

## TEMPERATURE DEPENDENCE OF THE RADIATIVE LIFETIME OF J-AGGREGATES WITH DAVYDOV SPLITTING OF THE EXCITATION BAND

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The temperature dependence of the radiative exciton lifetime ( $\tau_{rad}$ ) of J-aggregates of 3,3'-bis(sulfopropyl)-5,5'-dichloro-9-ethylthiacarbocyanine (THIATS) characterized by a Davydov splitting of the exciton band has been determined over the temperature range from 4.2 to 130K.<sup>a</sup> The Davydov splitting of the exciton was taken into account during the calculation of the coherent length ( $N_C$ ) from the values of ( $\tau_{rad}$ ). The dependence of ( $\tau_{rad}$ ) on temperature was analyzed. The  $\tau_{rad}$  (T) of J- aggregates of THIATS can be rationalized within the framework of a 1-D excitation model.

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<sup>a</sup>I.G. Scheblykin, M.M. Bataiev, M. Van der Auweraer, A.G. Vitukhnovsky, Chem. Phys. Lett. 316, 37-44(2000)