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Correlation Of Light Wavelength In Nano Scale, Light Intensity And Nano Current In Advanced Materials

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Abstract: Light wavelength in nano size of 250 nm, 300 nm, 350 nm, 400 nm and 480 nm are associated with light power at 10%, 20%, 30%, 40%, half, 60%, 70%, 80%, 90% and 100%. Nano current is tuned from 68.33 nm to 6.83 nm at different light powers in cutting edge materials of Thorium, calcium, magnesium, silver and Rubidium. Greatest Nano current is seen as 68.33 nm at 100% and least nano current of 6.83 nm is seen at 0%. Progressed nanomaterials are being used in different headways and united into a wide display of buyer things that endeavor their appealing optical, conductive, and antibacterial properties. Progressed nanomaterials are used in biosensors and different inspects where the silver nanomaterials can be used as natural names for quantitative ID. Antibacterial Application of cutting edge nanomaterials is intertwined in clothing, footwear, paints, wound dressings, mechanical assemblies, cosmetics, and plastics for their antibacterial properties. Conductive Applications of Silver nanomaterials are used in conductive inks and facilitated into composites to overhaul warm and electrical conductivity. Optical Applications of nanomaterials are used to adequately procure light and for improved optical spectroscopy including metal-overhauled fluorescence and surface-improved Raman scattering.

Keywords: Light wavelength, nano size, light power, nano current, Optical applications, antimicrobial applications and conductive applications.

Introduction: Nanotechnology has enormously added to significant advances in figuring and gadgets, prompting quicker, littler, and progressively compact frameworks that can oversee and store bigger and bigger measures of data. These ceaselessly developing applications include: Transistors, the fundamental switches that empower all cutting edge processing, have gotten littler and littler through nanotechnology. When the new century rolled over, an average transistor was 130 to 250 nanometers in size. In 2014, Intel made a 14-nanometer transistor, at that point IBM made the initial seven-nanometer transistor in 2015, and after that Lawrence Berkeley National, Lab showed a one-nanometer transistor in 2016! Littler, quicker, and better transistors may imply that soon your PC's whole memory might be put away on a solitary minor chip. Utilizing attractive arbitrary access memory, PCs will probably "boot" quickly. MRAM is empowered by nanometer-scale attractive passage intersections and can rapidly and adequately spare information during a framework shutdown or empower resume-play highlights.

Nanotechnology is being read for both the conclusion and treatment of atherosclerosis, or the development of plaque in supply routes. In one system, scientists made a nanoparticle that copies the body's "great" cholesterol, known as HDL (high-thickness lipoprotein), which

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psychologists plaque. The structure and building of cutting edge strong state nanopore materials could take into account the improvement of novel quality sequencing advancements that empower single-particle identification requiring little to no effort and fast with negligible example arrangement and instrumentation. This can possibly change the manner in which specialists treat malignant growth and significantly decrease the harmful impacts of chemotherapy. Research in the utilization of nanotechnology for regenerative medication traverses a few application regions, including bone and neural tissue building. For example, novel materials can be designed to copy the precious stone mineral structure of human bone or utilized as a helpful pitch for dental applications.

Methodology: Nano-molecule generally frames the center of nano-bio material. It tends to be utilized as a helpful surface for atomic get together and might be made out of inorganic or polymeric materials. It can likewise be as nano-vesicle encompassed by a film or a layer. The shape is all the more frequently round however barrel shaped, plate-like and different shapes are conceivable. The size and size conveyance may be significant at times, for instance, if infiltration through a pore structure of a cell layer is required. The size and size circulation are ending up very basic when quantum-sized impacts are utilized to control material properties. Tight control of the normal molecule size and thin conveyance of sizes permit making extremely productive fluorescent tests that transmit restricted light in a wide scope of wavelengths. This assists with making biomarkers with numerous and well-recognized hues. The center itself may have a few layers and be multifunctional. For instance, joining attractive and luminescent layers one can both distinguish and control the particles.

The center molecule is regularly secured by a few monolayer's of idle material, for instance, silica. Natural atoms that are adsorbed or chemisorbed on the outside of the molecule are additionally utilized for this reason. A similar layer may go about as a biocompatible material. Nonetheless, more frequently an extra layer of linker particles is required to continue with further functionalization. This straight linker particle has responsive gatherings at the two finishes. One gathering is planned for appending the linker to the nanoparticle surface and the other is utilized to tie different moieties like biocompatible, antibodies, fluorophores, and so forth., contingent upon the capacity required by the application.

