DAFTAR PUSTAKA

Abdalla, M.M., Lung, C.Y.K., Neelakantan, P., and Matinlinna, J.P., 2020, A Novel, Doped Calcium Silicate Bioceramic Synthesized by Sol–Gel Method: Investigation of Setting Time and Biological Properties, *J. Biomed. Mater Res. B. Appl. Biomater.*, 108, 56–66.

Abou Rida, M. and Harb, F., 2014, Synthesis and Characterization of Amorphous Silica Nanoparitcles from Aqueous Silicates Uisng Cationic Surfactants, *J. Met. Mater. Miner.*, 24, 37–42.

Aguilar, A., Zein, N., Harmouch, E., Hafdi, B., Bornert, F.,Offner, D., Clauss, F., Fioretti, F., Huck, O., Benkirane-Jessel, J., and Hua, G., 2019, Application of Chitosan in Bone and Dental Engineering, *Molecules*, 24, 3009.

Ahmadi, H., Ebrahimi, A., and Ahmadi, F., 2021, Antibiotic Therapy in Dentistry, *Int. J. Dent.*, 2021, 66676.

Al-Hezaimi, K., Naghshbandi, J., Oglesby, S., Simon, J.H.S., and Rotstein, I., 2006, Comparison of Antifungal Activity of White-olored and Gray-colored Mineral Trioxide Aggregate (MTA) at Similar Concentrations Against *Candida albicans*, *J. Endod.*, 32, 365–367.

Ali, I. A. A., Cheung, B.P.K., Yau, J.Y.Y., Matinlinna, J.P., Lévesque, C.M., Belibasakis, G.N., and Neelakantan, P., 2020b, The Influence of Substrate Surface Conditioning and Biofilm Age on The Composition of *Enterococcus faecalis* biofilms, *J. Int. Endod.*, 53, 53–61.

ALOthman, Z., 2012, A Review: Fundamental Aspects of Silicate Mesoporous Materials, *Materials*, 5, 2874–2902.

An, S., Gao, Y., Ling, J., Wei, X., and Xiao, Y., 2012, Calcium Ions Promote Osteogenic Differentiation and Mineralization of Human Dental Pulp Cells: Implications for Pulp Capping Materials, *J. Mater. Sci. Mater. Med.*, 23, 789–795.

Aprillia, I., Usman, M., and Asrianti, D., 2018, Comparison of Calcium Ion Release from MTA-Angelus® and Biodentine®, *J. Phys. Conf. Ser.*, 1073, 052008.

Ashraf, W. and Olek, J., 2015, A Comparative Study of the Reactivity of Calcium Silicates during Hydration and Carbonation Reactions, *14th International Congress on the Chemistry of Cement*. Chinese Ceramic Society, 13-16 October, Beijing.

Baghdayan, A.S., Shankar, N., and Tendolkar, P.M., 2003, Pathogenic enterococci: New Developments in the 21st Century, *Cell. Mol. Life Sci.*, 60, 2622–2636.

Bashir, A. and Brown, J.S., 2022, *Pseudomonas,* In *Encyclopedia of Respiratory Medicine*. Elsevier, New York.

Baykara, H., Riofrio, A., Garcia-Troncoso, N., Cornejo, M., Tello-Ayala, K., Flores Rada, J., and Caceres, J., 2024, Chitosan-Cement Composite Mortars: Exploring Interactions, Structural Evolution, Environmental Footprint and Mechanical Performance, *ACS Omega*, 9, 24978–24986.

Bird, D.C., Komabayashi, T., Guo, L., Opperman, L.A., and Spears, R., 2012, In Vitro Evaluation of Dentinal Tubule Penetration and Biomineralization Ability of a New Root-end Filling Material, *J. Endod.*, 38, 1093–1096.

Bokov, D., Turki Jalil, A., Chupradit, S., Suksatan, W., Javed Ansari, M., Shewael, I.H., Valiev, G.H., and Kianfar, E., 2021, Nanomaterial by Sol-Gel Method: Synthesis and Application, *Adv. Mater. Sci. Eng.*, 1–21.

