

ELECTRIC CHARACTERISTICS
OF METAL-ORGANIC SMECTICS A

*L. Volynets, G. Klimusheva, A. Kovalchuk,
L. Yatsenko, T. Mirnaya¹, L. Khudovtsova¹,
A. Ishchenko²*

Institute of Physics, Nat. Acad. Sci. of Ukraine
(46, *Nauky Prosp.*, Kyiv 03028, Ukraine;
e-mail: klimush@iop.kiev.ua),

¹Institute of General and Inorganic Chemistry,
Nat. Acad. Sci. of Ukraine
(32-34, *Palladin Prosp.*, Kyiv 03142, Ukraine),

²Institute of Organic Chemistry,
Nat. Acad. Sci. of Ukraine
(5, *Murmanskaya Str.*, Kyiv 02094, Ukraine)

S u m m a r y

Electric and electrooptical properties of pure and dye-doped (polymethine dye) potassium caproate, whose water mixture forms ionic lyotropic liquid crystals (ILLC) at room temperature, are studied in detail. The data on the frequency dependences of the components of complex dielectric permittivity and the appropriate relaxation process for various samples are obtained. The comparison with usual liquid crystals shows that the conductivity in ILLC is more than by three orders higher. It is established that the application of an electric field above a certain 'threshold' voltage causes the irreversible bleaching of the dye in ILLC.