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Publisher Correction: Breaking the hard-sphere model with fluorite and antiferite solid solutions

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Correction to: *Scientific Reports* <https://doi.org/10.1038/s41598-023-29326-0>, published online 08 February 2023

The original version of this Article contained an error in Table 1, where several values were incorrectly italicised in column $r_{\text{cation}}/r_{\text{anion}}$ ratios. The correct and incorrect values appear below.

Incorrect:

Structure	$r_{\text{cation}}/r_{\text{anion}}$
Fluorite	–
	~ 0.609
	~ 0.638
	~ 0.601
	~ 0.703
	~ 0.761
	~ 0.723
	~ 0.710
	~ 0.696
	~ 0.688
	~ 0.674
	~ 0.667
	–
	~ 0.855
	~ 0.962
	~ 1.084*
	~ 0.954
	~ 0.985
Antiferite	–
	~ 0.697
	~ 0.415
	~ 0.993

Correct:

Structure	$r_{\text{cation}}/r_{\text{anion}}$
Fluorite	–
	~ 0.609
	~ 0.638
	~ 0.601
	~ 0.703
	~ 0.761
	~ 0.723
	~ 0.710
	~ 0.696
	~ 0.688
	~ 0.674
	~ 0.667
	–
	~ 0.855
	~ 0.962
	~ 1.084*
	~ 0.954
	~ 0.985
Antifluorite	–
	~ 0.697
	~ 0.415
	~ 0.993

As a result, in section Ideal fluorites & antifluorites,

“The compounds highlighted in italic and bold in Table 1 should not be stable if the $r_{\text{cation}}/r_{\text{anion}}$ lower limit of Pauling’s first rule is respected or if Shannon’s ionic radii are correct.”

now reads:

“The compounds highlighted in bold in Table 1 should not be stable if the $r_{\text{cation}}/r_{\text{anion}}$ lower limit of Pauling’s first rule is respected or if Shannon’s ionic radii are correct.”

Also,

In the peculiar case of the fluorites highlighted in italic and bold in Table 1, the $r_{\text{cation}}/r_{\text{anion}}$ ratio is smaller than the lower stability limit, so cations and anions are not in contact in this configuration.

now reads:

In the peculiar case of the fluorites highlighted in bold in Table 1, the $r_{\text{cation}}/r_{\text{anion}}$ ratio is smaller than the lower stability limit, so cations and anions are not in contact in this configuration.

And,

Similarly, the constitutive species’ ionic radii of the italic and bold fluorite compounds in Table 1 were re-evaluated (Table 3 in supplementary materials).

now reads:

Similarly, the constitutive species’ ionic radii of the bold fluorite compounds in Table 1 were re-evaluated (Table 3 in supplementary materials).

The original Article has been corrected.



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