

Reply to Comment on: “Nucleation and Growth of $\text{BaF}_x\text{Cl}_{2-x}$ Nanorods”

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We really thank Professor F. Kubel and Dr. H. Hagemann for their comments. The main viewpoint of their comments is that the structure of the nanorods indexed as “ $\text{Ba}_2\text{F}_3\text{Cl}$ ” (JCPDS card No. 07-0029) in our recently published paper in this journal^[1] should be indexed as that of “ $\text{Ba}_7\text{F}_{12}\text{Cl}_2$ ” described in their previous report;^[2] as readers can clearly see from Figure 4 in reference [1] and Figure 1 in the reply.^[3]

All the peaks taken from the as-synthesized nanorods match perfectly with the data from the JCPDS card (No. 07-0029), so we indexed the structures of the nanorods as “ $\text{Ba}_2\text{F}_3\text{Cl}$ ” (JCPDS card No. 07-0029) (see Figure 1). Powder

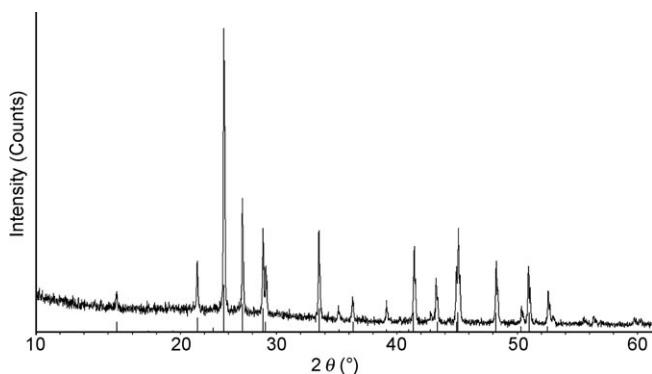


Figure 1. XRD pattern of the as-synthesized nanorods and the standard pattern of JCPDS card (No. 07-0029).

XRD has been internationally acknowledged as the most powerful tool to reveal the phase and structures of nanoma-

terials and/or other solid materials, so we used the data from the JCPDS card in our published paper. Considering that the “ $\text{Ba}_7\text{F}_{12}\text{Cl}_2$ ” structures are taken from single crystals, we believe that maybe they are right. We would like to encourage them to apply for the formal replacement of the data from the JCPDS card (No. 07-0029) with their results. Once their results are formally acknowledged by JCPDS, we can use the new data.

Meanwhile although Professor F. Kubel and Dr. H. Hagemann referred to the data for “ $\text{Ba}_2\text{F}_3\text{Cl}$ ” as “unconfirmed powder diffraction data” in their comment, they did not use the same formulation in reference [2]. Accordingly, it was impossible for us to judge whether the data from JCPDS was “unconfirmed” or not, only based on reference [2].

Last but not least, the emphasis of our published paper^[1] was to investigate the mechanism for the nucleation and growth processes of the series of $\text{BaF}_x\text{Cl}_{2-x}$ nanocrystals in view of the surface chemical thermodynamics (SCT). All the above discussions do not influence the conclusions of the mentioned paper.

- [1] T. Xie, S. Li, W. Wang, Q. Peng, Y. Li, *Chem. Eur. J.* **2008**, *14*, 9730–9735.
 [2] F. Kubel, H. Bill, H. Hagemann, *Z. Anorg. Allg. Chem.* **1999**, *625*, 643–649.
 [3] F. Kubel, H. Hagemann, *Chem. Eur. J.* **2010**, *16*, DOI: 10.1002/chem.200900300.

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