REFERENCES

Abdul-Hameed, H. (2021). A coated of Ca/Fe layered hydroxide onto a synthesized adsorbent from (banana peels) for removal of cadmium from simulated wastewater. *Caspian Journal of Environmental Sciences*, *19*(5), 825–827.

Abdullah Youssef, A.-R. (2019). *Paints Industry: Raw materials & unit operations & Equipment & Manufacturing & Quality tests*.

Agrawal, O. P., & Wickramasinghe, N. A. (2002a). *Materials & techniques of ancient wall paintings of Sri Lanka* (1st ed). INTACH, Advanced Centre for Conservation, Research & Training. https://cir.nii.ac.jp/crid/1130282268700027904

Agrawal, O. P., & Wickramasinghe, N. A. (2002b). *Materials & Techniques of Ancient Wall Paintings of Sri Lanka* (R. & T. Indian National Trust for Art and Cultural Heritage. Advanced Centre for Conservation, Ed.). INTACH, Advanced Centre for Conservation, Research & Training & Sundeep Prakashan.

Aiman Syafiq Mohd Hamidi, N., Mohamad Ikhmal Wan Mohamad Kamaruzzaman, W., Amirah Mohd Nasir, N., Syaizwadi Shaifudin, M., & Sabri Mohd Ghazali, M. (2022). Potential Application of Plant-Based Derivatives as Green Components in Functional Coatings: A Review. *Cleaner Materials*, *4*, 100097. https://doi.org/10.1016/j.clema.2022.100097

Alhumade, H., Yu, A., Elkamel, A., Simon, L., & Abdala, A. (2016). Enhanced protective properties and UV stability of epoxy/graphene nanocomposite coating on stainless steel. *Express Polymer Letters*, *10*(12), 1034–1046. https://doi.org/10.3144/expresspolymlett.2016.96

Araújo, T. S. L., Costa, D. S., Sousa, N. A., Souza, L. K. M., de Araújo, S., Oliveira, A. P., Sousa, F. B. M., Silva, D. A., Barbosa, A. L. R., Leite, J. R. S. A., & Medeiros, J. V. R. (2015). Antidiarrheal activity of cashew GUM, a complex heteropolysaccharide extracted from exudate of Anacardium occidentale L. in rodents. *Journal of Ethnopharmacology*, *174*, 299–307. https://doi.org/10.1016/j.jep.2015.08.020

Baij, L., Hermans, J., Ormsby, B., Noble, P., Iedema, P., & Keune, K. (2020). A review of solvent action on oil paint. *Heritage Science*, *8*(1), 43. https://doi.org/10.1186/s40494-020-00388-x

Basak, S., Dangate, M. S., & Samy, S. (2024). Oil- and water-resistant paper coatings: A review. *Progress in Organic Coatings*, *186*, 107938. https://doi.org/10.1016/j.porgcoat.2023.107938

Berthomieu, C., & Hienerwadel, R. (2009). Fourier transform infrared (FTIR) spectroscopy. *Photosynthesis Research*, *101*(2–3), 157–170. https://doi.org/10.1007/s11120-009-9439-x

Bogner, A., & Menz, W. (2009). The theory-generating expert interview: epistemological interest, forms of knowledge, interaction. In *Interviewing experts* (pp. 43–80). Springer.

Bonaduce, I., Duce, C., Lluveras-Tenorio, A., Lee, J., Ormsby, B., Burnstock, A., & van den Berg, K. J. (2019). Conservation Issues of Modern Oil Paintings: A Molecular Model on Paint Curing. *Accounts of Chemical Research*, *52*(12), 3397–3406. https://doi.org/10.1021/acs.accounts.9b00296

Brobbey, K. J. (2017). Efficacy of natural plant extracts in antimicrobial packaging systems. *Journal of Applied Packaging Research*, *9*(1), 6.

Brøns, C., Rasmussen, K. L., Di Crescenzo, M. M., Stacey, R., & Lluveras-Tenorio, A. (2018). Painting the Palace of Apries I: ancient binding media and coatings of the reliefs from the Palace of Apries, Lower Egypt. *Heritage Science*, *6*(1), 6. https://doi.org/10.1186/s40494-018-0170-9

Cameron, D. (2014). Introduction to Films and Coatings. In *Comprehensive Materials Processing* (p. 1). Elsevier. https://doi.org/10.1016/B978-0-08-096532-1.00400-3

Chen, G., Guan, X., Xu, R., Tian, J., He, M., Shen, W., & Yang, J. (2016). Synthesis and characterization of UV-curable castor oil-based polyfunctional polyurethane acrylate via photo-click chemistry and isocyanate polyurethane reaction. *Progress in Organic Coatings*, *93*, 11–16. https://doi.org/10.1016/j.porgcoat.2015.12.015

Coomaraswamy, A. K. (1907). NOTES ON PAINTING, DYEING, LACWORK, DUMBARA MATS, AND PAPER IN CEYLON. *The Journal of the Ceylon Branch of the Royal Asiatic Society of Great Britain & Ireland*, *19*(58), 103–121. http://www.jstor.org/stable/45385003

