

DAFTAR PUSTAKA

1. Ozyigit-Hocaoglu, A.; Genc, B.N.: Cadmium in plants, humans and the environment. *Frontiers in Life Sciences and Related Technologies* 2020, 1(1), 12-21.
2. Babakhani, A.; Sartaj, M.: Removal of Cadmium (II) from aqueous solution using tripolyphosphate cross-linked chitosan. *Journal of Environmental Chemical Engineering* 2020.
3. Kumar, R.; Chawla, J.: *Removal of Cadmium Ion from Water/Wastewater by Nano-metal Oxides : A Review*; Springer: Dordrecht; New York, 2013.
4. Hasan, Md. K.; Shahriar, A.; Jim, K.U.: Water Pollution in Bangladesh and It's Impact on Public Health. *Heliyon* 2019.
5. Fontas, C.; Pont, N.; Hidalgo, M.; Salvado, V.: Separation and preconcentration of Cd(II) from chloride solutions using supported liquid membranes systems. *Desalination* 2006, 200, 114-116.
6. Farhadi, Khalil.; Shamsipur, Mojtaba.: Removal of Cadmium Ion from Water/Wastewater by Nano-metal Oxides : A Review. *Analytical Sciences* 2005.
7. James, K.A.; Meliker, J.R.: *Environmental cadmium exposure and osteoporosis: a review*; Springer: Dordrecht; New York, 2013.
8. Aglan, R.F.; Hamed, M.M.: Optimization of Environmental Friendly Process for Removal of Cadmium from Wastewater. *Russian Journal of Applied Chemistry* 2014, Vol. 87, No. 3, 373-382.
9. Milani, S.A.; Zahakifar, F.; Charkhi, A.: Continuous bulk liquid membrane technique for thorium transport: modeling and experimental validation. *Journal of the Iranian Chemical Society* 2018.
10. Kazemi, S.Y.; Hamidi, A.S.; Chaichi, M.J.: Kinetics study of selective removal of lead(II) in an aqueous solution containing lead(II), copper(II) and cadmium(II) across bulk liquid membrane. *Journal of the Iranian Chemical Society* 2013, 10, 283-288.
11. Rounaghi, G.H.; Hosseiny, M.S.; Chamsaz, M.: Study of competitive transport of metal cations through bulk liquid membrane using 40 -nitrobenzo-18-crown-6 and diaza-18-crown-6. *Journal of Inclusion Phenomena and Macroyclic Chemistry* 2011, 69, 221-229.
12. Amini, M.; Rahbar-Kelishami, A.; Alipour, M.; Vahidi, O.: Supported Liquid Membrane in Metal Ion Separation : An Overview. *Journal of Membrane Science and Research* 2018, 4, 121-135.
13. Sharma, Komal.; Joshi, Pratibha.; Sharma, Uma.: Extraction and carrier mediated transport of urea using noncyclic receptors through liquid membrane systems. *Arabian Journal of Chemistry* 2020, 13, 4764-4770.
14. Mateescu, M.; Pacurariu, L.; Nechifor, G.; Fierascu, I.: Transport of Cadmium Ions Through A Bulk Liquid Membrane with D2EHPA as Carrier. *Chemistry and Material Science* 2013, 75(2), 1454-2331.
15. Kang, Suhyeon.; Chung, Yongjin.; Hyun, Kyuhwan.; Sang Yoo, Kye.: Performance improvement of the glucose oxidation reactions using methyl red mediator. *International Journal of Hydrogen Energy* 2019.
16. Safavi, A.; Shams, E.: Selective and Efficient Transport of Hg(II) Through Bulk Liquid Membrane Using Methyl Red as Carrier. *Journal Membrane Science* 1998, 144, 37-43.
17. Lazulva: Optimalisasi Pemisahan Ion Cu(II) dengan Zat Pembawa Metil Merah melalui Teknik Membran Cair Fasa Ruah, *Skripsi*, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Andalas, Padang, 2004.

