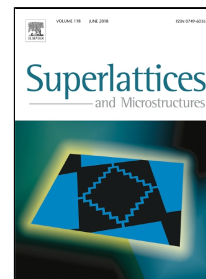


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## Synthesis and characterization of Ce-doped MoO<sub>3</sub> nanobelts for using as visible-light-driven photocatalysts

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### Abstract

0–4 wt% (0–4.11 mol%) Ce-doped MoO<sub>3</sub> nanobelts were successfully synthesized by hydrothermal method at 180 °C for 20 h. X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), Raman spectroscopy, Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy (SEM) and transmission electron microscopy (TEM) show orthorhombic MoO<sub>3</sub> and Ce-doped MoO<sub>3</sub> nanobelts with >10 µm long, 200–250 nm wide and their growth along the [010] direction. The photocatalytic performance of pure MoO<sub>3</sub> and Ce-doped MoO<sub>3</sub> nanobelts was investigated through photodegradation of methylene blue (MB) under visible radiation. In this research, 3 wt% (3.08 mol%) Ce-doped MoO<sub>3</sub>

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