

DAFTAR PUSTAKA

- ACS, American Cancer Society. 2019. "Cancer Facts & Figures 2019."
- Ahn, Byeong-cheol. 2016. "Personalized Medicine Based on Theranostic Radioiodine Molecular Imaging for Differentiated Thyroid Cancer." *BioMed Research International* 2016. <https://doi.org/10.1155/2016/1680464>.
- Archibald, Stephen J. 2013. "Antibody Radiolabeling Techniques To Optimize Cellular Retention." *Journal of Medicinal Chemistry*, 9415–17. <https://doi.org/10.1021/jm401794v>.
- Azzam, Edouard ., Jean-Paul Jay-Gerin, and Debkumar Pain. 2014. "Ionizing Radiation-Induced Metabolic Oxidative Stress and Prolonged Cell Injury." *Cancer Letter* 327 (0): 48–60. <https://doi.org/10.1016/j.canlet.2011.12.012>. Ionizing.
- Bappenas. 2017. Sinkronisasi RPJMD-RPJMN Bidang Kesehatan Dan Gizi Masyarakat.
- Baskar, Rajamanickam, Jiawen Dai, Nei Wenlong, Richard Yeo, Kheng-wei Yeoh, and Buck Rogers. 2014. "Biological Response of Cancer Cells to Radiation Treatment." *Frontiers in Molecular Biosciences* 1 (November): 1–9. <https://doi.org/10.3389/fmolb.2014.00024>.
- Bavandpour, Ali Karimi, Bita Bakhshi, and Shahin Najjar-peerayeh. 2020. "The Roles of Mesoporous Silica and Carbon Nanoparticles in Antigen Stability and Intensity of Immune Response against Recombinant Subunit B of Cholera Toxin in a Rabbit Animal Model ☆." *International Journal of Pharmaceutics* 573 (November 2019): 118868. <https://doi.org/10.1016/j.ijpharm.2019.118868>.
- Bavelaar, Bas M, Boon Q Lee, Martin R Gill, Nadia Falzone, and Katherine A Vallis. . "Subcellular Targeting of Theranostic Radionuclides." *Frontiers in Pharmacology* 9 (September): 1–17. <https://doi.org/10.3389/fphar.2018.00996>.
- . 2018b. "Subcellular Targeting of Theranostic Radionuclides." *Frontiers in Pharmacology* 9 (September): 1–17. <https://doi.org/10.3389/fphar.2018.00996>.
- Beltrán-Osuna, Ángela A., and Jairo E. Perilla. 2016. "Colloidal and Spherical Mesoporous Silica Particles: Synthesis and New Technologies for Delivery Applications." *Journal of Sol-Gel Science and Technology*. Springer New York LLC. <https://doi.org/10.1007/s10971-015-3874-2>.
- Beltran-Osuna1, Angela A, and Jairo E. Perilla. 2016. "Colloidal and Spherical Mesoporous Silica Particles : Synthesis and New Technologies for Delivery Applications." *J. Sol Gel Sci.*, no. 45, 480–96. <https://doi.org/10.1007/s10971-015-3874-2>.

- Bera, Manabendra N, Arnau Riera, Maciej Lewenstein, and Andreas Winter. 2018. "Generalized Laws of Thermodynamics in the Presence of Correlations." *Nature Communications*, 8–13. <https://doi.org/10.1038/s41467-017-02370-x>.
- Bharti, Charu, Upendra Nagaich, Ashok Kumar Pal, and Neha Gulati. 2015. "Mesoporous Silica Nanoparticles in Target Drug Delivery System: A Review." *International Journal of Pharmaceutical Investigation* 5 (3). <https://doi.org/10.4103/2230-973X.160844>.
- Bozkurt, M. Fani, and Zehra Özcan. 2018. "The Evolving Role of Nuclear Medicine and Molecular Imaging: Theranostics and Personalized Therapeutic Applications." *Molecules*, 1–2. <https://doi.org/10.4274/mirt.30502>.
- BPOM 2015. "Peraturan Kepala Badan Pengawas Obat Dan Makanan Republik Indonesia Nomor 16 Tahun 2015 Tentang Tata Laksana Dan Penilaian Obat Pengembangan Baru"
- Brannon-peppas, Lisa, and James O Blanchette. 2004. "Nanoparticle and Targeted Systems for Cancer Therapy." *Advanced Drug Delivery Reviews* 56:1649–59. <https://doi.org/10.1016/j.addr.2004.02.014>.
- Bray, Freddie, Jacques Ferlay, and Isabelle Soerjomataram. 2018. "Global Cancer Statistics 2018: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries." *A Cancer Journal for Clinicians*, 394–424. <https://doi.org/10.3322/caac.21492>.
- Buch, Karl, Tanja Peters, Thomas Nawroth, Markus Sängner, Heinz Schmidberger, and Peter Langguth. 2006. "Determination of Cell Survival after Irradiation via Clonogenic Assay versus Multiple MTT Assay - A Comparative Study." *Nature Publishing*.
- Budinger, T F, California Berkeley, and Lawrence Berkeley. 2014. "History of Nuclear Medicine and Molecular Imaging." In . Elsevier B.V. <https://doi.org/10.1016/B978-0-444-53632-7.00101-5>.
- Caldorera-moore, Mary E, William B Liechty, and Nicholas A Peppas. 2011. "Responsive Theranostic Systems: Integration of Diagnostic Imaging Agents and Responsive Controlled Release Drug Delivery Carriers." *Accounts of Chemical Research*, 1061–70. <https://doi.org/10.1021/ar2001777>.
- Caltagirone, Claudia, Alexandre Bettoschi, Alessandra Garau, and Riccardo Montis. 2015. "Chem Soc Rev Silica-Based Nanoparticles: A Versatile Tool for the Development of Efficient Imaging Agents." *Chem. Soc. Rev*, 4645–71. <https://doi.org/10.1039/C4CS00270A>.

