The Nature Research solution for nanotechnology

- Centralized nanotech-related articles in one space
- Insights into the content that is closely related to the search input
- Curated nanomaterial summaries from top journals worldwide

A nanomaterial summary includes

Nanomaterial summary includes the following aspects:
- Nanostructure Type
- Size
- Composition
- Properties
- Applications
- Preparation
- Characterization
- Toxicity
- Patent Claims

User benefits from nano.nature.com

- Find nanotechnology information precisely without looking into the full text
- Information on similar nanomaterials is compiled into summaries from multiple sources
- Preparation steps for nanomaterials can be easily found and visualized
- Nanomaterials with specific properties and application can be quickly enlisted

nano.nature.com
Smart Search

Nano combines the key features of a database and an Abstract & Indexing discovery tool supported by nano-specific functionality.

Gain insight into the content that is closely related to the search input. Insights from the same article could be different based on the search inputs.
Manually curated summaries of nanomaterials — continuously updated by nanotechnology experts

Data referring to similar nanomaterials is compiled from high-impact journals and patents into well structured, comprehensive summaries. For example, gold nanoparticles:

**gold nanoparticles**

Composition: gold  
Nanostructure: nanoparticles  
Diameter: 0 - 30 nm

*Based on 1668 articles and 23 patents* (most recent: 2017)

Other information: Characterization (1588)  Preparation (1094)  Property (684)  Toxicity (401)  Application (365)

<table>
<thead>
<tr>
<th>Properties</th>
<th>Characterization methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
<td>Value</td>
</tr>
<tr>
<td>electrical conductivity</td>
<td>~0.012 S/cm (~1.2 S/m)</td>
</tr>
<tr>
<td>electrical resistance</td>
<td>1.470 Ω</td>
</tr>
<tr>
<td>electrical resistance</td>
<td>11.9 Ω</td>
</tr>
<tr>
<td>electrical resistivity</td>
<td>0.000006 Ω-m</td>
</tr>
</tbody>
</table>

**Toxicity and biological effects**

<table>
<thead>
<tr>
<th>Test outcome</th>
<th>Biological system</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>acceleration of cell migration</td>
<td>Rat Gliona 2 cell</td>
<td>Rahman, Wan et al. 2011</td>
</tr>
<tr>
<td>acceleration of cell migration</td>
<td>bovine aortic endothelial cell</td>
<td>Rahman, Wan et al. 2011</td>
</tr>
<tr>
<td>accumulate at the plasma membrane</td>
<td>HeLa cells</td>
<td>Li Shang et al. 2014</td>
</tr>
<tr>
<td>accumulation in gut</td>
<td>Daphnia magna</td>
<td>Kyle D. Gilroy et al. 2014</td>
</tr>
</tbody>
</table>

**Preparation**

<table>
<thead>
<tr>
<th>Method 16</th>
<th>Source</th>
<th>Type: Physical formation</th>
<th>Starting materials</th>
<th>Spin coating</th>
<th>Drying</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Collies, Sean S. E. et al. 2016 (ACS Nano)</td>
<td>fused silica quartz glass</td>
<td>gold nanoparticles</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>solution in water</td>
<td>heating</td>
<td>gold nanoparticles</td>
</tr>
</tbody>
</table>

**Applications**

<table>
<thead>
<tr>
<th>Application</th>
<th>Area</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>bisphenol A detection</td>
<td>sensors (excluding biosensors)</td>
<td>Mei, Zhanlong et al. 2013</td>
</tr>
<tr>
<td>blood clotting</td>
<td>medicine/ veterinary</td>
<td>Hoo Kyeong Kim et al. 2013</td>
</tr>
<tr>
<td>cancer cell detection</td>
<td>diagnostics</td>
<td>Xiangyan Zhou et al. 2014</td>
</tr>
</tbody>
</table>

**Patent claims**

- **Claim**  
  The nanomaterial is claimed together with its method of preparation  
  A specific method of preparation is claimed for the described nanomaterial  
  The nanomaterial is claimed

Full data can be found at https://nano.nature.com/nano/GR-M21079.
What our Nano advisory board members say?

Nano is an emerging and very powerful research tool. It allows researchers to obtain and compare the characteristics of the full spectrum of nanomaterials, as well as the composition and preparation methods for nano-enabled devices. It will provide nano-scientists with the clarity and deep understanding that the Mendeleev table once provided to chemists. - Dr. Jens Kroeger, Chief Technology Officer, Raymor and Nanointegris

Nanotechnology research and development has been rising on a sharp slope across virtually all scientific disciplines and industries. The result has been a rapidly growing body of information in disparate places that is not readily and efficiently accessible. Researchers need a multidisciplinary database that brings this vast body of data together in an organized and usable way in one place. Working together with other scientists to develop a research solution that can meet this need, through Nano’s External Advisory Board, has made me confident that this is a product that can deliver huge value to the research community. - Dr. Omid Farokhzad, Associate Professor, Harvard Medical School

Key Benefits

- **Unique** research solution specific to nanotechnology
- **Manually created nanomaterial summaries** from top peer-reviewed journals — evaluated by nanotechnology experts
- **Links to the original data source**
- **Gain quick insight** into the content that is closely related to the search input
- **Up-to-date content** thanks to regular additions
- **Efficient search results** due to precise search tools and filter options

Availability and Access

Springer Nature’s bespoke business models offer complete flexibility. Delivered to all types of organizations whatever their size – from small departments to consortia with multiple users across locations. **Request your Nano product trial today.**

Visit [springernature.com/nano](http://springernature.com/nano) to request a trial or get more information about Nano.