In this article, organic light emitting diode with the two structures of ITO / PEDOT: PSS / PVK / Alq3 / PBD / Al and ITO / PEDOT: PSS / PVK: Alq3: PBD/Al with different concentrations were fabricated. The effect of changing the concentration of fabricated Alq3 complex organic light-emitting layer on the characteristics of diodes, were studied. Layers with the same weight percentages PVK, PBD and different wt. % of Alq3 were deposited on PEDOT: PSS layer by spin coating. Current - voltage characteristic curve - and luminescence (El) were studied. Experimental results showed that by increasing the concentration of Alq3 complex in both structures, luminescence and frequency are increased and the operating voltage is reduced.

**Keywords:** organic light emitting diode, Alq3 complex synthesis, spin coating

For full article, refer to the Persian section