

Cite this: *Chem. Sci.*, 2020, 11, 9026

DOI: 10.1039/d0sc90169e

rsc.li/chemical-science

Correction: Palladium-catalysed 5-endo-trig allylic (hetero)arylation

Bara Singh, Siddheshwar K. Bankar, Ketan Kumar and S. S. V. Ramasastry *

Correction for 'Palladium-catalysed 5-endo-trig allylic (hetero)arylation' by Bara Singh *et al.*, *Chem. Sci.*, 2020, 11, 4948–4953, DOI: 10.1039/D0SC01932A.

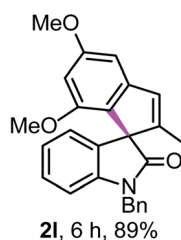
After the publication of our manuscript, a reader suggested that the transformation (shown in Scheme 1) can also be described as a Nazarov-type cyclisation¹ with palladium chloride acting as a Lewis acid. While we do not have any evidence at this stage to support the Lewis acidic behaviour of palladium chloride,² however, a Nazarov-type mechanistic scenario is possible. The overall transformation can also be considered as an intramolecular ene-type reaction³ or as an intramolecular Friedel-Crafts-type reaction,⁴ although our data agrees better with the 5-endo-trig process facilitated by the LUMO umpolung.⁵ Further experimental and computational investigations are underway to elucidate the full mechanistic details.



Scheme 1 General representation of the palladium-catalysed intramolecular allylic (hetero)arylation strategy reported by our group.

We thank the reader for the thought-provoking comments and also for their interest in our work.

Previously, the methoxy (-OMe) groups in the structure **2I** (Table 2) were wrongly placed. The correct structure of **2I** is shown below.



These corrections do not influence any conclusions reported in the main article.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

References

- 1 For some seminal contributions on Nazarov-type cyclisation reactions, see: (a) C. Bee, E. Leclerc and M. A. Tius, *Org. Lett.*, 2003, 5, 4927; (b) A. J. Frontier and C. Collison, *Tetrahedron*, 2005, 61, 7577; (c) J. A. Malona, J. M. Colbourne and A. J. Frontier, *Org. Lett.*,

Organic Synthesis and Catalysis Lab, Department of Chemical Sciences, Indian Institute of Science Education and Research (IISER) Mohali, Sector 81, Manauli PO, S. A. S. Nagar, Punjab 140306, India. E-mail: ramsastry@iisermohali.ac.in; ramsastrys@gmail.com



- 2006, **8**, 5661; (d) S. S. Subramaniam, S. Handa, A. J. Miranda and L. M. Slaughter, *ACS Catal.*, 2011, **1**, 1371; (e) W. T. Spencer, T. Vaidya and A. J. Frontier, *Eur. J. Org. Chem.*, 2013, 3621; (f) J. Shao, P. Hu, G. Hong, M. Fang, X. Li and X. Xu, *Synlett*, 2014, **25**, 1009; (g) T. Vaidya, R. Cheng, P. N. Carlsen, A. J. Frontier and R. Eisenberg, *Org. Lett.*, 2014, **16**, 800; (h) K. Kitamura, N. Shimada, C. Stewart, A. C. Atesin, T. A. Atesin and M. A. Tius, *Angew. Chem., Int. Ed.*, 2015, **54**, 6288; (i) M. C. Martin, M. J. Sandridge, C. W. Williams, Z. A. Francis and S. France, *Tetrahedron*, 2017, **73**, 4093.
- 2 For some rare examples where palladium(II) complexes were shown to behave as Lewis acids, see: (a) N. Asao, T. Nogami, K. Takahashi and Y. Yamamoto, *J. Am. Chem. Soc.*, 2002, **124**, 764; (b) Y. Xiao and J. Zhang, *Angew. Chem., Int. Ed.*, 2008, **47**, 190.
- 3 (a) S. K. Bankar, B. Singh, P. Tung and S. S. V. Ramasastry, *Angew. Chem., Int. Ed.*, 2018, **57**, 1678; (b) S. Yadav, R. Hazra, A. Singh and S. S. V. Ramasastry, *Org. Lett.*, 2019, **21**, 2983.
- 4 (a) J. S. Yadav, A. K. Mishra and S. Das, *Tetrahedron*, 2014, **70**, 7560; (b) Z.-L. Zhao, Q. L. Xu, Q. Gu, X.-Y. Wu and S.-L. Yu, *Org. Biomol. Chem.*, 2015, **13**, 3086; (c) T. Nemato and Y. Hamada, *Synlett*, 2016, **27**, 2301.
- 5 According to the pioneer in this field, Prof. Igor Alabugin, the LUMO umpolung would apply to olefins as long as the π -complex formation is feasible. For details, see: (a) I. V. Alabugin and K. Gilmore, *Chem. Commun.*, 2013, **49**, 11246; (b) G. dos Passos Gomes and I. V. Alabugin, *J. Am. Chem. Soc.*, 2017, **139**, 3406; (c) I. V. Alabugin and E. Gonzalez-Rodriguez, *Acc. Chem. Res.*, 2018, **51**, 1206.