- Cavaier, R Formento, F Haddad, T Sounalet, T Stora, and I Zahi. 2017. "Terbium Radionuclides for Theranostics Applications : A Focus On MEDICIS-PROMED." *Physics Procedia* 90 (November 2016): 157–63. <https://doi.org/10.1016/j.phpro.2017.09.053>.
- Chakravarty, Rubel, Shreya Goel, Ashutosh Dash, and Weibo Cai. 2017. "Radiolabeled Inorganic Nanoparticles for Positron Emission Tomography Imaging of Cancer: An Overview." *Quarterly Journal of Nuclear Medicine and Molecular Imaging* 61 (2): 181–204. <https://doi.org/10.23736/S1824-4785.17.02969-7>.
- Chen, Liangjiao, Jia Liu, Yanli Zhang, Guilan Zhang, Yiyuan Kang, and Aijie Chen. . "The Toxicity of Silica Nanoparticles to the Immune System." *Nanomedicine* 13:1939–62.
- Chen, Wei-hai, Guo-feng Luo, Wen-xiu Qiu, Qi Lei, Li-han Liu, Shi-bo Wang, and Xian-zheng Zhang. 2017. "Biomaterials Mesoporous Silica-Based Versatile Theranostic Nanoplatform Constructed by Layer-by-Layer Assembly for Excellent Photodynamic / Chemo Therapy." *Biomaterials* 117:54–65. <https://doi.org/10.1016/j.biomaterials.2016.11.057>.
- Chengcheng Zhang, Hongyi Xie, Zhengyan Zhang, Bingjian Wen, Hua Cao, Yan Bai, Qishi Che, Jiao Guo, and Zhengquan Su.2022."Applications and Biocompatibility of Mesoporous Silica Nanocarriers in the Field of Medicine." *Frontiers in Pharmacology*.13:829796. <https://doi.org/10.3389/fphar.2022.829796>.
- Degrauwe, Nils, Arnaud Hocquet, Antonia Digkila, Niklaus Schaefer, Alban Denys, Rafael Duran, and Maria Cristina Bonferoni. 2019. "Theranostics in Interventional Oncology : Versatile Carriers for Diagnosis and Targeted Image-Guided Minimally Invasive Procedures." *Frontiers in Pharmacology* 10 (May). <https://doi.org/10.3389/fphar.2019.00450>.
- Di, Anthony J, Krishna K Sharma, Yan-li Shi, Bonnie B Toms, Wayne Ouellette, James C Dabrowiak, and Tewodros Asefa. 2008. "Cytotoxicity of Mesoporous Silica Nanomaterials." *Journal of Inorganic Biochemistry* 102:1416–23. <https://doi.org/10.1016/j.jinorgbio.2007.12.028>.
- Din, Fakhar ud, W, Aqar Aman, Izhar Ullah, Omer Salman Qureshi, Omer Mustapha5, Shumaila Shafique6, and Alam Zeb. 2017. "Effective Use of Nanocarriers as Drug Delivery Systems for the Treatment of Selected Tumors." *International Journal of Nanomedicine*, 7291–7309.
- DirjenPPdanPL. 2019. "Rencana Aksi Program Pencegahan Dan Pengendalian Penyakit 2015-2019 (Revisi I - 2018)" 2019.
- Dogra, Prashant, Natalie L Adolphi, Zhihui Wang, Yu-shen Lin, Kimberly S Butler, Paul N Durfee, Jonas G Croissant, et al. 2018. "Establishing the Effects of Mesoporous Silica Nanoparticle

- Properties on in Vivo Disposition Using Imaging-Based Pharmacokinetics.” *Nature Communications*, 1–14. <https://doi.org/10.1038/s41467-018-06730-z>.
- Donya, Mohamed, Mark Radford, Ahmed Elguindy, David Firmin, and Magdi H Yacoub. 2014. “Review Article Radiation in Medicine : Origins , Risks and Aspirations.” *Global Cardiology Science and Practice* 57:437–48.
- Drude, Natascha, Lena Tienken, and Felix M Mottaghy. 2017. “Theranostic and Nanotheranostic Probes in Nuclear Medicine.” *Methods* 130:14–22. <https://doi.org/10.1016/j.ymeth.2017.07.004>.
- Dutta, Joyita, Sangtae Ahn, and Quanzheng Li. 2013. “Quantitative Statistical Methods for Image Quality Assessment” 3 (10). <https://doi.org/10.7150/thno.6815>.
- Ebrahimi-Gatkash, Mehdi, Habibollah Younesi, Afsaneh Shahbazi, and Ava Heidari. 2017. “Amino-Functionalized Mesoporous MCM-41 Silica as an Efficient Adsorbent for Water Treatment: Batch and Fixed-Bed Column Adsorption of the Nitrate Anion.” *Applied Water Science* 7 (4): 1887–1901. <https://doi.org/10.1007/s13201-015-0364-1>.
- Ekstrand, K E. n.d. “The Hug – Kellner Equation as the Universal Cell.” *Physics in Medicine and Biology* 267. <https://doi.org/10.1088/0031-9155/55/10/N01>.
- Elgqvist, Jörgen. 2017. “Nanoparticles as Theranostic Vehicles in Experimental and Clinical Applications — Focus on Prostate and Breast Cancer.” *Int. J. Mol. Sci* 18:1–53. <https://doi.org/10.3390/ijms18051102>.
- Feng, Yin, Nishtha Panwar, Danny Jian, Hang Tng, and Swee Chuan Tjin. 2016. “The Application of Mesoporous Silica Nanoparticle Family in Cancer Theranostics School of Electrical and Electronic Engineering , Nanyang Technological University , Singapore , Nanomedicine Program and Institute of Biological Chemistry , Academia Sinica ,.” *Coordination Chemistry Reviews*. <https://doi.org/10.1016/j.ccr.2016.04.019>.
- Feng Chen, Hao Hong, Yin Zhang, Hector F. Valdovinos, Sixiang Shi, Glen S. Kwon, Charles P. Theuer,5 Todd E. Barnhart, Weibo Cai. 2013. "In Vivo Tumor Targeting and Image-Guided Drug Delivery with Antibody-Conjugated, Radiolabeled Mesoporous Silica Nanoparticles". *ACS Nano*
- Freitas, Luiza Baptista, De Oliveira, Laura De Melo, and Barros De Sousa. 2017. “Microporous and Mesoporous Materials Multifunctional Mesoporous Silica Nanoparticles for Cancer-Targeted ,

