

Overview

QUANTONICS CRYSTALS



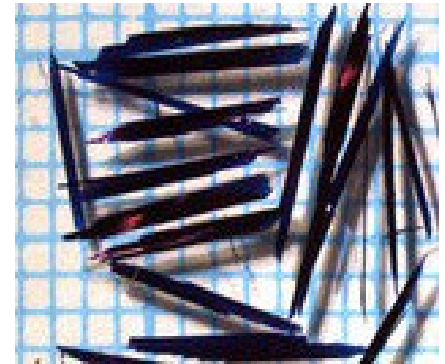
2017

www.quantonics.wordpress.com

QUANTONICS CRYSTALS PORTFOLIO

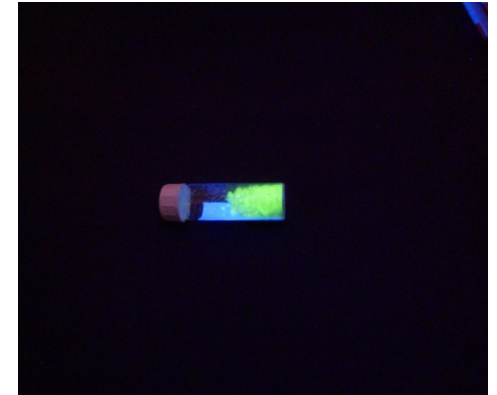
Quantonics Crystals with headquarter in Wiesbaden/Germany, is an innovative Developer, Manufacturer and Supplier of high-quality

- **organic and semiorganic Semiconductormaterials.**



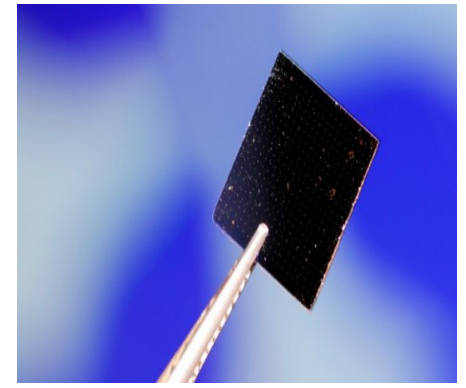
QUANTONICS CRYSTALS PORTFOLIO

- high fluorescent Nanocrystals and Quantum Dots (Q-Dots).



QUANTONICS CRYSTALS PORTFOLIO

- high doped and ultra pure Graphene & Graphenoxide.



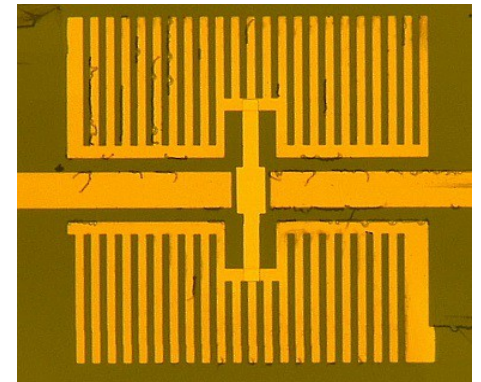
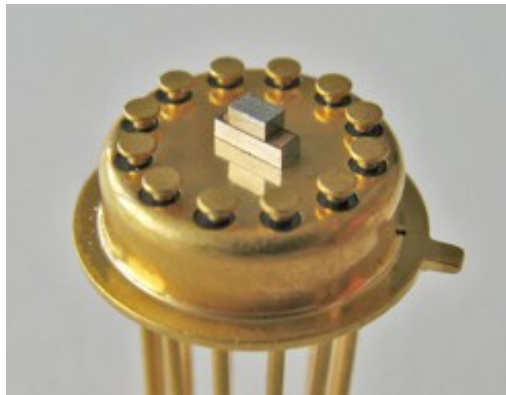
QUANTONICS CRYSTALS CUSTOM SUPPORT

- This included an close and comprehensive collaboration with the customer in design proposals from idea to first Product Prototype development with our

High purity organic Semiconductors / Crystals.

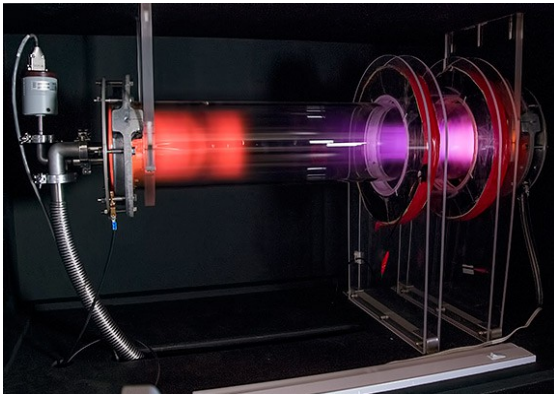
Fluorescent rare earth or organic Nanocrystals & Quantum Dots.

High purity Graphene and doped Graphene Derivates.



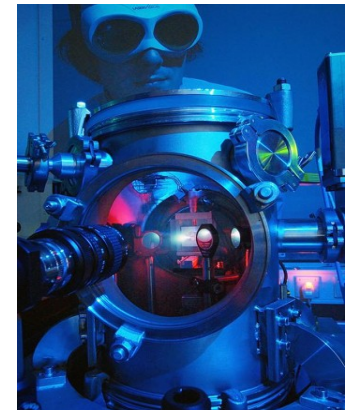
QUANTONICS CRYSTALS PORTFOLIO

Due to the constant, on-going improvement of our technical performance standards and by many years of experience in our core business, we are in a position to offer customers a range of high quality products and technical support services.