Bortoluzzi, E. A., Broon, N.J., Bramante, C.M., Felippe, W.T., Filho, T.M., and Esberard, R.M., 2009, The Influence of Calcium Chloride on the Setting Time, Solubility, Disintegration, and pH of Mineral Trioxide Aggregate and White Portland Cement with a Radiopacifier, *J. Endod.*, 35, 550–554.

Bourne, D.W., 2002, *Modern Pharmaceutics Fourth Edition, Revised and Expanded*, 4th ed. Banker,G.S. and Rhodes,C.T. (eds) Marcel Dekker, Inc., New York.

Bravo, S.A., Lamas, M.C., and Salamón, C.J., 2002, In-vitro Studies of Diclofenac Sodium Controlled-release from Biopolymeric Hydrophilic Matrices., *J. Pharm. Pharm. Sci.*, 5, 213–9.

Camilleri, J., 2011, Characterization and Hydration Kinetics of Tricalcium Silicate Cement for Use as a Dental Biomaterial, *Dent. Mater. J.*, 27, 836–844.

Camilleri, J., 2007, Hydration Mechanisms of Mineral Trioxide Aggregate, *J. Int. Endod.*, 40, 462–470.

Camilleri, J., 2015, Mineral Trioxide Aggregate: Present and Future Developments, Endod. Topics, 32(1), 31-46.

Camilleri, J. and Gandolfi, M.G., 2010, Evaluation of The Radiopacity of Calcium Silicate Cements Containing Different Radiopacifiers, *J. Int. Endod.*, 43, 21–30.

Caroni, A.L.P.F., de Lima, C.R.M., Pereira, M.R., and Fonseca, J.L.C., 2009, The Kinetics of Adsorption of Tetracycline on Chitosan particles, *J. Coll. Inter. Sci.*, 340, 182–191.

Cattoir, V., Isnard, C., Cosquer, T., Odhiambo, A., Bucquet, F., Guérin, F., and Giard, J.C., 2015, Genomic Analysis of Reduced Susceptibility to Tigecycline in *Enterococcus faecium*, *Antimicrob. Agents. Chemother.*, 59, 239–244.

Chai, W.L., Hamimah, H., Cheng, S.C., Sallam, A.A., and Abdullah, M., 2007, Susceptibility of *Enterococcus faecalis* Biofilm to Antibiotics and Calcium Hydroxide, *J. Oral Sci.*, 49, 161–166.

Chandy, T. and Sharma, C.P., 1990, Chitosan-as a Biomaterial, *Biomart. Art. Cells. Art. Org.*, 18(1), 1-24.

Chang, P.J., Chen, M.S., Cheng, C.H., Chiou, Y.J., Chen, C.Y., Su, C.Y., and Lin, C.K., 2024, Effects of Calcination Temperature on the Synthesis of One-Pot Sol-Gelled Barium Titanate Powder and Its Performance as an Endodontic Radiopacifier, *Materials*, 17, 2701.

Chang, S.-W., 2012, Chemical Characteristics of Mineral Trioxide Aggregate and Its Hydration Reaction, *Restor. Dent. Endod.*, 37, 188.

Chang, S.W., 2018, Chemical Composition and Porosity Characteristics of Various Calcium Silicate-Based Endodontic Cements, *Bioinorgan. Chem. Appl*, 2018, 1–6.

Chen, Y.Z., Lü, X.Y., and Liu, G.D., 2013, A Novel Root-end Filling Material Based on Hydroxyapatite, Tetracalcium Phosphate and Polyacrylic Acid, *J. Int. Endod.*, 46, 556–564.

Cheung, R., Ng, T., Wong, J., and Chan, W., 2015, Chitosan: An Update on Potential Biomedical and Pharmaceutical Applications, *Mar. Drugs.*, 13, 5156–5186.

Chopra, I. and Roberts, M., 2001, Tetracycline Antibiotics: Mode of Action, Applications, Molecular Biology, and Epidemiology of Bacterial Resistance, *Microbiol. Mol. Biol. Rev.*, 65, 232–260.

Costa, P. and Sousa Lobo, J.M., 2001, Modeling and Comparison of Dissolution Profiles, *Eur. J. Pharm. Sci.*, 13, 123–133.

Dash, S., Murthy, P.N., Nath, L., and Chowdhury, P., 2010, Kinetic Modeling on Drug Release from Controlled Drug Delivery Systems., *Acta. Pol. Pharm.*, 67, 217–23.