- Controlled Drug Delivery and Imaging Jerusa Araújo Quint a.” Microporous and Mesoporous Materials 242:271–83. <https://doi.org/10.1016/j.micromeso.2017.01.036>.
- Freundlich. 1932. “Of The Adsorption Of Gases. Section 11. Kinetics And Energetics Of Gas Adsorption.” Trans. Faraday Soc 28:195–201.
- Genady, Afaf R., Joanne Tan, Mohamed E. El-Zaria, Aimen Zlitni, Nancy Janzen, and John F. Valliant. 2015. “Synthesis, Characterization and Radiolabeling of Carborane-Functionalized Tetrazines for Use in Inverse Electron Demand Diels-Alder Ligation Reactions.” Journal of Organometallic Chemistry 791 (June):204–13. <https://doi.org/10.1016/j.jorganchem.2015.05.033>.
- Girija, Aswathy Ravindran, and Sivakumar Balasubramanian. 2019. “Theragnostic Potentials of Core / Shell Mesoporous Silica Nanostructures.” Nanotheranostics 3. <https://doi.org/10.7150/ntno.27877>.
- Gudkov, Sergey V, Natalya Yu Shilyagina, Vladimir A Vodeneev, and Andrei V Zvyagin. 2015. “Targeted Radionuclide Therapy of Human Tumors.” International Journal of Molecular Sciences 17 (September): 1–19. <https://doi.org/10.3390/ijms17010033>.
- Guest, Paul C. 2018. “Pulse-Chase Biosynthetic Radiolabeling of Pancreatic Islets to Measure Beta Cell Function.” In Methods in Molecular Biology, 1735:331–41.
- Guillet-Nicolas, Rémy, Jean Luc Bridot, Yongbeom Seo, Marc André Fortin, and Freddy Kleitz. 2011. “Enhanced Relaxometric Properties of MRI ‘Positive’ Contrast Agents Confined in Three-Dimensional Cubic Mesoporous Silica Nanoparticles.” Advanced Functional Materials 21 (24): 4653–62. <https://doi.org/10.1002/adfm.201101766>.
- Ha, Chang Sik, and Sung Soo Park. 2019. General Synthesis and Physico-Chemical Properties of Mesoporous Materials. Springer Series in Materials Science. Vol. 281. https://doi.org/10.1007/978-981-13-2959-3_2.
- Hainfeld, James F, Sharif M Ridwan, Yaroslav Stanishevskiy, Rahul Panchal, Daniel N Slatkin, and Henry M Smilowitz. 2019. “Iodine Nanoparticles Enhance Radiotherapy of Intracerebral Human Glioma in Mice and Increase Efficacy of Chemotherapy.” Scientific Reports, no. October 2018, 1–12. <https://doi.org/10.1038/s41598-019-41174-5>.
- Hong, Huawei, Lei Zhang, Fang Xie, Rongqiang Zhuang, Donglang Jiang, Huanhuan Liu, Jindian Li, et al. 2019. “Rapid One-Step ¹⁸F-Radiolabeling of Biomolecules in Aqueous Media by

- Organophosphine Fluoride Acceptors.” *Nature Communications*, no. 2019, 1–7.
<https://doi.org/10.1038/s41467-019-08953-0>.
- Hoover, M., Myers, D., Cash, L., Guilmette, R., Kreyling, W., Oberdorster, G., Smith, R. 2017. “Radiation Safety Aspects of Nanotechnology” 27.
- Hsiao, I-lun, Susanne Fritsch-decker, Arnold Leidner, Marco Al-rawi, Vanessa Hug, Silvia Diabaté, Stephan L Grage, et al. 2019. “Biocompatibility of Amine-Functionalized Silica Nanoparticles : The Role of Surface Coverage.” *Small Journal* 1805400:1–11.
<https://doi.org/10.1002/sml.201805400>.
- IAEA. 2006. *Nuclear Medicine Resources Manual*. IAEA in Austria.
- . 2015. *Radiolabelled Autologous Cells : Methods and Standardization for Clinical Use*. International Atomic Energy Agency Vienna.
- . 2018. *Quality Control in the Production of Radiopharmaceuticals*. *Quality Control in the Production of Radiopharmaceuticals (IAEA-TECDOC-1856)*. Vienna, Austria: www.iaea.org/books.
- Ikari, K.; Suzuki, K.; Imai, H. 2006. “Structural Control of Mesoporous Silica Nanoparticles in a Binary Surfactant System.” *Langmuir* 22 (2): 802–6. <https://doi.org/10.1021/la0525527>.
- Iturrioz-rodríguez, Nerea, and Mónica L Fanarraga. 2019. “Controlled Drug Delivery Systems for Cancer Based on Mesoporous Silica Nanoparticles.” *International Journal of Nanomedicine*, 3389–3401.
- Jafari, Samira, Hossein Derakhshankhah, Loghman Alaei, and Ali Fattahi. 2019. “Biomedicine & Pharmacotherapy Mesoporous Silica Nanoparticles for Therapeutic / Diagnostic Applications.” *Biomedicine & Pharmacotherapy* 109 (August 2018): 1100–1111.
<https://doi.org/10.1016/j.biopha.2018.10.167>.
- Jal, P. K., S. Patel, and B. K. Mishra. 2004. “Chemical Modification of Silica Surface by Immobilization of Functional Groups for Extractive Concentration of Metal Ions.” *Talanta* 62 (5): 1005–28. <https://doi.org/10.1016/j.talanta.2003.10.028>.
- Jeon, Jongho, Ha Eun Shim, Sajid Mushtaq, Mi Hee Choi, Sang Hyun Park, Dae Seong Choi, and Beom Su Jang. 2016. “An Optimized Protocol for the Efficient Radiolabeling of Gold Nanoparticles by Using A125i-Labeled Azide Prosthetic Group.” *Journal of Visualized Experiments* 2016 (116). <https://doi.org/10.3791/54759>.

