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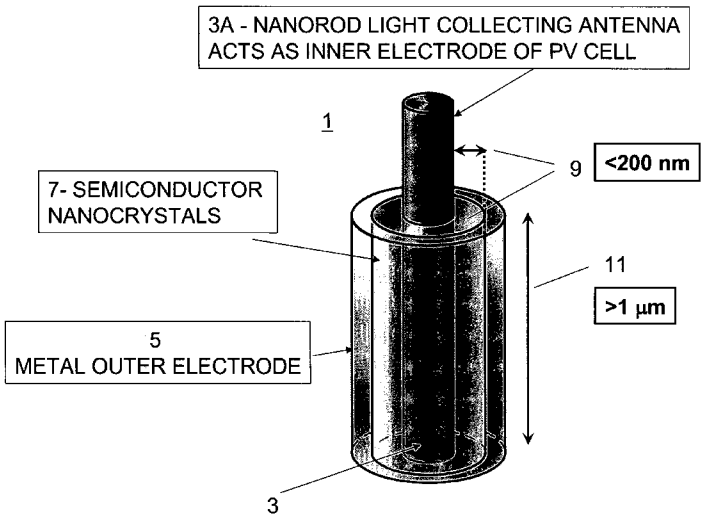
(54) **Title:** PHOTOVOLTAIC CELL AND METHOD OF MAKING THEREOF



(57) **Abstract:** A photovoltaic cell includes a first electrode, a second electrode, and a photovoltaic material located between and in electrical contact with the first and the second electrodes. The photovoltaic material comprises i) semiconductor nanocrystals having a bang gap that is significantly smaller than peak solar radiation energy to exhibit a multiple exciton effect in response to irradiation by the solar radiation; and/or ii) a first and a second set of semiconductor nanocrystals and the nanocrystals of the first set have a different band gap energy than the nanocrystals of the second set. A width of the photovoltaic material in a direction from the first electrode to the second electrode is less than about 200 nm while a height of the photovoltaic material in a direction substantially perpendicular to the width of the photovoltaic material is at least 1 micron.

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