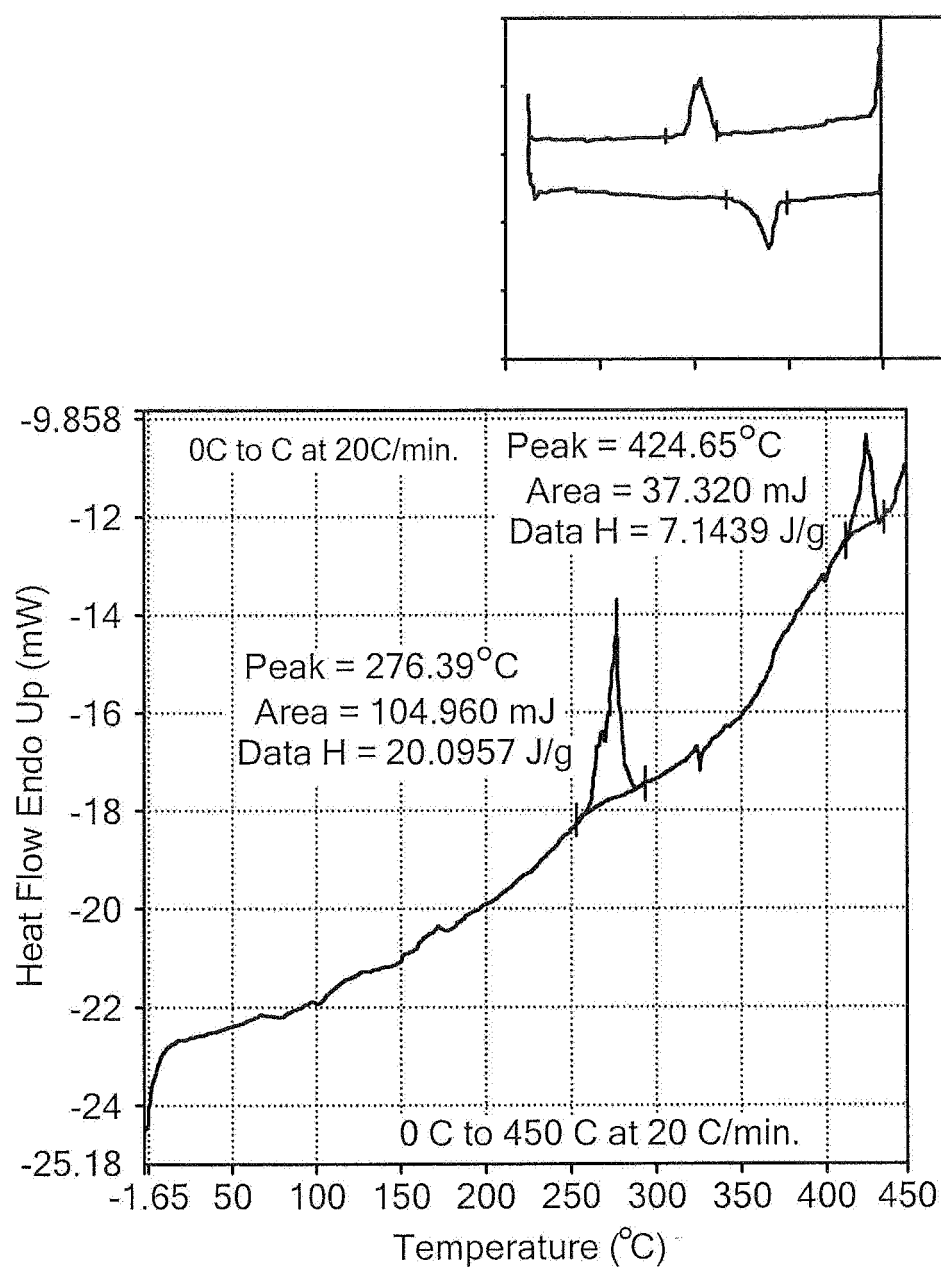
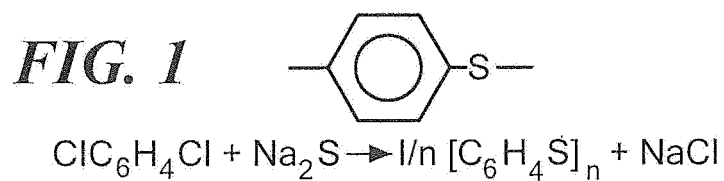
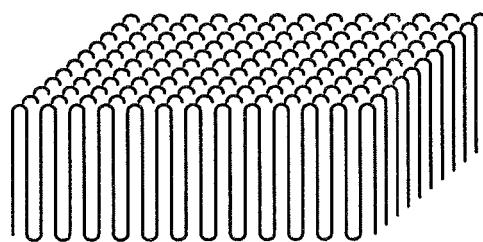
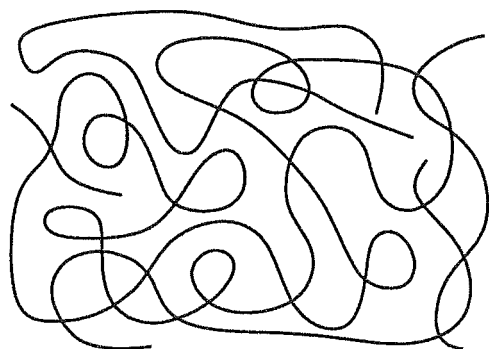