Dastorani, M., Malekpour, Behnam, AminSobhani, M., Alemrajabi, M., Mahdian, A., and Malekpour, Behrooz, 2021, Comparison of bacterial microleakage of three bioactive endodontic sealers in simulated underwater diving and aviation conditions, *BMC Oral Health*, 21, 1-7.

De Deus, G., Camilleri, J., Primus, C.M., Duarte, M.A.H., and Bramante, C.M., 2014, *Introduction to mineral trioxide aggregate, Mineral Trioxide Aggregate in Dentistry: From Preparation to Application*, Springer-Verlag Berlin, Heidelberg.

Dewi, F., Asrianti, D., and Margono, A., 2017, Microleakage Evaluation of Modified Mineral Trioxide Aggregate Effect Toward Marginal Adaptation on Cervical Dentin Perforation, *Int. J. Appl. Pharm.*, 9, 10–13.

Diaz-Torres, M.L., McNab, R., Spratt, D.A., Villedieu, A., Hunt, N., Wilson, M., and Mullany, P., 2003, Novel Tetracycline Resistance Determinant from the Oral Metagenome, *Antimicrob. Agents Chemother.*, 47, 1430–1432.

Donlan, R.M., 2002, Biofilms: Microbial Life on Surfaces, *Emerg. Infect. Dis.*, 8, 881–890.

Dreger, L.A.S., Felippe, W.T., Reyes-Carmona, J.F., Felippe, G.S., Bortoluzzi, E.A., and Felippe, M.C.S., 2012, Mineral trioxide aggregate and portland cement promote biomineralization in vivo, *J. Endod.*, 38, 324–329.

Estrela, C., Cintra, L.T.A., Duarte, M.A.H., Rossi-Fedele, G., Gavini, G., and Damião Sousa-Neto, M., 2023, Mechanism of action of Bioactive Endodontic Materials, *J. Braz. Dent.*, 34, 1–11.

Estrela, C. and Holland, R., 2003, Calcium Hydroxide: Study Based on Scientific Evidence, *J. Appl. Oral Sci.*, 11, 269–282.

Fa'izzah, M., Widjijono, W., Kamiya, Y., and Nuryono, N., 2020, Synthesis and Characterization of White Mineral Trioxide Aggregate Using Precipitated Calcium Carbonate Extracted from Limestone, *Key. Eng. Mater.*, 840, 330–335.

Freitas, M.N. and Marchetti, J.M., 2005, Nimesulide PLA Microspheres as a Potential Sustained Release System for the Treatment of Inflammatory Diseases, *Int. J. Pharm.*, 295, 201–211.

Fu, Y. and Kao, W.J., 2010, Drug Release Kinetics and Transport Mechanisms of Non-degradable and Degradable Polymeric Delivery Systems, *Expert. Opin. Drug. Deliv.*, 7, 429–444.

Gandolfi, M.G., Taddei, P., Siboni, F., Modena, E., Ciapetti, G., and Prati, C., 2011, Development of The Foremost Light-curable Calcium-Silicate MTA Cement as Root-end in Oral Surgery. Chemical–physical Properties, Bioactivity and Biological Behavior, *Dent. Mater.*, 27, 134–157.

Gartner, E., Maruyama, I., and Chen, J., 2017, A New Model for the C-S-H Phase Formed during The Hydration of Portland Cements, *Cem. Concr. Res.*, 97, 95–106.

Ghadafi, M., 2019, Pemanfaatan Silika Abu Sekan Padi untuk Bahan Dasar Pembuatan White Mineral Trioxide Aggreate yang Berpotensi sebagai Bahan Endodontik, *Tesis*, FMIPA UGM, Yogyakarta.

Ghadafi, M., Santosa, S.J., Kamiya, Y., and Nuryono, N., 2020, Free Na and Less Fe Compositions of SiO Extracted from Rice Husk Ash as the Silica Source for Synthesis of White Mineral Trioxide Aggregate, *Key. Eng. Mater.*, 840, 311–317.

Ghimire, P.P. and Jaroniec, M., 2021, Renaissance of Stöber Method for Synthesis of Colloidal Particles: New Developments and Opportunities, *J. Colloid. Interface. Sci.*, 584, 838–865.

