



### **New composite material for both biodegradable electronics and soft biomedical electronics**

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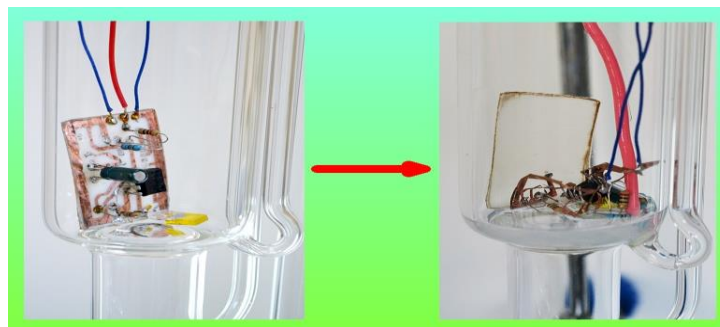
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The study of biodegradable polymers is in the focus of scientific interest, which is due to their increasingly diverse applications. Biodegradable polymers are widely used in the manufacture of packaging materials, cases for various products. In addition, they are used for various fields of medicine - from biodegradable prostheses to soft biomedical electronics [1-3].

A new method for the production of Printed Circuit Boards (PCBs) based on polylactic acid and natural silk is proposed in this paper. The originality of our proposed method is to replace the currently used environmentally hazardous polymer binders with biodegradable polymers based on Polylactic acid and its copolymers. Experimental data have shown that the obtained rigid laminate for the production of PCB has a number of practically useful characteristics: it is relatively resistant to environmental factors; has good properties: durability, lightness, low electrical conductivity, good adhesion to both hydrophilic and hydrophobic materials, can be made from renewable sources and can be completely recycled into low-molecular-weight natural substances or reused.



Also, the proposed material biodegrades into environmentally natural substances. This approach has great potential for practical industrial applications, especially in the light of the “green chemistry” and “circular economy” concepts. Besides, the described materials are a promising base for creating new composite materials for both biodegradable electronics and soft biomedical electronics.

#### **References**

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