18. Chairawan: Optimasi Transpor Cd(II) Melalui Teknik Membran Cair Fasa Ruah dengan Menggunakan Metil Merah sebagai Zat Pembawa, *Skripsi*, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Andalas, Padang, 2021.
19. Refinel.; Emdenis.; Mustafa, D.; Safitri, W.; Yesti, Y.; Anggi, R.: Kinetika Transpor Fenol dengan Aditif Surfaktan dalam Teknik Membran Cair Fasa Ruah. *Jurnal Riset Kimia* 2012, Vol.05, No.2.
20. Valenzuela, F.; Salinas, C.; Basualto, C.; Sapag-Hagar, J.; Tapia, C.: Influence of Nonionic Surfactants Compound on Coupled Transpor of Copper (II) Through A Liquid Membrane. *Journal of the Chilean Chemical Society* 2003, Vol.48, No.1.
21. Han, Aijuan.; Zhang, Hongwei.; Sun, Jiulong.; Chuah, Gaik-Khuan.; Jaenicke, Stephan.: Investigation into bulk liquid membranes for removal of chromium(VI) from simulated wastewater. *Journal of Water Process Engineering* 2017, 17, 63-69.
22. Kumbasar, R.A.: Transport of cadmium ions from zinc plant leach solutions through emulsion liquid membrane-containing Aliquat 336 as carrier. *Separation and Purification Technology* 2008, 63, 592-599.
23. Kumbasar, R.A.: Selective Extraction of Cadmium from Multicomponent Acidic Leach Solutions by Emulsion Liquid Membrane using Amberlite LA-2 as Extractant. *Separation Science and Technology* 2013, 48, 1841-1850.
24. Mortaheb, H.R.; Kosuge, H.; Mokhtarani, B.; Amini, M.H.; Banihashemi, H.R.: Study on removal Cadmium from wastewater by emulsion liquid membrane. *Journal of Hazardous Materials* 2009, 165, 630-636.
25. Ahmad, A.L.; Kusumastuti, A.; Derek, C.J.C.; Ooi, B.S.; Emulsion liquid membrane for cadmium removal: Studies on emulsion diameter and stability. *Desalination* 287, 30-34.
26. He, Dingsheng.; Ma, Ming.: Effect of paraffin and surfactant on coupled transport of cadmium(II) ions through liquid membranes. *Hydrometallurgy* 56, 157-170.
27. Giuseppe, G.; Sinicropi, M.S.; Lauria, G.; Carocci, A.; Catalano, A.: The Effects of Cadmium Toxicity. *International Journal of Environmental Research and Public Health* 2020.
28. Khouri, S.J.; Abdel-Rahim, I.A.; Alshamaileh, E.M.; Altwaiq, A.M.: Equilibrium and Structural Study of *m*-Methyl Red in Aqueous Solutions: Distribution Diagram Construction. *Journal of Solution Chemistry* 2013.
29. Vatandoostarani, S.; Lotfabad, T.B.; Heidarinab, A.; Yaghmei, S.: Degradation of azo dye methyl red by *Saccharomyces cerevisiae* ATTC. *International Biodeterioration and Biodegradation* 2017, 125, 62-72.
30. Tobey, S.W.: The Acid Dissociation Constant of Methyl Red. *Journal of Chemical Education* 1958, Vol.35, No.10.
31. Liu, Yue.; Wang, Danfeng.; Xue, Mingming.; Song, Ruiying.; Zhang, Ying.; Qu, Guangzhou.; Wang, Tiecheng.: High-efficient decomplexation of Cu-EDTA and Cu removal by high-frequency non-thermal plasma oxidation/alkaline precipitation. *Separation and Purification Technology* 2021.
32. Wu, Jin.; Zhou, Jian.; Zhang, Shouwei.; Alsaedi, Ahmed.; Hayat, Tasawar.; Li, Jiaxing.; Song, Yuntao.: Efficient removal of metal contaminants by EDTA modified MOF from aqueous solutions. *Journal of Colloid and Interface Science* 2019, 555, 403-412.
33. Yan, Xiancui.; Jiang, Linhua.; Guo, Mingzhi.; Chen, Yunjie.; Zhu, Pengfei.; Jin, Weizhun.; Zha, Jie.: Using EDTA-2Na to inhibit sulfate attack in slag cement mortar under steam curing. *Construction and Building Materials* 2020.
34. Jonsson, Ann-Sofi.; Jonsson Bengt.: The influence of nonionic and ionic surfactants on hydrophobic and hydrophilic ultrafiltration membranes. *Journal of Membrane Science* 1991, 56, 49-76.

