Title (en)

PHOTOELECTROCHEMICAL SOLAR CELL MADE FROM NANOCOMPOSITE ORGANIC-INORGANIC MATERIALS

Title (de)

AUS ORGANISCH-INORGANISCHEN NANOVERBUNDSTOFFEN HERGESTELLT PHOTOELEKTROCHEMISCHE SOLARZELLE

Title (fr)

CELLULE SOLAIRE PHOTOELECTROCHIMIQUE FABRIQUEE A PARTIR DE MATERIAUX ORGANIQUES-INORGANIQUES NANOCOMPOSITES

Publication

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Application

EP 04727951 A 20040416

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Abstract (en)

[origin: WO2004095481A1] We describe the structure of a solid photoelectrochemical solar cell which consists of thin layers of nanocomposite organic-inorganic materials and can be used for converting solar energy into electricity. Main components of the cell, whose cross section is shown in Drawing # 1 is: (1) a commercially available transparent electroconductive glass plate; (2) a mesoporous nanocrystalline titanium dioxide layer in the form of a thin transparent film of controlled thickness, which is synthesized and deposited by chemical processes, as described above. On this layer a commercially available ruthenium organometallic complex is attached, which acts as a photosensitizer of TiO2; (3) a layer of a solid gel electrolyte made of a nanocomposite organic-inorganic material incorporating I2 and I-, synthesized by chemical procedures as above described; and (4) a positive electrode made of commercially available electroconductive glass plate, where a thin layer of platinum may be deposited, which completes the cell.

IPC 1-7

H01G 9/20; C01G 23/053

IPC 8 full level

C01G 23/053 (2006.01); **H01G 9/20** (2006.01); H01L 51/00 (2006.01); H01L 51/30 (2006.01)

CPC (source: EP)

C01G 23/053 (2013.01); **H01G 9/2009** (2013.01); **H01G 9/2031** (2013.01); H10K 85/344 (2023.02); Y02E 10/542 (2013.01)

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