1.1 QUANTONICS CRYSTALS PROCESS COVERAGE

- **Uniqueness of the achievement**
- **reproducible and scalable process of manufacturing**
- **Diversity of the use**
- **Development of new Procedures & Synthesis of Graphene, Nanocrystals & organic semiconductors**
- **Technical Support by the Development of new products from idea to Prototype**
- **High qualified Technical know-how**
- **Value and high quality products**



1.0 PORTFOLIO ORGANIC SEMICONDUCTORS

Novel Organic materials with high second order optical nonlinearities have attracted a lot of attention because of their potential for optical frequency conversion, THz generation, electro-optical and integrated optics applications. These organic crystals reveals that they have around 50 % higher second-order nonlinearity than the presently best anorganic and silicon based nonlinear optical crystals.

Quantonics Crystals synthesises and growth with new procedures variety of high purity and high quality organic and semiorganic materials and Crystals:

- **Chromophores and Phtalocyanides**
- **Anthracenes, Penthacenes, Tetracenes**
- **Nitropyridinium Derivates**
- **Rubrene & Rubrene Derivates**
- **Stibalozolium Crystals and Solutions**

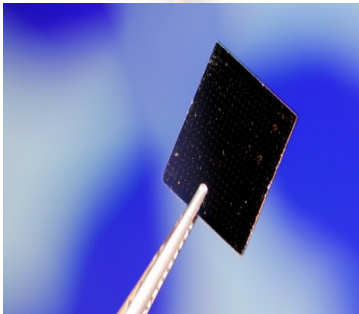


1.1 QUANTONICS CRYSTALS GRAPHENE

Graphene, a monolayer of carbon atoms arranged in a honeycomb structure, is a unique material with outstanding properties that may be useful in applications ranging from Detector and electronic devices. The versatile properties of graphene make it suitable for use in flexible and transparent optoelectronics, sensors, energy storage and electronics, etc.

Quantonics Crystals Product list: Graphene

- high purity Graphene / Graphene oxide powder or flakes
- Graphene oxide as powder and in solution
- high doped Graphene & Graphene oxide (N₂, S, Boron, Halogenides)
- blue emitting Graphene Quantum Dot's



1.2 QUANTONICS PORTFOLIO QUANTUM DOT'S

The photoluminescence (PL) and electroluminescence emission (EL) from colloidal Q-Dot's can be tuned within the visible spectrum from wavelengths of 450 nm until to 5000 nm by controlling nanocrystal size, selected material and Semiconductor crystals of less than 10 nm in size I.e.

Nanocrystals or Quantum dots are strong interest due to their many applications in the fields of Optoelectronics, quantum computing, High sensitive Infrared Detectors, Telecommunication, Quantum Cascade Lasers, etc.

As example for Graphene Quantum Dot's:

Converting 2-D dimensional graphene sheets into 0-D graphene quantum dots, with lateral dimensions less than one hundred nanometers, is an effective strategy to tune the band gap of graphene.



2.0 QUANTONICS: OUR PRODUCT ADVANTAGES

Advantages of our Materials

Ultrahigh high purity

Very high sensitivity

Very high radiation energy performance

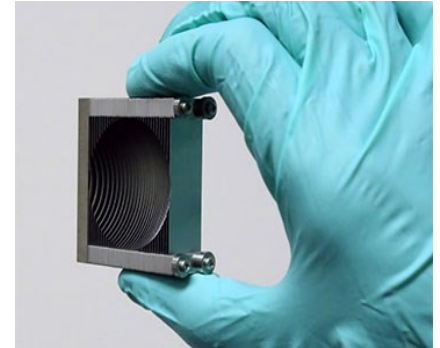
Best & large NLO optical properties

Ultrafast response times (ideal for optical switches)

Ultrawideband frequency conversation & Detection

Unlimited Design possibilities for all products

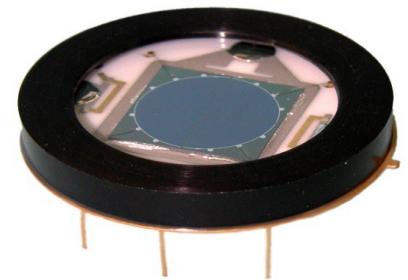
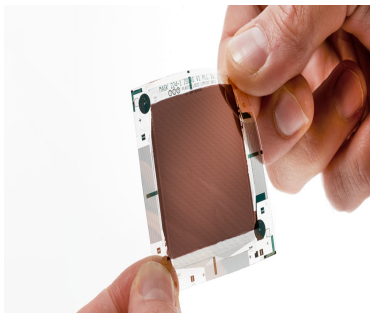
Excellent electro-optical modulation



2.1 QUANTONICS: PRODUCT APPLICATIONS

Product Applications of Organic Crystals, Quantum Dots & Graphene derivatives:

- **Broadband Modulators**
- **THz Sensors & Detectors**
- **Optical RAM's**
- **High speed Telecommunication transmitters**
- **Organic Field Effect Transistors (OFET's)**
- **Ultrawide spectral range & high sensitive IR- Photo-Pin Diodes**

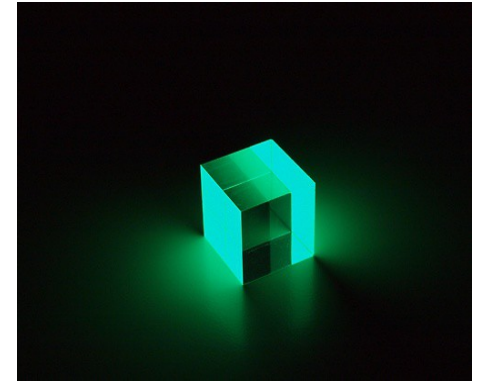


QUANTONICS: OUR VISION AND PHILOSOPHY



We realize innovative ideas with our growing knowledge to work in partnership with our customers to decisive competitive market advantages.

QUANTONICS CRYSTALS CONTACT



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