



HAL
open science

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

Massimo Nespolo

► **To cite this version:**

Massimo Nespolo. Comment on the article ‘Protein crystal lattices are dynamic assemblies: the role of conformational entropy in the protein condensed phase’. *International Union of Crystallography journal*, 2018, 5 (4), pp.519 - 519. 10.1107/S2052252518006267 . hal-01828286

HAL Id: hal-01828286

<https://hal.univ-lorraine.fr/hal-01828286>

Submitted on 3 Jul 2018

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



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

Massimo Nespolo

IUCrJ (2018). 5, 519



IUCr Journals

CRYSTALLOGRAPHY JOURNALS ONLINE

This open-access article is distributed under the terms of the Creative Commons Attribution Licence <http://creativecommons.org/licenses/by/2.0/uk/legalcode>, which permits unrestricted use, distribution, and reproduction in any medium, provided the original authors and source are cited.



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

Massimo Nespolo*

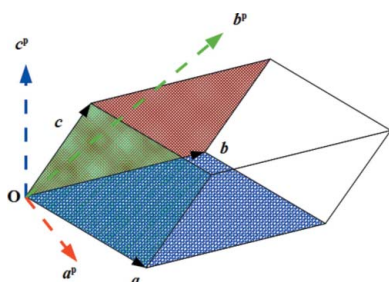
CNRS, CRM2, Université de Lorraine, Nancy, F-54000, France. *Correspondence e-mail: massimo.nespolo@univ-lorraine.fr

Keywords: protein crystals; crystal lattices

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

- Dimova, M. & Devedjiev, Y. D. (2018). *IUCrJ*, **5**, 130–140.
Nespolo, M. & Souvignier, B. (2010). *J. Appl. Cryst.* **43**, 1144–1149.



OPEN  ACCESS