

DAFTAR PUSTAKA

- Alviany, R., Marbun, M. P., & Kurniawansyah, F. (2018). Production Of γ -Al₂O₃ Catalysts Using Impregnation Method. *Jurnal Teknik Kimia*, 12(2), 64–68.
- Ashok, J., Pati, S., Hongmanorom, P., Tianxi, Z., Junmei, C., & Kawi, S. (2020). A review of recent catalyst advances in CO₂ methanation processes. *Catalysis Today*, 356(July), 471–489. <https://doi.org/10.1016/j.cattod.2020.07.023>
- Chein, R.-Y., & Wang, C.-C. (2020). *Experimental Study on CO 2 Methanation over. 2.*
- Chembk. (2020). *nikel nitrat heksahidrat.*
- Chembk. (2022). *metana _ CH4 - PubChem.*
- Dias, Y. R., & Perez-Lopez, O. W. (2021). CO₂conversion to methane using Ni/SiO₂catalysts promoted by Fe, Co and Zn. *Journal of Environmental Chemical Engineering*, 9(1), 104629. <https://doi.org/10.1016/j.jece.2020.104629>
- Fan, W. K., & Tahir, M. (2021). Recent trends in developments of active metals and heterogenous materials for catalytic CO₂hydrogenation to renewable methane: A review. *Journal of Environmental Chemical Engineering*, 9(4), 105460. <https://doi.org/10.1016/j.jece.2021.105460>
- Frontera, P., Macario, A., Ferraro, M., & Antonucci, P. L. (2017). Supported catalysts for CO₂ methanation: A review. *Catalysts*, 7(2), 1–28. <https://doi.org/10.3390/catal7020059>
- Garbarino, G., Wang, C., Cavattoni, T., Finocchio, E., Riani, P., Flytzani-Stephanopoulos, M., & Busca, G. (2019). A study of Ni/La-Al₂O₃ catalysts: A competitive system for CO₂ methanation. *Applied Catalysis B: Environmental*, 248(December 2018), 286–297. <https://doi.org/10.1016/j.apcatb.2018.12.063>
- Guo, X., Gao, D., He, H., Traitangwong, A., Gong, M., Meeyoo, V., Peng, Z., & Li, C. (2021). Promotion of CO₂ methanation at low temperature over hydrotalcite-derived catalysts-effect of the tunable metal species and basicity. *International Journal of Hydrogen Energy*, 46(1), 518–530. <https://doi.org/10.1016/j.ijhydene.2020.09.193>
- Keshavarz, M. H. (2018). 4. Heat of Combustion. *Combustible Organic Materials*, 85–99. <https://doi.org/10.1515/9783110572223-004>
- Krisnandi, Y. K., Abdullah, I., Prabawanta, I. B. G., & Handayani, M. (2020). In-situ hydrothermal synthesis of nickel nanoparticle/reduced graphene oxides as catalyst on CO₂ methanation. *AIP Conference Proceedings*, 2242(June). <https://doi.org/10.1063/5.0007992>