Cristoforetti, A., Rossi, S., Deflorian, F., & Fedel, M. (2023). Comparative study between natural and artificial weathering of acrylic-coated steel, aluminum, and galvanized steel. *Materials and Corrosion*, *74*(10), 1429–1438. https://doi.org/10.1002/maco.202313858

Cui, Y., Zhang, H., Zhang, J., Lv, B., & Xie, B. (2022). The emission of volatile organic compounds during the initial decomposition stage of food waste and its relationship with the bacterial community. *Environmental Technology & Innovation*, *27*, 102443. https://doi.org/10.1016/j.eti.2022.102443

Da Silva, D. P. B., Da Silva Moreira, L. K., Cabral, I. B., Da Silva, C. N. S., De Aleluia Batista, K., Fajemiroye, J. O., & Costa, E. A. (2022). *Chemistry, Biological Activities, and Uses of Cashew Gum* (pp. 1–15). https://doi.org/10.1007/978-3-030-76523-1_12-2

Da Silva, L. R. R., Avelino, F., Diogenes, O. B. F., Sales, V. de O. F., Da Silva, K. T., Araujo, W. S., Mazzetto, S. E., & Lomonaco, D. (2020). Development of BPA-

free anticorrosive epoxy coatings from agroindustrial waste. *Progress in Organic Coatings*, *139*, 105449. https://doi.org/10.1016/j.porgcoat.2019.105449

Danso, H. (2018). Suitability of soil for earth construction as building material. *Advancements in Civil Engineering & Technology*, *2*(3), 199–211.

Daugaviete, M., Lazdins, A., Lazdina, D., Makovskis, K., & Daugavietis, U. (2017). Growth and yield of 15-year plantations of pine, spruce and birch in agricultural land. *Rural Sustainability Research*, *37*(332), 38–50.

De Silva R.H. (2002). *Sigiriya and its significance: a Mahayana-Theravada Buddhist monastery*. Nawala Bibliotheque .

Dehideniya, I. (2022). The Zri-Rab: A New String Instrument from the Ancient Frescos of Sri Lanka. *Conservatorium / Konservatoryum*, *9*(2), 261–281. https://doi.org/10.26650/CONS2022-1175163

Demko, J., & Machava, J. (2022). Tree Resin, a Macroergic Source of Energy, a Possible Tool to Lower the Rise in Atmospheric CO2 Levels. *Sustainability*, *14*(6), 3506. https://doi.org/10.3390/su14063506

Dinh, T.-V., Choi, I.-Y., Son, Y.-S., Song, K.-Y., Sunwoo, Y., & Kim, J.-C. (2016). Volatile organic compounds (VOCs) in surface coating materials: Their compositions and potential as an alternative fuel. *Journal of Environmental Management*, *168*, 157–164. https://doi.org/10.1016/j.jenvman.2015.11.059

Dix, U., Kühn, H., Roosen-Runge, H., Straub, R. E., Koller, M., & Kuhn, H. (1985). Reclams Handbuch der künstlerischen Techniken Band 1: Farbmittel, Buchmalerei, Tafel- und Leinwandmalerei. *Studies in Conservation*, *30*(4), 189. https://doi.org/10.2307/1506042

Donnet, C., & Erdemir, A. (2004). Solid Lubricant Coatings: Recent Developments and Future Trends. *Tribology Letters*, *17*(3), 389–397. https://doi.org/10.1023/B:TRIL.0000044487.32514.1d

Döringer, S. (2021). 'The problem-centred expert interview'. Combining qualitative interviewing approaches for investigating implicit expert knowledge. *International Journal of Social Research Methodology*, *24*(3), 265–278. https://doi.org/10.1080/13645579.2020.1766777

Dutt, N. V. K., & Prasad, D. H. L. (1985). Relationships between rheological properties and paint performance. *Pigment & Resin Technology*, *14*(1), 10–18. https://doi.org/10.1108/eb042095

Dworkin, S. L. (2012). Sample Size Policy for Qualitative Studies Using In-Depth Interviews. *Archives of Sexual Behavior*, *41*(6), 1319–1320. https://doi.org/10.1007/s10508-012-0016-6

Effmann, E. (2006). Theories about the Eyckian painting medium from the late-eighteenth to the mid-twentieth centuries. *Studies in Conservation*, *51*(sup1), 17–26. https://doi.org/10.1179/sic.2006.51.Supplement-1.17

EPA. (2008). *A Guide for Surface Coating Calculations*. https://www3.epa.gov/airtoxics/coat/common/surfacecoatingcalcs.pdf

Erhardt, D., Tumosa, C. S., & Mecklenburg, M. F. (2000). Natural and accelerated thermal aging of oil paint films. *Studies in Conservation*, *45*(sup1), 65–69. https://doi.org/10.1179/sic.2000.45.Supplement-1.65

Fermo, P., Colella, M., Malagodi, M., Fiocco, G., Albano, M., Marchioron, S., Guglielmi, V., & Comite, V. (2022). Study of a surface coating present on a Renaissance Piety from the Museum of Ancient Art (Castello Sforzesco, Milan). *Environmental Science and Pollution Research*, *29*(20), 29498–29509. https://doi.org/10.1007/s11356-021-16244-9

Forato, L. A., de Britto, D., de Rizzo, J. S., Gastaldi, T. A., & Assis, O. B. G. (2015). Effect of cashew gum-carboxymethylcellulose edible coatings in extending the shelf-life of fresh and cut guavas. *Food Packaging and Shelf Life*, *5*, 68–74. https://doi.org/10.1016/j.fpsl.2015.06.001

Galkanda, H., & Halwatura, R. (2020). *Soil based wall care putty developed from drinking water treatment plant waste alum sludge* (Patent 21020). National Intellectual Property Office of Sri Lanka.

