

## DAFTAR PUSTAKA

- Benhalima, N., Djedouani, A., Rahmani, R., Chouaih, A., Hamzaoui, F., and Hadj, E., 2018, Molecular Structure, Mulliken charges, HOMO-LUMO, Electrostatic Potential and Nonlinear Optical Properties of Zwitterionic molecule by HF and DFT methods, *World J. Model. Simul.*, 14, 3–11.
- Bistri, O. and Reinaud, O., 2015, Supramolecular control of transition metal complexes in water by a hydrophobic cavity: A bio-inspired strategy, *Org. Biomol. Chem.*, 13, 2849–2865.
- Chen, H., Dou, B., Song, Y., Xu, Y., Wang, X., Zhang, Y., 2012, Studies on absorption and regeneration for  $\text{CO}_2$  capture by aqueous ammonia, *Int. J. Greenh. Gas Control*, 6, 171–178.
- Darde, V., van Well, W.J.M., Fosboel, P.L., Stenby, E.H., and Thomsen, K., 2011, Experimental measurement and modeling of the rate of absorption of carbon dioxide by aqueous ammonia, *Int. J. Greenh. Gas Control*, 5, 1149–1162.
- Davison, J., 2007, Performance and costs of power plants with capture and storage of  $\text{CO}_2$ , *Energy*, 32, 1163–1176.
- Deawati, Y., Bahtira, F.S., and Juliandri, 2013, Sintesis dan karakterisasi kompleks binuklir hofmann-like network besi(II)-nikel(II) dengan sianida dan etilendiamin,. In, *Prosiding Seminar Nasional Sains dan Teknologi Nuklir PTNBR-BATAN*, Bandung.
- Decardi-Nelson, B., Akachuku, A., Osei, P., Srisang, W., Pouryousefi, F., and Idem, R., 2017, Catalyst performance and experimental validation of a rigorous desorber model for low temperature catalyst-aided desorption of  $\text{CO}_2$  in single and blended amine solutions, *J. Environ. Chem. Eng.*, 5, 3865–3872.
- GarCrossed d Signarsdóttir, S.Ó., Normann, F., Andersson, K., and Johnsson, F., 2015, Postcombustion  $\text{CO}_2$  capture using monoethanolamine and ammonia solvents: The influence of  $\text{CO}_2$  concentration on technical performance, *Ind. Eng. Chem. Res.*, 54, 681–690.
- Han, K., Ahn, C.K., Lee, M.S., Rhee, C.H., Kim, J.Y., and Chun, H., 2013, Current status and challenges of the ammonia-based  $\text{CO}_2$  capture technologies toward commercialization, *Int. J. Greenh. Gas Control*, 14, 270–281.

- Khomskii, D.I., 2014, Transition metal ions in crystals,. In, *Transition Metal Compounds*. Cambridge University Press, United Kingdom, pp. 42–43.
- Kim, D.Y., Lee, H.M., Min, S.K., Cho, Y., and Hwang, I., 2011, Supporting information available  $\text{CO}_2$  capturing mechanism in aqueous ammonia :  $\text{NH}_3$ -driven decomposition-recombination pathway, *J. Phys. Chem. Lett.*, 2, 689–694.
- Kim, D.Y., Lee, H.M., Min, S.K., Cho, Y., Hwang, I.C., Han, K., 2011,  $\text{CO}_2$  capturing mechanism in aqueous ammonia:  $\text{NH}_3$ -driven decomposition-recombination pathway, *J. Phys. Chem. Lett.*, 2, 689–694.
- Kim, Y., Lim, S.R., and Park, J.M., 2012, The effects of  $\text{Cu(II)}$  ion as an additive on  $\text{NH}_3$  loss and  $\text{CO}_2$  absorption in ammonia-based  $\text{CO}_2$  capture processes, *Chem. Eng. J.*, 211, 327–335.
- Li, K., Yu, H., Tade, M., and Feron, P., 2014, Theoretical and experimental study of  $\text{NH}_3$  suppression by addition of  $\text{Me(II)}$  ions (Ni, Cu and Zn) in an ammonia-based  $\text{CO}_2$  capture process, *Int. J. Greenh. Gas Control*, 24, 54–63.
- Li, L., Conway, W., Burns, R., Maeder, M., Puxty, G., Clifford, S., and Yu, H., 2017, Investigation of metal ion additives on the suppression of ammonia loss and  $\text{CO}_2$  absorption kinetics of aqueous ammonia-based  $\text{CO}_2$  capture, *Int. J. Greenh. Gas Control*, 56, 165–172.
- Li, L., Zhao, N., Wei, W., and Sun, Y., 2013, A review of research progress on  $\text{CO}_2$  capture, storage, and utilization in Chinese Academy of Sciences, *Fuel*, 108, 112–130.
- Liakos, D.G. and Neese, F., 2015, Is it possible to obtain coupled cluster quality energies at near density functional theory cost? domain-based local pair natural orbital coupled cluster vs modern density functional theory, *J. Chem. Theory Comput.*, 11, 4054–4063.
- Liu, K., Neathery, J.K., Remias, J.E., and Li, X., 2012, Method for removing  $\text{CO}_2$  from coal-fired power plant flue gas using ammonia as the scrubbing solution, with a chemical additive for reducing  $\text{NH}_3$  losses, coupled with a membrane for concentrating the  $\text{CO}_2$  stream to the gas stripper., *US. Patent*, US 8,328,911 B2.
- Ma, S., Song, H., Wang, M., Yang, J., and Zang, B., 2013, Research on mechanism of ammonia escaping and control in the process of  $\text{CO}_2$  capture using ammonia solution, *Chem. Eng. Res. Des.*, 91, 1327–1334.