Dynamic Scanning Calorimetry Curve of Semicrystalline Polymer

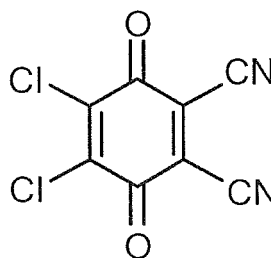
FIG. 2

Compounds	A	B	C	D
Base Resin				
Phillips-Chevron Ryton QC160N PPS	80 wt%	50 wt%	67 wt%	50 wt%
Ion Source Fillers				
Zinc Oxide, 20nm spheres	20 wt%	50 wt%		
Lithium Oxide, milled to <2 micron			33 wt%	50 wt%

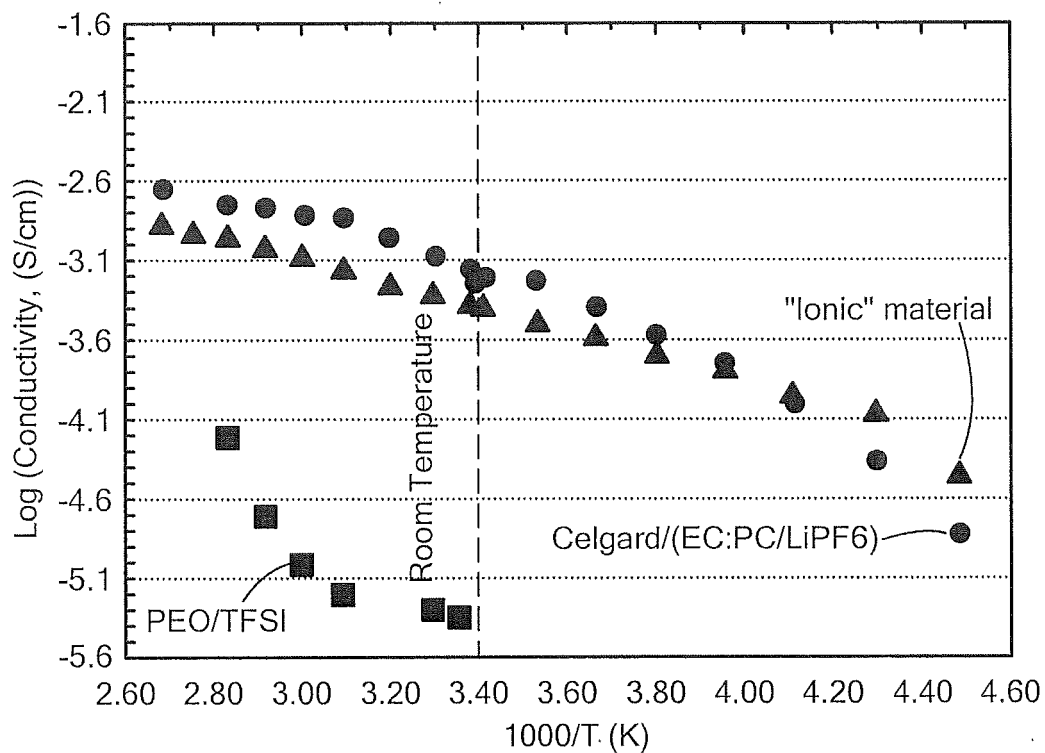
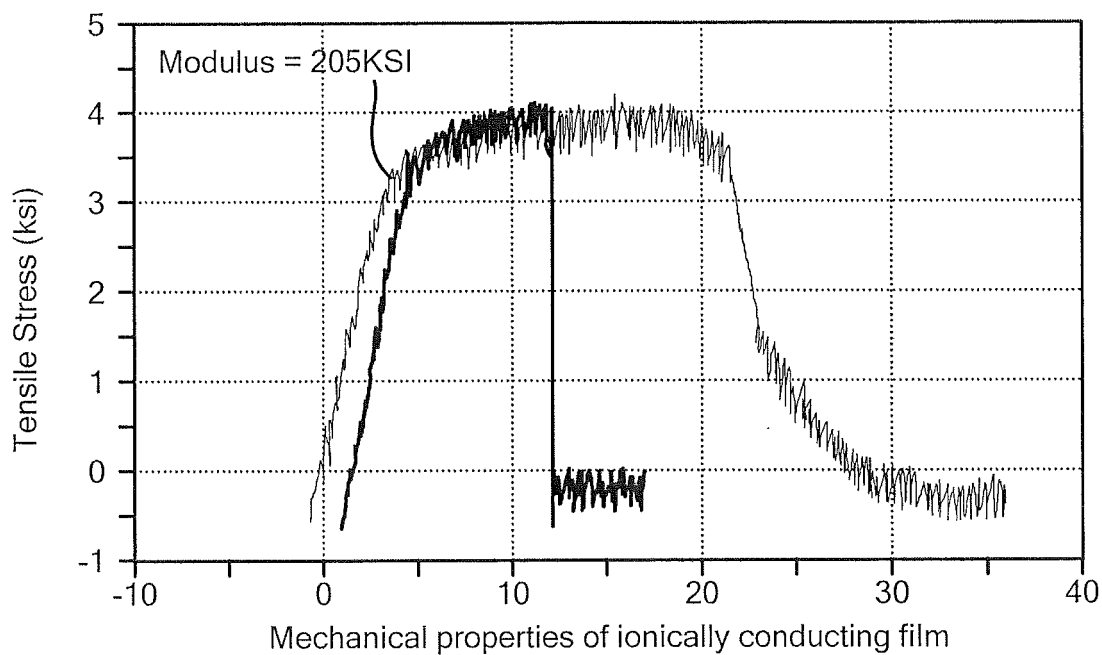
FIG. 3Table 1
Exemplary formulations investigated.

