

Received 20 May 2016 Accepted 20 May 2016

Capecitabine from X-ray powder synchrotron data. Corrigendum

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In the paper by Rohlicek *et al.* [*Acta Cryst.* (2009), E65, o1325–o1326], one H atom was placed incorrectly.

Following our powder-diffraction study of capecitabine (Rohlicek *et al.*, 2009), Malińska *et al.* (2014) published the crystal structure of the same molecule based on single-crystal data. Although they modelled the wrong enantiomer [as was pointed out by Kratochvil *et al.* (2016)], the structures are very similar after inverting the single-crystal structure, including





Overlay of the capecitabine molecular structures arising from powder diffraction (blue) and from single-crystal diffraction data (red). Only non-H atoms are shown for clarity.





Figure 2 Schemes for the tautomeric forms of capecitabine (*a*) assumed in the powder-diffraction study and (*b*) established in the single-crystal study of Malinska *et al.* (2014).

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the disordered part of the molecule (Fig. 1). Since singlecrystal diffraction is more sensitive to H atoms than powder diffraction, Malinska *et al.* (2014) were able to locate the H atoms directly. This indicated a different tautomeric form of capecitabine to that assumed in our study, and as they pointed out, we had therefore placed one H atom wrongly.

In our defence, in the powder study, we placed the H atoms geometrically according to a reasonable chemical structure for capecitabine, which shows the tautomeric H atom attached to the N atom of the carbamate group and the plausible formation of an intermolecular $N-H\cdots O$ hydrogen bond. As shown by Malińska *et al.* (2014), the H atom is actually located on the N atom of the pyrimidine ring (Fig. 2), thereby forming an intramolecular $N-H\cdots O$ link.

With respect to the fact that structure solution from powder diffraction data is based on the proposed molecular structure, readers should beware of the incorrectly placed H atom in Rohlicek *et al.* (2009) and they should be also beware of the wrong enantiomer in a single-crystal study of Malińska *et al.* (2014).

References

- Kratochvil, B., Husak, M., Korotkova, E. I. & Jegorov, A. (2016). *Chem. Listy*, **110**, 40–47.
- Malińska, M., Krzecyński, P., Czerniec-Michalik, E., Trzcińska, K., Cmoch, P., Kutner, A. & Woźniak, K. (2014). J. Pharm. Sci. 103, 587–593.
- Rohlicek, J., Husak, M., Gavenda, A., Jegorov, A., Kratochvil, B. & Fitch, A. (2009). *Acta Cryst.* E65, o1325–o1326.