

## RETRACTION

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## Retraction: Bis-salophen palladium complex immobilized on Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> nanoparticles as a highly active and durable phosphine-free catalyst for Heck and copper-free Sonogashira coupling reactions

Ali Reza Sardarian,\* Milad Kazemnejadi and Mohsen Esmaeilpour

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Retraction of 'Bis-salophen palladium complex immobilized on Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> nanoparticles as a highly active and durable phosphine-free catalyst for Heck and copper-free Sonogashira coupling reactions' by Ali Reza Sardarian *et al.*, *Dalton Trans.*, 2019, **48**, 3132–3145, <https://doi.org/10.1039/C9DT00060G>.

The Royal Society of Chemistry hereby wholly retracts this *Dalton Transactions* article due to concerns with the reliability of the data.

Several spectra in the ESI were previously published in another article and were re-used in this article either as the whole spectrum or with some peaks removed. The mass spectrometry data for products **1–3**, **7**, **12**, **16–18** were first published in ref. 1. The <sup>1</sup>H data for products **7**, **16** and **17** and the <sup>13</sup>C NMR for products **7**, **12**, **16** and **17** were first published in ref. 1.

The authors have not been able to provide the original raw data. Given the significance of these concerns, the findings presented in this paper are no longer reliable.

The authors were informed about the retraction of the article. Ali Reza Sardarian has not agreed with the decision, the other authors have not responded.

Signed: Sally Howells-Wyllie, Executive Editor *Dalton Transactions*

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## References

- 1 H. Firouzabadi, N. Iranpoor and A. Ghaderi, Gelatin as a bioorganic reductant, ligand and support for palladium nanoparticles. Application as a catalyst for ligand- and amine-free Sonogashira–Hagihara reaction, *Org. Biomol. Chem.*, 2011, **9**, 865–871.

