



INPOMS and NECEM WEBINAR: "Synthesis and Application of new Preyssler-type Phosphotungstates"

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Wednesday 16th December 2020, 2-3pm (UK time)

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Abstract

Preyssler-type phosphotungstates, $[P_5W_{30}O_{110}M]^{n-}$, are doughnut-shaped mixed tungsten oxide molecules with an internal cavity (Figure 1), and one or two cations can be encapsulated in the cavity. I would like to talk about synthesis of new Preyssler-type phosphotungstates by exchanging and moving the encapsulated cations and application as negative staining reagent, acid catalyst, proton conductivity material.

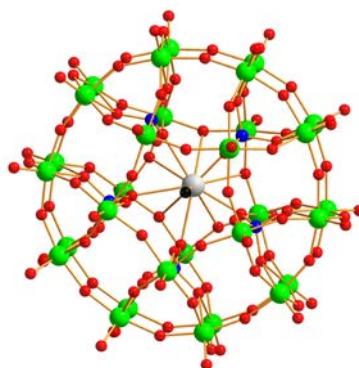


Figure 1. Ball-and-stick presentation of Preyssler-type phosphotungstate.

Furthermore, I would like to talk about our EPSCR-JSPS Core-to-Core program, International Network on Polyoxometalate Science for Advanced Functional Energy Materials (INPOMS), and possible collaboration possibility from Japanese side.

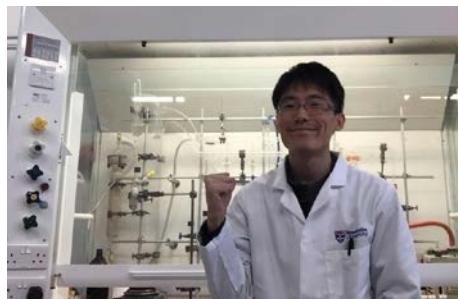


Figure 2. Kota, a student at Hiroshima University, stayed for two months in Newcastle by INPOMS program. He grow crystals of new Preyssler compound in Newcastle.

Biography



Bachelor and Master degree from Okayama University in Japan, and Dr. rer. nat. in 1998 under supervision of Professor Steckhan at Rheinische Friedrich-Wilhelms-Universität Bonn in Germany.

Two postdoctoral positions at Georgetown University (Prof. Pope's group) in USA and at The Institute of Physical and Chemical Research (RIKEN) (Dr. Wakatsuki's group) in Japan.

Then, I was an assistant Professor in Catalysis Research Center at Hokkaido University (Prof. Ueda's group). Then, I moved to Hiroshima University as an associate Professor and worked with Prof. Sano, and now a Professor at the same university.



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