- Mani, F., Peruzzini, M., and Barzagl, F., 2008, The role of zinc(II) in the absorption-desorption of  $\text{CO}_2$  by aqueous  $\text{NH}_3$ , a potentially cost-effective method for  $\text{CO}_2$  capture and recycling, *Chem.Sus.Chem.*, 1, 228–235.
- Moin, S.T., Hofer, T.S., Pribil, A.B., Randolph, B.R., and Rode, B.M., 2010, A quantum mechanical charge field molecular dynamics study of  $\text{Fe}^{2+}$  and  $\text{Fe}^{3+}$  ions in aqueous solutions, *Inorg. Chem.*, 49, 5101–5106.
- Neese, F., 2012, The orca program system, *Wiley Interdiscip. Rev. Comput. Mol. Sci.*, 2, 73–78.
- Niu, Z., Guo, Y., Zeng, Q., and Lin, W., 2013, A novel process for capturing carbon dioxide using aqueous ammonia, *Fuel Process. Technol.*, 108, 154–162.
- Qin, F., Wang, S., Hartono, A., Svendsen, H.F., and Chen, C., 2010, Kinetics of  $\text{CO}_2$  absorption in aqueous ammonia solution, *Int. J. Greenh. Gas Control*, 4, 729–738.
- Sharma, B., Neela, Y.I., and Narahari Sastry, G., 2016, Structures and energetics of complexation of metal ions with ammonia, water, and benzene: A computational study, *J. Comput. Chem.*, 37, 992–1004.
- Wang, F., Zhao, Jun, Miao, H., Zhao, Jiapei, Zhang, H., Yuan, J., and Yan, J., 2018, Current status and challenges of the ammonia escape inhibition technologies in ammonia-based  $\text{CO}_2$  capture process, *Appl. Energy*, 230, 734–749.
- Wang, X., Conway, W., Fernandes, D., Lawrance, G., Burns, R., Puxty, G., and Maeder, M., 2011, Kinetics of the reversible reaction of  $\text{CO}_2(\text{aq})$  with ammonia in aqueous solution, *J. Phys. Chem. A*, 115, 6405–6412.
- Xie, H. Bin, Wei, X., Wang, P., He, N., and Chen, J., 2015,  $\text{CO}_2$  Absorption in an alcoholic solution of heavily hindered alkanolamine: Reaction mechanism of 2-(tert-butylamino) ethanol with  $\text{CO}_2$  revisited, *J. Phys. Chem. A*, 119, 6346–6353.
- Yeh, A.C. and Bai, H., 1999, Comparison of Ammonia and mono ethanol amine solvents to reduce  $\text{CO}_2$  greenhouse gas emissions., *Sci. Total Environ.*, 228, 121–133.
- Yu, H., Qi, G., Wang, S., Morgan, S., Allport, A., Cottrell, A., 2012, Results from trialling aqueous ammonia-based post-combustion capture in a pilot plant at

Munmorah Power Station: Gas purity and solid precipitation in the stripper, *Int. J. Greenh. Gas Control*, 10, 15–25.

Yu, H., Qi, G., Xiang, Q., Wang, S., Fang, M., Yang, Q., 2013, Aqueous ammonia based post combustion capture: Results from pilot plant operation, challenges and further opportunities,. In, *GHGT-11 Proceedings of the 11th International Conference on Greenhouse Gas Control Technologies*. Energy Procedia, Kyoto, Japan, pp. 6256–6264.

Zhang, M. and Guo, Y., 2013, Process simulations of  $\text{NH}_3$  abatement system for large-scale  $\text{CO}_2$  capture using aqueous ammonia solution, *Int. J. Greenh. Gas Control*, 18, 114–127.

Zhao, B., Su, Y., Tao, W., Li, L., and Peng, Y., 2012, Post-combustion  $\text{CO}_2$  capture by aqueous ammonia: A state-of-the-art review, *Int. J. Greenh. Gas Control*, 9, 355–371.

Zhuang, Q., Pomalis, R., Zheng, L., and Clements, B., 2011, Ammonia-based carbon dioxide capture technology: Issues and solutions, *Energy Procedia*, 4, 1459–1470.