

Erratum

Silica-Supported PdGa Nanoparticles: Metal Synergy for Highly Active and Selective CO₂-to-CH₃OH Hydrogenation (JACS Au (2021) 1:4 (450–458) DOI: 10.1021/jacsau.1c00021)

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DOI

[10.1021/jacsau.2c00421](https://doi.org/10.1021/jacsau.2c00421)

Publication date

2022

Document Version

Final published version

Published in

Journal of the American Chemical Society

Citation (APA)

Docherty, S. R., Phongprueksathat, N., Lam, E., Noh, G., Safonova, O. V., Urakawa, A., & Coperet, C. (2022). Erratum: Silica-Supported PdGa Nanoparticles: Metal Synergy for Highly Active and Selective CO₂-to-CH₃OH Hydrogenation (JACS Au (2021) 1:4 (450–458) DOI: 10.1021/jacsau.1c00021). *Journal of the American Chemical Society*, 2(8), 1946-1947. <https://doi.org/10.1021/jacsau.2c00421>

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Correction to “Silica-Supported PdGa Nanoparticles: Metal Synergy for Highly Active and Selective CO₂-to-CH₃OH Hydrogenation”

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JACS Au 2021, 1 (4), 450–458. DOI: 10.1021/jacsau.1c00021



Cite This: JACS Au 2022, 2, 1946–1947



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Supporting Information

In the original version of this article, Table 1, the main text, and the Supporting Information contain errors due to the inversion of CO and H₂ chemisorption for Pd@SiO₂. The correct values for Table 1 are as follows:

Table 1

| material | CO chemisorption, mol _{CO} mol _{Pd} ⁻¹ (D _{CO}) | H ₂ chemisorption, mol _{H₂} mol _{Pd} ⁻¹ | H/CO ratio |
|---------------------|--|--|------------|
| Pd@SiO ₂ | 0.93 (93%) | 0.62 | 1.3 |

On page 452, column 1 (lines 12–23) reads: “H₂ and CO chemisorption show an uptake of 0.91 mol_{H₂} mol_{Pd}⁻¹ and 0.61 mol_{CO} mol_{Pd}⁻¹, respectively (Table 1, Supporting Information S6). Considering a 1:1 CO/Pd stoichiometry,³² the dispersion from CO chemisorption (D_{CO}) equals 61%, in a reasonable agreement with the dispersion from TEM (D_{TEM} ≈ 70%; Supporting Information S9).³² While H₂ chemisorption is not effective for a determination of the metal dispersion of Pd nanoparticles due to the formation of a stable bulk hydride with larger particles (>2.6 nm),³² a comparison of the H₂ uptake and D_{CO} would correspond to approximately three hydrogen atoms per surface Pd.”

This should be corrected to “H₂ and CO chemisorption show an uptake of 0.62 mol_{H₂} mol_{Pd}⁻¹ and 0.93 mol_{CO} mol_{Pd}⁻¹, respectively (Table 1, Supporting Information S6). Considering a 1:1 CO/Pd stoichiometry,³² the dispersion from CO chemisorption (D_{CO}) equals 93%, higher than would be expected from TEM (D_{TEM} ≈ 70%; Supporting Information S9).³² While H₂ chemisorption is not effective for a determination of the metal dispersion of Pd nanoparticles due to the formation of a stable bulk hydride with larger particles (>2.6 nm),³² a comparison of the H₂ uptake and D_{CO} would correspond to approximately ca. 1.3 hydrogen atoms per surface Pd.”

Furthermore, in the Supporting Information, the corresponding corrections have been made in caption titles and graph axes, i.e., change CO for H₂ and H₂ for CO in Figures S13–S16. In addition, mistakes relating to the units in both the figure and caption of Figure S42 have been addressed. The Supporting Information has been updated accordingly. The conclusions of the work are not affected.

ASSOCIATED CONTENT

Supporting Information

The Supporting Information is available free of charge at <https://pubs.acs.org/doi/10.1021/jacsau.2c00421>.

Complete experimental procedures, general considerations, spectroscopic methods, and associated data (PDF)

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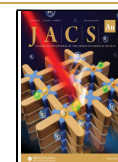
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Received: July 29, 2022

Revised: August 4, 2022

Accepted: August 4, 2022

Published: August 12, 2022



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<https://pubs.acs.org/10.1021/jacsau.2c00421>