González, A., & Alvarez Igarzabal, C. I. (2013). Soy protein – Poly (lactic acid) bilayer films as biodegradable material for active food packaging. *Food Hydrocolloids*, *33*(2), 289–296. https://doi.org/10.1016/j.foodhyd.2013.03.010

Gündüz, G. (2015). *CHEMISTRY, MATERIALS, AND PROPERTIES OF SURFACE COATINGS, Traditional and Evolving Technologies*.

Hajar, H. M., Zulkifli, F., Suriani, M. J., Mohd Sabri, M. G., & Wan Nik, W. B. (2016a). *Lawsonialnermis* Extract Enhances Performance of Corrosion Protection of Coated Mild Steel in Seawater. *MATEC Web of Conferences*, *78*, 01091. https://doi.org/10.1051/matecconf/20167801091

Hajar, H. M., Zulkifli, F., Suriani, M. J., Mohd Sabri, M. G., & Wan Nik, W. B. (2016b). *Lawsonialnermis* Extract Enhances Performance of Corrosion Protection of Coated Mild Steel in Seawater. *MATEC Web of Conferences*, *78*, 01091. https://doi.org/10.1051/matecconf/20167801091

Hamdani, A. M., Wani, I. A., & Bhat, N. A. (2019). Sources, structure, properties and health benefits of plant gums: A review. *International Journal of Biological Macromolecules*, *135*, 46–61. https://doi.org/10.1016/j.ijbiomac.2019.05.103

He, S., Yang, Q., Ren, X., Zi, J., Lu, S., Wang, S., Zhang, Y., & Wang, Y. (2014). Antimicrobial Efficiency of Chitosan Solutions and Coatings Incorporated with Clove Oil and/or Ethylenediaminetetraacetate. *Journal of Food Safety*, *34*(4), 345–352. https://doi.org/10.1111/jfs.12134

Izzo, F. C. (2011). *20th century artists' oil paints: a chemical-physical survey*.

Jamshidnejad, Z., Afshar, A., & RazmjooKhollari, M. A. (2018). Synthesis of self-healing Smart Epoxy and Polyurethane Coating by Encapsulation of Olive Leaf Extract as Corrosion Inhibitor. *International Journal of Electrochemical Science*, *13*(12), 12278–12293. https://doi.org/10.20964/2018.12.83

Jeyaseelan, E. C., Jenothiny, S., Pathmanathan, M., & Jeyadevan, J. (2012). Antibacterial activity of sequentially extracted organic solvent extracts of fruits, flowers and leaves of Lawsonia inermis L. from Jaffna. *Asian Pacific Journal of Tropical Biomedicine*, *2*(10), 798–802. https://doi.org/10.1016/S2221-1691(12)60232-9

Karunarathna, A. (2022). *Chronological Age Limit of Female Figures Portrayed In Sigiriya Fresco Pockets*. *Vol II*, 195–217.

Karunaratne T. B. (1970). Udarata Paintings. In *Sinhala Encyclopedia: Vol. Vol.04* (p. pp 517-520).

Kendall, J. L., Cary, N. C., Kendall, D. W., & Charlotte, N. C. (2009). *High-solids alcoholic solutions of rosn esters forvarnish applications* (Patent US 2009/0142282 A1).

KMKD Weerasekara, RMKM Rathnayake, RU Halwatura, & GY Jayasinghe. (2023). Analyzing the Efficiency of Several Gum Extraction Tapping Systems for Wood Apple Trees. *ICAACS 2023: 17,International Conference on Agriculture, Agronomy and Crop Sciences* .

Kramrisch, S. (1957). Mediaeval Sinhalese Art. By Ananda K. Coomaraswamy. New York: Pantheon, 2nd ed., rev., 1956. xvi, 344. Appendices, Glossary, Index, 53 Plates and 152 Figures (in text). $12.50. *The Journal of Asian Studies*, *16*(3), 466–467. https://doi.org/10.2307/2941260

Kumar, A., Moin, A., Shruthi, R., Ahmed, A., & Shivakumar, H. (2012). Cashew Gum A Versatile Hydrophyllic Polymer: A Review. *Current Drug Therapy*, *7*(1), 2–12. https://doi.org/10.2174/157488512800389146

Kwaambwa, H. M. (2013). *A review of current and future challenges in paints and coatings chemistry.* https://api.semanticscholar.org/CorpusID:102279839

Lamani, S., & Murthy, H. N. (2022). Diversity of wood-apple (Limonia acidissima L., Rutaceae) genetic resources in South India. *Genetic Resources and Crop Evolution*, *69*(8), 2929–2946. https://doi.org/10.1007/s10722-022-01467-7

Lim, T. K. (2011). Anacardium occidentale. In *Edible Medicinal and Non-Medicinal Plants: Volume 1, Fruits* (pp. 45–68). Springer.