They can fold, and they can stack.
A stack of polymer chains folded
back on themselves like this is
called a lamella.

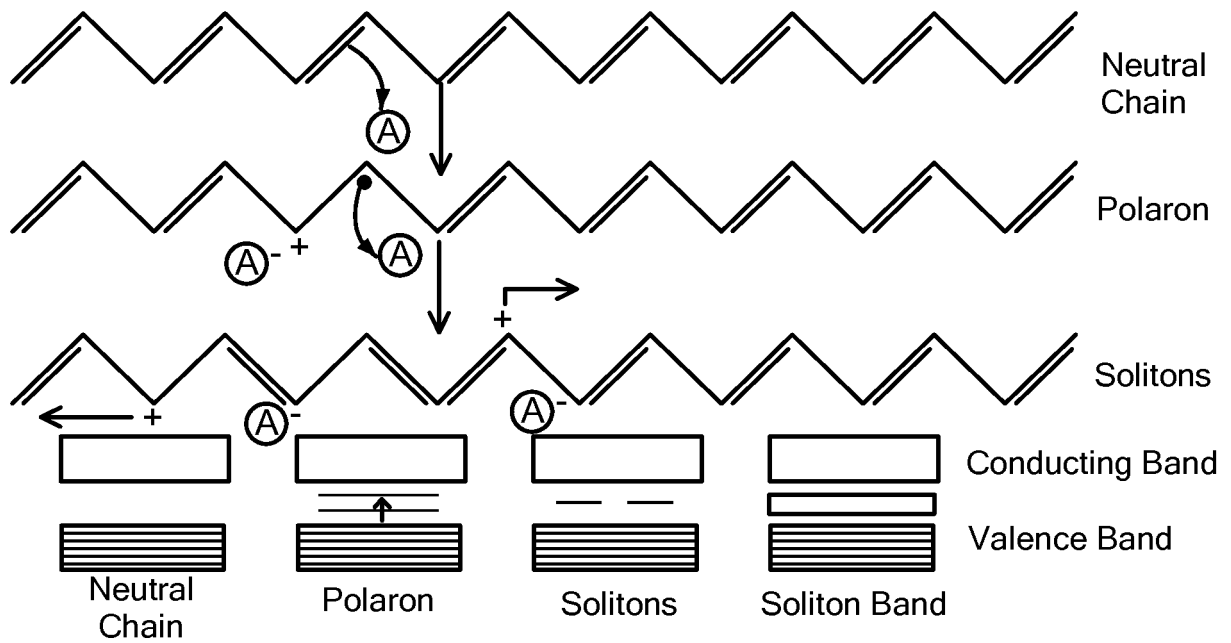
Amorphous and Crystalline Polymers

FIG. 4**FIG. 5**

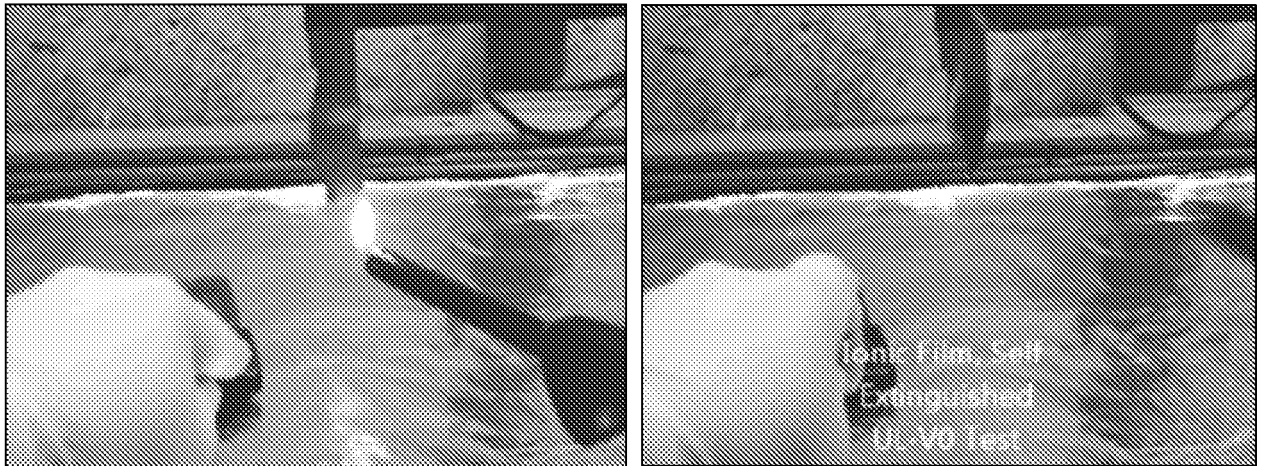
2,3-dicyano-5,6-dichlorodicyanoquinone

**FIG. 6****FIG. 7**

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**FIG. 8**

