

Final results

Researches performed in the project allowed the establishment of the technology for the deposition of sensitive layers, molecularly imprinted with drugs, by sol-gel method. The sensitive layers have been deposited on optical fibers covered with gold layer, in order to create a SPR Sensor. The sensitive layers shown a great affinity toward the target drug: Ephedrine, LSD or Metamphetamine, proved by very high imprinting factors, of about 6. Demonstration researches proved that sensitive layers deposited on the SPR device designed by the project coordinator: Institute for Automation and Control from Vladivostok of the Far East Branch of The Russian Academy of Science, have a good adhesion to the gold surface and stability during the use. Also, the studies performed at the MAPIEM laboratory of the Toulon University have underlined that the sensitive layers were deposited in a homogeny manner. The new SPR sensor, based on optical fibers with polymer sensitive layers molecularly imprinted by sol gel method is the fundament for a device for the detection of illicit drugs, which allows the direct detection of drug vapors from the air, designed by the industrial partner in the project SC Caloris Group SA.