Ling, Z. H., Guo, H., Cheng, H. R., & Yu, Y. F. (2011). Sources of ambient volatile organic compounds and their contributions to photochemical ozone formation at a site in the Pearl River Delta, southern China. *Environmental Pollution*, *159*(10), 2310–2319. https://doi.org/10.1016/j.envpol.2011.05.001

Liu, W., Kang, S., Zhang, Q., Chen, S., Yang, Q., & Yan, B. (2023). Self-assembly fabrication of chitosan-tannic acid/MXene composite film with excellent antibacterial and antioxidant properties for fruit preservation. *Food Chemistry*, *410*, 135405. https://doi.org/10.1016/j.foodchem.2023.135405

Lukey, C. A. (2001). Thermoset Coatings. In *Encyclopedia of Materials: Science and Technology* (pp. 9209–9215). Elsevier. https://doi.org/10.1016/B0-08-043152-6/01659-4

Ma, Z., Yang, L., Wang, L., Pitthard, V., Bayerova, T., Krist, G., & Zhao, X. (2022). The Influence of Natural Aging Exerting on the Stability of Some Proteinaceous Binding Media Commonly Used in Painted Artworks. *Coatings*, *12*(10), 1522. https://doi.org/10.3390/coatings12101522

Magri, R., Gaglieri, C., Alarcon, R. T., dos Santos, G. I., & Bannach, G. (2024). From patauá oil to sustainable polymers: investigation of epoxy/anhydride crosslink in different proportions. *Journal of Polymers and the Environment*, *32*(3), 1453–1468.

Mangotra, A., & Singh, S. K. (2024). Volatile organic compounds: A threat to the environment and health hazards to living organisms – A review. *Journal of Biotechnology*, *382*, 51–69. https://doi.org/10.1016/j.jbiotec.2023.12.013

Maria MFF, Ikhmal W, Amirah M, & Manja SM. (2019). Green approach in anti-corrosion coating by using Andrographis paniculata leaves extract as additives of stainless steel 316L in seawater. *International Journal of Corrosion and Scale Inhibition*, *8*(3). https://doi.org/10.17675/2305-6894-2019-8-3-13

Massolo, L., Rehwagen, M., Porta, A., Ronco, A., Herbarth, O., & Mueller, A. (2010). Indoor–outdoor distribution and risk assessment of volatile organic compounds in the atmosphere of industrial and urban areas. *Environmental Toxicology*, *25*(4), 339–349. https://doi.org/10.1002/tox.20504

Matheson, R. R. (2002). 20th- to 21st-Century Technological Challenges in Soft Coatings. *Science*, *297*(5583), 976–979. https://doi.org/10.1126/science.1075707

Matthews, A. (2015, July 15). Bringing Engineering Quality to the Surface. *USES Conference Proceedings*. https://doi.org/10.15445/01022014.12

Mohamed, A., Mustafa, A., Elgaby, M. S. A., Abd El-Wahab, H., Abed, S. A., & Kazlauciunas, A. (2021). New modified poly(ester amide) resins and their uses as a binder for surface coating with different applications. *Pigment & Resin Technology*, *50*(2), 146–156. https://doi.org/10.1108/PRT-06-2020-0060

Mohapatra, L., & Yoo, S. H. (2024). Superwetting materials as catalysts in photocatalysis: State-of-the-Art review. *Chemical Engineering Journal*, *481*, 148537.

Mozaffar, A., & Zhang, Y.-L. (2020). Atmospheric Volatile Organic Compounds (VOCs) in China: a Review. *Current Pollution Reports*, *6*(3), 250–263. https://doi.org/10.1007/s40726-020-00149-1

Muthu S. (2021). *Carbon Footprint Case Studies* (S. S. Muthu, Ed.). Springer Singapore. https://doi.org/10.1007/978-981-15-9577-6

Nayar, T. S., Binu, S., & Pushpangadan, P. (1999). Uses of Plants and Plant Products in Traditional Indian Mural Paintings. *Economic Botany*, *53*(1), 41–50. https://doi.org/10.1007/BF02860791

Negi, R. S., Bisht, R. S., Singh, R. K., & Prasad, L. (2019). Physico-Mechanical and Antibacterial Properties of Pine Gum/Epoxy Composites with/without Silver Nanoparticles. *Macromolecular Materials and Engineering*, *304*(7). https://doi.org/10.1002/mame.201800744

Nilawar, S., Uddin, M., & Chatterjee, K. (2021). Surface engineering of biodegradable implants: emerging trends in bioactive ceramic coatings and mechanical treatments. *Materials Advances*, *2*(24), 7820–7841. https://doi.org/10.1039/D1MA00733E

Nishanthi, M. (2021). Plaster and colour technology of ancient Sri Lankan Murals. *Journal of History , Art , and Archeology*, 91–100. www.arfjournals.com

Nishanthi, M., & Wijayasundara, N. D. (2022). Preservation and Conservation of Palm Leaf Manuscripts at the Library of University of Sri Jayewardenepura. *Vidyodaya Journal of Humanities and Social Sciences*, *7*(02).