Gilmore, M.S., Clewell, D.B., Courvalin, P., Dunny, G.M., Murray, B.E., and Rice, L.B., 2002, *The Enterococci: Pathogenesis, Molecular Biology, and Antibiotic Resistance*, (eds) ASM Press, Washington.

Goyal, G., Garg, T., Rath, G., and Goyal, A.K., 2014, Current Nanotechnological Strategies for an Effective Delivery of Drugs in Treatment of Periodontal Disease, *Crit. Rev. Ther. Drug Carrier Sys.*, 31, 89–119.

Grazziotin-Soares, R., Nekoofar, M.H., Davies, T.E., Bafail, A., Alhaddar, E., Hübler, R., Busato, A.L.S., and Dummer, P.M.H., 2014, Effect of Bismuth Oxide on White Mineral Trioxide Aggregate: Chemical Characterization and Physical Properties, *J. Int. Endod.*, 47, 520–533.

Grossman, T.H., 2016, Tetracycline Antibiotics and Resistance, *Cold. Spring. Harb. Perspect. Med.*, 6, 025387.

Grover, C. and Shetty, N., 2014, Evaluation of Calcium Ion Release and Change in pH on Combining Calcium Hydroxide with Different Vehicles, *Contemp. Clin. Dent.*, 5, 434.

Guerreiro, J.C.M., Ochoa-Rodrígez, V.M., Rodrigues, E.M., Chavez-Andrade, G.M., Tanomaru-Filho, M., Guerreiro-Tanomaru, J.M., and Faria, G., 2021, Antibacterial Activity, Cytocompatibility and Effect of Bio-C Temp Bioceramic Intracanal Medicament on Osteoblast Biology, *J. Int. Endod.*, 54, 1155–1165.

Hassan Al-Fhdawi, A.A. and Rabee, A.M., 2023, Influence pH on Virulence Genes of *Pseudomonas aeruginosa* Analyzed by RT-PCR Method, *Arb. Gulf J. Sci. Res*, 42(2), 280-289.

Haznedaroglu, F. and Ersev, H., 2001, Tetracycline HCl Solution as a Root Canal Irrigant, *J. Endod.*, 27, 738–740.

Hu, Y., Hao, D., Gong, F., Gao, Y., Yan, X., and Ma, G., 2021, Facile One-pot Emulsion/sol-gel Method for Preparing Wrinkled Silica Microspheres, *Particuology*, 56, 33–42.

Ismaiel Saraya, M. and Rokbaa, H., 2017, Formation and Stabilization of Vaterite Calcium Carbonate by Using Natural Polysaccharide, *Adv. Nanopart.*, 06, 158–182.

Jaman, A., ABA, M.U.N., and Widyayanti, O.A., 2023, Synthesis of White Mineral Trioxide Aggregate (WMTA) Using Silica from Rice Husk and Calcium Carbonate from Limestone, *J. Kim. Sains Apl.*, 26, 64–69.

Kalam, M.A., Humayun, M., Parvez, N., Yadav, S., Garg, A., Amin, S., Sultana, Y., and Ali, A., 2007, Release Kinetics of Modified Pharmaceutical Dosage Forms: A Review, *Cont. J. Pharm. Sci.*, 1, 30–35.

Khan, S., Fareed, M., Kaleem, M., and Ud Din, S., 2014, An Updated Review of Mineral Trioxide Aggregate Part-1: Compositional Analysis, Setting Reaction and Physical Properties, *J. Park. Dent. Assoc.*, 23(4), 140-147.

Khan, S., Kaleem, M., Fareed, M.A., Habib, A., Iqbal, K., Aslam, A., and Ud din, S., 2016, Chemical and Morphological Characteristics of Mineral Trioxide Aggregate and Portland Cements, *J. Dent. Mater.*, 35, 112–117.

Kim, D. and Kim, E., 2014, Antimicrobial Effect of Calcium Hydroxide as An Intracanal Medicament in Root Canal Treatment: A Literature Review - Part I, *Restor. Dent. Endod.*, 39, 241.

