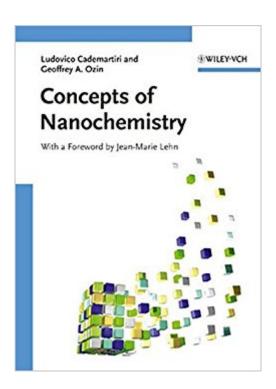


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# **Concepts Of Nanochemistry**





### Synopsis

Authored by a rising star in the field and one of its pioneers, this textbook is ideal for interdisciplinary courses - bridging chemistry, materials science, physics and biology. Adopting a completely new and visionary approach, this is a unique learning tool, focusing on just six concepts crucial for understanding nanochemistry: surface, size, shape, self-assembly, defects and the interface of biology and nanochemistry. These concepts are elucidated through the analysis of six materials representing the real life application of the nanochemistry concepts. The teaching questions included provide real "food for thought", thus training students to think as a researcher does and so develop problemsolving skills.

#### **Book Information**

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#### **Customer Reviews**

"The book Concepts can serve as a superb guide into nanochemistry for university teachers, students, and the interested general public. It can be emphatically recommended. Read it, or you will be missing something extraordinary." (Angewandte Chemie, 2010)

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develop problem-solving skills. With a Foreword by Nobel Prize laureate Jean-Marie Lehn.

Additional material for lectures at www.wiley-vch.de/textbooks

While it does cover a broad scope of material, it's lack of depth or even concrete examples made it a bit of tease. It is also very unclear to me who their intended audience is; the intro suggests it is suited for 1st year undergrads, which I agree with, but there was some assumed vocab and background info that may make it difficult to follow for inexperienced students. On the other hand, it did define numerous idiotic words like "educated", "connected", "color" etc, which I found extremely condescending.

I like it because it has general concepts about nano materials, some concepts focused on synthesis and characterization of materials

Simple and well presented. Great book about chemistry as a tool in nanoscience... I use it to teach nanotechnology in Chemical Faculty.

In the last decade or so there has been an explosion of interest in nanoscience and nanotechnology. Scientists from different disciplines (physics, chemistry, biology, medicine, engineering, materials science, etc.) converged towards this new field, each bringing his or her expertise and modus operandi. As far as the contribution of chemistry (and chemists) to nanoscience is concerned, strong emphasis is placed on the preparation and characterization of the building blocks (molecules and nanoparticles) necessary to synthesize nanostructured materials following a bottom-up approach. In this regard, six chapters of the book are concerned with the most popular materials used in contemporary nanochemistry: silica, gold, polydimethylsiloxane (PDMS), cadmium selenide (CdSe), iron oxide, and carbon. The latter is important for the synthesis and functionalization of carbon nanotubes and graphene. Fundamental concepts that are discussed in this book are those of size and shape as well as the bionano interface and self-assembly. Overall, the book provides a good overview on nanochemistry that will benefit students as well as scientists interested in broadening their knowledge. For an introduction to the field of nanophysics, I suggest reading Wolf's book: "Nanophysics and Nanotechnology: An Introduction to Modern Concepts in Nanoscience".

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