Ong, G., Kasi, R., & Subramaniam, R. (2021). A review on plant extracts as natural additives in coating applications. *Progress in Organic Coatings*, *151*, 106091. https://doi.org/10.1016/j.porgcoat.2020.106091

Orlova, Y., Harmon, R. E., Broadbelt, L. J., & Iedema, P. D. (2021). Review of the kinetics and simulations of linseed oil autoxidation. *Progress in Organic Coatings*, *151*, 106041.

Panda, H. (2005). *Handbook on Speciality Gums, Adhesives , Oils, Rosin & Derivatives, Resins, Oleoresins, Katha, Chemicals with other Natural Products: , Production of Strychnine, Strychnine Production, Minor Oilseeds, Minor Oil Seed Manufacturer, Minor Oil Seeds Process, Particle Board, Particle Board Manufacturing Process, Particleboard Formations, Particle Board Manufacture, Wood Polymer Composites Process, Wood Polymer Composite Production, Manufacturing of Wood Polymer Composite*. Asia Pacific Business Press. https://books.google.lk/books?id=IZIrDQAAQBAJ

Pandey, D., Agrawal, M., & Pandey, J. S. (2011). Carbon footprint: current methods of estimation. *Environmental Monitoring and Assessment*, *178*(1–4), 135–160. https://doi.org/10.1007/s10661-010-1678-y

Paranavitana, S., & Ceylon, A. C. of. (1954). *Art & architecture of Ceylon : Polonnaruva period* (1st ed). Arts Council of Ceylon. https://cir.nii.ac.jp/crid/1130000794574726016

Parimal, K., Khale, A., & Pramod, K. (2011). Resins from herbal origin and a focus on their applications. *Int. J. Pharm. Sci. Res*, *2*(5), 1077–1085.

Pieralli, I., Salvini, A., Angelin, E. M., Pamplona, M., Cocchetti, V., Bartolozzi, G., & Picollo, M. (2023). A Formulation for a New Environmentally Friendly Varnish for Paintings. *Coatings*, *13*(9), 1566. https://doi.org/10.3390/coatings13091566

Pilcher, G. R. (2001). Meeting the challenge of radical change. *Journal of Coatings Technology*, *73*(10), 135–143. https://doi.org/10.1007/BF02697998

Pilcher, G. R. (2002). Meeting the challenge of radical change: coatings R&D as we enter the 21st century. *Macromolecular Symposia*, *187*(1), 1–16. https://doi.org/10.1002/1521-3900(200209)187:1<1::AID-MASY1>3.0.CO;2-K

Pilon, L., Day, D., Maslen, H., Stevens, O. P. J., Carslaw, N., Shaw, D. R., & Sneddon, H. F. (2024). Development of a solvent sustainability guide for the paints and coatings industry. *Green Chemistry*. https://doi.org/10.1039/d4gc01962h

Pizzimenti, S., Bernazzani, L., Tinè, M. R., Treil, V., Duce, C., & Bonaduce, I. (2021). Oxidation and Cross-Linking in the Curing of Air-Drying Artists' Oil Paints. *ACS Applied Polymer Materials*, *3*(4), 1912–1922. https://doi.org/10.1021/acsapm.0c01441

Poth, U. (2001). Drying Oils and Related Products. In *Ullmann's Encyclopedia of Industrial Chemistry*. Wiley. https://doi.org/10.1002/14356007.a09_055

R., S., S., I., S., P., N., D., U., G., A., Z., S., P., & S., J. (2017). Phytochemical Analysis of Muntingia calabura Extracts Possessing Anti-Microbial and Anti-Fouling Activities. *International Journal of Pharmacognosy and Phytochemical Research*, *9*(6). https://doi.org/10.25258/phyto.v9i6.8186

Radnik, J., Knigge, X., Andresen, E., Resch-Genger, U., Cant, D. J. H., Shard, A. G., & Clifford, C. A. (2022). Composition, thickness, and homogeneity of the coating of core–shell nanoparticles—possibilities, limits, and challenges of X-ray photoelectron spectroscopy. *Analytical and Bioanalytical Chemistry*, *414*(15), 4331–4345. https://doi.org/10.1007/s00216-022-04057-9

Ramachandran, V. S., Paroli, R. M., Beaudoin, J. J., & Delgado, A. H. (2002). Paints and Coatings. In *Handbook of Thermal Analysis of Construction Materials* (pp. 633–654). Elsevier. https://doi.org/10.1016/B978-081551487-9.50018-9

Ramos, A. M., Lobo, L. S., & Bordado, J. M. (1998). Polymers from pine gum components: Radical and coordination homo and copolymerization of pinenes. *Macromolecular Symposia*, *127*(1), 43–50. https://doi.org/10.1002/masy.19981270109

Ranasinghe, R. (2014). The perceived impacts of tourism on the small scale entrepreneurs (case of world heritage city Dambulla, Sri Lanka). *International Journal of Scientific and Research Publications*, *4*(10), 1.

