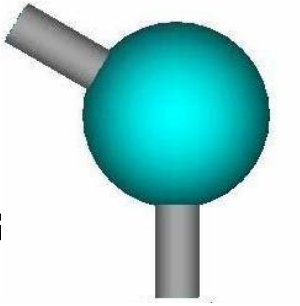
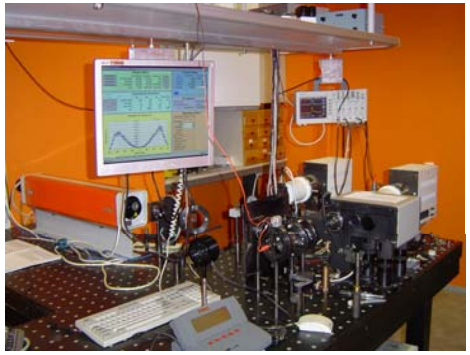
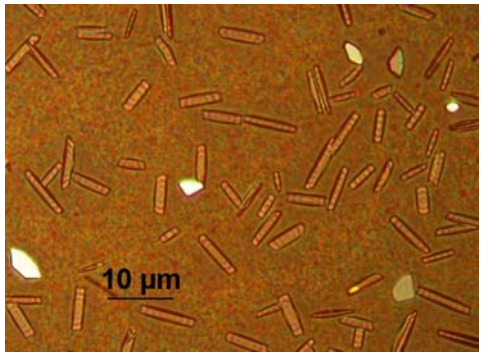
Materials for photonics and nanoelectronics based on novel functional low molecular organic compounds and polymers



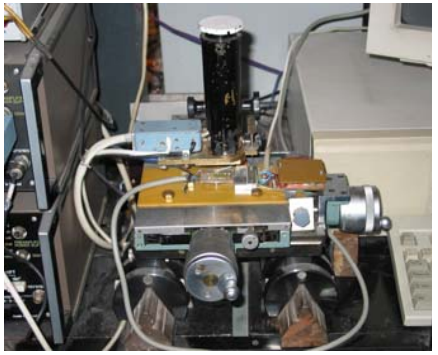
The purpose of the project is to demonstrate the integration of organic molecules, polymers or nanoparticles into scaleable, functional electronic and photonic devices. Expected results are high-density memories, molecular diodes, organic light emitting diodes (OLED), organic photovoltaic devices (OPV) in low-power format, which will not require expensive fabrication facilities.



The spectral dependence of refractivity, molecular hyperpolarizability, investigations of linear and nonlinear optical properties



Crystals of DMABI molecules in PBMA polymer matrix



Investigations of hole and electron injection, p-n junction, photogeneration and electro-luminiscence in organic and polymer thin film systems