

**Erratum: From triple-point materials to multiband nodal links [Phys. Rev. B 103, L121101 (2021)]**

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In this Erratum we fix two errors in the original paper, all concerning material candidates listed in Table I on p. 3:

(1) The reference given in the footnote should be Ref. [68], a follow-up work of us, appearing as Ref. [1] in this Erratum.

(2) The three material candidates  $\text{Na}_2\text{O}$ ,  $\text{CaNaP}$ , and  $\text{AlN}$  should be replaced by  $\text{MgH}_2\text{O}_2$ ,  $\text{Na}_2\text{LiN}$ , and  $\text{C}_3\text{N}_4$ , respectively, and  $\text{C}_3\text{N}_4$  should be listed in the third row from the bottom. Note that the previously listed materials ( $\text{Na}_2\text{O}$ ,  $\text{CaNaP}$ , and  $\text{AlN}$ ) all do host triple points of the predicted type [1], but they do not possess  $\mathcal{PT}$  symmetry such that they are not ideal examples for the paper. An in-depth analysis of several materials, including  $\text{Na}_2\text{O}$ ,  $\text{CaNaP}$ , and  $\text{AlN}$ , appears in Ref. [1].

An updated version of Table I is shown below. These errors do not affect the results or discussions presented in the paper in any way.

TABLE I. Result of the classification of triple points (TPs) in spinless  $\mathcal{PT}$ -symmetric models (assumed to be nonmagnetic and symmorphic). The TP species [characterized by the winding number  $w_{2D}$  of the two-dimensional (2D) irreducible corepresentation (ICR), and the number  $N_a$  of attached NL arcs per gap] depends on the little group  $\mathcal{G}$ . The TP is type A if  $N_a=0$  (and type B otherwise). For  $C_{6(v)}$  the result further depends on the pair of intersecting 2D and one-dimensional (1D) ICRs, where  $i \in \{1, 2\}$  for  $C_{6v}$ . The notation of the ICRs follows Ref. [8]. TPs with  $|w_{2D}| = 2$  carry quaternion charge  $q = -1$ , and when  $N_a = 0$ , they transform to multiband nodal links under strain. The last column reviews previously reported light-element TP materials.

$\mathcal{G}$	Pairs of ICRs	$ w_{2D} $	$N_a$	Type	Material candidates
$C_3$	(any 2D+1D)	1	3	B	$\text{MgH}_2\text{O}_2$ <sup>a</sup>
$C_{3v}$	(any 2D+1D)	1	3	B	Bernal graphite [2]
$C_4$	(any 2D+1D)	2	0	A	
$C_{4v}$	(any 2D+1D)	2	0	A	ZrO [3], $\text{Sc}_3\text{GaC}$ [4], $\text{Na}_2\text{LiN}$ <sup>a</sup>
$C_6$	$(E_2, A), (E_1, B)$	2	0	A	
$C_6$	$(E_1, A), (E_2, B)$	2	6	B	$\text{C}_3\text{N}_4$ <sup>a</sup>
$C_{6v}$	$(E_1, A_i), (E_2, B_i)$	2	0	A	$\text{Li}_2\text{NaN}$ [5], $\text{TiB}_2$ [6]
$C_{6v}$	$(E_2, A_i), (E_1, B_i)$	2	6	B	$\text{Na}_3\text{N}$ [7]

<sup>a</sup>Compound reported and inspected in Ref. [1].

- [1] P. M. Lenggenhager, X. Liu, T. Neupert, and T. Bzdušek, *Phys. Rev. B* **106**, 085128 (2022).
- [2] G. P. Mikitik and Y. V. Sharlai, *Phys. Rev. B* **73**, 235112 (2006).
- [3] T.-T. Zhang, Z.-M. Yu, W. G. Guo, D. Shi, G. Zhang, and Y. Yao, *J. Phys. Chem. Lett.* **8**, 5792 (2017).
- [4] Y. Xie, J. Cai, J. Kim, P.-Y. Chang, and Y. Chen, *Phys. Rev. B* **99**, 165147 (2019).
- [5] L. Jin, X. Zhang, X. Dai, H. Liu, G. Chen, and G. Liu, *J. Mater. Chem. C* **7**, 1316 (2019).
- [6] X. Zhang, Z.-M. Yu, X.-L. Sheng, H. Y. Yang, and S. A. Yang, *Phys. Rev. B* **95**, 235116 (2017).
- [7] L. Jin, X. Zhang, T. He, W. Meng, X. Dai, and G. Liu, *Phys. Chem. Chem. Phys.* **22**, 5847 (2020).
- [8] C. J. Bradley and A. P. Cracknell, *The Mathematical Theory of Symmetry in Solids: Representation Theory for Point Groups and Space Groups* (Clarendon, Oxford, 1972).