Kumari, S., Mittal, A., Dadu, S., Dhaundiyal, A., Abraham, A., and Yendrembam, B., 2018, Comparative Evaluation of Physical and Chemical Properties of Calcium Silicate-based root-end Filling Materials (Mineral Trioxide Aggregate and Biodentine): An in Vitro Study, *Ind. J. Dent. Sci.*, 10, 197.

Latifi, S.M., Fathi, M., and Varshosaz, J., 2015, The Effect of Acid and Base Catalysts on Phase Purity and Dissolution Behavior of Sol-Gel Derived in situ Silica Coated Apatite Composite Nanopowders, *Ceram. Int.*, 41, 9476–9481.

Lee, B.N., Hwang, Y.C., Jang, J.H., Chang, H.S., Hwang, I.N., Yang, S.Y., Park, Y.J., Son, H.H., and Oh, W.M., 2011, Improvement of The Properties of Mineral Trioxide Aggregate by Mixing with Hydration Accelerators, *J. Endod.*, 37, 1433–1436.

Lee, K.S., Kim, J.S., Lee, D.Y., Kim, R.J.Y., and Shin, J.H., 2015, In Vitro Microleakage of Six Different Dental Materials as Intraorifice Barriers in Endodontically Treated Teeth, *J. Dent. Mater.*, 34, 425–431.

Lengheden, A. and Jansson, L., 1995, PH Effects on Experimental Wound Healing of Human Fibroblasts in vitro, *Eur. J. Oral. Sci.*, 103, 148–155.

Li, H., Cheng, B., Gao, W., Feng, C., Huang, C., Liu, Y., Lu, P., and Zhao, H., 2022, Recent research Progress and Advanced Applications of Silica/Polymer Nanocomposites, *Nanotechnol. Rev.*, 11, 2928–2964.

Li, Q. and Coleman, N.J., 2015, The Hydration Chemistry of ProRoot MTA, *J. Dent. Mater.*, 34, 458–465.

Lin, C.K. and Kazmierczak, B.I., 2017, Inflammation: A Double-Edged Sword in the Response to *Pseudomonas aeruginosa* Infection, *J. Innate. Immun.*, 9, 250–261.

Lin, Q., Lan, X., Li, Y., Yu, Y., Ni, Y., Lu, C., and Xu, Z., 2010, Anti-washout Carboxymethyl Chitosan Modified Tricalcium Silicate Bone Cement: Preparation, Mechanical Properties and in Vitro Bioactivity, *J. Mater. Sci. Mater. Med.*, 21, 10, 65714.

Lucio, D. and Martínez-Ohárriz, M.C., 2017, Chitosan: Strategies to Increase and Modulate Drug Release Rate,. In, *Biol. Act. Appl. Mar. Polysacch.*, 101-127.

Maharti, I.D., Suprastiwi, E., Agusnar, H., Herdianto, N., and Margono, A., 2023, Characterization, Physical Properties, and Biocompatibility of Novel Tricalcium Silicate-Chitosan Endodontic Sealer, *Eur. J. Dent.*, 17, 127–135.

Mahmoud, M., 2015, Multi-scale Response of Sustainable Self- Compacting Concrete (SCC) to Carbonation and Chloride Penetration, *Thesis*, FT UN, Nottingham.

Mariyam, M., Sunarintyas, S., and Nuryono, N., 2023, Improving Mechanical, Biological, and Adhesive Properties of Synthesized Mineral Trioxide Aggregate by Adding Chitosan, *Inorg. Chem. Commun.*, 149, 110446.

Mariyam, M., Sunarintyas, S., Yuliatun, L., Irnawati, D., Hatmanto, A.D., and Nuryono, N., 2024, Physicochemical and Antibacterial Properties of ZnO/chitosan-modified Mineral Trioxide Aggregate Composites, *Case Stud. Chem. Environ. Eng.*, 9, 100749.

Matsunaga, T., Yanagiguchi, K., Yamada, S., Ohara, N., Ikeda, T., and Hayashi, Y., 2006, Chitosan Monomer Promotes Tissue Regeneration on Dental Pulp Wounds, *J. Biomed. Mater. Res.*, 76, 711–720.

Melake, N. A., Mahmoud, H. A., Al-Semary, and M. T., 2012, Bactericidal Activity of Various Antibiotics versus Tetracycline-loaded Chitosan Microspheres Against *Pseudomonas aeruginosa* Biofilms, *Afr. J. Microbiol. Res*., 6(25), 5387-5398.