- Lee, W. J., Li, C., Prajitno, H., Yoo, J., Patel, J., Yang, Y., & Lim, S. (2021). Recent trend in thermal catalytic low temperature CO₂ methanation: A critical review. *Catalysis Today*, 368(February), 2–19. <https://doi.org/10.1016/j.cattod.2020.02.017>
- Levenspiel. (1999). Chemical reaction engineering. In *The Engineering Handbook, Second Edition*. <https://doi.org/10.1201/9781420087567-13>
- Li, W., Wang, H., Jiang, X., Zhu, J., Liu, Z., Guo, X., & Song, C. (2018). A short review of recent advances in CO₂ hydrogenation to hydrocarbons over heterogeneous catalysts. *RSC Advances*, 8(14), 7651–7669. <https://doi.org/10.1039/c7ra13546g>
- Liang, C., Ye, Z., Dong, D., Zhang, S., Liu, Q., Chen, G., Li, C., Wang, Y., & Hu, X. (2019). Methanation of CO₂: Impacts of modifying nickel catalysts with variable-valence additives on reaction mechanism. *Fuel*, 254(June), 115654. <https://doi.org/10.1016/j.fuel.2019.115654>
- Lippard, S.J. and Berg, J. . (1994). Principles of Bioinorganic Chemistry. *University Science Books, Mill Valley*.
- Loder, A., Siebenhofer, M., & Lux, S. (2020). The reaction kinetics of CO₂ methanation on a bifunctional Ni/MgO catalyst. *Journal of Industrial and Engineering Chemistry*, 85, 196–207. <https://doi.org/10.1016/j.jiec.2020.02.001>
- Lv, C., Xu, L., Chen, M., Cui, Y., Wen, X., Li, Y., Wu, C. E., Yang, B., Miao, Z., Hu, X., & Shou, Q. (2020). Recent Progresses in Constructing the Highly Efficient Ni Based Catalysts With Advanced Low-Temperature Activity Toward CO₂ Methanation. *Frontiers in Chemistry*, 8(April), 1–32. <https://doi.org/10.3389/fchem.2020.00269>
- Martin, N. M., Velin, P., Skoglundh, M., Bauer, M., & Carlsson, P. A. (2017). Catalytic hydrogenation of CO₂ to methane over supported Pd, Rh and Ni catalysts. *Catalysis Science and Technology*, 7(5), 1086–1094. <https://doi.org/10.1039/c6cy02536f>
- Shafiee, P., Alavi, S. M., Rezaei, M., & Jokar, F. (2022). Promoted Ni–Co–Al₂O₃ nanostructured catalysts for CO₂ methanation. *International Journal of Hydrogen Energy*, 47(4), 2399–2411. <https://doi.org/10.1016/j.ijhydene.2021.10.197>
- Trisunaryanti, W. (2018). *Material Katalis dan Karakternya* (pp. 1–208).
- UCAR. (n.d.). *Hurricanes / Center for Science Education*. <https://scied.ucar.edu/learning-zone/storms/hurricanes>
- Valinejad Moghaddam, Shima, Mehran Rezaei, Fereshteh Meshkani, and Reihaneh Daroughegi. 2018. “Carbon Dioxide Methanation over Ni-M/Al₂O₃ (M: Fe, CO, Zr, La and Cu) Catalysts Synthesized Using the One-Pot Sol-Gel Synthesis Method.” *International Journal of Hydrogen Energy* 43(34): 16522–33. <https://doi.org/10.1016/j.ijhydene.2018.07.013>.

- Widi, R. K. (2018). *Pemanfaatan Material Anorganik: Pengenalan dan Beberapa Inovasi di bidang Penelitian* (p. 119).
- Yeo, C. E., Seo, M., Kim, D., Jeong, C., Shin, H. S., & Kim, S. (2021). Optimization of operating conditions for CO₂ methanation process using design of experiments. *Energies*, 14(24). <https://doi.org/10.3390/en14248414>
- Yu, J., Yu, J., Shi, Z., Guo, Q., Xiao, X., Mao, H., & Mao, D. (2019). The effects of the nature of TiO₂ supports on the catalytic performance of Rh-Mn/TiO₂ catalysts in the synthesis of C₂ oxygenates from syngas. *Catalysis Science and Technology*, 9(14), 3675–3685. <https://doi.org/10.1039/c9cy00406h>
- Yu, T., Niu, L., & Iwahashi, H. (2020). High-Pressure Carbon Dioxide Used for Pasteurization in Food Industry. *Food Engineering Reviews*, 12(3), 364–380. <https://doi.org/10.1007/s12393-020-09240-1>
- Zhong, H., Yao, G., Cui, X., Yan, P., Wang, X., & Jin, F. (2019). Selective conversion of carbon dioxide into methane with a 98% yield on an in situ formed Ni nanoparticle catalyst in water. *Chemical Engineering Journal*, 357(April 2018), 421–427. <https://doi.org/10.1016/j.cej.2018.09.155>