- Juère, Estelle, and Freddy Kleitz. 2018. "On the Nanopore Confinement of Therapeutic Drugs into Mesoporous Silica Materials and Its Implications." *Microporous and Mesoporous Materials*. Elsevier B.V. <https://doi.org/10.1016/j.micromeso.2018.04.031>.
- Kao, Kun Che, and Chung Yuan Mou. 2013. "Pore-Expanded Mesoporous Silica Nanoparticles with Alkanes/Ethanol as Pore Expanding Agent." *Microporous and Mesoporous Materials* 169 (March):7–15. <https://doi.org/10.1016/j.micromeso.2012.09.030>.
- Kassis, Amin I, and S James Adelstein. 2016. "Radiobiologic Principles in Radionuclide Therapy." *Journal of Nuclear Medicine*, no. January 2005.
- Kelkar, Sneha S, and Theresa M Reineke. 2011. "Theranostics : Combining Imaging and Therapy." *Bioconjugate Chem.*, 1879–1903. <https://doi.org/10.1021/bc200151q>.
- Kellerer dan Hug. 1974. "Low Doses of Radiation : Theoretical and Clinical Implications," no. September.
- KemenkesRI. 2016. No Title Profil Kesehatan Indonesia. Kementerian Kesehatan Republik Indonesia.
- Kempen, Paul J, Sarah Greasley, Kelly A Parker, Jos L Campbell, Huan-yu Chang, Julian R Jones, Robert Sinclair, Sanjiv S Gambhir, and Jesse V Jokerst. 2015. "Theranostics Theranostic Mesoporous Silica Nanoparticles Biodegrade after Pro-Survival Drug Delivery and Ultrasound / Magnetic Resonance Imaging of Stem Cells." *Theranostics* 5 (6): 631–39. <https://doi.org/10.7150/thno.11389>.
- Kesse, Samuel, Kofi Oti Boakye-yiadom, Belynda Owoya Ochete, Yaw Opoku-damoah, Fahad Akhtar, Mensura Sied Filli, and Muhammad Asim Farooq. 2019. "Mesoporous Silica Nanomaterials : Versatile Nanocarriers for Cancer Theranostics and Drug and Gene Delivery." *Pharmaceutics*, 1–26. <https://doi.org/10.3390/pharmaceutics11020077>.
- Khazaei, Zaher, Malihe Sohrabivafa, Victoria Momenabadi, Leili Moayed, and Elham Goodarzi. 2019. "Global Cancer Statistics 2018 : GLOBOCAN Estimates of Incidence and Mortality Worldwide Prostate Cancers and Their Relationship with the Human Development Index." *Advances in Human Biology*, 245–50. <https://doi.org/10.4103/2321-8568.262891>.
- Kikhney, Alexey G, and Dmitri I Svergun. 2015. "A Practical Guide to Small Angle X-Ray Scattering (SAXS) of Flexible and Intrinsically Disordered Proteins." *FEBS Letters* 589 (19): 2570–77. <https://doi.org/10.1016/j.febslet.2015.08.027>.

- Kozempel, J. 2018. "Progress in Targeted Alpha-Particle Therapy . What We Learned about Recoils Release from In Vivo Generators." *Molecules*. <https://doi.org/10.3390/molecules23030581>.
- Krekorian, Massis, Gerwin G.W. Sandker, Kimberley R.G. Cortenbach, Oya Tagit, N. Koen Van Riessen, René Raavé, Mangala Srinivas, Carl G. Figdor, Sandra Heskamp, and Erik H.J.G. Aarntzen. 2021. "Characterization of Intrinsically Radiolabeled Poly(Lactic- Co-Glycolic Acid) Nanoparticles for Ex Vivo Autologous Cell Labeling and in Vivo Tracking." *Bioconjugate Chemistry* 32 (8): 1802–11. <https://doi.org/10.1021/acs.bioconjchem.1c00271>.
- Kwon, Sooyeon, Rajendra K Singh, Roman A Perez, Ensanya A Abou Neel, Hae-won Kim, and Wojciech Chrzanowski. 2013. "Silica-Based Mesoporous Nanoparticles for Controlled Drug Delivery." *Journal of Tissue Engineering*. <https://doi.org/10.1177/2041731413503357>.
- Labib, Atteyat A. 2013. "Synthesis , Radioiodination and Biodistribution Evaluation." *Asia Oceania Journal of Nuclear Medicine and Biology* 1 (1): 1–7.
- Lamb, Jennifer, and Jason P Holland. 2018. "Advanced Methods for Radiolabeling Multimodality." *J of Nuclear Medicine* 59 (3): 382–90. <https://doi.org/10.2967/jnumed.116.187419>.
- Lane, Darius J R, and Des R Richardson. 2011. "William Hunter and Radioiodination." *Biochemical Journal Classic Papers*, no. December, 34–38.
- Langmuir, Irving. 1918. "The Adsorption of Gases on Plane Surfaces of Glass, Mica and Platinum." *Eucken, Verh. Deut. Physik* 345 (1914).
- Lara G. Freidus, Pradeep Kumar, Thashree Marimuthu, Priyamvada Pradeep and Yahya E. Choonara. 2021. "Theranostic Mesoporous Silica Nanoparticles Loaded With a Curcumin-Naphthoquinone Conjugate for Potential Cancer Intervention". Vol8. <https://www.frontiersin.org/journals/molecular-biosciences#articles>, <https://doi.org/10.3389/fmolb.2021.670792>.
- Lee, Jinhyeong, Jae-hyun Kim, Keunsu Choi, Hee-gon Kim, Jeong-ann Park, So-hye Cho, Seok Won Hong, et al. 2018. "Investigation of the Mechanism of Chromium Removal in Functionalized Mesoporous Silica." *Nature Scientific Reports*, no. May, 1–11. <https://doi.org/10.1038/s41598-018-29679-x>.
- Lee, Yun-sang. 2010. "Radiopharmaceuticals for Molecular Imaging." *Nuclear Medicine Journal*, 178–85.