Ionic Film Passes UL-VO Flammability Test

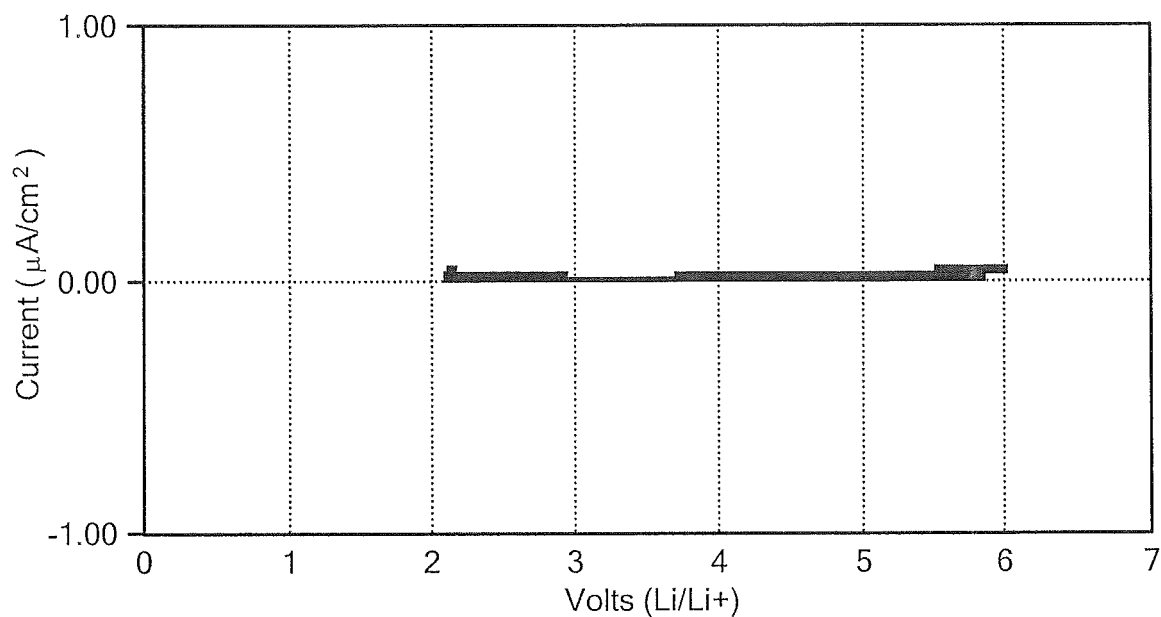


Flame Applied to Ionic Film

Flame Self Extinguished in 2 sec.

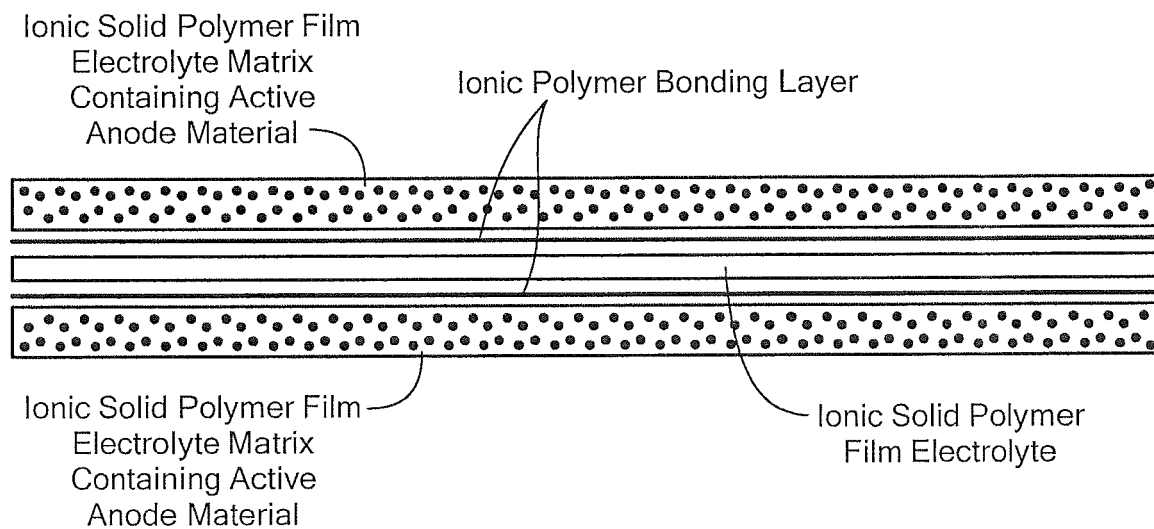
UL94 Flammability test

FIG. 9



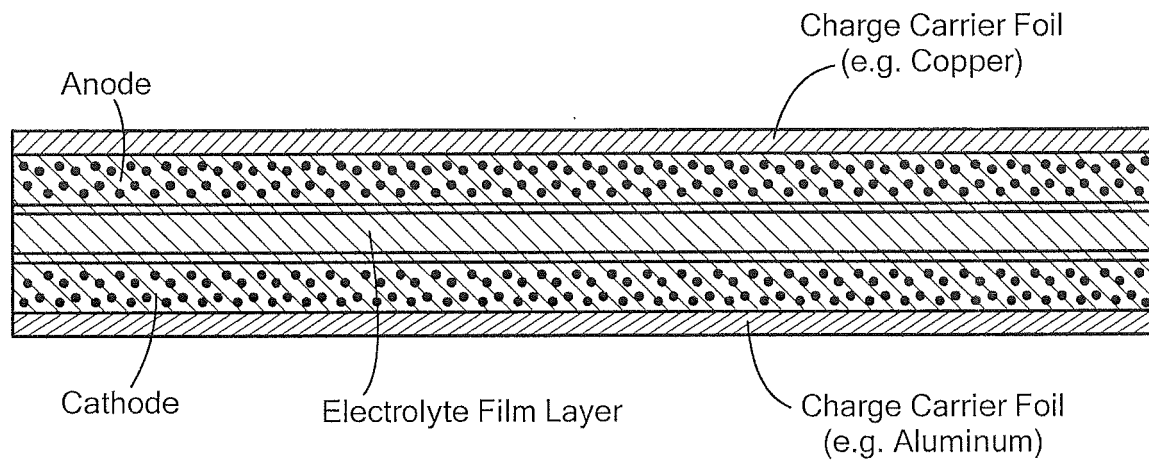
Cyclic Voltammetry of Ionically Conductive Polymer versus Lithium Metal

