

DAFTAR PUSTAKA

1. Hu K, Zhuang J, Zheng C, Ma Z, Yan L, Gu H, et al. Effect of novel cytosine-L-alanine derivative based corrosion inhibitor on steel surface in acidic solution. *J Mol Liq.* 2016;222:109-117. doi:10.1016/j.molliq.2016.07.008.
2. Emmanuel JK. Corrosion protection of mild steel in corrosive media: a shift from synthetic to natural corrosion inhibitors: a review. *Bull Natl Res Cent.* 2024;48;269. doi:10.1186/s42269-024-01181-7.
3. Sudarmo S. Pengaruh ekstrak daun melinjo terhadap laju korosi pada material baja. *J Pilar Teknol J Ilm Ilmu Tek.* 2023;8(2):7-10. doi:10.33319/piltek.v8i2.165.
4. Stiadi Y, Arief S, Aziz H, Efdi M, Emriadi. Inhibisi korosi baja ringan menggunakan bahan alami dalam medium asam klorida: review. *J Ris Kimia.* 2019;51-65.
5. Aini TM, Dahlan D. Ekstrak kulit batang bakau sebagai inhibitor korosi baja komersil. *J Fis Unand.* 2021;10(2):156-162. doi:10.25077/jfu.10.2.156-162.2021.
6. Singh A, Lin Y, Ebenso EE, Liu W, Pan J, Huang B. Ginkgo biloba fruit extract as an eco-friendly corrosion inhibitor for J55 steel in CO₂-saturated 3.5% NaCl solution. *J Ind Eng Chem.* 2015;24:219-228. doi:10.1016/j.jiec.2014.09.034.
7. Stiadi Y, Wendari TP, Paliny S, Untari P, Rahmayeni R. Synergistic effect of *Gleichenia linearis* Burm. leaf extract and iodide ion as eco-friendly corrosion inhibitor of mild steel in hydrochloric acid medium. *Int J Corros Scale Inhib.* 2023;12(4):1688-1702. doi:10.17675/2305-6894-2023-12-4-15.
8. Al-Otaibi MS, Al-Mayouf AM, Khan M, Mousa AA, Al-Mazroa SA, Alkhathlan HZ. Corrosion inhibitory action of some plant extracts on the corrosion of mild steel in acidic media. *Arab J Chem.* 2014;7(3):340-346. doi:10.1016/j.arabjc.2012.01.015.
9. Odewunmi NA, Umoren SA, Gasem ZM. Watermelon waste products as green corrosion inhibitors for mild steel in HCl solution. *J Environ Chem Eng.* 2015;3(1):286-296. doi:10.1016/j.jece.2014.10.014.
10. Suryaningrum RD, Puspawati NM, Astiti NPA. Aktivitas antioksidan ekstrak tumbuhan paku ekor kuda (*Equisetum debile* L.) terhadap peroksidasi lipid plasma darah mencit (*Mus musculus*). *Metamorf J Biol Sci.* 2017;4(1):48.
11. Rani BEA, Basu BBJ. Green inhibitors for corrosion protection of metals and alloys: an overview. *Int J Corros.* 2012;2012:380217. doi:10.1155/2012/380217.
12. de Queiroz LN, da Fonseca ACC, Wermelinger GF, da Silva DPD, Pascoal ACRF, Sawaya ACHF, et al. New substances of *Equisetum hyemale* L. extracts and their in vivo antitumoral effect against oral squamous cell carcinoma. *J Ethnopharmacol.* 2023;303:116043. doi:10.1016/j.jep.2022.116043.
13. Deyab MA, Mohsen Q, Guo L. Theoretical, chemical, and electrochemical studies of *Equisetum arvense* extract as an impactful inhibitor of steel corrosion in 2 M HCl electrolyte. *Sci Rep.* 2022;12(1):1-14. doi:10.1038/s41598-022-06215-6.
14. Wiraraja AH. Studi laju korosi baja SS-316L terhadap variasi konsentrasi inhibitor quinoline (CHN) dan temperatur dalam larutan NaCl. *Unair Repository.* 2012.
15. Darmawi, Dewi TK, Alian H, Ginting K. Ahli korosi dasar. 2022. p.190.
16. Natasya T, Khairafah ME, Br Sembiring MS, Hutabarat LN. Corrosion factors on nail. *Indones J Chem Sci Technol.* 2022;5(1):47. doi:10.24114/ijcst.v5i1.33159.