Results and Discussion: Table 1Represent Correlation of 250 nm (UV) wavelength with Light intensity from 100% to 10 % and nano current from 68.33 nA to 6.83 nA in magnesium. Table 2: Represent Correlation of 250 nm (UV) wavelength with Light intensity from 100% to 10 % and nano current from 68.33 nA to 6.83 nA in Thorium.

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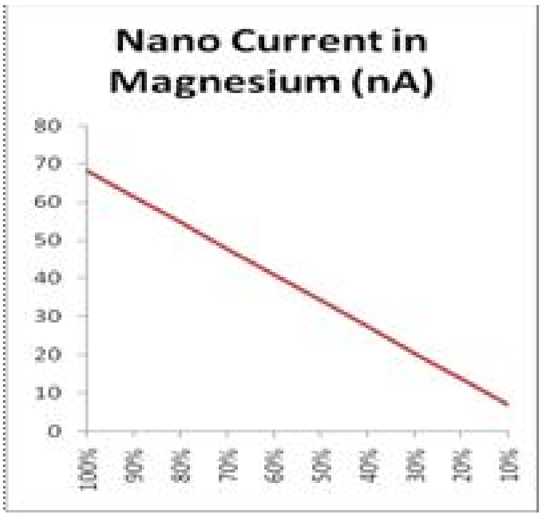
Light Intensity Wave length 250 nm (UV)	Nano Current in Magnesium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Light Intensity Wave length 250 nm (UV)	Nano Current in Thorium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Graph-1 Represent Nano current in magnesium and graph-2 represent Nano current in Thorium. Both the curves represent Nano current is linear with light intensity.



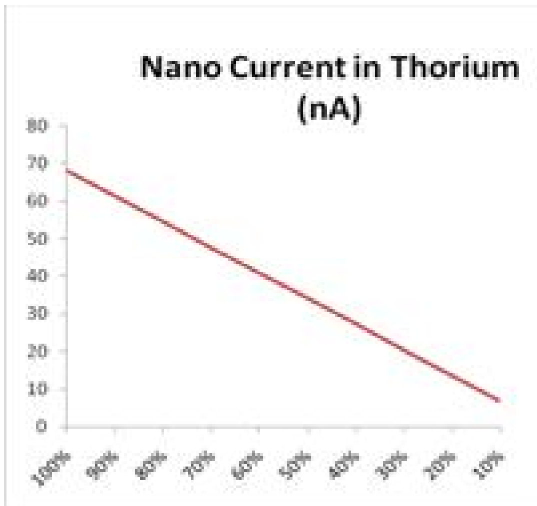


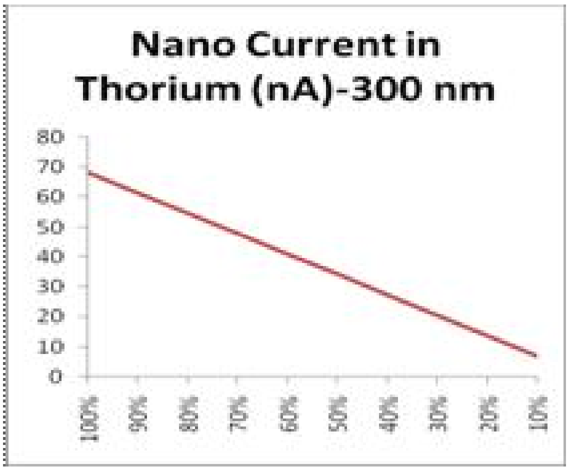
Table 3: Represent Correlation of 300 nm (UV) wavelength with Light intensity from 100% to 10 % and nano current from 68.33 nA to 6.83 nA in Thorium. Table 4: Represent Correlation of

350 nm (UV) wavelength with Light intensity from 100% to 10 % and nano current from 68.33 nA to 6.83 nA in Thorium.

