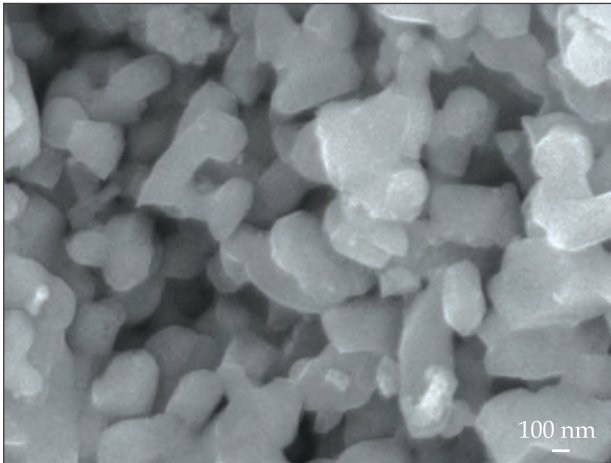


LITHIUM TITANATE $\text{Li}_4\text{Ti}_5\text{O}_{12}$ FOR HIGH-RATE BATTERY APPLICATIONS



SEM micrograph of $\text{Li}_4\text{Ti}_5\text{O}_{12}$

Advantages

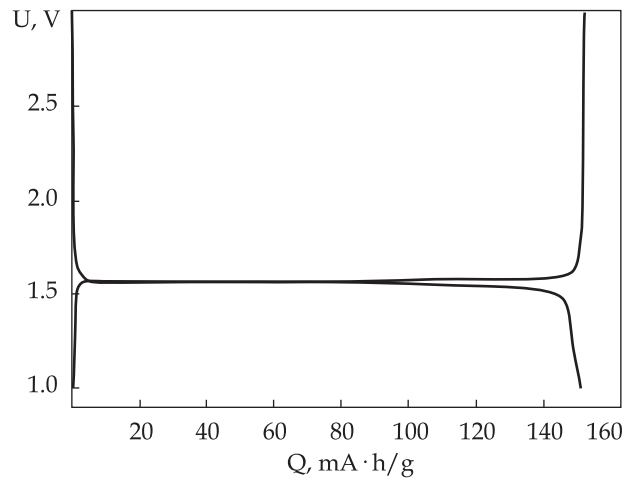
The material provides a long cycling life of battery without degradation. It can sustain twice as much current load as compared with the commercial sample (10 500 mA/g (60 C) vs 5250 mA/g (30 C), respectively)

Areas of Application

Anode material for lithium-ion batteries used in renewable energy

Specification

Operating voltage range, V	1.5–3.0
Nominal capacity at 1.5 C discharge current, mA · h/g	150
Maximal current load, mA/g	10 500
Particle size, nm	300–600
Crystallite size, nm	70



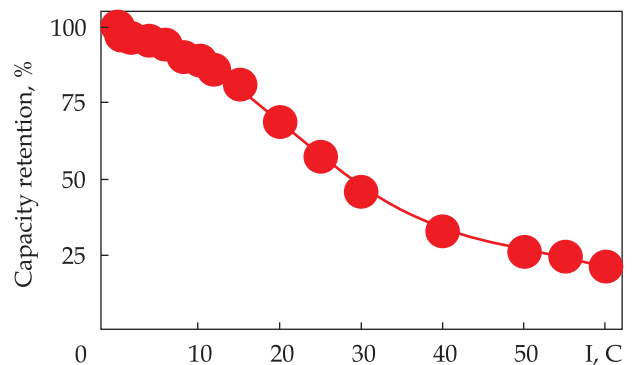
Stationary charge/discharge curves for $\text{Li}_4\text{Ti}_5\text{O}_{12}$

Stage of Development. Suggestions for Commercialization

IRL5, TRL4
The electrode material is proposed

IPR Protection

IPR2, IPR3



Dependence of capacity retention on discharge current for $\text{Li}_4\text{Ti}_5\text{O}_{12}$

Contact Information

Sviatoslav A. Kirillov, Joint Department of Electrochemical Energy Systems of the NAS of Ukraine; +38 044 424 35 72, e-mail: kir@i.kiev.ua