- Li, Shihong, Beth Goins, Lujun Zhang, and Ande Bao. 2012. "Novel Multifunctional Theranostic Liposome Drug Delivery System: Construction, Characterization, and Multimodality MR, Near-Infrared Fluorescent, and Nuclear Imaging." *Bioconjugate Chem.*
- Li, Tao, Andrew J Senesi, and Byeongdu Lee. 2016. "Small Angle X - Ray Scattering for Nanoparticle Research." *ACS Chem. Rev.* <https://doi.org/10.1021/acs.chemrev.5b00690>.
- Li, Tingting, Sixiang Shi, Shreya Goel, Xue Shen, Xiaoxue Xie, Zhongyuan Chen, Hanxi Zhang, et al. 2019. "Acta Biomaterialia Recent Advancements in Mesoporous Silica Nanoparticles towards Therapeutic Applications for Cancer." *Acta Biomaterialia* 89:1–13. <https://doi.org/10.1016/j.actbio.2019.02.031>.
- Li, Yan, Fangxiang Song, Liang Cheng, Jin Qian, and Qianlin Chen. 2019. "Functionalized Large-Pore Mesoporous Silica." *Materials* 12. <https://doi.org/10.3390/ma12050766>.
- Liu, Shuang. 2009. "Bifunctional Coupling Agents for Radiolabeling of Biomolecules and Target-Specific Delivery of Metallic Radionuclides." *Adv Drug Deliv Rev* 60 (12): 1347–70. <https://doi.org/10.1016/j.addr.2008.04.006>.Bifunctional.
- London, Lynn Eaton. 2003. "World Cancer Rates Set to Double by 2020." Vol. 326.
- Loveless, Vivian S. 2012. "Quality Control of Compounded Radiopharmaceuticals." In *Quality Control of Compounded Radiopharmaceuticals*. Vol. 15.
- Lu, Jie, Monty Liong, Zongxi Li, Jeffrey I. Zink, and Fuyuhiko Tamanoi. 2011. "Biocompatibility, Biodistribution, and Drug-Delivery Efficiency of Mesoporous Silica Nanoparticles for Cancer Therapy in Animals." *Small Journal* 6 (16): 1794–1805. <https://doi.org/10.1002/sml.201000538>.Biocompatibility.
- L. Woythe, Nicholas B. Tito, Lorenzo Albertazzi. 2021."A quantitative view on multivalent nanomedicine targeting". *Advanced Drug Delivery Reviews* 169 (2021) 1–21.<https://doi.org/10.1016/j.addr.2020.11.010>
- M. Vallet-Regí , M. Colilla, I. Izquierdo-Barba and Mi. Manzano. 2018. "Mesoporous Silica Nanoparticles for Drug Delivery :". *Molecules* m:1–19. <https://doi.org/10.3390/molecules23010047>.
- Ma, Bin, Lizhen He, Yuanyuan You, Jianbin Mo, and Tianfeng Chen. 2018. "Controlled Synthesis and Size Effects of Multifunctional Mesoporous Silica Nanosystem for Precise Cancer Therapy." *Drug Delivery* 0 (0): 293–306. <https://doi.org/10.1080/10717544.2018.1425779>.

- Manavitehrani, Iman, Ali Fathi, Aaron Schindeler, and Fariba Dehghani. 2018. "Sustained Protein Release from a Core-Shell Drug Carrier System Comprised of Mesoporous Nanoparticles and an Injectable Hydrogel." *Macromolecular Bioscience* 18 (12). <https://doi.org/10.1002/mabi.201800201>.
- Martín, A, V Morales, L F Bautista, and R Sanz. 2018. "Microporous and Mesoporous Materials Modelling the Adsorption and Controlled Release of Drugs from the Pure and Amino Surface-Functionalized Mesoporous Silica Hosts." *Microporous and Mesoporous Materials* 262 (August 2017): 23–34.
- Martins, Patrícia De A, José L Silva, Marcelo P S Ramos, Ideli M De Oliveira, Carlos F Felgueiras, Rosana Herrerias, Carlos L Zapparoli Júnior, Jair Mengatti, Neuza T O Fukumori, and Margareth M N Matsuda. 2011. "Radiochemical Stability of Radiopharmaceutical Preparations." 2011 International Nuclear Atlantic Conference - INAC, 2011 Belo Horizonte, MG, Brazil, October 24-28, 2011.
- Maruyama, Kazuo. 2011. "Intracellular Targeting Delivery of Liposomal Drugs to Solid Tumors Based on EPR Effects ☆." *Advanced Drug Delivery Reviews* 63 (3): 161–69. <https://doi.org/10.1016/j.addr.2010.09.003>.
- Mattsson, S., L. Johansson, S. Leide Svegborn, J. Liniecki, D. NoÅfÅ,ke, K. Riklund, M. Stabin, et al. 2015. "ICRP Publication 128: Radiation Dose to Patients from Radiopharmaceuticals: A Compendium of Current Information Related to Frequently Used Substances." *Annals of the ICRP* 44 (2_suppl): 7–321. <https://doi.org/10.1177/0146645314558019>.
- Mcconathy, Jonathan. 2018. "Introduction to Theranostics." In .
- Mckay, G, Y S Ho, J C Y Ng, and The Hong. 1999. "Separation & Purification Reviews Biosorption of Copper from Waste Waters : A Review." *Separation and Purification Methods* 28 (1):37–41. <https://doi.org/10.1080/03602549909351645>.
- Milenic, Diane E, Erik D Brady, and Martin W Brechbiel. 2004. "Antibody-Targeted Radiation Cancer Therapy." *Nature Reviews Drug Discovery* 3 (June): 488–98. <https://doi.org/10.1038/nrd1413>.
- Moeendarbari, Sina, Rakesh Te, Aditi Mulgaonkar, and Preston Christensen. 2016. "Theranostic Nanoseeds for Efficacious Internal Radiation Therapy of Unresectable Solid Tumors." *Nature Scientific Reports* 6:20614 (August 2015): 2–10. <https://doi.org/10.1038/srep20614>.

- Mohammadpour, Raziye, Mostafa Yazdimamaghani, and Darwin L Cheney. 2019. "Subchronic Toxicity of Silica Nanoparticles as a Function of Size and Porosity." *Journal of Controlled Release* 304 (April): 216–32. <https://doi.org/10.1016/j.jconrel.2019.04.041>.
- Molavipordanjani, Sajjad, and Seyed Jalal Hosseinimehr. 2018. "Fundamental Concepts of Radiopharmaceuticals Quality Controls." *Pharmaceutical and Biomedical Research* 4 (3): 1–8. <https://doi.org/10.18502/pbr.v4i3.538>.
- Morsi, Rania E, Rania E Morsi, and Rasha S Mohamed. 2018. "Subject Category : Subject Areas : Author for Correspondence : Nanostructured Mesoporous Silica : Influence of the Preparation Conditions on the Physical-Surface Properties for Efficient Organic Dye Uptake." *Royal Society of Chemistry*.
- Mushtaq, Sajid, Jongho Jeon, Aqeela Shaheen, Beom Su Jang, and Sang Hyun Park. 2016. "Critical Analysis of Radioiodination Techniques for Micro and Macro Organic Molecules." *Journal of Radioanalytical and Nuclear Chemistry* 309 (2): 859–89. <https://doi.org/10.1007/s10967-015-4679-z>.
- Nagarajah, James, Marcel Janssen, Philipp Hetkamp, and Walter Jentzen. 2019. "Iodine Symporter Targeting with 1." *J of Nuclear Medicine* 58 (9): 34–39. <https://doi.org/10.2967/jnumed.116.186866>.
- Narayan, Reema, and Usha Y Nayak. 2018. "Mesoporous Silica Nanoparticles : A Comprehensive Review on Synthesis and Recent Advances." *Pharmaceutics*, 1–49. <https://doi.org/10.3390/pharmaceutics10030118>.
- Ni, Dalong, Dawei Jiang, Emily B Ehlerding, Peng Huang, and Weibo Cai. 2018. "Radiolabeling Silica-Based Nanoparticles via Coordination Chemistry : Basic Principles , Strategies , and Applications." *Accounts of Chemical Research*. <https://doi.org/10.1021/acs.accounts.7b00635>.
- Oh, Jong-ryool, and Byeong-cheol Ahn. 2012. "False-Positive Uptake on Radioiodine Whole-Body Scintigraphy : Physiologic and Pathologic Variants Unrelated to Thyroid Cancer." *Am J Nucl Med Mol Imaging* 2 (3): 362–85.
- P, Franken Nicolaas A, Hans M Rodermond, Jan Stap, Jaap Haveman, and Chris van Bree. 2006. "Clonogenic Assay of Cells in Vitro." *Nature Publishing*. Vol. 1. <https://doi.org/10.1038/nprot.2006.339>.

