Journal of Materials Chemistry A



View Article Online

View Journal | View Issue

RETRACTION

Check for updates

Cite this: J. Mater. Chem. A, 2022, 10, 24951

Retraction: Formation of Fe₃O₄@MnO₂ ball-in-ball hollow spheres as a high performance catalyst with enhanced catalytic performances

Shouwei Zhang,^a Qiaohui Fan,^b Huihui Gao,^a Yongshun Huang,^c Xia Liu,^c Jiaxing Li,^{*cd} Xijin Xu^{*a} and Xiangke Wang^{*d}

DOI: 10.1039/d2ta90260e

rsc.li/materials-a

Retraction of 'Formation of $Fe_3O_4@MnO_2$ ball-in-ball hollow spheres as a high performance catalyst with enhanced catalytic performances' by Shouwei Zhang *et al.*, *J. Mater. Chem. A*, 2016, 4, 1414–1422, https://doi.org/10.1039/C5TA08400H.

The Royal Society of Chemistry, with the agreement of the authors, hereby wholly retracts this *Journal of Materials Chemistry A* article due to concerns with the reliability of the data in the published article.

There are repeating fragments in the 282–291 eV region of the XPS spectrum in Fig. 3F. Part of the SEM image in Fig. 4E, representing $SiO_2@Fe_3O_4@MnO_2$, is duplicated in the SEM image in Fig. 5A which represents a different material, $Fe_3O_4@MnO_2$ BBHs. An independent expert was consulted who was not satisfied with the replacement data and explanation provided by the authors.

Given the significance of the concerns about the validity of the original and replacement data, the findings presented in this paper are no longer reliable.

Signed: Shouwei Zhang, Qiaohui Fan, Huihui Gao, Yongshun Huang, Xia Liu, Jiaxing Li, Xijin Xu, Xiangke Wang Date: 3rd November 2022

Retraction endorsed by Michaela Mühlberg, Executive Editor, Journal of Materials Chemistry A.

"School of Physics and Technology, University of Jinan, Shandong, 250022, P. R. China. E-mail: spsxuxj@ujn.edu.cn

^cKey Laboratory of Novel Thin Film Solar Cells, Institute of Plasma Physics, Chinese Academy of Sciences, P.O. Box 1126, 230031 Hefei, P. R. China. E-mail: lijx@ipp.ac.cn; Fax: +86-551-65591310; Tel: +86-551-65596617

^aNAAM Research Group, Faculty of Science, King Abdulaziz University, Jeddah 21589, Saudi Arabia. E-mail: xkwang@ipp.ac.cn

^bKey Laboratory of Petroleum Resources, Gansu Province/Key Laboratory of Petroleum Resources Research, Institute of Geology and Geophysics, Chinese Academy of Sciences, Lanzhou 730000, P.R. China