

CORRECTION

[View Article Online](#)
[View Journal](#) | [View Issue](#)



Cite this: *J. Mater. Chem. A*, 2019, 7, 17655

Correction: Significant average *ZT* enhancement in Cu₃SbSe₄-based thermoelectric material via softening p–d hybridization

Dan Zhang,^{ab} Junyou Yang,^{*b} Hongchang Bai,^a Yubo Luo,^c Bin Wang,^a Shuaihang Hou,^a Zhiliang Li^{*a} and Shufang Wang^{*a}

DOI: 10.1039/c9ta90167a

www.rsc.org/MaterialsA

Correction for 'Significant average *ZT* enhancement in Cu₃SbSe₄-based thermoelectric material via softening p–d hybridization' by Dan Zhang *et al.*, *J. Mater. Chem. A*, 2019, DOI: 10.1039/c9ta05115e.

The authors regret the following errors in the labelling of Cu and Ag orbitals in the published article:

In the Results and discussion section, the text “The calculated partial density of states (PDOS) for pristine Cu₃SbSe₄ (Fig. S3†) shows the valence band is dominated by strong hybridization between Cu 4d orbitals and Se 4p orbitals, whereas the conduction band edge is mainly formed of Sb 5s orbitals and p orbitals of neighboring Se. As Ag 5d orbitals are located at much lower energies (Fig. 4e)...” should instead read as follows: “The calculated partial density of states (PDOS) for pristine Cu₃SbSe₄ (Fig. S3†) shows the valence band is dominated by strong hybridization between Cu 3d orbitals and Se 4p orbitals, whereas the conduction band edge is mainly formed of Sb 5s orbitals and p orbitals of neighboring Se. As Ag 4d orbitals are located at much lower energies (Fig. 4e)...”

In Fig. 4e, the labels ‘Cu 4d’ and ‘Ag 5d’ should instead read ‘Cu 3d’ and ‘Ag 4d’, respectively. A corrected version of Fig. 4 is provided below.

^aHebei Key Lab of Optic-Electronic Information and Materials, The College of Physics Science and Technology, Hebei University, Baoding 071002, P. R. China. E-mail: phd-lzl@hbu.edu.cn; sjfwang@hbu.edu.cn

^bState Key Laboratory of Material Processing and Die & Mould Technology, Huazhong University of Science & Technology, Wuhan 430074, P. R. China. E-mail: jyyang@mail.hust.edu.cn

^cSchool of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, 639798, Singapore



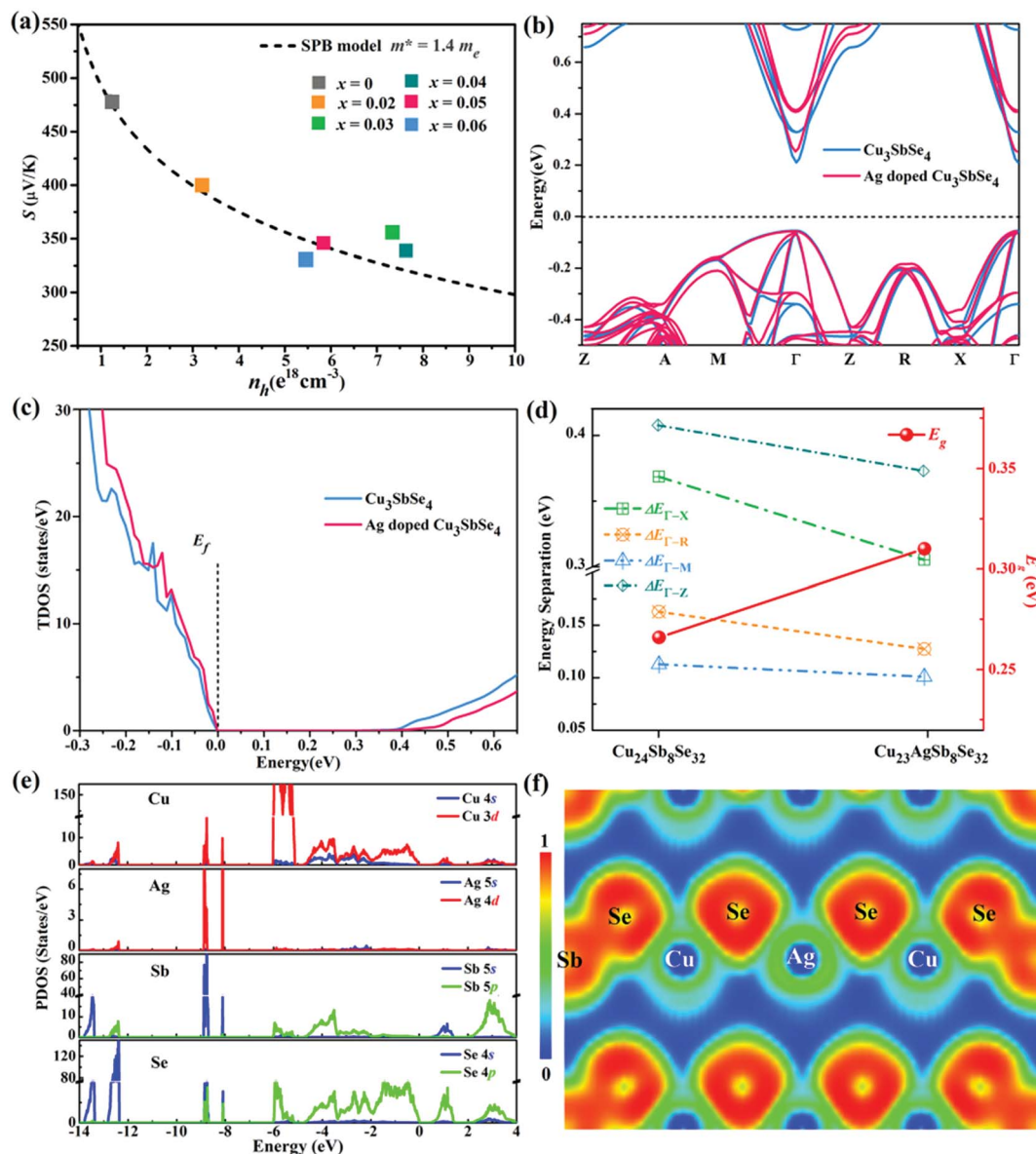


Fig. 4 (a) The change of Seebeck coefficient versus hole concentration at room temperature (i.e. Pisarenko curve). (b and c) Calculated band structure and total density of states (TDOS) for pristine Cu_3SbSe_4 and Ag-doped Cu_3SbSe_4 . (d) Determined band gap E_g , and the energy difference ΔE of the first valence band between different high asymmetry point and gamma point from the calculated band structure. (e) Partial density of states (PDOS) of Ag-doped Cu_3SbSe_4 . (f) The calculated ELF of Ag-doped Cu_3SbSe_4 (101) surface in which Ag–Se atoms have less overlapped electrons compared with Cu–Se; the respective bond lengths of Ag–Se and Cu–Se are 2.67999 and 2.41058 Å.

In the originally published version of Fig. S3, the label 'Cu 4d' should instead have read 'Cu 3d'. This error has now been corrected in the ESI which is available online.

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