FIG. 10



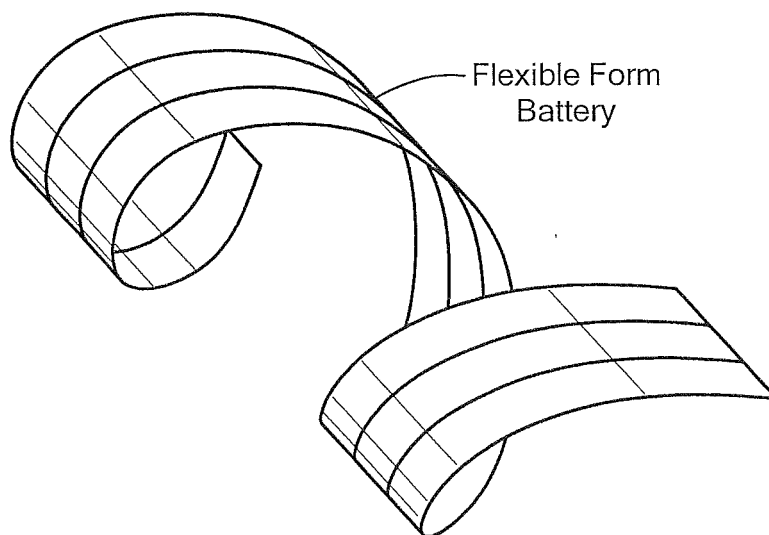
Ionically conductive electrolyte and electrode components

FIG. 11



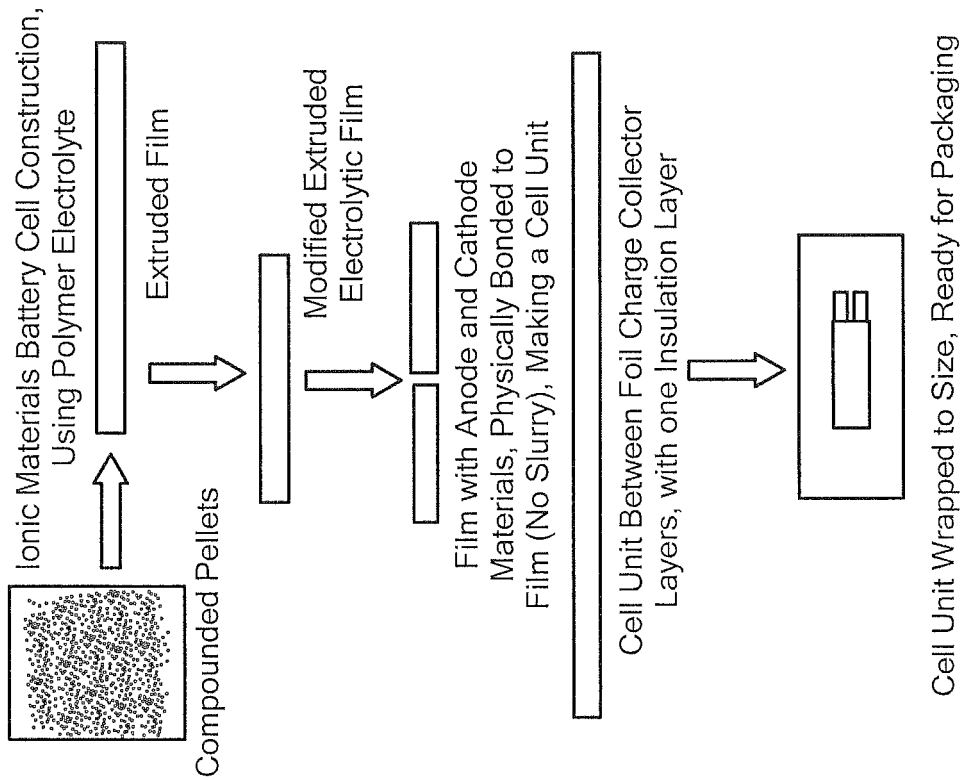
Solid State Battery-Electrode and electrolyte bonded together

