

How does oxygen-deficient black zirconia (ZrO_{2-x}) affect solar light absorption?

In conclusions, oxygen-deficient black zirconia (ZrO_{2-x}) was prepared via the magnesiothermic reduction in H_2/Ar atmosphere, which resulted in a drastic increment in solar light absorption and band gap decrement (to 1.52 from 5.09 eV for white ZrO_2).

Are organic solar cells and super-capacitors optimized for indoor light energy harvesting?

Article; Google Scholar; Lech, B. P. et al. Organic solar cells and fully printed super-capacitors optimized for indoor light energy harvesting. *Nano Energy* 26, 631-640 (2016).

Does BZ have oxygen deficiency?

The presence of oxygen deficiency in BZ was further evidenced by thermogravimetric analysis (Supplementary Figure S6) in the presence of oxygen, which shows a weight increment after $\sim 150^\circ C$, indicating the oxygen uptake.

Does black Nb_2O_5 improve solar absorption and enhanced photocatalytic activity?

Zhao, W. et al. Black Nb_2O_5 nanorods with improved solar absorption and enhanced photocatalytic activity. *Dalton Transactions* 45, 3888-3894 (2016). Cui, H. et al. Black nanostructured Nb_2O_5 with improved solar absorption and enhanced photoelectrochemical water splitting. *Journal of Materials Chemistry A* 3, 11830-11837 (2015).

Does solar light affect the degradation of RhB compared to WZ?

The results (Supplementary Figure S11) clearly indicate that WZ has almost no degradation ability in the presence of solar light, whereas the BZ shows sufficient degradation of RhB, which can be attributed to the improved solar light absorbance of BZ compared with WZ.

Do dye-sensitized solar cells achieve high power-conversion efficiencies?

Here, we demonstrate a dye-sensitized solar cell (DSC) that achieves very high power-conversion efficiencies (PCEs) under ambient light conditions.

Here, we present oxygen-deficient black ZrO_{2-x} as a new material for sunlight absorption with a low band gap around ~ 1.5 eV, via a controlled magnesiothermic reduction in 5% H_2/Ar from ...

The oxygen vacancies drawn into ZnO surface by Al doping can effectively enhance visible (vis)-light photocatalytic activity. The crystal structure, chemical composition ...

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Oxygen vacancies are widely used to tune the light absorption of semiconducting metal oxides, but a photophysical framework describing the impact of such point defects on the dynamics of ...

speed of ν -Ga₂O₃ solar-blind photodetector via localized tuning of oxygen deficiency Item Type Article Authors Qian, L. X.;Liu, H. Y.;Zhang, H. F.;Wu, Z. H.;Zhang, W. L. ... The lamp power ...

[Oxygen Not Included] - General Discussion; All Activity; Home ; Forums ; ... but I want to point out that only 10 of the 14 tiles in a solar panel are needed for max power generation. ... So in the case of decreasing tiles of ...

The light coming from space is strong enough to fully power a solar panel even if it's partially overlapped by another solar panel and only partially exposed. ... they should still produce ...

The DSC achieves an external quantum efficiency for photocurrent generation that exceeds 90% across the whole visible domain from 400 to 650 nm, and achieves power outputs of 15.6 and 88.5 mW...

For highly oxygen-deficient films, photoelectron spectroscopy shows an over 2 eV broad distribution of oxygen vacancy states within the bandgap which gives rise to extended visible light absorption. We examine the nature of this distribution ...

The oxygen vacancies drawn into ZnO surface by Al doping can effectively enhance visible (vis)-light photocatalytic activity. The crystal structure, chemical composition and morphology of Al-doped ZnO (AZO) ...

Numerous studies have explored this strategy and showed improved light absorption as well as enhanced photocatalytic activities for oxygen-deficient TiO₂ 8-15 and other metal oxides such as WO₃, 16-18 ZnO, 7,19,20 and SnO₂. ...

The solar-powered oxygen delivery system converts ambient air into medical-grade oxygen using commercially available oxygen concentrators, charge controllers, battery banks, and solar panels. This system, customized ...



Oxygen deficiency lamp solar power generation

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