Miculescu, F. and Demetrescu, I., 2007, Infrared and ESEM Technique in Supporting Ti and Ti-Al-V Alloy behavior in Afnor and Tani-Zucci Solutions, *J. Optoelectron. Adv. Mater.,* 9(11), 3396-3399.

Mirzaeei, S., Moghadam, F., Asare-Addo, K., and Nokhodchi, A., 2022, Design of a Nanofibrous Guided Tissue Regeneration Carrier as a Potential Drug Delivery System for Tetracycline Hydrochloride in The Management of Periodontitis, *J. Drug. Deliv. Sci. Technol.*, 75, .

Miyazaki, S., Nakayama, A., Oda, M., Takada, M., and Attwood, D., 1995, Drug Release from Oral Mucosal Adhesive Tablets of Chitosan and Sodium Alginate, *Int. J. Pharm.*, 118, 257–263.

Mohamed, B.M. and Sharp, J.H., 2002, Kinetics and Mechanism of Formation of Tricalcium Aluminate, $Ca_3Al_2O_6$, *Thermochim. Acta.*, 388, 105–114.

Mohamed, J.A. and Huang, D.B., 2007, Biofilm Formation by *Enterococci*, *J. Med. Microbiol.*, 56, 1581–1588.

Molander, A. and Dahlén, G., 2003, Evaluation of The Antibacterial Potential of Tetracycline or Erythromycin Mixed with Calcium Hydroxide as Intracanal Dressing Against *Enterococcus faecalis* in vivo, *Oral Surg. Oral Med., Oral Pathol., Oral Radiol., Endod.*, 96, 744–750.

Momenijavid, M., Salimizand, H., Korani, A., Dianat, O., Nouri, B., Ramazanzadeh, R., Ahmadi, A., Rostamipour, J., and Khosravi, M.R., 2022, Effect of Calcium Hydroxide on Morphology and Physicochemical Properties of *Enterococcus faecalis* Biofilm, *Sci. Rep.*, 12, 7595.

Morita, Y., Tomida, J., and Kawamura, Y., 2014, Responses of *Pseudomonas aeruginosa* to Antimicrobials, *Front. Microbiol.*, 4, 422.

Murad, C.F., Sassone, L.M., Souza, M.C., Fidel, R.A.S., Fidel, S.R., and Junior, R.H., 2013, Antimicrobial Ativity of Sodium Hypochlorite, Chlorhexidine and MTAD® against *Enterococcus faecalis* Biofilm on Human Dentin Matrix In Vitro, *RSBO*, 9, 143–50.

Paarakh, M.P., Jose, P.A., Setty, C.M., and Christoper, P., 2018, Release Kinetics - Concept and Applications, *Int. J. Pharm. Res. Technol.*, 10, 12–20.

Patel, N., 2014, Comparing Gray and White Mineral Trioxide Aggregate as a Repair Material for Furcation Perforation: An in Vitro Dye Extraction Study, *J. Clin. Diagn. Res.*, 8(10), 70-73.

Pereira, T.C., da Silva Munhoz Vasconcelos, L.R., Graeff, M.S.Z., Ribeiro, M.C.M., Duarte, M.A.H., and de Andrade, F.B., 2019, Intratubular Decontamination Ability and Physicochemical Properties of Calcium Hydroxide Pastes, *Clin. Oral. Investig.*, 23, 1253–1262.

Planet, P.J., 2018, *Pseudomonas aeruginosa: Principles and Practice of Pediatric Infectious Diseases*, Elsevier, New York.

Pushpalatha, C., Dhareshwar, V., Sowmya, S. V., Augustine, D., Vinothkumar, T.S., Renugalakshmi, A., Shaiban, A., Kakti, A., Bhandi, S.H., Dubey, A., Rai, A. V., and Patil, S., 2022, Modified Mineral Trioxide Aggregate—A Versatile Dental Material: An Insight on Applications and Newer Advancements, *Front. Bioeng. Biotechnol.*, 10, 941826.

Raafat, D. and Sahl, H., 2009, Chitosan and Its Antimicrobial Potential – A Critical Literature Survey, *Microb. Biotechnol.*, 2, 186–201.