FIG. 12



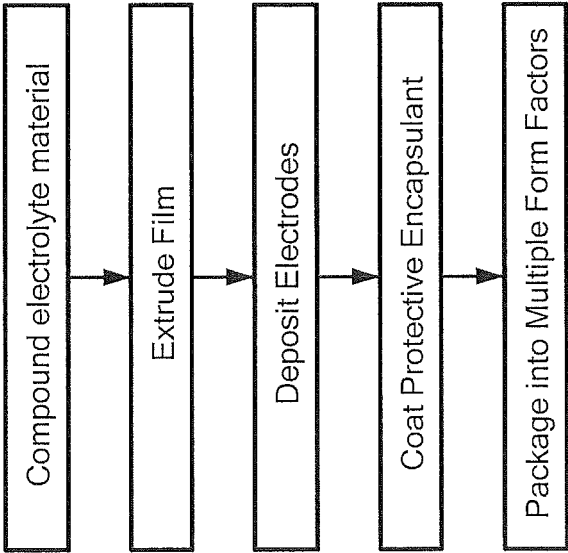
Flexible Form of Battery

FIG. 13

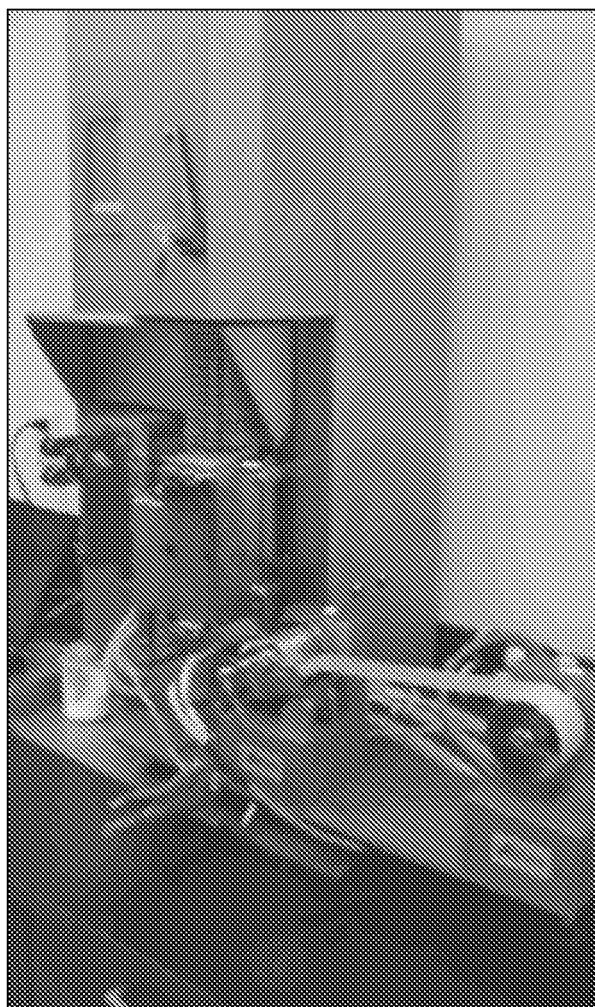


Battery Manufacture

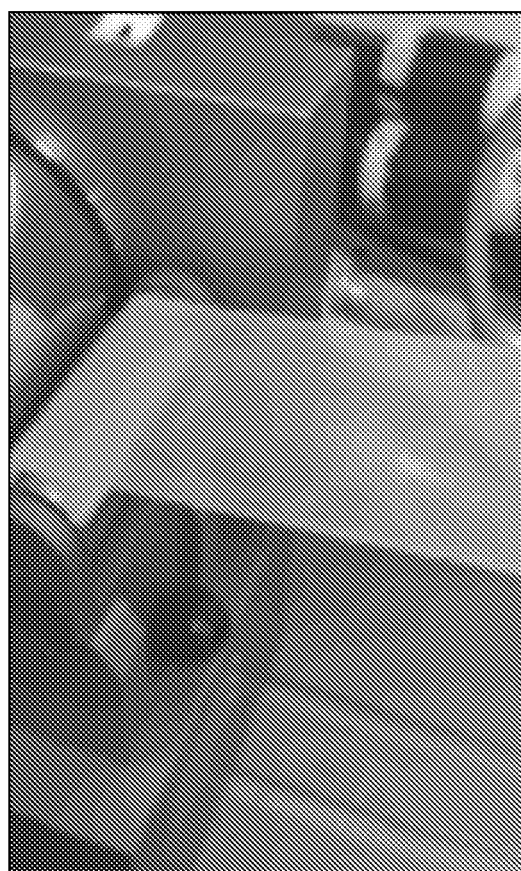
FIG. 14



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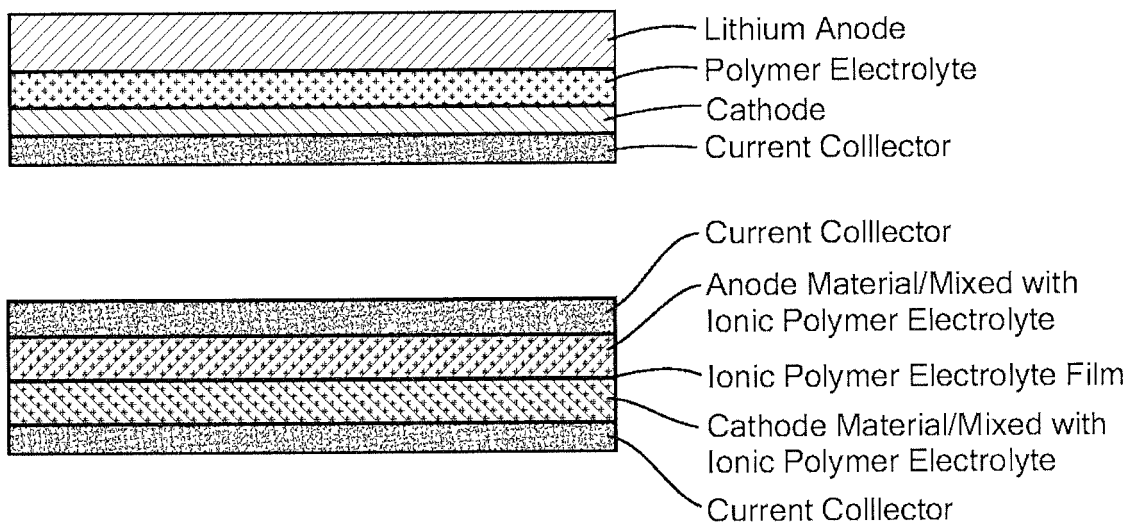