17. Amodu OS, Odunlami MO, Akintola JT, Ojumu TV, Ayanda OS. Artificial neural network and response surface methodology for optimization of corrosion inhibition of mild steel in 1 M HCl by *Musa paradisica* peel extract. *Heliyon.* 2022;8(12):e11955. doi:10.1016/j.heliyon.2022.e11955.
18. Yanuar AP, Pratikno H, Titah HS. Pengaruh penambahan inhibitor alami terhadap laju korosi pada material pipa dalam larutan air laut buatan. *J Tek ITS.* 2017;5(2):B13-B17. doi:10.12962/j23373539.v5i2.18938.
19. Lavanya M, Machado AA. Surfactants as biodegradable sustainable inhibitors for corrosion control in diverse media and conditions: a comprehensive review. *Sci Total Environ.* 2024;908:168407. doi:10.1016/j.scitotenv.2023.168407.
20. Sabar WADPRTAN. Penggunaan inhibitor organik untuk pengendalian korosi logam dan paduan logam (application of organic inhibitors for corrosion control of metals and alloys).

21. Al-Amiery AA, Yousif E, Isahak WNRW, Al-Azzawi WKA. A review on inorganic corrosion inhibitors: types, mechanisms, and applications. *Tribol Ind.* 2023;45(2):313-339. doi:10.24874/ti.1456.03.23.06. (21) Al-Amiery, A. A.; Yousif, E.; Isahak, W. N. R. W.; Al-Azzawi, W. K. A Review of Inorganic Corrosion Inhibitors: Types, Mechanisms, and Applications. *Tribol. Ind.* 2023, 45 (2), 313–339. <https://doi.org/10.24874/ti.1456.03.23.06>.
22. Campbell A. Bacteriophage NRG2003. *Nature.* 2003;4(June):1-7.
23. Gierlinger N, Sapei L, Paris O. Insights into the chemical composition of *Equisetum hyemale* by high resolution Raman imaging. *Planta.* 2008;227(5):969-980. doi:10.1007/s00425-007-0671-3.
24. Sinox Nursery. Tanaman bambu air *Equisetum hyemale* - Sinox Nursery [Internet]. 2019 [cited 2025 Jun 19]
25. Tarage FPO, Van Harling VN. Analisis perbandingan kecepatan dan hasil pemotongan baja lunak jenis ST-37 dengan menggunakan pisau pahat HSS dan karbida. *SOSCIED.* 2020;3(1):14-19. doi:10.32531/soscied.v3i1.181.
26. Asworo RY, Widiawstuti H. Pengaruh ukuran serbuk simplisia dan waktu maserasi terhadap aktivitas antioksidan ekstrak kulit sirsak. *Indones J Pharm Educ.* 2023;3(2):256-263. doi:10.37311/ijpe.v3i2.19906.
27. Dewatikasari WF. Perbandingan pelarut kloroform dan etanol terhadap rendemen ekstrak daun lidah mertua (*Sansevieria trifasciata* Prain.) menggunakan metode maserasi. *J UIN Alauddin.* 2020;5(September):125-132.
28. Addisu S, Assefa A. Role of plant containing saponin on livestock production: a review. *Adv Biol Res (Rennes).* 2016;10(5):309-314. doi:10.5829/idosi.abr.2016.309.314.
29. Arwati IGA. Ulasan: metode pengujian laju korosi pada material baja karbon. 2024:29-40.
30. Aryadi G, Wibowo A, Nugroho CB, Arysuan A. Pengujian korosi intergranular pada material UNS 06625 sesuai standar ASTM G-28. *J Teknol Ris Terap.* 2022;4(2):82-86. doi:10.30871/jatra.v4i2.4930.
31. Pradityana A, Khosrifah F, Biwai FN, Shidiqiey RHA, Hakim ML, Santosa PL, et al. Curry leaf extract (*Murraya koenigii* (L.) Spreng) as a corrosion inhibitor of ASTM A36 steel in H₂SO₄ solution. *Results Eng.* 2024;24:103037. doi:10.1016/j.rineng.2024.103037.
32. Untari P. Efek sinergetik ekstrak daun jambu bol (*Syzygium malaccense*) dan iodida terhadap korosi baja dalam larutan asam. *Chempublish J.* 2021;5(2):179-193. doi:10.22437/chp.v5i2.11348.