Ramadiani, N., 2022, Pengaruh Penambahan Kitosan Larut Air Konsentrasi 5% dan 10% Terhadap Kekuatan Kompresi Mineral Trioxide Aggregate, *Skripsi*, FKG UI, Jakarta.

Ranjkesh, B., Chevallier, J., Salehi, H., Cuisinier, F., Isidor, F., and Løvschall, H., 2016, Apatite Precipitation on A Novel Fast-Setting Calcium Silicate Cement Containing Fluoride, *Acta. Biomater. Odontol. Scand.*, 2, 68–78.

Rinaudo, M., 2006, Chitin and Chitosan: Properties and Applications, *Prog. Polym. Sci.*, 31, 603–632.

Rivas Caldas, R., Le Gall, F., Revert, K., Rault, G., Virmaux, M., Gouriou, S., Héry-Arnaud, G., Barbier, G., and Boisramé, S., 2015, *Pseudomonas aeruginosa* and Periodontal Pathogens in the Oral Cavity and Lungs of Cystic Fibrosis Patients: A Case-Control Study, *J. Clin. Microbiol.*, 53, 1898–1907.

Sadri, M., Mohammadi, A., and Hosseini, H., 2016, Drug Release Rate and Kinetic Investigation of Composite Polymeric Nanofibers, *J. Nanomed. Res.*, 1, 112–121.

Sanchez, F. and Zhang, L., 2008, Molecular Dynamics Modeling of The Interface Between Surface Functionalized Graphitic Structures and Calcium–silicate–hydrate: Interaction Energies, Structure, and Dynamics, *J. Colloid. Interface. Sci.*, 323, 349–358.

Saunders, W.P. and Saunders, E.M., 1994, Coronal Leakage as a Cause of Failure in Root-canal Therapy: a Review, *Dent. Traumatol.*, 10, 105–108.

Schäfer, E. and Zandbiglari, T., 2003, Solubility of Root-canal Sealers in Water and Artificial Saliva, *J. Int. Endod.*, 36, 660–669.

Sharma, A., 2020, Tetracycline: A Useful Class of Antibiotics for Successful Endodontics, *Int. J. Ayurveda. Pharma. Res.*,3, 13-8.

Siepmann, J. and Siepmann, F., 2008, Mathematical Modeling of Drug Delivery, *Int. J. Pharm.*, 364, 328–343.

Singh, J., Gupta, S., and Kaur, H., 2011, Prediction of in vitro Drug Release Mechanisms from Extended-Release Matrix Tablets using SSR/R2 Technique, *Trends. Appl. Sci. Res.*, 6, 400–409.

Siqueira, J. F. and Rocas, I. N., 2022, *Treatment of Endodontics Infections 2nd Edition*, Quintessence Publishing Co Ltd, Berlin.

Song, X., Segura-Egea, J.J., and Díaz-Cuenca, A., 2023, Sol–Gel Technologies to Obtain Advanced Bioceramics for Dental Therapeutics, *Molecules*, 28, 6967.

Souza-Filho, F.J., Pinheiro, E.T., Gomes, B.P.F.A., Ferraz, C.C.R., Sousa, E.L.R., and Teixeira, F.B., 2003, Microorganisms from Canals of Root-filled Teeth with Periapical Lesions, *J. Int. Endod.*, 36(1), 1-11.

Stuart, C., Schwartz, S., Beeson, T., and Owatz, C., 2006, *Enterococcus faecalis*: Its Role in Root Canal Treatment Failure and Current Concepts in Retreatment, *J. Endod.*, 32, 93–98.

Subhi, H., Husein, A., Mohamad, D., and Nurul, A.A., 2020, Physicochemical, Mechanical and Cytotoxicity Evaluation of Chitosan-based Accelerated Portland Cement, *J. Mater. Res. Technol.*, 9, 11574–11586.

Taddei, P., Modena, E., Tinti, A., Siboni, F., Prati, C., and Gandolfi, M.G., 2011, Vibrational Investigation of Calcium-Silicate Cements for Endodontics in Simulated Body Fluids, *J. Mol. Struct.*, 993, 367–375.

