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LUMINESCENCE CHARACTERISTICS OF HYBRIDIZED POLYFLUORENE

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ABSTRACT- In the present work, polyfluorenes hybridized with silicone were prepared at a fixed volume ratio before subjected to post-mixing treatment at different temperatures. Systematic investigation of the prepared samples in terms of luminescence properties has been carried out with the assistance of photoluminescence and electroluminescence characterization tools. With the increase of temperature, a minute change in the aspects of CIE chromaticity, luminescence intensity, and emission wavelength was observed. Detailed explanation with regards to the research findings will be discussed and related with structural, morphological, and electrical properties of the samples using high-resolution X-ray diffraction, atomic force microscopy, field emission scanning electron microscopy, and hall effect measurement. Potential application of the polyfluorenes hybridized with silicone in light emitting diode (LED) was also shown in this work.

Keywords: polyfluorene, silicone, temperature, luminescence, characterization.