

Graphical Abstracts

Facile ultrasonication method has been utilized to prepare the SiO_2/ZnO core-shell particle under the absence of surfactant material. The synthesis duration reduces to 75% shorter than the required by the common sol-gel. The photoluminescence (PL) properties of the produce particle exhibited several emission peaks around ultraviolet (UV) wavelength which indicate variations in the bandgap energy. In addition, the core-shell particles show higher UV A and UV B absorption by increasing the silica amount. The study also results in the reduced PL intensity by the presence of silica.