Torabinejad, M., Khademi, A., Babagoli, J., Cho, Y., Johnson, W., Bozhilov, K., Kim, J., and Shabahang, S., 2003, A New Solution for the Removal of the Smear Layer, *J. Endod.*, 29, 170–175.

Torabinejad, M. and Parirokh, M., 2010, Mineral Trioxide Aggregate: A Comprehensive Literature Review—Part II: Leakage and Biocompatibility Investigations, *J. Endod.*, 36, 190–202.

Trivedi, K.M., Patil, S., Shettigar, H., Bairwa, K., and Jana, S., 2015, Spectroscopic Characterization of Chloramphenicol and Tetracycline: An Impact of Biofield Treatment, *Pharm. Anal. Acta.*, 6(395), 19-21.

Tsesis, I., Elbahary, S., Venezia, N.B., and Rosen, E., 2018, Bacterial Colonization in The Apical Part of Extracted Human Teeth Following Root-end Resection and Filling: A Confocal Laser Scanning Microscopy Study, *Clin. Oral. Investig.*, 22, 267–274.

Unagolla, J.M. and Jayasuriya, A.C., 2018, Drug Transport Mechanisms and In Vitro Release Kinetics of Vancomycin Encapsulated Chitosan-alginate Polyelectrolyte Microparticles as a Controlled Drug Delivery System, *Eur. J. Pharm. Sci.*, 114, 199–209.

Wang, C.W., Chiang, T.Y., Chang, H.C., and Ding, S.J., 2014, Physicochemical Properties and Osteogenic Activity of Radiopaque Calcium Silicate–gelatin Cements, *J. Mater. Sci. Mater. Med.*, 25, 2193–2203.

Wang, N., Ji, Y., Zhu, Y., Wu, X., Mei, L., Zhang, H., Deng, J., and Wang, S., 2020, Antibacterial Effect of Chitosan and Its Derivative on *Enterococcus faecalis* Associated with Endodontic Infection, *Exp Ther Med.*, 19(6), 3805-3813.

Wong, J., Manoil, D., Näsman, P., Belibasakis, G.N., and Neelakantan, P., 2021, Microbiological Aspects of Root Canal Infections and Disinfection Strategies: An Update Review on the Current Knowledge and Challenges, *Front. Oral Health*, 2, 672887.

Yamaguchi, N., Masuda, Y., Yamada, Y., Narusawa, H., Han-Cheol, C., Tamaki, Y., and Miyazaki, T., 2015, Synthesis of CaO-SiO Compounds Using Materials Extracted from Industrial Wastes, *Open J. Inorg. Non-metallic Mater.*, 5(1), 1–10.

Yasmeen, S., Kabiraz, M., Saha, B., Qadir, M., Gafur, Md., and Masum, S., 2016, Chromium (VI) Ions Removal from Tannery Effluent using Chitosan-Microcrystalline Cellulose Composite as Adsorbent, *Int. Res. J. Pure. Appl. Chem.*, 10, 1–14.

Zarra, T., Lambrianidis, T., Vasiliadis, L., and Gogos, C., 2018, Effect of Curing Conditions on Physical and Chemical Properties of MTA+, *J. Int. Endod.*, 51, 1279–1291.

Zhang, W., Ren, G., Xu, H., Zhang, J., Liu, H., Mu, S., Cai, X., and Wu, T., 2016, Genipin Cross-linked Chitosan Hydrogel for The Controlled Release of Tetracycline with Controlled Release Property, Lower Cytotoxicity, and Long-term Bioactivity, *J. Poly. Res.*, 23, 156.

Zhu, Q., Haglund, R., Safavi, K., and Spangberg, L., 2000, Adhesion of Human Osteoblasts on Root-End Filling Materials, *J. Endod.*, 26, 404–406.

Ziada, S., Mabrouk, N.A., Benneji, T., and Sahtout, S., 2023, Evaluation of pH Variation and the Release of Calcium Ions in three Endodontic Sealing Cements: BioRoot RCS, MTA Fillapex, and Acroseal, *J. Open. Dent.*, 17(1), 1874-2106.

Zidan, A., 2019, Effect of Chitosan on Resin-dentin Interface Durability: A 2 year In-vitro Study, *J. Egypt. Dent.*, 65, 2955–2965.