Ratnayake, I., & Hapugoda, M. (2016). Chapter fourteen divergent meanings of heritage: a critique on the visual authenticity of the golden rock temple of Dambulla. *Sustainable Tourism in the Global South: Communities, Environments and Management*, 222.

Reddi, L. N., Jain, A. K., & Yun, H.-B. (2012). Soil materials for earth construction: properties, classification and suitability testing. In *Modern Earth Buildings* (pp. 155–171). Elsevier. https://doi.org/10.1533/9780857096166.2.155

Roberts, A. G. (1968). *Organic coatings; properties, selection, and use* (Issue 7). US Department of Commerce, National Bureau of Standards.

Sahoo, P., Das, S. K., & Paulo Davim, J. (2017). 3.3 Surface Finish Coatings. In *Comprehensive Materials Finishing* (pp. 38–55). Elsevier. https://doi.org/10.1016/B978-0-12-803581-8.09167-0

Saif, S., Feroz, A., Khan, M. A., Akhtar, S., & Mehmood, A. (2015). Calculation and estimation of the carbon footprint of paint industry. *Nature Environment and Pollution Technology*, *14*(3), 633.

Salahshoor, M., & Guo, Y. B. (2013). Process mechanics in ball burnishing biomedical magnesium–calcium alloy. *The International Journal of Advanced Manufacturing Technology*, *64*(1–4), 133–144. https://doi.org/10.1007/s00170-012-4024-4

Salarbashi, D., Jahanbin, K., Tafaghodi, M., & Fahmideh-Rad, E. (2021). *Prunus armeniaca* gum exudates: An overview on purification, structure, physicochemical properties, and applications. *Food Science & Nutrition*, *9*(2), 1240–1255. https://doi.org/10.1002/fsn3.2107

Sarkar, P. C., Sahu, U., Binsi, P. K., Nayak, N., Ninan, G., & Ravishanker, C. N. (2018). Studies on physico-chemical and functional properties of some natural Indian gums. *Asian Journal of Dairy and Food Research*, *37*(02). https://doi.org/10.18805/ajdfr.DR-1241

Schweizer, P. M. (2022). *Physical Fluid Properties* (pp. 25–74). https://doi.org/10.1007/978-3-031-04180-8_4

Scott, D. A. (2016). A review of ancient Egyptian pigments and cosmetics. *Studies in Conservation*, *61*(4), 185–202. https://doi.org/10.1179/2047058414Y.0000000162

Seneviratne, J. N. (2018). *Instrumental Analysis of the Plaster, Pigment and Preservative Coatings in Sri Lanka: (techniques of Paintings, Conservation History and Scientific Analysis of the Mural Paintings in Sigiriya, Tiwanka Image House, Dambulla Cave Temple and Mirissa Samudragiri Viharaya)*. Department of Archaeology,Sri Lanka.

Seneviratne, J. N. (2020). BINDING MEDIUMS, PROTECTIVE COATINGS AND MURAL PAINTING TECHNIQUES WERE USED BY ANCIENT PAINTERS. *Journal of the Department of Archaeology, Sri Lanka*, 87. ://efaidnbmnnnibpcajpcglclefindmkaj/https://archaeology.gov.lk/media/attachments/2022/09/07/ac27updated.pdf

Shashi, K. (2024). *Thermal Spray Coatings: Materials, Techniques & Applications* (S. Kumar & V. Khanna, Eds.). BENTHAM SCIENCE PUBLISHERS. https://doi.org/10.2174/9789815223552124010l

Singh, S., Singh, S. K., Chowdhury, I., & Singh, R. (2017). Understanding the Mechanism of Bacterial Biofilms Resistance to Antimicrobial Agents. *The Open Microbiology Journal*, *11*(1), 53–62. https://doi.org/10.2174/1874285801711010053

Somathilake, M. (2007). Further analysis on fresco and tempera: an analysis of the technique of murals in South Asia. *Journal of the Royal Asiatic Society of Sri Lanka*, *53*, 109–132. http://www.jstor.org/stable/23731202

State Timber Cooperation. (2012). *State Timber Cooperation Annual Report*. https://www.mwfc.gov.lk/state-timber-corporation/

Stichnothe, H., Morgan, A., Gujba, H., & Azapagic, A. (2022). Estimating the Carbon Footprint of Paints: Some Important Considerations. *Surface Coating International*, 108–114.

Stout, R. L. (2000). Solvents in today's coatings. *Applied Polymer Science: 21st Century*, 527–543.

Streitberger, H. J., & Goldschmidt, A. (2018). *BASF handbook basics of coating technology. European Coatings.* (3rd ed.). Vincentz Network, Hannover, Germany.

