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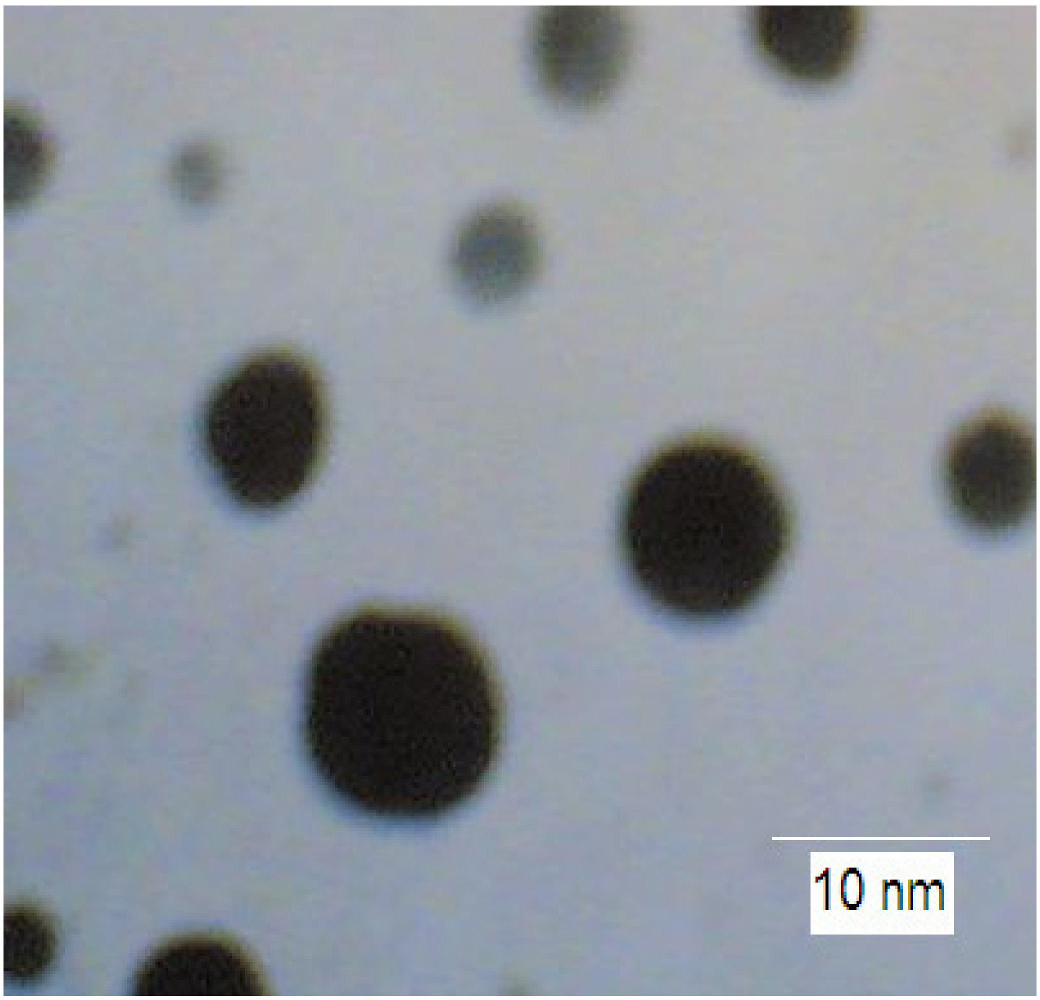

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Content

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Editorial

Alternative nanoenergy as applied in energy, medicine, etc. is driving a lot of research to a new level never seen before. Solar cell works by absorbing energy from the sun therefore pulling moving holes and electrons in opposite directions, creating electricity. Semiconductors like silicon have their exciting electron energy corresponding to sunlight wavelength in the near infrared. These semi-conductors as frequently used in solar cell have single material maximum efficiency of about 31% at a bandgap of 1.13 e.v. which nearly matches that of silicon of 1.1 ev.; the reason for common use of silicon in solar cell. As a result of this limitation, alternatives to silicon are being researched increasingly like using quantum dots because they don't share such limitations as in silicon which has a fixed bandgap. The energy level in quantum dots is dependent upon the size; the smaller the size, the higher the energy required to excite to the next level. So quantum dots can be tuned to various bandgaps and be made to absorb various wavelength of light. Solar cell built from various sizes of quantum dots can therefore have potential of unlimited efficiency. This type of solar cell can be made more effective with surface chemistry of anchoring polymer nanofilms which prevent recombination of holes and electrons with their better separation. Apart from this, quantum dot can find application as sensor. The use of renewable polyhydroxy compounds like cellullose and their various modifications for drug delivery vehicles is ever increasing and has great potential in nanomedicine. These are some of the issues being exploited in this issue of the journal among others. The journal still keeps to its high quality standard of publishing.

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