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Kinetic analysis supporting multielectron reduction of oxygen in bismuth tungstate-photocatalyzed oxidation of organic compounds

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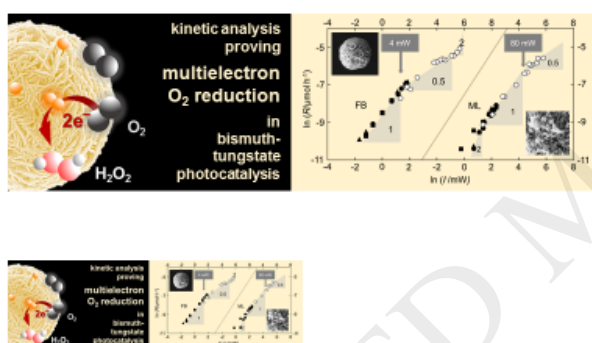
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Graphical abstract



Highlights

- Multielectron oxygen reduction (MOR) in Bi_2WO_6 photocatalysis is proved kinetically.
- Bi(tri)modal light-intensity dependences were observed for both large and small Bi_2WO_6 .
- The larger the BWO particle size is, the higher the probability of MOR becomes.

ABSTRACT

Light-intensity dependence of the rate of carbon-dioxide liberation in the photocatalytic decomposition of acetic acid by bismuth tungstate particles suspended in an aqueous solution under aerobic conditions was measured by monochromatic photoirradiation using a monochromator (lower

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