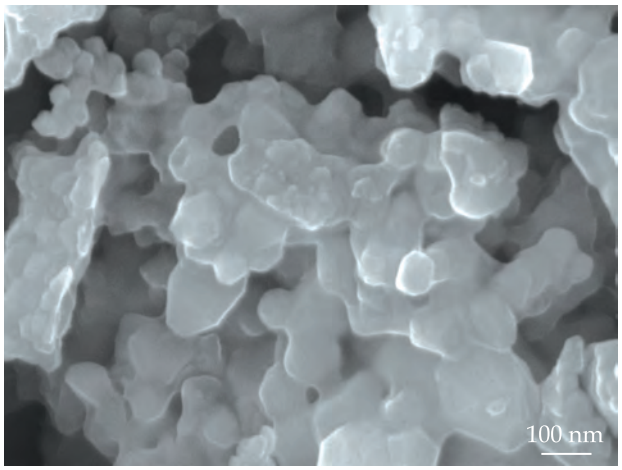
SURFACE-MODIFIED LITHIUM MANGANESE SPINEL $LiMn_2O_4/LiNi_{0.5}Mn_{1.5}O_4$ FOR HIGH-RATE BATTERY APPLICATIONS



SEM micrograph of $LiMn_2O_4/LiNi_{0.5}Mn_{1.5}O_4$

Areas of Application

Cathode material for lithium-ion batteries used in renewable energy

Specification

Operating voltage range, V	3.4—4.5
Nominal capacity at 1.5 C discharge current, mA · h/g	115
Maximal current load, mA/g	9620
Particle size, nm	200
Crystallite size, nm	25

Stage of Development. Suggestions for Commercialization

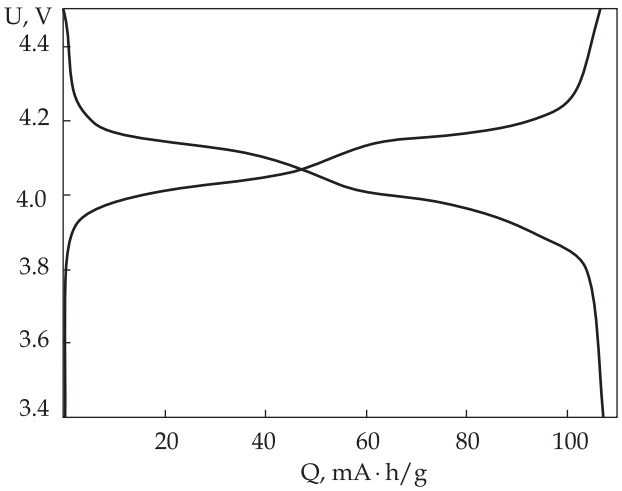
IRL5, TRL4
The electrode material is proposed

IPR Protection

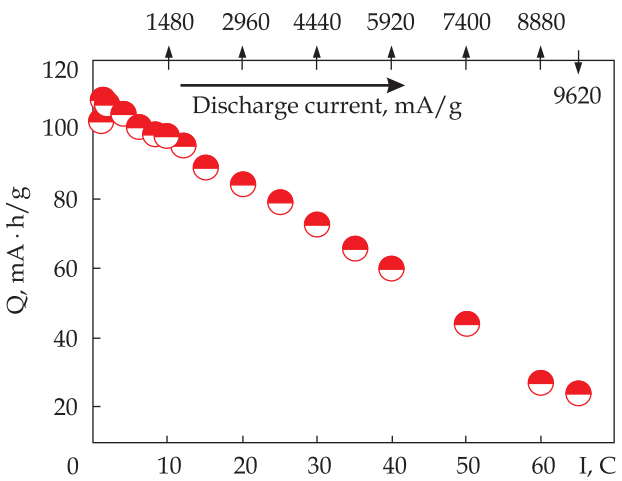
IPR2, IPR3

Advantages

This high-voltage cathode material can sustain wice as much current load at 9620 mA/g (65 C) as compared with commercial analogs



Stationary charge/discharge curve $LiMn_2O_4/LiNi_{0.5}Mn_{1.5}O_4$ at a current load of 14.7 mA/g (0.1 C)



Discharge capacity dependence on current load for $LiMn_2O_4/LiNi_{0.5}Mn_{1.5}O_4$

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