33. Sciences C, Ababa A, Sciences C, Minch A. Analysis of heavy metal concentration in some vegetables using atomic absorption spectroscopy. *Pollution.* 2021;7(1):205-216. doi:10.22059/poll.2020.308766.877.
34. Musa H, Bishir U, Adamu IM, Bashir IM. Effect of aniline as corrosion inhibitor on the corrosion of aluminium in hydrochloric acid solution. *Res J Chem Environ.* 2020;24(2):99-106.
35. Akbari Shahrimzadi M, Azadi MA. New study on the corrosion inhibition mechanism of green walnut husk extract as an agricultural waste for steel protection in HCl solution. *Heliyon.* 2024;10(9):e29962. doi:10.1016/j.heliyon.2024.e29962.
36. Handayani T, Emriadi, Deswati, Ramadhani P, Zein R. Modelling studies of methylene blue dye removal using activated corn husk waste: isotherm, kinetic and thermodynamic evaluation. *S Afr J Chem Eng.* 2024;47:15-27. doi:10.1016/j.sajce.2023.10.003.
37. Fouda AEAS, Molouk AF, Atia MF, El-Hossiany A, Almahy MS. Verbena officinalis leaf extract as an anti-corrosion inhibitor for carbon steel in acidic environment. *Sci Rep.* 2024;14(1):1-18. doi:10.1038/s41598-024-65266-z.
38. Bashir Ibrahim M, Sulaiman Z, Usman B, Adamu Ibrahim M. Effect of henna leaves on the corrosion inhibition of tin in acidic and alkaline media. *World J Appl Chem.* 2019;4(4):45. doi:10.11648/j.wjac.20190404.11
39. Zhang Z, Ba H, Wu Z. Sustainable corrosion inhibitor for steel in simulated concrete pore solution by maize gluten meal extract: electrochemical and adsorption behavior studies. *Constr Build Mater.* 2019;227:117080. doi:10.1016/j.conbuildmat.2019.117080.
40. Abdulazeez MS, Abdullahe ZS, Dawood MA, Handel ZK, Mahmood RI, Osamah S, et al.

- Corrosion inhibition of low carbon steel in HCl medium using a thiadiazole derivative: weight loss, DFT studies and antibacterial studies. *Int J Corros Scale Inhib.* 2021;10(4):1812-1828. doi:10.17675/2305-6894-2021-10-4-27.
41. Chaudhary S. Natural corrosion inhibition and adsorption characteristics of *Tribulus terrestris* plant extract on aluminium in hydrochloric acid environment. *Biointerface Res Appl Chem.* 2022;12(2):2603-2617.
 42. Mamudu U, Sahban M, Chong R. Adsorption isotherm and molecular modeling of phytonutrients from *Dillenia suffruticosa* leaves for corrosion inhibition of mild steel in 1.0 M hydrochloric acid. *Results Surf Interfaces.* 2023;13:100145. doi:10.1016/j.rsufi.2023.100145.
 43. Shathani P, Ogunmuyiwa EN, Oladijo OP. Thermodynamics and adsorption behaviour of *Sclerocarya birrea* leaf extract as a potential green corrosion inhibitor for mild steel in simulated seawater (3.5% NaCl) environment. *Chem Thermodyn Therm Anal.* 2025;19
 44. Hassannejad H, Nouri A. Sunflower seed hull extract as a novel green corrosion inhibitor for mild steel in HCl solution. *J Mol Liq.* 2018;254:377-382. doi:10.1016/j.molliq.2018.01.142.
 45. Nandiyanto ABD, Ragadhita R, Fiandini M. Interpretation of Fourier transform infrared spectra (FTIR): a practical approach in the polymer/plastic thermal decomposition. *Indones J Sci Technol.* 2023;8(1):113-126. doi:10.17509/ijost.v8i1.53297.
 46. Xiao X, Wang B. Fourier transform infrared spectroscopy. Bell Telephone Laboratories Inc. 2015. doi:10.1081/E-EOE2-120009764.
 47. Wetekam J, Mollenhauer K, Sample K. Preparation method for quick characterization of reclaimed asphalt by FTIR spectroscopy. *Transp Res Procedia.* 2023;72:3291-3299. doi:10.1016/j.trpro.2023.11.798.