Subasinghe, H. M. C., Bandara, T. G. T. A., Christopher, W. A. P. P., Hewathilake, S., & Pitawala, H. M. J. C. (2019). *Characterisation of "Dummala" Origin in Sri Lanka by XRF, XRD and FTIR* . erepo.lib.uwu.ac.lk

Takeda, H., Kanno, H., Schuller, W. H., & Laurence, R. V. (1968). Effect of temperature on various rosins and pine gum. *Industrial & Engineering Chemistry Product Research and Development*, *7*(3), 186–189.

Tamalmani, K., & Husin, H. (2020). Review on Corrosion Inhibitors for Oil and Gas Corrosion Issues. *Applied Sciences*, *10*(10), 3389. https://doi.org/10.3390/app10103389

Tchounwou, P. B., Yedjou, C. G., Patlolla, A. K., & Sutton, D. J. (2012). *Heavy Metal Toxicity and the Environment* (pp. 133–164). https://doi.org/10.1007/978-3-7643-8340-4_6

Thanawala, K., Mutneja, N., Khanna, A., & Raman, R. (2014). Development of Self-Healing Coatings Based on Linseed Oil as Autonomous Repairing Agent for Corrosion Resistance. *Materials*, *7*(11), 7324–7338. https://doi.org/10.3390/ma7117324

Tirumkudulu, M. S. (2023). Paint and Coating Physics. *Physics of Fluids*, *35*(9). https://doi.org/10.1063/5.0173925

Tiwari, A., Galanis, A., & Soucek, M. D. (2016). *Biobased and environmentally benign coatings*. John Wiley & Sons.

Tolfree, D., & Mehalso, R. (2008). The path to commercialization. *Commercializing Micro-Nanotechnology Products*, 1–28.

Van den Berg, K. J., Bonaduce, I., Burnstock, A., Ormsby, B., Scharff, M., Carlyle, L., Heydenreich, G., & Keune, K. (2019). *Conservation of modern oil paintings*. Springer.

van Wyk, B.-E., van Rheede van Oudtshoorn, M., & Smith, G. (1995). Geographical Variation in the Major Compounds of *Aloe ferox* Leaf Exudate. *Planta Medica*, *61*(03), 250–253. https://doi.org/10.1055/s-2006-958066

Velasco-García, M. V., & Hernández-Hernández, A. (2024). *Geographical and Climatic Variation of Pinus oocarpa Resin in Southern Mexico Provenances*. https://doi.org/10.20944/preprints202405.0570.v1

Verma, R., Ibrahim, M., Fursule, A., Mitra, R., Narayana Sastry, J., & Ahmad, S. (2021). Effect of aging and geographical variations in the content of guggulsterones and metabolomic profiling of oleogum resins of commiphora wightii: The Indian bdellium. *Pharmacognosy Magazine*, *17*(76), 774. https://doi.org/10.4103/pm.pm_76_21

Viju, N., Punitha, S. M. J., & Satheesh, S. (2020). Antifouling Potential of Palmyra Palm (Borassus flabellifer) Fruit Husk Extract. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, *90*(5), 1005–1015. https://doi.org/10.1007/s40011-020-01171-5

Vikhe, S., Kunkulol, R., & Raut, D. (2023). In Silico and In Vivo Studies of Decursin Isolated From the Ethanolic Extract of Feronia elephantum Correa (Rutaceae) Bark as a Potential Antidiabetic and Antihyperlipidemic Agents in STZ-induced Diabetic Rats. *Letters in Drug Design & Discovery*, *20*(5), 517–535.

Voogt, B., Venema, P., Sagis, L., Huinink, H., Erich, B., Scheerder, J., & Adan, O. (2019). Surface characterization of drying acrylic latex dispersions with variable methacrylic acid content using surface dilatational rheology. *Journal of Colloid and Interface Science*, *556*, 584–591. https://doi.org/10.1016/j.jcis.2019.08.074

Wan Nik, W. B., Hajar, H. M., Suriani, M. J., Sabri, M. G. M., & Ghazali, M. J. (2017). Development of anti-corrosive paint incorporated with henna extract as a natural inhibitor. *JOURNAL OF MECHANICAL ENGINEERING AND SCIENCES*, *11*(4), 3179–3188. https://doi.org/10.15282/jmes.11.4.2017.20.0286

Wang, Songqing., Chen, S., & Wan, Y. (2019). *High-solid-content low-viscosity steel structure anticorrosive paint.*

Wickckrama Arachchi, W. A. W. D. (2019). *Evaluate the Different Gum Extracting Tapping System of Cashew Tree (Anacardium Occidentale L)*. Uva Wellassa University of Sri Lanka.

Wijewardane, S. (2022a). Inventions, innovations, and new technologies: Paints and coatings for passive cooling. In *Solar Compass* (Vol. 3, p. 100032). Elsevier.

Wijewardane, S. (2022b). Inventions, innovations, and new technologies: Paints and coatings for passive cooling. In *Solar Compass* (Vol. 3, p. 100032). Elsevier.

