Comment on the article ‘Protein crystal lattices are dynamic assemblies: the role of conformational entropy in the protein condensed phase’

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In a recent article by Dimova & Devedjiev (2018), the word ‘lattice’ occurs 32 times, and the term ‘crystal lattice’ 23 times. Actually, none of these occurrences concern the lattice but the structure. The distinction is of paramount importance because a lattice is an abstract mathematical concept that expresses the periodicity of the atomic distribution in the crystal space; the latter is the crystal structure. The confusion between these two fundamental concepts may lead to serious misunderstandings, like the term ‘polar lattice’ (page 136). A lattice being always centrosymmetric (in an odd-dimensional space), it can never be polar, whereas the crystal structure can. Furthermore, the term ‘polar lattice’ is used to indicate a completely different concept: the ancestor of the reciprocal lattice (Nespolo & Souvignier, 2010).

References