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## PRIMARY LITHIUM ION-CONDUCTING BATTERY FABRICATION USING PSIDIUM GUAJAVA AS BIOMATERIAL-BASED ELECTROLYTE

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### ABSTRACT

In the emerging environment with pollution and toxicity, there is an alarming decrease in the energy sources[1]. Non-renewable energies are depleting day by day. My work has been a step to prepare an electrolyte by using a biomaterial which is non-toxic, easily available and cost effective to construct a primary battery which plays a vital role in storing energies. The construction of primary lithium ion conducting battery using Psidium Guajava Leaf (Guava leaf) with concentration of 0.7 M. Wt. % of Lithium Nitrate which gave the highest conductivity of  $8.21 \times 10^{-2} \text{ S cm}^{-1}$ , that high conducting batteries can be constructed. The battery we have constructed resulted in the open circuit volt of 1.54V Transference number measurement is carried out to confirm that the majority of charge carriers are ions[2]. By applying load of  $100 \text{ K}\Omega$ ,  $16 \mu\text{A}$  of current is drawn from the cell.

**Keywords:** Psidium Guajava, Primary Lithium-ion battery, AC Impedence Spectroscopy

### REFERENCES

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