Light Intensity Wave length 300 nm (UV)	Nano Current in Thorium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Light Intensity Wave length 350 nm (UV)	Nano Current in Thorium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Graph-3 represent nano current in Thorium at 300 nm and Graph 4 represent nano current in Thorium at 350 nm



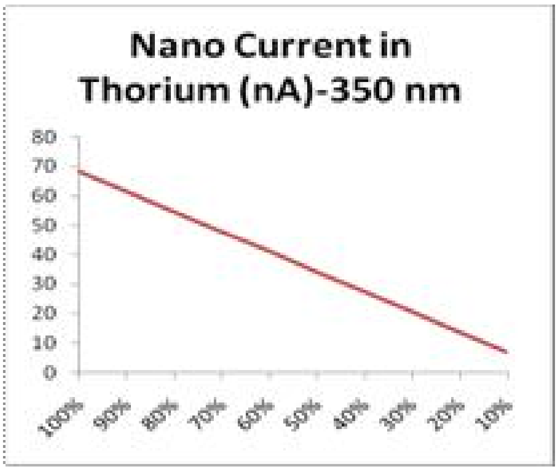


Table 5: Represent Correlation of 350 nm (UV) wavelength with Light intensity from 100% to 10 % and nano current from 68.33 nA to 6.83 nA in Silver. Table 6: Represent Correlation of

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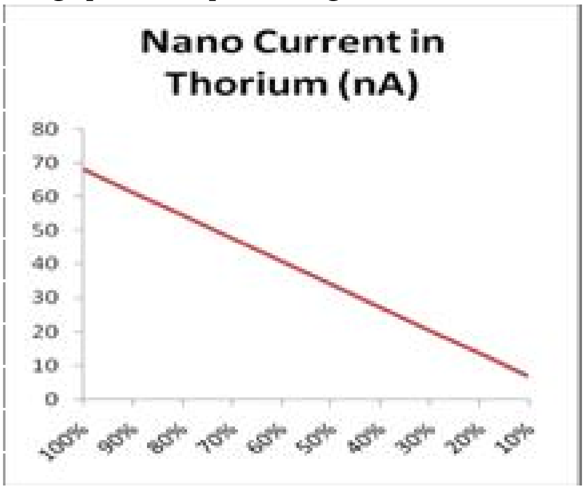
Light wavelength 250 nm (UV) with light Intensity from 100% to 10% and Calcium Current from 68.33 to 6.83 Nano Amperes in Nano scale

Light Intensity Wave length 350 nm (UV)	Nano Current in Thorium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Light Intensity Wave length 250 nm (UV)	Nano Current in Silver (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Graph-5 Represent Nano current in Thorium and Graph -6 represent Nano current in silver. Both the graphs are representing Nano current is linear with Light intensity.



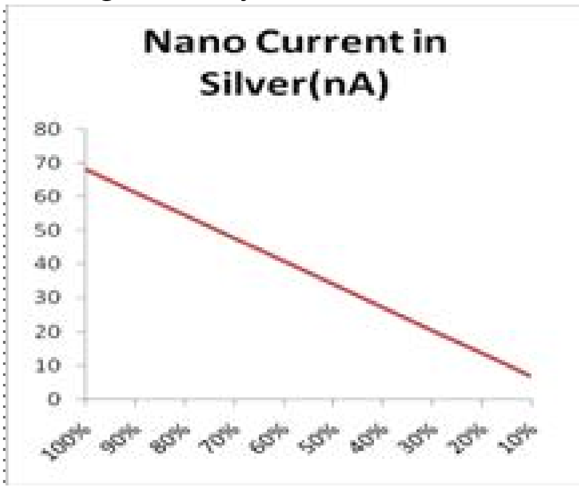


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Table-7: Represent Correlation of Light wavelength 400 nm with light Intensity from 100% to 10% and Calcium Current from 68.33 to 6.83 nA in Nano scale. Table-8: Represent Correlation of Light wavelength 250 nm (UV) with light Intensity from 100% to 10% and Calcium Current from 68.33 to 6.83 nA in Nano scale

Light Intensity Wave length 400 nm (UV)	Nano Current in Calcium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Light Intensity Wave length 250 nm (UV)	Nano Current in Calcium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Light Intensity Wave length 300 nm (UV)	Nano Current in Calcium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Graph-7 Represent Nano current in Nano current in calcium at 400 nm and Graph-8 represent Nano current in calcium at 250 nm. Both the graphs represent Nano current is in linear relationship with Light intensity.

