Title (en)

NANO-POROUS METAL OXIDE SEMICONDUCTOR SPECTRALLY SENSITIZED WITH METAL CHALCOGENIDE NANO-PARTICLES

Title (de)

NANOPORÖSER METALLOXIDHALBLEITER, DER SPEKTRAL MIT KALKOGENIDNANOPARTIKELN SENSIBILISIERT WIRD

Title (fr)

METAL-OXYDE-SEMI-CONDUCTEUR NANOPOREUX SPECTRALEMENT SENSIBILISE A L'AIDE DE NANOPARTICULES DE CHALCOGENURES METALLIQUES

Publication

EP 1547159 A1 20050629 (EN)

Application

EP 03787807 A 20030716

Priority

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- EP 0350313 W 20030716
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Abstract (en)

[origin: WO2004017426A1] A nano-porous metal oxide semiconductor with a band-gap of greater than 2.9 eV in-situ spectrally sensitized on its internal and external surface with metal chalcogenide nano-particles with a band-gap of less than 2.9 eV containing at least one metal chalcogenide, characterized in that said nano-porous metal oxide further contains a triazole or diazole compound; and a process for in-situ spectral sensitization of nano-porous metal oxide in semiconductor with a band-gap of greater than 2.9 eV on its internal and external surface with metal chalcogenide nanoparticles with a band-gap of less than 2.9 eV, containing at least one metal chalcogenide, comprising a metal chalcogenide-forming cycle comprising the steps of: contacting the nano-porous metal oxide with a solution of metal ions; and contacting the nano-porous metal oxide with a solution of chalcogenide ions, wherein said solution of metal ions and/or said solution of chalcogenide ions contains a triazole or diazole compound.

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H01L 31/072; H01L 31/0352

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