- Pal, Nabanita, Jun Hyeok Lee, and Eun Bum Cho. 2020. "Recent Trends in Morphology-Controlled Synthesis and Application of Mesoporous Silica Nanoparticles." *Nanomaterials*. MDPI AG. <https://doi.org/10.3390/nano10112122>.
- Peer, Dan, Jeffrey M Karp, Seungpyo Hong, Omid C Farokhzad, Rimona Margalit, and Robert Langer. 2007. "Nanocarriers as an Emerging Platform for Cancer Therapy." *Nature Nanotechnology*, 751–60.
- Pellico, Juan;, Peter J. Gawne, and Rafael T. M. De Rosales. 2021. "Radiolabelling of Nanomaterials for Medical Imaging and Therapy." *Chemical Society Reviews* 50 (5): 3355–3423. <https://doi.org/10.1039/d0cs00384k>.
- Pijeira, Martha Sahylí Ortega, Herlys Viltres, Jan Kozempel, Michal Sakmár, Martin Vlk, Derya İlem-Özdemir, Meliha Ekinci, et al. 2022. "Radiolabeled Nanomaterials for Biomedical Applications: Radiopharmacy in the Era of Nanotechnology." *EJNMMI Radiopharmacy and Chemistry* 7 (1). <https://doi.org/10.1186/s41181-022-00161-4>.
- Pisani, Cédric, Estelle Rascol, Christophe Dorandeu, Clarence Charnay, Yannick Guari, Joël Chopineau, Jean-marie Devoisselle, et al. 2017. "Biocompatibility Assessment of Functionalized Magnetic Mesoporous Silica Nanoparticles in Human HepaRG Cells." *Nanotoxicology* 5390. <https://doi.org/10.1080/17435390.2017.1378749>.
- Poty, Sophie, Lynn C Francesconi, Michael R Mcdevitt, Michael J Morris, and Jason S Lewis. 2018. "A -Emitters for Radiotherapy : From Basic Radiochemistry to Clinical Studies — Part 1." *The Journal of Nuclear Medicine* 59 (6): 878–84. <https://doi.org/10.2967/jnumed.116.186338>.
- Powsner, Rachel A., Matthew R. Palmer, and Edward R. Powsner. 2013. *Essentials of Nuclear Medicine Physics and Instrumentation*. 3rd Editio. A John Wiley & Sons, Ltd., Publication.
- P. Foroozandeh and A.A Aziz. 2018. "Insight into Cellular Uptake and Intracellular Trafficking of Nanoparticles." *Nanoscale Research Letters* Vol.13:339. <https://doi.org/10.1186/s11671-018-2728-6>
- Prihatiningsih, M.C. 2011. "Pembuatan MCM-48 Tercangkok Gugus Amine dari Silika Limbah Padat Geotermal Untuk Penjerap CO₂", Tesis Program Magister S2, Teknik Kimia UGM, Yogyakarta.
- Prihatiningsih. M.C., Ariyanto T., Putra E.G.R, Susilo V.Y., Mahendra I., and Prasetyo I. 2022. "Radioiodination of Modified Porous Silica Nanoparticles as a Potential Candidate of Iodine-131 Drugs Vehicle." *ACS Omega* 7 (16). <http://pubs.acs.org/journal/acsodf?ref=pdf>

- Pu, Xiaohui, and Shaofeng Duan. 2018. "Mesoporous Silica Nanoparticles as a Prospective and Promising Approach for Drug Delivery and Biomedical Applications." *Current Cancer Drug Targets*, no. December. <https://doi.org/10.2174/1568009619666181206114904>.
- Rahmani, Saher, Jelena Budimir, Mylene Sejalon, Morgane Daurat, Dina Aggad, Eric Vivès, Laurence Raehm, et al. 2019. "Large Pore Mesoporous Silica and Organosilica Nanoparticles for Pepstatin A Delivery in Breast Cancer Cells." *Molecules* 24 (2). <https://doi.org/10.3390/molecules24020332>.
- Rösch, Frank, Hans Herzog, and Syed M Qaim. 2017. "The Beginning and Development of the Theranostic Approach in Nuclear Medicine , as Exemplified by the Radionuclide Pair 86 Y and 90 Y." *Pharmaceuticals*. <https://doi.org/10.3390/ph10020056>.
- Rodrigo da Silva Viana, Luciana Amaral de Mescana Costa, Ashlyn C. Harmon, Manoel Adrião Gomes Filho, Eduardo H. L. Falcão, Maria G. H. Vicente, Severino A. Junior, and J. Michael Mathis. 2020. "177Lu-Labeled Eu-Doped Mesoporous SiO₂ Nanoparticles as a Theranostic Radiopharmaceutical for Colorectal Cancer, *ACS Appl. Nano Mater.* 2020, 3, 8691–8701, <https://dx.doi.org/10.1021/acsanm.0c01427?ref=pdf>
- Saha, G. B. 1984. "Radiolabeling of Compounds." In *Fundamentals of Nuclear Pharmacy*.
- Saini, Kusum, R. S. Prabhuraj, and Rajdip Bandyopadhyaya. 2019. "Development of Mesoporous Silica Nanoparticles of Tunable Pore Diameter for Superior Gemcitabine Drug Delivery in Pancreatic Cancer Cells." *Journal of Nanoscience and Nanotechnology* 20 (5): 3084–96. <https://doi.org/10.1166/jnn.2020.17381>.
- Sanad, H. M., and Alhussein A. Ibrahim. 2018. "Radioiodination, Diagnostic Nuclear Imaging and Bioevaluation of Olmesartan as a Tracer for Cardiac Imaging." *Radiochimica Acta* 106 (10): 843–50. <https://doi.org/10.1515/ract-2018-2960>.
- Shaban, Mina, and Mohammad Hasanzadeh. 2020. "Biomedical Applications of Dendritic Fibrous Nanosilica (DFNS): Recent Progress and Challenges." *RSC Advances*. Royal Society of Chemistry. <https://doi.org/10.1039/d0ra04388e>.
- Sharp, Peter F., Howard G. Gemmell, and Alison D. Murray. 2005. *Practical Nuclear Medicine*. 3rd Editio. Springer–Verlag London.
- Siegel, Rebecca L, and Kimberly D Miller. 2019. "Cancer Statistics , 2019" 69 (1): 7–34. <https://doi.org/10.3322/caac.21551>.

