multispectral Photoacoustic Imaging	Objective .
January 01, 2014	Active curcumin nanoparticles formed from a volatile microemulsion template	Mitochondria targeted phototherapy, including photodynamic therapy (PDT) and photothermal therapy (PTT), has excelled as an effective approach among o
January 01, 2014	Real-Time Assessment of Tissue Hypoxia In Vivo with Combined Photoacoustics and High-Frequency Ultrasound	In preclinical cancer studies, non-invasive functional imaging has become an important tool to assess tumor development and therapeutic effects.
December 26, 2013	Imaging of an Inflammatory Injury in the Newborn Rat Brain with Photoacoustic Tomography	BACKGROUND: The precise assessment of cerebral saturation changes during an inflammatory injury in the developing brain, such as seen in periventricul
November 15, 2013	Silica-coated gold nanoplates as stable photoacoustic contrast agents for sentinel lymph n[1] G. P. Luke, A. Bashyam, K. a Homan, S. Makhija, Y.-S. Chen, and S. Y. Emelianov, "Silica-coated gold nanoplates as stable photoacoustic contrast agents for senti	A biopsy of the first lymph node to which a tumor drains-the sentinel lymph node (SLN)-is commonly performed to identify micrometastases.
November 01, 2013	Development and optimization of near-IR contrast agents for immune cell tracking	Gold nanorods (NRs) are attractive for in vivo imaging due to their high optical cross-sections and tunable absorbance.

November 01, 2013	In vitro and in vivo mapping of drug release after laser ablation thermal therapy with doxorubicin-loaded hollow gold nanoshells using fluorescence and photoacoustic imaging	Doxorubicin-loaded hollow nanoshells (Dox@PEG-HAuNS) increases the efficacy of photothermal ablation (PTA) by not only mediating efficient PTA but als
October 31, 2013	Non-invasive Monitoring of Ultrasound-Stimulated Microbubble Radiation Enhancement Using Photoacoustic Imaging	Modulation of the tumour microvasculature has been demonstrated to affect the effectiveness of radiation, stimulating the search for anti-angiogenic a
September 25, 2013	Development and Application of Stable Phantoms for the Evaluation of Photoacoustic Imaging Instruments	Photoacoustic imaging combines the high contrast of optical imaging with the spatial resolution and penetration depth of ultrasound.
July 01, 2013	Photoacoustic imaging of the bladder: a pilot study.	Photoacoustic imaging is a promising new technology that combines tissue optical characteristics with ultrasound transmission and can potentially visu
May 07, 2013	Modulation of photoacoustic signal generation from metallic surfaces	The ability to image metallic implants is important for medical applications ranging from diagnosis to therapy.
May 01, 2013	Optical wavelength selection for improved spectroscopic photoacoustic imaging	Spectroscopic photoacoustic imaging has the potential to become a powerful tool that can estimate distributions of optically absorbing chromophores in
May 01, 2013	Development and initial application of a fully integrated photoacoustic micro-ultrasound system	Photoacoustic (PA) imaging for biomedical applications has been under development for many years.
March 15, 2013	Molecular Photoacoustic Imaging of Follicular Thyroid Carcinoma	PURPOSE: To evaluate the potential of targeted photoacoustic imaging as a noninvasive method for detection of follicular thyroid carcinoma.

March 14, 2013	A Spinal Cord Window Chamber Model for In Vivo Longitudinal Multimodal Optical and Acoustic Imaging in a Murine Model	In vivo and direct imaging of the murine spinal cord and its vasculature using multimodal (optical and acoustic) imaging techniques could significantly
January 01, 2013	Bio-ink properties and printability for extrusion printing living cells	Angiogenesis is a common pathological characteristic of many solid tumors and vulnerable atherosclerotic plaques.
January 01, 2013	A versatile method for the preparation of polyacrylamide derivative functionalized thermo-responsive gold nanoparticles	Abstract: Herein we report the synthesis of a resilient nanosystem based on silica-coated magnetic MnFe ₂ O ₃ nanoparticles conjugated to fluorescein and
January 01, 2013	Tyrosinase as a multifunctional reporter gene for Photoacoustic/MRI/PET triple modality molecular imaging.	Development of reporter genes for multimodality molecular imaging is highly important.
January 01, 2013	VEGF-loaded graphene oxide as theranostics for multi-modality imaging-monitored targeting therapeutic angiogenesis of ischemic muscle	Herein we report the design and synthesis of multifunctional VEGF-loaded IR800-conjugated graphene oxide (GO-IR800-VEGF) for multimodality imaging-monitored
November 27, 2012	Gold nanorods for ovarian cancer detection with photoacoustic imaging and resection guidance via Raman imaging in living mice.	Improved imaging approaches are needed for ovarian cancer screening, diagnosis, staging, and resection guidance.
October 01, 2012	Photoacoustic Imaging for Medical Diagnostics	
July 24, 2012	Photoacoustic Imaging of Mesenchymal Stem Cells in Living Mice via Silica-Coated Gold Nanorods	Improved imaging modalities are critically needed for optimizing stem cell therapy.
July 11, 2012	A Facile, One-Step Nanocarbon Functionalization for Biomedical Applications	Despite their immense potential in biomedicine, carbon nanomaterials suffer from inefficient dispersion and biological activity in vivo.

May 16, 2012	In vivo Ultrasound and Photoacoustic Monitoring of Mesenchymal Stem Cells Labeled with Gold Nanotracers	Longitudinal monitoring of cells is required in order to understand the role of delivered stem cells in therapeutic neovascularization.
February 09, 2012	Photoacoustic characterization of radiofrequency ablation lesions	Radiofrequency ablation (RFA) procedures are used to destroy abnormal electrical pathways in the heart that can cause cardiac arrhythmias.
February 03, 2012	Biomedical Applications of Photoacoustic Imaging with Exogenous Contrast Agents	Photoacoustic imaging is a biomedical imaging modality that provides functional information, and, with the help of exogenous contrast agents, cellular
January 10, 2012	Biomedical photoacoustics beyond thermal expansion using triggered nanodroplet vaporization for contrast-enhanced imaging	Since being discovered by Alexander Bell, photoacoustics may again be seeing major resurgence in biomedical imaging.
January 01, 2011	VCAM-1-targeting gold nanoshell probe for photoacoustic imaging of atherosclerotic plaque in mice	The development of molecular probes and novel imaging modalities, allowing better resolution and specificity, is associated with an increased potential
January 01, 2010	Development and Validation of a Combined Photoacoustic Micro- Ultrasound System for In Vivo Oxygen Saturation Estimation	Photoacoustic (PA) Imaging can estimate the spatial distribution of oxygen saturation (sO ₂) and total hemoglobin concentration (HbT) in blood, and be