Wolkoff, P., & Nielsen, G. D. (2010). Non-cancer effects of formaldehyde and relevance for setting an indoor air guideline. *Environment International*, *36*(7), 788–799. https://doi.org/10.1016/j.envint.2010.05.012

Yadav, B. K., Gidwani, B., & Vyas, A. (2016a). Rosin: Recent advances and potential applications in novel drug delivery system. *Journal of Bioactive and Compatible Polymers*, *31*(2), 111–126.

Yadav, B. K., Gidwani, B., & Vyas, A. (2016b). Rosin: Recent advances and potential applications in novel drug delivery system. *Journal of Bioactive and Compatible Polymers*, *31*(2), 111–126.

Yogi, R. K., Kumar, A., Singh, A. K., Yadav, S. K. S., & Jaiswal, A. K. (2016). *Natural Resins and Gums: Agribusiness Modules for Skill and Entrepreneurship Development*.

Yoshikawa, M., Zhang, M., & Toyota, K. (2017). Biodegradation of Volatile Organic Compounds and Their Effects on Biodegradability under Co-Existing Conditions. *Microbes and Environments*, *32*(3), 188–200. https://doi.org/10.1264/jsme2.ME16188

Zeng, G., Li, K., Zhou, Y., Wang, T., Dong, Y., Luo, J., Zhan, X., & Li, J. (2023). Natural organic-inorganic hybrid structure enabled green biomass adhesive with desirable strength, toughness and mildew resistance. *International Journal of Biological Macromolecules*, *236*, 123931. https://doi.org/10.1016/j.ijbiomac.2023.123931

Zeng, G., Zhou, Y., Wang, T., Li, K., Dong, Y., Li, J., Li, J., & Fang, Z. (2023). A bio-based adhesive reinforced with functionalized nanomaterials to build multiple strong and weak cross-linked networks with high strength and excellent mold resistance. *Chemical Engineering Journal*, *453*, 139761. https://doi.org/10.1016/j.cej.2022.139761

Zhang, Y., Zeng, R., Ban, T., Guo, M., Wang, Y., Zhang, J., & Zhu, X. (2024). High solid content waterborne polyurethane and the coatings with double crosslinking structure and multiple hydrogen bonds. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, *682*, 132816. https://doi.org/10.1016/j.colsurfa.2023.132816

Zheng, H., Kong, S., Chen, N., Niu, Z., Zhang, Y., Jiang, S., Yan, Y., & Qi, S. (2021). Source apportionment of volatile organic compounds: Implications to reactivity, ozone formation, and secondary organic aerosol potential. *Atmospheric Research*, *249*, 105344. https://doi.org/10.1016/j.atmosres.2020.105344

Zhou, X., Zhou, X., Wang, C., & Zhou, H. (2023). Environmental and human health impacts of volatile organic compounds: A perspective review. *Chemosphere*, *313*, 137489. https://doi.org/10.1016/j.chemosphere.2022.137489

Zumbühl, S., Soulier, B., & Zindel, C. (2021). Varnish technology during the 16th–18th century: The use of pumice and bone ash as solid driers. *Journal of Cultural Heritage*, *47*, 59–68. https://doi.org/10.1016/j.culher.2020.10.001

APPENDIX A

Python coding 3D surface plot

Python

Rerun code Edit code

```python
import numpy as np
import matplotlib.pyplot as plt
from mpl_toolkits.mplot3d import Axes3D

# First, create the scatter plot
plt.figure(figsize=(12, 8))

# Create scatter plot with different markers for each concentration
markers = ['o', 's', '^', 'D', 'v', 'p']
for idx, (conc, stages) in enumerate(data.items()):
    plt.scatter([times] * len([conc]), [conc] * len(times), c=stages,
                marker=markers[idx], s=100, label=f'{conc}g', cmap='viridis')

plt.colorbar(label='Drying Stage (0:ND, 1:TFD, 2:TD, 3:HD, 4:FD)')
plt.xlabel('Time (minutes)')
plt.ylabel('Concentration (g)')
plt.title('Scatter Plot of Drying Stages')
plt.legend(bbox_to_anchor=(1.05, 1), loc='upper left')
plt.grid(True, linestyle='--', alpha=0.3)
plt.tight_layout()
plt.show()

# Now create the 3D surface plot
fig = plt.figure(figsize=(12, 8))
ax = fig.add_subplot(111, projection='3d')

# Create meshgrid for 3D plot
X, Y = np.meshgrid(times, concentrations)
Z = np.array([data[conc] for conc in concentrations])

# Create the surface plot
surf = ax.plot_surface(X, Y, Z, cmap='viridis', edgecolor='none')

# Customize the 3D plot
ax.set_xlabel('Time (minutes)')
ax.set_ylabel('Concentration (g)')
ax.set_zlabel('Drying Stage')
ax.set_title('3D Surface Plot of Drying Stages')

# Add a color bar
fig.colorbar(surf, ax=ax, label='Drying Stage (0:ND, 1:TFD, 2:TD, 3:HD, 4:FD)')

# Adjust the viewing angle for better visualization
ax.view_init(elev=30, azim=45)

plt.tight_layout()
plt.show()

print("Scatter plot and 3D surface plot created to visualize drying stages across time and concentration.
```