



Co-operation offer



Laboratory of Photochemistry and Optical Spectroscopy
Faculty of Chemical Engineering and Technology
Cracow University of Technology

Laboratory of Photochemistry and Optical Spectroscopy

Design and synthesis of new photoinitiators dedicated for cationic, free-radical and hybrid photopolymerization. The research are performed to improve the speed of the curing processes of polymer coatings by developing innovative polymerization photoinitiators having a very better parameters than those already used in industry. The search for more effective initiators are fully justified from the practical point of view in industry photocurable polymer coatings.

The search for new luminescent molecular sensors for the innovative Fluorescence Probe Technology (FPT) that may be successfully applied in coatings industry. Design and synthesis of new luminescent probes, based on organic compounds and also complexes of rare-earth metal cations. Spectrophotometric study of the compounds in the role of luminescent probes for monitoring chemical reactions, such as photopolymerization reactions, by FPT method. The performance of the newly developed luminescent probes are investigated both in free radical and cationic polymerization. Luminescent probes are tested under real photopolymerization conditions, used in industry for production of polymer coating.

Develop of new materials for applications in industries where light is used, such as the electronics industry (materials for photolithography), in industry

photosensitive materials (for optical storage of digital information, phototherapy), the lighting industry (to modern sources of light, photoelectric sensors).

The area of cooperation with:

- **polygraphic industry** (printing inks, adhesives, transparent top-coats or varnishes, etc)
- **furniture makers** (polymer-based furniture coatings)
- **automobile industry** (automotive lacquers and paints)
- **electronic industry** (various electroluminescent devices, such as OLEDs, or integrated circuits packaging)
- **optoelectronic industry** (photovoltaic devices, and devices used for imaging and information transfer)
- and in **general all other branches of industry, where polymer coatings are used.**

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Scientist + Entrepreneur = Success

If you are planning to develop your company on the basis of the latest scientific findings and you would like to collaborate with experienced scientific experts check the offer of Cracow University of Technology for the industry www.s2b.transfer.edu.pl.

Our online database includes:

- technology offers, patents and industrial designs
- listing of University commercial services including laboratory expertise and research
- database of experts with experience in the implementation of services for the industry

As an internal unit of Cracow University of Technology, our team of consultants is specialized in the commercialization processes. On the other hand long term active cooperation with entrepreneurs allows us to identify precisely industry needs and expectations. Experiences gained through the last two decades on the edge of industry and science collaboration, let TTC formulate optimal models of commercialization and suitable methods of development projects support.



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