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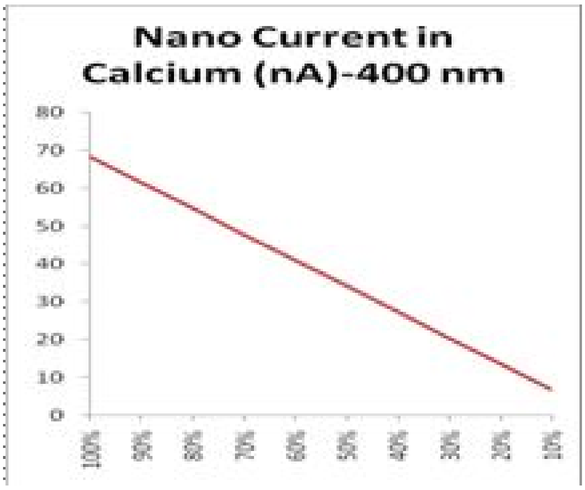
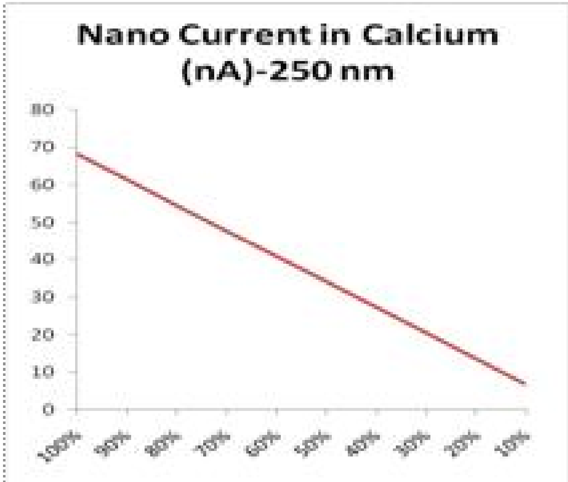
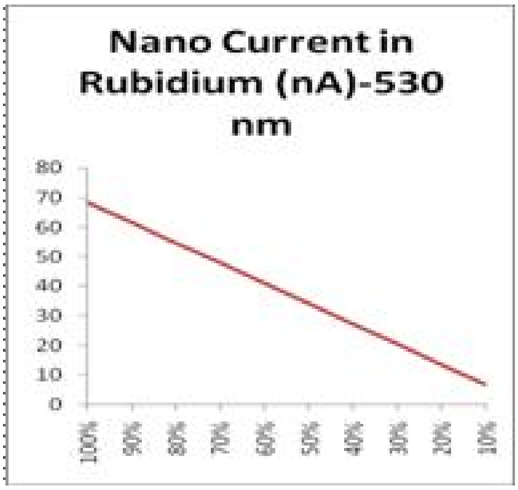
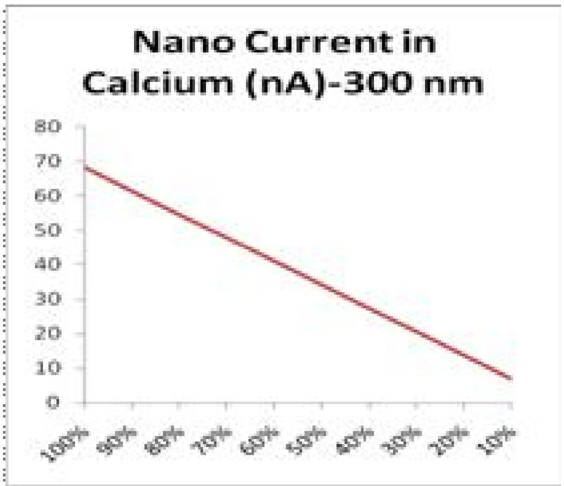




Light Intensity Wave length 530 nm (UV)	Nano Current in Rubidium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Table-9: Represent Correlation of Light wavelength 5300 nm (UV) with light Intensity from 100% to 10% and Rubidium Current from 68.33 to 6.83 nA in Nano scale. Table-10: Represent Correlation of Light wavelength 300 nm with light Intensity from 100% to 10% and Rubidium Current from 68.33 to 6.83 nA in Nano scale.





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Graph-9 Represent Nano current in Nano current in calcium at 530 nm and Graph-10 represent Nano current in calcium at 300 nm. Both the graphs represent Nano current is in linear relationship with Light intensity.

Table-11: Represent Correlation of Light wavelength 250 nm with light Intensity from 100% to 10% and Rubidium Current from 68.33 to 6.83 nA in Nano scale. Table-12: Represent Correlation of Light wavelength 350 nm with light Intensity from 100% to 10% and Rubidium Current from 68.33 to 6.83 nA in Nano scale.

