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(54) **ELECTROCHEMICAL CELL WITH CARBONACEOUS MATERIAL AND MOLYBDENUM CARBIDE AS ANODE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 96 days.

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(21) Appl. No.: **10/084,529**

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(51) **Int. Cl.**⁷ **H01M 4/58**

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(52) **U.S. Cl.** **429/231.5; 429/231.1; 429/232**

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(58) **Field of Search** 429/218.1, 231.1, 429/231.4, 231.5, 232

(57) **ABSTRACT**

(56) **References Cited**

A rechargeable lithium ion electrochemical cell and/or battery configured to provide improved reversible energy storage capacity is disclosed. The electrochemical cell and/or battery comprising a body of aprotic, non-aqueous electrolyte, first and second electrodes in effective electrochemical contact with the electrolyte, the first electrode comprising a cathode formed by active materials such as a lithiated intercalation compound and the second electrode comprising an anode formed by a carbonaceous material combined with molybdenum carbide. An electrochemical lithium ion cell and/or battery according to the invention is designed to provide improved reversible energy storage capacity characteristics as compared with similar lithium-ion cells having carbon anodes that are not combined with molybdenum carbide.

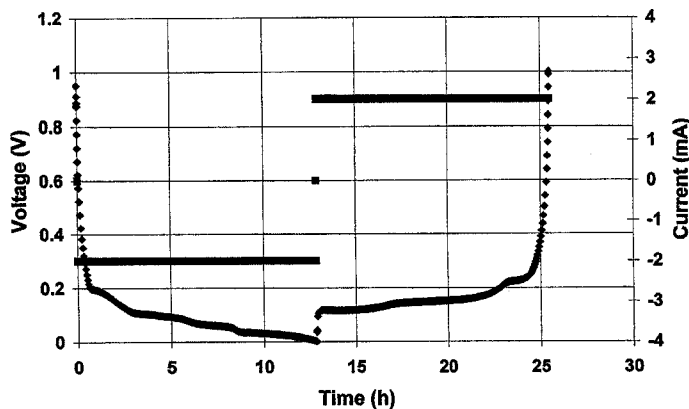
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17 Claims, 7 Drawing Sheets



Discharge Charge profile of a commercial graphite mixed with 8% Mo₂C in 1M LiPF₆ Electrolyte. Counter Electrode: Li.