- . 2020. “Cancer Statistics , 2020.” *A Cancer Journal for Clinicians* 0 (0): 1–24. <https://doi.org/10.3322/caac.21590>.
- Silberstein, Edward B. 2012. “Radioiodine : The Classic Theranostic Agent Historical Perspective :” In *Seminar in Nuclear Medicine*, 164–70. Elsevier Inc. <https://doi.org/10.1053/j.semnuclmed.2011.12.002>.
- Singh, Rajendra K, Kapil D Patel, Kam W Leong, and Hae-won Kim. 2017. “Progress in Nanotheranostics Based on Mesoporous Silica Nanomaterial Platforms.” *Applied Material & Interfaces*. <https://doi.org/10.1021/acsami.6b16505>.
- Skrabkova, H. S., V. B. Bubenschikov, G. E. Kodina, A. S. Lunev, A. A. Larenkov, N. B. Epshtein, and A. V. Kabashin. 2019. “⁶⁸Ga-Adsorption on the Si-Nanoparticles.” *IOP Conference Series: Materials Science and Engineering* 487 (1). <https://doi.org/10.1088/1757-899X/487/1/012026>.
- Sonali, Rahul Pratap Singhb, Matte Kasi Viswanadha, Sanjay Singha, M. S. Muthua, and *. 2017. “MESOPOROUS SILICA NANOPARTICLES FOR BRAIN CANCER THERANOSTICS Sonali.” *The Pharmstudent* 28 28:36–44.
- Sporer, Emanuel, Christian B. M. Poulie, Sture Lindegren, Emma Aneheim, Holger Jensen, Tom Bäck, Paul J. Kempen, Andreas Kjaer, Matthias M. Herth, and Andreas I. Jensen. 2021. “Surface Adsorption of the Alpha-Emitter Astatine-211 to Gold Nanoparticles Is Stable In Vivo and Potentially Useful in Radionuclide Therapy.” *Journal of Nanotheranostics* 2 (4): 196–207. <https://doi.org/10.3390/jnt2040012>.
- Steen, Johanna L., Patricia E Edem, Kamilla Nørregaard, E Johanna L St, Jesper T Jørgensen, Vladimir Shalgunov, Andreas Kjaer, and Matthias M Herth. 2018. “Biomaterials Pretargeting in Nuclear Imaging and Radionuclide Therapy : Improving Ef Fi Cacy of Theranostics and Nanomedicines” 179. <https://doi.org/10.1016/j.biomaterials.2018.06.021>.
- Subiel, Anna, Reece Ashmore, and Giuseppe Schettino. 2016. “T h e r a n o s t i c s Standards and Methodologies for Characterizing Radiobiological Impact of High-Z Nanoparticles.” *Theranostics* 6 (10). <https://doi.org/10.7150/thno.15019>.
- Sugiura, Grant, Helen Kühn, Max Sauter, Uwe Haberkorn, and Walter Mier. 2014. “Radiolabeling Strategies for Tumor-Targeting Proteinaceous Drugs.” *Molecules*, 2135–65. <https://doi.org/10.3390/molecules19022135>.
- Szewczyk, Adrian, Magdalena Prokopowicz, Dorota Majda, and Gavin Walker. 2019. “Microporous and Mesoporous Materials Aminopropyl-Functionalized Mesoporous Silica SBA-15 as Drug

- Carrier for Cefazolin : Adsorption pro Fi Les , Release Studies , and Mineralization Potential.”
Microporous and Mesoporous Materials 274 (July 2018): 113–26.
- Tarn, Derrick, Carlee E Ashley, M I N Xue, Eric C Carnes, Jeffrey I Zink, and C Jeffrey Brinker. 2013. “Mesoporous Silica Nanoparticle Nanocarriers: Biofunctionality and Biocompatibility.” *Accounts of Chemical Research* 46 (3). <https://doi.org/10.1021/ar3000986>.
- Ting, Gann, Chih-hsien Chang, Hsin-ell Wang, and Te-wei Lee. 2010. “Nanotargeted Radionuclides for Cancer Nuclear Imaging and Internal Radiotherapy.” *Journal of Biomedicine and Biotechnology* 2010:1–18. <https://doi.org/10.1155/2010/953537>.
- USP. 2018. “USP Radiopharmaceuticals- Proposed-Gc-825.” In *Radiopharmaceuticals*, 1–62.
- Vaitsis, Christos, Maria Mechili, Nikolaos Argirusis, Eirini Kanellou, Pavlos K. Pandis, Georgia Sourkouni, Antonis Zorpas, and Christos Argirusis. 2020. “Ultrasound-Assisted Preparation Methods of Nanoparticles for Energy-Related Applications.” In *Nanotechnology and the Environment*. IntechOpen. <https://doi.org/10.5772/intechopen.92802>.
- Vansant E., Van Der Voort, and Vrancken K. C. 1995. *Studies in Surface Science and Catalysis 93: Characterization and Chemical Modification of The Silica Surface*. Elsevier –Belgium.
- Varache, Mathieu, Florence Baras, Igor Bezverkhyy, Guy Weber, and Lucien Saviot. 2019. “Loading of Cisplatin into Mesoporous Silica Nanoparticles : E Ff Ect of Surface Functionalization.” *Langmuir*. <https://doi.org/10.1021/acs.langmuir.9b00954>.
- Vazquez, Naiara I, Zoilo Gonzalez, and Yolanda Castro. 2017. “Synthesis of Mesoporous Silica Nanoparticles by Sol – Gel as Nanocontainer for Future Drug Delivery Applications.” *Ceramica Y Vidrio* 6:139–45. <https://doi.org/10.1016/j.bsecv.2017.03.002>.
- Walsh, Adrian A. 2017. “Chemisorption of Iodine-125 to Gold Nanoparticles Allows for Real-Time Quantitation and Potential Use in Nanomedicine.” *Journal of Nanoparticle Research* 19 (4). <https://doi.org/10.1007/s11051-017-3840-8>.
- Watermann, Anna. 2017. “Mesoporous Silica Nanoparticles as Drug Delivery Vehicles in Cancer.” *Nanomaterials*. <https://doi.org/10.3390/nano7070189>.
- Wegner, Susann, and Christoph Janiak. 2017. *Metal Nanoparticles in Ionic Liquids. Topics in Current Chemistry*. Springer International Publishing. <https://doi.org/10.1007/s41061-017-0148-1>.
- WHO. 2003. “Annex 3 Guidelines on Good Manufacturing Practices for Radiopharmaceutical Products,” no. 908, 26–35.
- . 2004. “WHO 2004 ALARA.Pdf.”

