

*Title:* **Synthesis and characterization of blue fluorescent compounds as components for white light**

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Currently and for years, the organic light emitting diodes (OLEDs) technology has been a much sought topic in the electronic revolution. This organic diode opens the door to new advances, thus offering flat screens for different electronic devices, reproducers, phones and artificial light sources. Comparing its inorganic predecessors, OLEDs have brought many innovations: lower cost, wide range of colours, greater angle of vision, transparency and flexibility.

This final project focuses on the preparation and subsequent study of new fluorescent organic compounds based on the structure of the carbazole molecule. In order to carry out this synthesis, carbazole ring has been modified in positions 3, 6 and 9*H*. The different synthetic pathways involved in the chemical processes are very varied: alkylation, iodation and Sonogashira reactions. The different products have been characterized by NMR spectroscopy. Once the derivatives were obtained, the absorption and fluorescence analysis were carried out in different solvents to verify that the synthesized compounds present fluorescence and more specifically if they emit in the blue region of the electromagnetic spectrum.

**Keywords:** OLED technology, carbazole, absorption, fluorescence, synthesis.