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**Tesis:** **"ENCAPSULATION OF ORGANIC SOLAR CELLS WITH POLYMERIC RESINS,  
THEIR PV PERFORMANCE AND LIFETIME"**

**Resumen:**

In this thesis UV-curable polymers (NOA 61, 65, 71, 76 and 138 from Norland Optics), were used for encapsulating organic solar cells (OPVs) to increase their lifetime and profitability. OPVs cells were encapsulated in either: a dry nitrogen glove box and under normal conditions (outside glove box). All devices were stored outside glove box with minimal lighting. Two ways of encapsulation were used: a) By covering OPVs with a glass cap (GCE) and b) by applying and sealing the adhesive directly on the cell top. Best results both outside and inside the glove box were reached with NOA 65 and NOA 71 resins through the GCE method and applying directly on the cell, respectively. After 42 days the efficiency of OPVs encapsulated under normal conditions decreased 50 % with the GCE method and 27% applying directly, while the test cell (without any encapsulated resin) decreased 64%. On the other hand, the efficiency of OPVs encapsulated in a controlled atmosphere after 40 days decreased 50% with the GCE method and 45% applying directly, however theses OPVs devices stopped working after 80 days maintaining an efficiency of 32% with both methods while the test cell retains just 13%. Based on the experimental results it was observed that the lifetime is longer for OPVs encapsulated inside glove box (and tested outside); the used adhesives could provide an acceptable barrier against degradation caused mainly by oxygen and moisture.