Light Intensity Wave length 250 nm (UV)	Nano Current in Rubidium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Light Intensity Wave length 350 nm (UV)	Nano Current in Rubidium (nA)
100%	68.33
90%	61.50
80%	54.67
70%	47.83
60%	41.00
50%	34.17
40%	27.33
30%	20.50
20%	13.67
10%	6.83

Graph-11 Represent Nano current in Nano current in calcium at 250 nm and Graph-12 represent Nano current in calcium at 350 nm. Both the graphs represent Nano current is in linear relationship with Light intensity.

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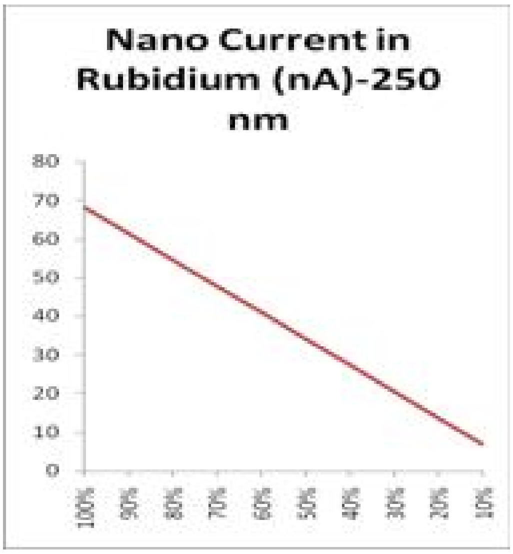

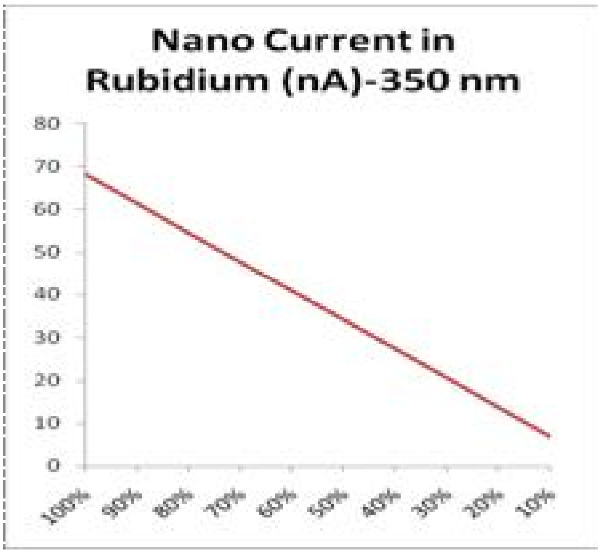

Emerging trends in new Technology: The microelectronics business has been underscoring scaling down, whereby the circuits, for example, transistors, resistors, and capacitors, are decreased in size. By accomplishing a critical decrease in their size, the chip, which contains these parts, can run a lot quicker, in this way empowering calculations at far more prominent velocities. In any case, there are a few innovative obstacles to these headways, including the absence of the ultrafine antecedents to make these segments; poor dispersal of colossal measure of warmth produced by these microchips because of quicker speeds; short interim to disappointments (poor dependability), and so forth. Nanomaterials help the business separate these obstructions by furnishing the producers with nanocrystalline beginning materials, ultra-high immaculateness materials, materials with better warm conductivity, and longer-enduring, tough interconnections. The goals of a TV, or a screen, depends incredibly on the size of the pixel. These pixels are basically made of materials called "phosphors," which gleam when struck by a surge of electrons inside the cathode beam tube (CRT). The goals improves with a decrease in the size of the pixel, or the phosphors. Nanocrystalline zinc selenide, zinc sulfide, cadmium sulfide, and lead telluride orchestrated by the sol-gel procedures are contender for improving the goals of screens. The utilization of nanophosphors is imagined to decrease the expense of these showcases to render superior quality TVs (HDTVs) and PCs moderate to be acquired by a normal family unit in the U. S. Level board showcases speak to a gigantic market in the workstation (compact) PCs industry. Be that as it may, Japan is driving this market, principally as a result of its innovative work endeavors on the materials for such shows. By combining nanocrystalline phosphors, the goals of these presentation gadgets can be enormously improved, and the assembling expenses can be altogether diminished. Likewise, the level board presentations developed out of nanomaterials have a lot higher splendor and complexity than the traditional ones attributable to their improved electrical and attractive properties.

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