 48. Vasdazara OL, Ardhyanta H, Wickasone ST. Pengaruh penambahan serat cangkang kelapa sawit terhadap sifat mekanik dan stabilitas termal komposit epoksi/serat cangkang kelapa sawit. *J Tek ITS.* 2018;7(1):2337-3520.
 49. Mohamed MA, Jaafar J, Ismail AF, Othman MHd, Rahman MA. Fourier transform infrared (FTIR) spectroscopy. Amsterdam: Elsevier; 2017. doi:10.1016/B978-0-444-63776-5.00001-2.
 50. Berthomieu C, Hienerwadel R. Fourier transform infrared (FTIR) spectroscopy. *Photosynth Res.* 2009;101(2-3):157-170. doi:10.1007/s11120-009-9439-x.
 51. Passos LC, Saraiva MFS. Detection in UV-visible spectrophotometry: detectors, detection systems, and detection strategies. *Meas J Int Meas Confed.* 2019;135:896-904. doi:10.1016/j.measurement.2018.12.045.
 52. Al-Amiery AA, Isahak WNRW, Al-Azzawi WK. Corrosion inhibitors: natural and synthetic organic inhibitors. *Lubricants.* 2023;11(4). doi:10.3390/lubricants11040174.
 53. Wellia DV, Alvionita FSA. View of sintesis permukaan kaca hidrofobik melalui kombinasi TiO₂-asam stearat untuk aplikasi material self-cleaning [Internet]. Available from: <https://journal.uin-alauddin.ac.id/index.php/jrec/article/view/4800/2471>
 54. Parveen M, Mohin M, Zehra S. Evaluation of L-tyrosine mixed with sodium dodecyl sulphate or cetyl pyridinium chloride as corrosion inhibitor for mild steel in 1 M HCl: experimental and theoretical studies. *RSC Adv.* 2016;6(66):61235-61248. doi:10.1039/C6RA10010D.
 55. Bhavsar J, Jain PK. Experimental and computational studies of *Nicotiana tabacum* leaves extract as green corrosion inhibitor for mild steel in acidic medium. 2015.
 56. Fernandes CM, Ferreira Fagundes T, Escarpini dos Santos N, Shewry de Rocha TM, Garrett R, Borges RM, et al. *Ircinia strobilina* crude extract as corrosion inhibitor for mild steel in acidic medium. *Electrochim Acta.* 2019;312:137-148. doi:10.1016/j.electacta.2019.04.148.
 57. Dehghani A, Ramezanzadeh B. Rosemary extract inhibitive behavior against mild steel corrosion in tempered 1 M HCl media. *Ind Crops Prod.* 2023;193.
 58. Sartika H, Stiadi Y. Sifat adsorptif dan termodinamika ekstrak lignin dari pelepah nipah (*Nypa fruticans* Wurmb.) untuk korosi baja lunak dalam medium HCl. *J Fis Unand.* 2024;13(6):784-791.
 59. Berrissoul A, Ouargh A, Benhiba F, Romane A, Zarrouk A, Guenbour A, et al. Evaluation

- of *Lavandula mairei* extract as green inhibitor for mild steel corrosion in 1 M HCl solution: experimental and theoretical approach. *J Mol Liq.* 2020;313:113493. doi:10.1016/j.molliq.2020.113493.
60. Sartika H, Suryati, Stiadi Y, Emriadi. Sifat adsorptif dan termodinamika ekstrak lignin dari pelepah nipah (*Nypa fruticans* Wurmb.) untuk korosi baja lunak dalam medium HCl. *J Fis Unand.* 2024;13(6):784-791.
 61. Vaghefinazari B, Gao Y, Li H, Abdulsada SA, Al-Ali M. Corrosion control of carbon steel using banana peel extract in acid diluted solutions. *IOP Conf Ser Mater Sci Eng.* 2017;345:012030. doi:10.1088/1757-899X/345/1/012030.
 62. Hussein SA, Khadom AA. Okra leaves extract as green corrosion inhibitor for steel in sulfuric acid: gravimetric, electrochemical, and surface morphological investigations. *Results Chem.* 2024;8.
 63. Lin K, Zhao Y. Entropy and enthalpy changes during adsorption and displacement of shale gas. *Energy.* 2021;221:119854. doi:10.1016/j.energy.2021.119854.