- . 2008. “RADIOPHARMACEUTICALS Final Text for Addition to T He International Pharmacopoeia” 2 (November).
- WHO Release, Press. 2018. “Latest Global Cancer Data : Cancer Burden Rises to 18 . 1 Million New Cases and 9 . 6 Million Cancer Deaths in 2018 Latest Global Cancer Data : Cancer Burden Rises to 18 . 1 Million New Cases and 9 . 6 Million Cancer Deaths in 2018,” no. September, 13–15.
- Wright, Chadwick L, Jun Zhang, Michael F Tweedle, Michael V Knopp, and Nathan C Hall. 2015. “Theranostic Imaging of Yttrium-90.” *BioMed Research International* 2015. <https://doi.org/10.1155/2015/481279>.
- Wu, Si Han, and Hong Ping Lin. 2013. “Synthesis of Mesoporous Silica Nanoparticles.” *Chemical Society Reviews* 42 (9): 3862–75. <https://doi.org/10.1039/c3cs35405a>.
- Xie, Xiaodong, Yingying Zhang, Fengqiao Li, Tingting Lv, Ziyang Li, Haijun Chen, and Lee Jia. 2019. “The Architecture and Function of Monoclonal Antibody-Functionalized Mesoporous Silica Nanoparticles Loaded with Mifepristone : Repurposing Challenges and Opportunities from Basic Cancer Biology for Nanomedicine for Targeted Drug Delivery.” *Current Cancer Drug Targets*, no. March 2016. <https://doi.org/10.1002/sml.201600550>.
- Yang, Bowen, Yu Chen, and Jianlin Shi. 2019. “Materials Science & Engineering R Mesoporous Silica / Organosilica Nanoparticles : Synthesis , Biological Effect and Biomedical Application.” *Materials Science & Engineering R* 137 (November 2018): 66–105. <https://doi.org/10.1016/j.mser.2019.01.001>.
- Yeong, Chai-hong, Mu-hua Cheng, and Kwan-hoong Ng. 2014. “Therapeutic Radionuclides in Nuclear Medicine : Current and Future Prospects.” *J Zhejiang Univ-Sci B (Biomed & Biotechnol)* 15 (10): 845–63. <https://doi.org/10.1631/jzus.B1400131>.
- Yildirim, Adem, Gokcen Birlik Demirel, Rengin Erdem, Berna Senturk, Turgay Tekinay, and Mehmet Bayindir. 2013. “Pluronic Polymer Capped Biocompatible Mesoporous Silica Nanocarriers.” *Chemical Communications* 49 (84): 9782–84. <https://doi.org/10.1039/c3cc45967e>.
- Yismaw, Shewaye, Richard Kohns, Denise Schneider, David Poppitz, Stefan G. Ebbinghaus, Roger Gläser, Ulrich Tallarek, and Dirk Enke. 2019. “Particle Size Control of Monodispersed Spherical Nanoparticles with MCM-48-Type Mesostructure via Novel Rapid Synthesis Procedure.” *Journal of Nanoparticle Research* 21 (12). <https://doi.org/10.1007/s11051-019-4699-7>.

- Yonekura, Y., S. Mattsson, G. Flux, W. E. Bolch, L. T. Dauer, D. R. Fisher, M. Lassmann, et al. 2019. "ICRP Publication 140: Radiological Protection in Therapy with Radiopharmaceuticals." *Annals of the ICRP* 48 (1): 5–95. <https://doi.org/10.1177/0146645319838665>.
- Yordanova, Anna, Elisabeth Eppard, Stefan Kürpig, Ralph A Bundschuh, Stefan Schönberger, Maria Gonzalez-carmona, and Georg Feldmann. 2017. "Theranostics in Nuclear Medicine Practice." *OncoTargets and Therapy Journals* 10:4821–28.
- Yongju He, Liangyu Luo, Shuquan Liang, Mengqiu Long, and Hui Xu. 2017. "Amino-functionalized mesoporous silica nanoparticles as efficient carriers for anticancer drug delivery." *Journal of Biomaterials Applications-Biomaterials for Drug Delivery*. 0(0) 1–9 <https://doi.org/10.1177/0885328217724638>.
- Zalutsky, Michael R., and and Marek Pruszyński. 2012. "Astatine-211 : Production and Availability." *Curr Radiopharm* 4 (3): 177–85.
- Zhang, Haidong, and Xiaohong Li. 2016. "Novel Mesoporous Silica Materials with Hierarchically Ordered Nanochannel: Synthesis with the Assistance of Straight-Chain Alkanes and Application." *Journal of Chemistry*. Hindawi Limited. <https://doi.org/10.1155/2016/5146573>.
- Zhang, Ying, Jiejun Cheng, Niannian Li, Ruochen Wang, and Gang Huang. 2019. "Materials Science & Engineering C A Versatile Theranostic Nanoplatfrom Based on Mesoporous Silica." *Materials Science & Engineering C* 98 (October 2017): 560–71.
- Zhou, Yixian, Guilan Quan, Qiaoli Wu, Xiaoxu Zhang, and Boyi Niu. 2018. "Mesoporous Silica Nanoparticles for Drug and Gene Delivery." *Acta Pharmaceutica Sinica B* 8 (2): 165–77. <https://doi.org/10.1016/j.apsb.2018.01.007>.