Film Thickness as low
as 0.0003" have been
achieved



Extrusion Process

FIG. 15

**FIG. 16**

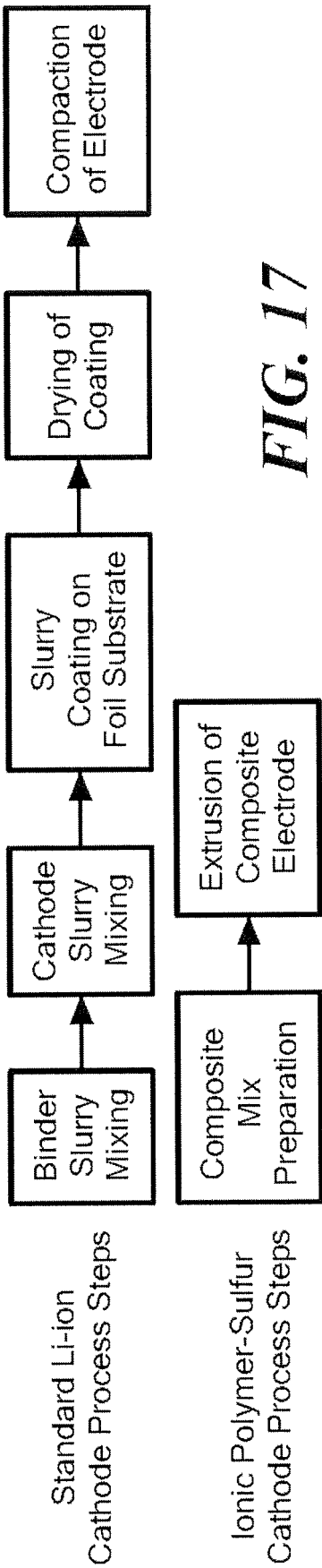
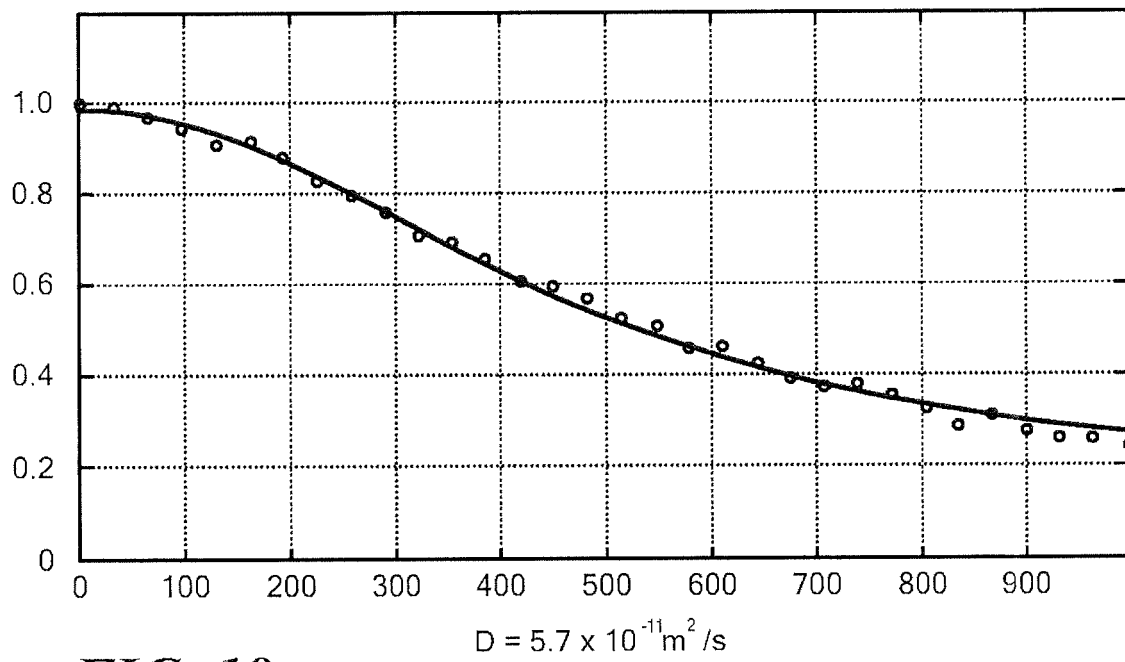
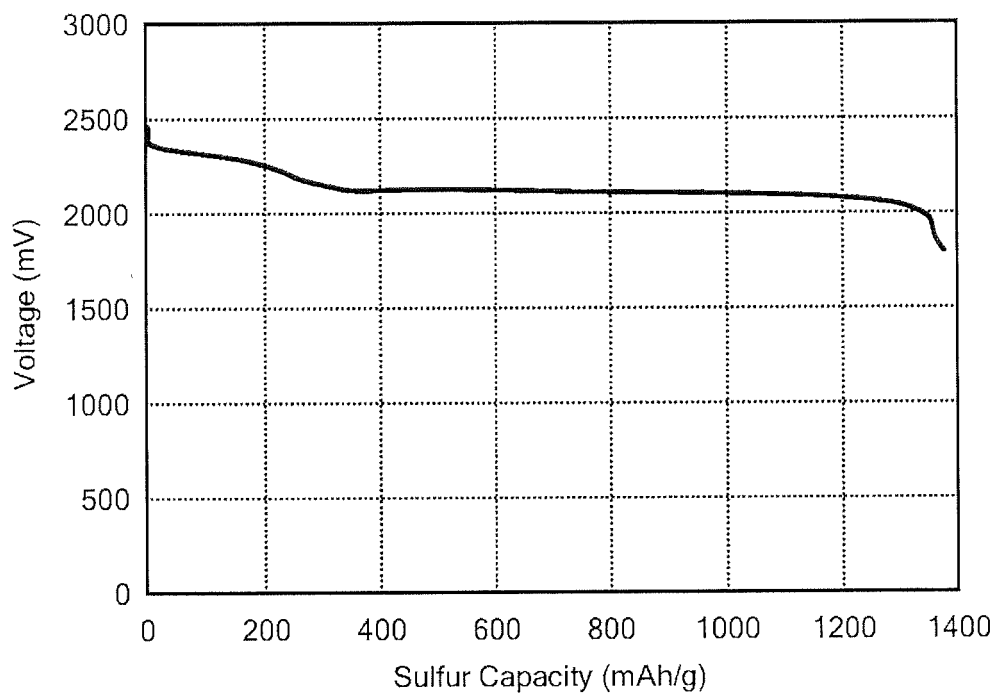
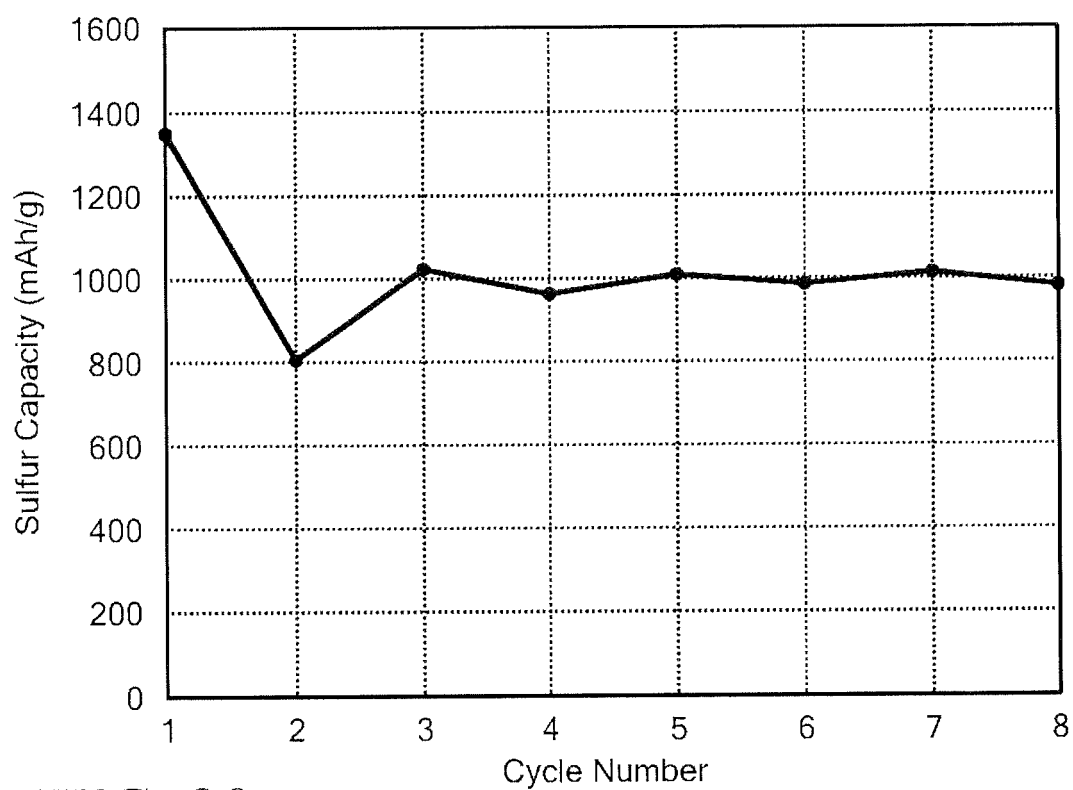


