**Some Observations on container effect on preparation of nano-porous metal oxides**

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In a recent publication, sun et al [1] have described an interesting container effect in synthesizing nano-porous metal oxides and this procedure described by them may solve some of the inconsistencies in preparing in controlled manner nano-metal oxides from several nanometers to several hundred micrometers in size. These authors have also reported various experiments that they have carried out to systematically explain and account for the observations that they have recorded. In this brief presentation, some of the possibilities are listed for establishing the extensive application of this method proposed by them. These possibilities are listed below:

1.Metal nitrates are used a precursor in most of the experiments and the reasons provided for this particular choice has been adequately explained by them in this paper. However, it has to be established that water elimination takes place independent of the precursor decomposition and this situation only causes the crystallization from liquid solid interface while in the case of other precursors this condition may not hold good.

2. The shaper of container and free volume effect has been reported but however, the critical free volume effect and the hydrothermal pressure effect, though present and may be to some extent responsible for the growth of ordered mesoporous solid, this has to be established. This can be done using the container in a autoclave and if the results could be reproduced then the hydrothermal pressure effect can be ascertained.

3. The statements regarding the non-success of preparing MoO2 or WO3 has to be explained more explicitly.

Some of the lines from this paper that are interesting and requires careful analysis are reproduced below:

1. ‘’Metal nitrates are the most commonly used precursors in nanocasting because they can be readily impregnated into the templates and then in situ converted to corresponding metal oxides’’. The reasons may be more global than these.
2. ‘’We ( the authors of this paper under reference) believe that this effect is responsible for some inconsistent previously published results from different groups, and therefore, the details of the calcination process and apparatus configuration should be carefully considered’’. The effect of the shape of the container has to be investigated further.

Reference

[1] Xiaohong Sun, Yifeng Shi, Peng Zhang, Chunming Zheng, Xinyue Zheng, Fan Zhang, Yichi Zhang, Naijia Guan, Dongyuan Zhao, and Galen D. Stucky, Container Effect in Nanocasting Synthesis of Mesoporous Metal Oxides, J Am.Chem.Soc., 2011, 133, 14542–14545