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(54) Title: AQUEOUS PROCESSES FOR PREPARING POLYAMIC ACID GELS, POLYIMATE GELS, POLYIMIDE GELS, AND POROUS CARBON MATERIALS

(57) Abstract: The present disclosure is directed to methods of forming polyamic acid and polyimide gels in water. The resulting polyamic acid and polyimide gels may be converted to aerogels, which may further be converted to carbon aerogels. Such carbon aerogels have the same physical properties as carbon aerogels prepared from polyimide aerogels obtained according to conventional methods, i.e., organic solvent-based. The disclosed methods are advantageous in reducing or avoiding costs associated with use and disposal of potentially toxic solvents and byproducts. Gel materials prepared according to the disclosed methods are suitable for use in environments involving electrochemical reactions, for example as an electrode material within a lithium-ion battery.

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