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Advanced Semiconductor Alloy $Al_x in_{1-X} p$ for Engineering and Medicine

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Abstract: Doped Advanced semiconductor materials with different properties are useful for early diagnosis and improved treatment in medical research. This is essential for advanced medical technology and lower mortality rates. New research on impurity-doped nano crystals is important. These dopants can directly affect electron transport in semiconductors, tune the optical properties of nano materials in desirable ways, and impart specific properties to the host. In this research report, we first discuss the factors that need to be considered to systematically control the production of these doped semiconductor materials, then describe various doped materials and typical synthetic approaches and techniques. Innovations in nanotechnology and materials design and their application in early diagnosis and treatment are believed to minimize the number of new cases of related diseases and reduce mortality.1,2,3 From natural to man-made materials, Doped semiconductor nanostructures, including inorganic and organic semiconductors, are increasingly attracting the attention of researchers and scientists worldwide

Keywords: Advanced Materials, Semiconductor Alloy AlInP, Engineering and Medicine

1. INTRODUCTION

The ability to non-invasively monitor physical and chemical parameters associated with human conditions is rapidly improving, and new means of continuously delivering interventions in various forms are of great potential to improve quality of life.
It has potential. The development of functional materials and devices,

and some uncommon supporting features in technology design (flexibility, biocompatibility, dissolution, programmability) promise revolutionary advances in surveillance and intervention systems.

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Sl.No	Dopant Concentration (X)	1-X	Energy Gap (Eg)
1 2 3 4 5	0.1 0.11 0.12 0.13 0.14	0.9 0.89 0.88 0.87 0.86	1.563 1.585 1.607 1.629 1.652

This special topic covers recent advances in functional materials and devices related to this. Dopant Concentration is increased from 0.1 to 0.14.
Materials development work for advanced surveillance and interventional capabilities using the device platform is especially welcome. Interdisciplinary research including materials science, physics, chemistry, medical and electrical engineering, etc. is also of particular interest

Sl.No	Dopant Concentration (X)	1-X	Energy Gap (Eg)
1 2 3 4 5	0.15 0.16 0.17 0.18 0.19	0.85 0.84 0.83 0.82 0.81	1.674 1.696 1.719 1.741 1.763

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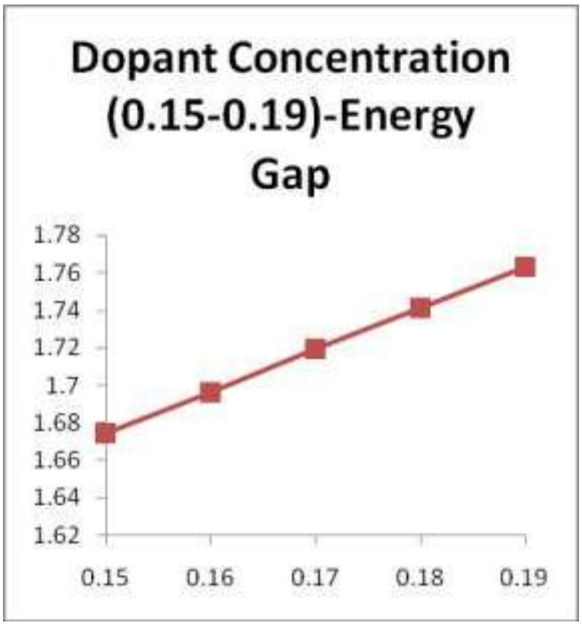
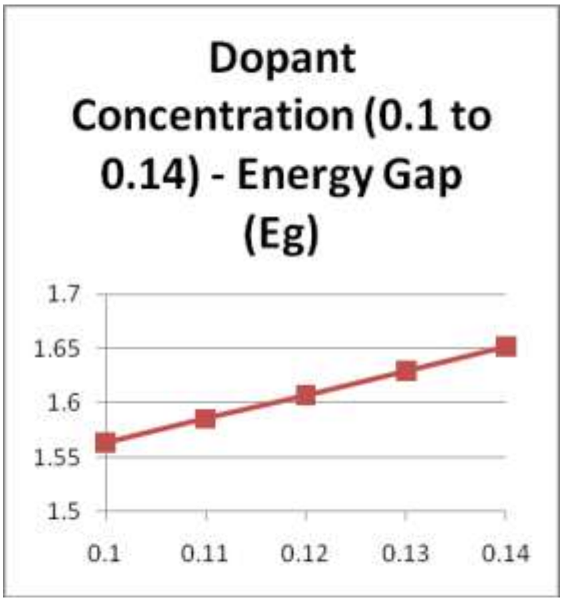


Dopant concentration is increased from 0.15 to 0.19. Energy gap is Increased from 1.674 ev to 1.763 ev



Aluminum Indium phosphide (AlInP) is an inexpensive, effective and commonly used insecticide. Unfortunately, it is one of the most common causes of pesticide poisoning today. Upon contact with moisture in the air or hydrochloric acid in the stomach, it releases lethal phosphine gas. Mechanisms of toxicity include cellular hypoxia through its action on mitochondria, inhibition of cytochrome c oxidase, Includes high hydroxyl radical formation. Signs and symptoms are non-specific and present quickly. AlInP toxicity specifically affects cardiac and vascular tissues, manifesting as deep and refractory hypotension, congestive heart failure, and electrocardiogram abnormalities. Diagnosis of AlInP usually depends on clinical suspicion or medical history, but can be readily made by a simple silver nitrate test of gastric

contents or exhaled breath. Treatment remains primarily symptomatic as no specific antidote is known.
Early arrival, resuscitation, diagnosis, reduction of toxin load (by gastric lavage with KMnO4, coconut oil), intensive monitoring, and supportive care lead to good outcomes. Rapid and adequate cardiovascular support is critical.
It is central to management to achieve adequate tissue perfusion, oxygenation, and a life-compatible physiological metabolic environment until tissue toxin levels are reduced and spontaneous circulation is restored.
Acidosis and shock were poor prognostic factors in most studies. Overall outcomes have improved over the past decade as critical care management has improved and become more sophisticated.
Aluminum Indium phosphide (ALP) Semiconductor Alloy is one of the most effective rodenticides used to protect grain bunkers from animals and rodents. ALP poisoning leads to death every year. This Semiconductor Alloy is used in both Engineering and Medicine.
The aim of this study was to evaluate the characteristics and predictors that influence mortality from ALP poisoning.
In this study, from 2014 he investigated a patient with ALP addiction who was referred to Imam Khomeini Hospital in Kermanshah in 2015. Several data were collected from the patients, including age, gender, number of pills taken, number of suicide attempts, elapsed time from dose to treatment, blood pressure, PH, HCO3, and PCO2.
The study will also evaluate survivors (recovery) and non-survivors (death) of ALP poisoning. Univariate logistic regression and multivariate analysis were used for data analysis.
In this study, 48 patients were male and 29 were female with 77 patients in total.
The average age of survivors and non-survivors was 28.69 years and 31.34 years for him, respectively.
Suicide was attempted in all cases (100%) of ALP poisoning. Results showed that the most important predictors of mortality from ALP poisoning were blood pressure, PH, and elapsed time from ingestion to treatment.
The prognosis of death in ALP-poisoned patients can be determined by knowing several important characteristics or factors such as blood pressure, pH, and elapsed time from ingestion to treatment. This may give medical institutions an opportunity to consider further interventions for her ALP-addicted patient.

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