35. Roque, L.; Escudero, I.; Benito, J.M.: Separation of sodium lactate from Span 80 and SDS surfactants by ultrafiltration. *Separation and Purification Technology* 2017, 180, 90-98.
36. Hait, S.K.; Moulik, S.P.: Determination of Critical Micelle Concentration (CMC) of Nonionic Surfactants by Donor-Acceptor Interaction with Iodine and Correlation of CMC with Hydrophile-Lipophile Balance and Other Parameters of the Surfactants. *Journal of Surfactants and Detergents* 2001, Vol.04, No.3.
37. Bartsch, R.A.; Way, J.D.: Chemical Separation with Liquid Membranes: An Overview. *Journal of the American Chemical Society* 1996.
38. Dalali, N.; Yavarizadeh, H.; Agrawal, Y.K.: Separation of zinc and cadmium from nickel and cobalt by facilitated transport through bulk liquid membrane using trioctyl methyl ammonium chloride as carrier. *Journal of Industrial and Engineering Chemistry* 2012, 18, 1001-1005.
39. Nezdahali, Azizollah.; Mohammadi, Reza.; Mojarrab, Maliheh.: An overview on pollutants removal from aqueous solutions via bulk liquid membranes (BLMs): Parameters that influence the effectiveness, selectivity and transport kinetic. *Journal of Environmental Chemical Engineering* 2019.
40. Soniya, M.; Muthuraman, G.: Comparative study between liquid-liquid extraction and bulk liquid membrane for the removal and recovery of methylene blue from wastewater. *Journal of Industrial and Engineering Chemistry* 2015, 30, 266-273.
41. Nezdahali, Azizollah.; Mohammadi, Reza.; Akbarpour, Mina.; Ebrahimi, Javad.: Selective transport of Cu(II) ions from a mixture of Mn(II), Co(II), Ni(II), Cu(II), Zn(II), and Pb(II) cations through a bulk liquid membrane using benzyl bis(thiosemicarbazone) as carrier. *Desalination and Water Treatment* 2015.
42. Parhi, P.K.; Das, N.N.; Sarangi, K.: Extraction of cadmium from dilute solution using supported liquid membrane. *Journal of Hazardous Materials* 2009, 172, 773-779.
43. Singh, R.; Mehta, R.; Kumar, V.: Simultaneous removal of copper, nickel and zinc metal ions using bulk liquid membrane system. *Desalination* 2011, 272, 170-173.
44. Sribudda, Dolapop.; Sunsandee, Niti.; Ramakul, Prakorn.; Pancharoen, Ura.; Phatanasri, Suphot.: Separation of Cd(II) from industrial wastewater via HFSLM: Equilibrium, kinetic and thermodynamic investigation. *Journal of Industrial and Engineering Chemistry* 2015, 25, 22-28.
45. Hill, S.J.; Fisher, A.S.: *Atomic Absorption, Methods and Instrumentation*. Elsevier. 2017.
46. Butcher, D.J.: *Atomic Absorption Spectrometry*. Elsevier. 2005.
47. Hussain, C.M.; Kecili, R.: *Modern Environmental Analysis Techniques for Pollutants*. Elsevier. 2020.
48. Mohamed, M.A.; Jaafar, J.; Ismail, A.F.; Othman, M.H.D.; Rahman, M.A.: *Membrane Characterization*. Elsevier. 2017.
49. Lopes, C.D.C.A.; Limirio, P.H.J.O.; Novais, V.R.; Dechichi, P.: Fourier transform infrared spectroscopy (FTIR) application chemical characterization of enamel, dentin and bone. *Applied Spectroscopy Reviews* 2018, Vol.53, No. 9, 747-769.
50. Ren, Zhongqi.; Lv, Yuanyuan.; Zhang, Weidong.: Facilitated Transport of Penicillin G by Bulk Liquid Membrane with TBP as Carrier. *Applied Biochemistry and Biotechnology* 2009, 152, 286-294.
51. Zaharia, I.; Aboul-Enein, H.Y.; Diaconu, I.; Ruse, E.; Bunaciu, A.A.; Nechifor, G.: Facilitated transport of 5-aminosalicylic acid through bulk liquid membrane. *Journal of Iranian Chemical Society* 2013.
52. Dean, J.: *Handbook of Chemistry* ed 13th. 1985.

53. Reddy, T.R.; Ramkumar, J.; Chandramouleeswaran, S.; Reddy, A.V.R.: Selective transport of copper across a bulk liquid membrane using 8-hydroxy quinoline as carrier: *Journal of Membrane Science* 2010, 351, 11-15.
54. Mohammed, A.A.; Hussein, M.A.; Albdiri, A.D.Z.: Application of Bulk Liquid Membrane Technique for Cadmium Extraction from Aqueous Solution. *Arabian Journal for Science and Engineering* 2018.
55. Madaeni, S.S.; Jamali, Z.; Islami, N.: Highly efficient and selective transport of methylene blue through a bulk liquid membrane containing Cyanex 301 as carrier. *Separation and Purification Technology* 2011, 81, 116-123.
56. Minhas, F.T.; Memon, S.; Bhanger, M.I.: Transport of Hg(II) through bulk liquid membrane containing calix[4]arene thioalkyl derivative as a carrier. *Desalination* 2010, 262, 215-220.
57. Ahmed, F.; Dewani, R.; Pervez, M.K.; Mahboob, S.J.; Soomro, S.A.: Non-destructive FT-IR analysis of mono azo dyes. *Bulgarian Chemical Communications* 2016, Vol.48, No.1, 71-77.
58. El-Mansy, M.A.M.; Yahia, I.S.: Spectroscopic notes of Methyl Red (MR) dye. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 2014, 130, 59-63.
59. Olukanni, O.; Awotula, A.; Osuntoki, A.; Govindwar, S.: Influence of redox mediators and media on methyl red decolorization and its biodegradation by *Providencia rettgeri*. *SN Applied Sciences* 2019.

