P-077

ELECTROLUMINESCENT CHARACTERISTICS OF EUROPIUM COMPLEX THIN FILMS PREPARED BY VACUUM DEPOSITION TECHNIQUE, MYOUNG H. LEE, S. W. PYO, H. S. LEE, J. S. CHOI, J. S. KIM(Dept. of Electrical & Electroic Eng, Hongik Univ., Seoul 121-791, Korea), Y. K. KIM(Dept. of Chem. Eng., Hongik Univ., Seoul, 121-791, Korea), S. H. LEE(Dept. of Industrial Chem., Hongik Univ., Seoul, 121-791, Korea), W. Y. KIM, and S. -H. JU(HYUNDAI electronics, Kyoungki-do, 467-701, Korea)

Electroluminescent(EL) devices based on organic materials have been of great interest due to their possible applications for large area flat-panel display, where they are attractive because of their capability of multicolor emission, and low operation voltage.

In this study, Electroluminescent and Current-Voltage(I-V) characteristics of $Eu(TTA)_3(Phen)$ thin films with various thickness from 4nm to 60nm were investigated with a structure of ITO/TPD/$Eu(TTA)_3(Phen)$/AlQ_3/Al, where TPD, and AlQ_3 films were used as a hole and an electron transporting materials, respectively. This structure shows the red El spectrum with a λ_{max} of 612nm, which is almost the same as the PL spectrum of $Eu(TTA)_3(Phen)$. As the film thickness of $Eu(TTA)_3(phen)$ decreased, the luminescent intensity of the structure increased.

This work was supported by Korea Science Foundation(971-0305-034-2).

P-078

LUMINESCENT PROPERTIES OF NOVEL POLY(BIPHENYLENEVINYLENE) DERIVATIVES D. C. SHIN, J. H. AHN, B. K. AN and S. K. KWON (Dept. of Polymer Sci. & Eng. and RRCAT, Gyeongsang National Univ. Chinju, 660-701, Korea) Y. H. KIM (RISE, College of Education, Pusan National Univ.), H. S. Yu and J. H. LEE(SamSung Display Devices)

Abstract : Poly(*p*-phenylenevinylene)(PPV) and its derivatives are the most widely studied and used light emitting materials because of their high thermal stability, film quality, etc. They, however, have low oxidative stability and some difficulties in processibility. Although poly(*p*-phenyl-ene) (PPP), which shows superior properties in terms of mechanical strength, durability, and thermal stability, is still needed to enhance solubility and molecular weight, the PPP derivatives are also widely used for light emitting materials. We have focused our research on the synthesis of poly(bipheylene vinylene) derivatives having the character of these two polymers, PPV and PPP. In this article, detailed studies on synthesis and luminescent properties of various poly(biphenylene-vinylene) derivatives will be discussed.

Acknowledgment : The authors wish to acknowledge the financial support of the Korea Research Foundation made in the program year of 1997.

P-079

THE SURFACE EFFECT ON THE FIELD-INDUCED PHASE TRANSITION IN HOMOGENEOUSLY ALIGNED ANTI-FERROELECTRIC LIQUID CRYSTALS, NAMSEOK LEE, G. PARK (Dept. of Physics, Sogang Univ., Seoul 100-611, Korea), C.-J. YU, J.-H. LEE and S.-D. LEE (School of Electrical Engineering, Seoul National Univ., Seoul 151-742, Korea)

Under various surface conditions, we investigated the field-induced phase transition from the antiferroelectric (AF) to the ferroelectric (FO) states in homogeneously aligned antiferroelectric liquid crystals. The nature of the alignment layer was varied by means of the rubbing strength and the surface pretilt. In addition, the electric field treatment was carried out to understand the aligning process during cooling the sample from the paraelectric to the antiferroelectric phases. It was found that the surface conditions as well as the field treatment play a significant role in the field induced AF-FO phase transition.

P-080

THE ALIGNMENT CHARACTERISTICS OF SHORT PITCH FERROELECTRIC LIQUID CRYSTALS FOR DISPLAY APPLICATIONS, W. S. Kim, G. Park (Dept. of Physics, Sogang Univ. Seoul 100-611, Korea), J.-H. Lee, D.-H. You, and S.-D. Lee (School of Electrical Engineering, Seoul National Univ., Seoul 151-742, Korea)

The alignment characteristics of the short pitch ferroelectric liquid crystals (FLCs) were studied for deformed-helix FLC displays. For understanding the effect of the SmA state in the phase sequence on the alignment quality and uniformity, the cooling process was varied in addition to the electric field treatment. Moreover, the effect of the pretilt at the surface was examined. This work would be useful for devising a new type of FLC displays based on the helix-deformation.

POSTER SESSION