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Crystallite Mesoporous Tin Dioxide doped with Nano gold

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We report the synthesis of crystallite mesoporous tin dioxide framework that contains nano gold clusters confirmed and analyzed by BET, XRD, HRTEM, XPS and UV-visible. The material has a surface area of 97 m2g-1, average pore sizes of 2.7 nm and pore volume of 0.08 cm3g-1. We believe that initially the nano gold clusters occupy the pores of the mesoporous tin dioxide, which restricted their further growth, then some of which diffused to the walls during the heat treatment. The average nano gold clusters are 1.2 nm. The material has a band gap of 2.9 eV that been determined using KubelKa- Munk function. This material would be used for gas sensing and/or optical catalysis.

Biography

Dr Tariq Aqeelis a member of the Royal Chemical Society (MRCS UK) has completed his MScat Exeter University and PhD from University College London (2004-2008 UK) and became an assistant professor of Inorganic Chemistryat the Public Authority of Applied Education and Training (PAAET Kuwait).His research interests are in synthesizing mesoprousinorganic materials, nanoclustersand nanoparticles, study their optical, sensing and sorption properties. He has published 2 papers so far.

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