 64. Putri SE, Gusniardi VA, Suryati E. Inhibisi korosi baja lunak dengan ekstrak daun miana (*Coleus scutellarioides* L. Benth.) dalam medium HCl. *J Indones Soc Integr Chem.* 2023;15(2).
 65. Harsirman S, Santosh K, RK. Overview of corrosion and its control: a critical review. *Proc Eng Sci.* 2021;3(1):3-24.
 66. Stiadi Y, Rahmayeni R, Rahmawati L, Efdi M, Aziz HH. *Mangifera odorata* Griff seed extract as corrosion inhibitor of mild steel in hydrochloric acid medium. *Rasayan J Chem.* 2020;13(1):23.
 67. Gusniardi VA, Putri SE, Suryati E. Corrosion inhibitor from sambang darah leaves extract (*Excoecaria cochinchinensis* L.) on mild steel in HCl. *Chempublish J.* 2023;7(2):64-72. doi:10.22437/chp.v7i2.29254.
 68. Handayani T, Ramadhani P, Zein R. Modelling studies of methylene blue dye removal using activated corn husk waste: isotherm, kinetic and thermodynamic evaluation. *S Afr J Chem Eng.* 2024;47:15-27. doi:10.1016/j.sajce.2023.10.003.
 69. Zhang Z, Ba H, Wu Z. Sustainable corrosion inhibitor for steel in simulated concrete pore solution by maize gluten meal extract: electrochemical and adsorption behavior studies. *Constr Build Mater.* 2019;227:117080. doi:10.1016/j.conbuildmat.2019.117080.
 70. Putri SE, Gusniardi VA, Suryati E. Synergetic effect of potassium iodide and miana (*Coleus scutellarioides* L. Benth.) leaves extract on mild steel in HCl medium. *Hydrog J Kependidikan Kim.* 2023;11(1):835.
 71. Sedik A, Lerari D, Salci A, Ahmani S, Bachari K, Solmaz R. Press-dried fruit extract as eco-friendly corrosion inhibitor for mild steel in 1 M HCl: electrochemical and surface morphological studies. *J Taiwan Inst Chem Eng.* 2020.
 72. Dehghani A, Bahlakeh G, Ramezanzadeh B, Ramezanzadeh M. Potential of borage flower aqueous extract as an environmentally sustainable corrosion inhibitor for acid corrosion of mild steel: electrochemical and theoretical studies. *J Mol Liq.* 2019;277:895-911. doi:10.1016/j.molliq.2019.01.008.
 73. Echem O, Chukwukike VI, Tubonemi T, Anadebe VC, Abeng FE, Barine LG. Rubber leaf extract: a green inhibitor for mild steel corrosion in 1.0 M HCl medium: response surface analyzer and electrochemical approach. *Results Surf Interfaces.* 2025;20:100607. doi:10.1016/j.rsufi.2025.100607.
 74. Gong Y, Chen X, Wu W. Advances in sample preparation application of Fourier transform infrared (FTIR) spectroscopy in sample preparation: material characterization and mechanism investigation. *Adv Sample Prep.* 2024;11.
 75. Untari P, Efdi M. Efek sinergetik ekstrak daun jambu bol (*Syzygium malaccense*) dan iodida terhadap korosi baja dalam larutan asam. *Chempublish J.* 2021;5(2):179-193.
 76. About AH, El Faydy M, Ab A, et al. A combined experimental and theoretical approach to the elucidation of the corrosion inhibition property of 5-((4,5-dihydro-4-oxo-1H-tetrazol-1-yl)methyl) quinolin-8-ol for C22E steel in aggressive environment. *Inorg Chem Commun.* 2023.
 77. Touhami ME, Cherkaoui M. Electrochemical, thermodynamic and theoretical studies of some imidazole derivatives compounds as acid corrosion inhibitors for mild steel. *J Mol*

Liq. 2020.

78. Farzana BA, Banu AM, Ahamed KR. Andrographis echinoides leaves extract as eco-friendly corrosion inhibitor for mild steel in acid medium. Mater Today Proc. 2021.
79. Rathod MR, Rajappa SK, Praveen BM, Bharath DK. Current research in green and sustainable chemistry: investigation of Dolichandra unguis-cati leaves extract as corrosion inhibitor for mild steel in acid medium. Curr Res Green Sustain Chem. 2021;4.

