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TECHNICAL CHEMISTRY I  
BARCIKOWSKI GROUP

*Unravelled Nanoparticles*

## Unravelled Nanoparticles



We investigate laser-generated nanoparticles and materials. The research field extends from bioconjugation of gold nanoparticles to applications in medical products, an area in which the specific properties of laser-generated nanoparticles can be used to valuable effect. In this particular context, the major advantages are the high purity of the colloids, easy and economical production, the absence of hazardous or toxic chemicals, stability and the high activity of surfacecharged nanoparticles. Laser-generated gold nanoparticles, for instance, can be used for conjugation with biomolecules in gene and drug delivery, therapy and medical diagnostics applications and have three to five times higher activity compared to chemically produced particles.

### The team offers

- Ligand-free nanoparticles
- Nanoparticle-solvent combinations
- Nanoparticles functionalized with biomolecules
- Nanoization of unsolvable compounds (organic or inorganic)
- Nanocomposites (nanoparticles in a polymer matrix)

### Contact

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