

Optical determination of association constant of charge transfer complex of conjugated polymer

Diploma thesis abstract of 6-year student Vlasov M.A.

This work is dedicated to optical determination of association constant and extinction coefficient of charge transfer complexes (CTC) in donor-acceptor solution of poly(2,2',6,6'-tetrakis(methylphenyl)-4,4'-biphenylene-vinylene) (MEH-PPV) and organic low-molecular compound trinitrofluorenone.

There were presented measuring results of optical thickness dependence on donor and acceptor concentrations in polymer MEH-PPV and acceptor TNF solution on the wavelength 632.8 nm. Absorbance spectrums of corresponding formation in solutions and films were analyzed as well.

It was discovered that in solutions in contrast to films a sharp jump-like increase of absorbance CTC coefficient was observed on the definite acceptor concentration.

Comparative analyze of absorbance spectrums of solutions and films of used compounds let us to calculate CTC extinction coefficient and showed that feasibly described feature of CTC absorbance was associated with association constant's dependence on concentrations of compound components.

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