

Hollow sphere of copper oxide microparticle prepared by free template and low temperature hydrothermal method

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Due to their interesting properties, copper oxide played important roles in many industrial approaches according to its low cost preparation and many potential applications in catalysis. The advantage of hollow sphere particle over on the non-hollow one was accepted according to its light weight, cage cover properties and its high surface area. Therefore, many attempts were reported on the synthesis of the hollow sphere of inorganic copper oxide. Some of them were relied on the template core which required many steps of procedures and some produced with non friendly procedure of such a high temperature. To overcome these drawbacks, we would like to propose the very simple wet method at only 40°C in sonicator. The precursor used was CuSO_4 solution mediated with a nonionic surfactant and ascorbic acid was used as the reducing agent. However, pH was an important parameter that must be adjusted to neutral. Later on the self assembly production of hollow copper oxide was yielded fascinatingly with the diameter of about 400-1500 nm as shown in Figure.

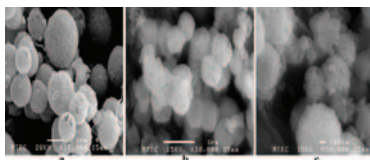


Figure: SEM of hollow sphere copper oxide produced by simple hydrothermal method with the magnification of 15000, 30000 and 50000, respectively.

Biography

Kanda Wongwailikhit graduated in Chemistry from Mahidol university, Thailand. After she had her Master degree in energy Technology, she worked as a lecturer in Rangsit university, Thailand. After 5 years experiences in teaching chemistry, she completed her Ph.D in field of Chemical Technology at the age of 39 years from Chulalongkorn University, Thailand. During her study, she had her experiment in Department of Chemistry, Kyushu University, Japan. Now, she is now a lecturer of Rangsit University. She has published 5 papers in reputed journals. Nattcha Sripoomwattana has just been graduated from Rangsit University in field of applied chemistry.

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