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Novel Pd/CaSn(OH)₆ nanocomposite prepared by modified sonochemical method for photocatalytic degradation of methylene blue dye

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A CaSn(OH)₆ nanoparticle was prepared by a sonochemical method, while Pd was immobilized on the surface of CaSn(OH)₆ via a photo-assisted deposition (PAD) method. The catalytic performances of samples were carried out for the photocatalytic oxidation of methylene blue dye by using UV irradiation light. XRD results show that the Pd is well dispersed within the CaSn(OH)₆. The BET results reveal that the surface area of CaSn(OH)₆ is higher than that of Pd/CaSn(OH)₆ samples. 0.3 wt.% Pd/CaSn(OH)₆ has the highest photocatalytic activity for the degradation of methylene blue dye. The catalyst could be reused with no loss in activity during the first 5 cycles.

Biography

E S Baeissa is an Associate Professor of Inorganic Chemistry in King Abdulaziz University/Jeddah. He was awarded the bachelor and master degree from the faculty of science of King Abdulaziz University. His Bio-inorganic chemistry PhD degree was graduated from University of East Anglia in Norwich/England.

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