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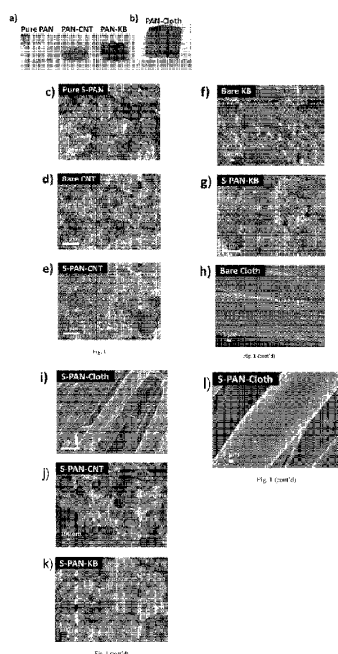
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(54) Title: A COMPOSITE



(57) Abstract: There is provided a composite comprising a) a short chain sulfur; and b) a carbon-supported conductive polymer such as polyacrylonitrile, wherein sulfur atoms of said short chain sulfur are covalently linked to the conductive polymer of said carbon-supported conductive polymer via a C-S bond. A method of preparing said composite comprising polymerizing a plurality of monomers in the presence of a carbon scaffold, mixing elemental sulfur and heating the mixture to obtain said composite is also disclosed. An electrochemical cell comprising said composite as cathode, a sodium anode and a liquid electrolyte such as sodium trifluoromethanesulfonate dissolved in a mixture of solvents is disclosed.

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