

Yuichiro Himeda

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Education

- 1994.10 PhD degrees from Osaka University
1988 – 1990 M. S. Osaka University (Department of Chemistry, Graduate School of Science)
1984 – 1988 B. S. Osaka University (Department of Chemistry, School of Science)

Professional Career

- 2021.04 – Present Professor, Faculty of Pure and Applied Sciences, University of Tsukuba
2020.04 – Present Principal Researcher, GZR, AIST
2091.04 – 2020.03 Researcher, AIST

Selected Publications

1. Onishi, N.; Himeda, Y., Toward Methanol Production by CO₂ Hydrogenation beyond Formic Acid Formation. *Acc. Chem. Res.* **2024**, *57*, 2816-2825.
2. Onishi, N.; Himeda, Y., Homogeneous catalysts for CO₂ hydrogenation to methanol and methanol dehydrogenation to hydrogen generation. *Coord. Chem. Rev.* **2022**, *472*, 214767.
3. Kanega, R.; Onishi, N.; Tanaka, S.; Kishimoto, H.; Himeda, Y., Catalytic Hydrogenation of CO₂ to Methanol Using Multinuclear Iridium Complexes in a Gas-Solid Phase Reaction. *J. Am. Chem. Soc.* **2021**, *143*, 1570-1576.
4. Onishi, N.; Iguchi, M.; Yang, X.; Kanega, R.; Kawanami, H.; Xu, Q.; Himeda, Y., Development of Effective Catalysts for Hydrogen Storage Technology Using Formic Acid. *Adv. Energy Mater.* **2019**, *9*, 1801275.
5. Himeda, Y. Ed., *CO₂ Hydrogenation Catalysis*; Wiley-VCH, 2021.
6. Kanega, R.; Onishi, N.; Szalda, D. J.; Ertem, M. Z.; Muckerman, J. T.; Fujita, E.; Himeda, Y., CO₂ Hydrogenation Catalysts with Deprotonated Picolinamide Ligands. *ACS Catal.* **2017**, *7*, 6426–6429.
7. Wang, W.-H.; Himeda, Y.; Muckerman, J. T.; Manbeck, G. F.; Fujita, E., CO₂ Hydrogenation to Formate and Methanol as an Alternative to Photo- and Electrochemical CO₂ Reduction. *Chem. Rev.* **2015**, *115*, 12936-12973.

Research Interests

1. Activation of small molecules.
2. Development of organometallic catalysts based on new concepts
3. CO₂ utilization for energy storage.

Awards

1. Ichimura Foundation for New Technology (2018) “The Ichimura Prize in Science against Global Warming for Distinguished Achievement”