

Uranium

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**Complex Clover Cross-Sectioned Nanotubes Exist in the Structure of the First Uranium Borate Phosphate.** —  $\text{Ba}_5[(\text{UO}_2)(\text{PO}_4)_3(\text{B}_5\text{O}_9)](\text{H}_2\text{O})_{0.125}$  is synthesized by solid state reaction of  $\text{H}_3\text{BO}_3$ ,  $\text{BPO}_4$ ,  $\text{UO}_2(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ , and  $\text{BaCO}_3$  (Pt crucible, 1000 °C, slow cooling to room temperature, 8—10% yield). The new compound is characterized by single crystal XRD, IR, UV/VIS/NIR, and fluorescence spectroscopy. The compound crystallizes in the tetragonal space group  $\text{P}4_2/\text{n}$  with  $Z = 8$  and exhibits complex nanotubular fragments with an external cross-section of about  $2 \times 2$  nm. The nanotubular aggregates are based on borate tubes where the exterior of the tubes is decorated with  $\text{UO}_2(\text{PO}_4)_3$  moieties to form a shape with a cross-section similar to the clover cross. — (WU, S.; WANG, S.; DIWU, J.; DEPMEIER, W.; MALCHEREK, T.; ALEKSEEV, E. V.; ALBRECHT-SCHMITT\*, T. E.; Chem. Commun. (Cambridge) 48 (2012) 29, 3479-3481, <http://dx.doi.org/10.1039/c2cc17517g>; Dep. Civil Eng. Geol. Sci., Univ. Notre Dame, Notre Dame, IN 46556, USA; Eng.) — W. Pewestorf