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Correction: Prediction of topological property in TlPBr₂ monolayer with appreciable Rashba effect

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Correction for 'Prediction of topological property in TlPBr₂ monolayer with appreciable Rashba effect' by Min Yuan *et al.*, *Phys. Chem. Chem. Phys.*, 2018, 20, 4308–4316.

We correct an error in our previous paper,¹ which does not affect the conclusions on the topological properties of the novel material. In the paper, we presented the phonon spectrum used to evaluate the stability of the TlPBr₂ monolayer in Fig. 1(d). However, in our recent recalculations, we noticed that an error exists in the phonon spectrum, which was caused by technical problems. Actually, according to the corrected results, there is an imaginary mode at the Γ point with a frequency of about 14 i cm^{-1} , as shown in Fig. 1(a), indicating that the *free-standing* TlPBr₂ studied in the paper is in a metastable state.

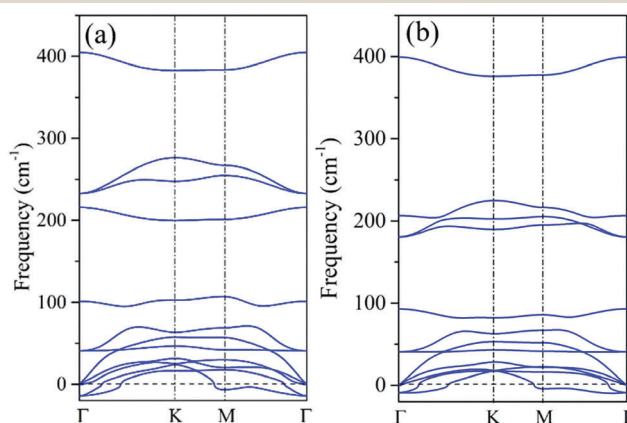


Fig. 1 Phonon dispersion curves for TlPBr₂ in the ground state (a) and with 6% in-plane tensile strain (b).

Thus, the statement with respect to the dynamic stability in the article should be revised.

At the end of the first paragraph in section 3, "All phonon branches are positive and no imaginary mode exists. In view of these results, this demonstrates that the TlPBr₂ film shows favorable dynamic stability." should be revised as "Unfortunately, an imaginary mode with a frequency of 14 i cm^{-1} can be observed at the Γ point, suggesting that the *free-standing* film is metastable. However, in-plane tensile strain along the direction of the atomic vibration can effectively suppress the imaginary mode, see Fig. 1(b), which provides a viable route to stabilize the film. In view of recent progress in the experimental preparation of 2D materials,^{2,3} such a tiny imaginary frequency might be eliminated by depositing the film on specific substrates to construct a heterostructure. Thus, the TlPBr₂ monolayer still has the potential to be fabricated in future experiments and utilized in devices."

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



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