

# PHOTOINDUCED ABSORPTION SPECTROSCOPY IN BLENDS OF CONJUGATED POLYMERS AND METALLOFULLERENES

Student of 626 group  
Khlopkin N.A.

## Annotation

The paper is devoted to researching of the donor-acceptor blends of conjugated polymers and fullerenes metallocomplexes by means of photoinduced absorption spectroscopy.

Photoinduced absorption spectra of donor-acceptor blends of polymer MEH-PPV and fullerenes metallocomplexes were measured, the polymer's photodegradation contributions were estimated. Thanks to this method estimation of the photoinduced charges separation efficiency was made. The blend of MEH-PPV and PCBM was used as control sample.

The measurements were made for photoexcitation at wavelengths 532 and 665 nm at room and low temperatures(120-140 K). The frequency dependencies of photoinduced absorption signals for different samples were measured at frequency band 20-4000 Hz. The results showed that charge separation is possible not only for donor excitation (photoexcitation at 532 nm), but for acceptor excitation too (photoexcitation at 665 nm). Thus, besides electron transfer from donor to acceptor, the hole transfer from acceptor to donor is also possible.

Scientific adviser,  
Associate professor \_\_\_\_\_ D. Yu. Paraschuk