FIG. 17

**FIG. 18**

**FIG. 19****FIG. 20**

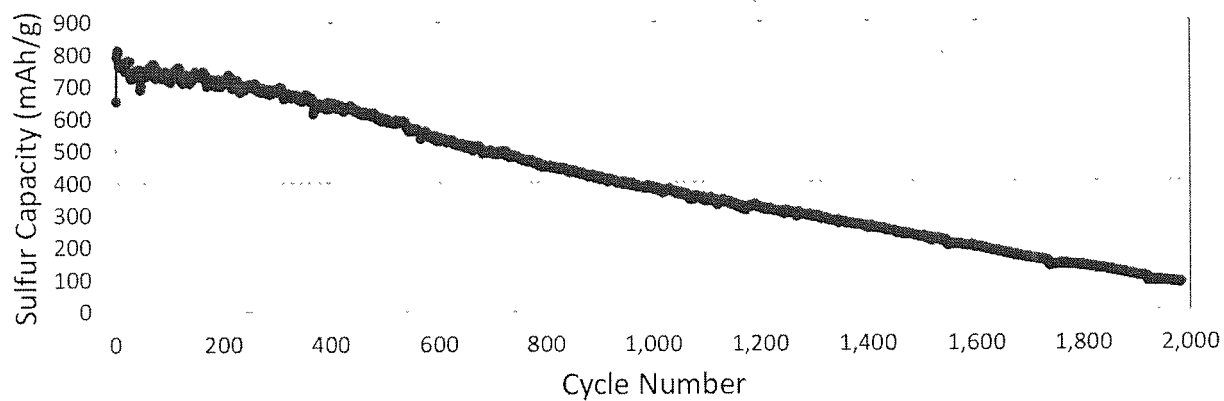


FIG. 21 Discharge capacity curve plotted as a function of cycle number for high capacity Li/ polymer-sulfur cell of the present invention.

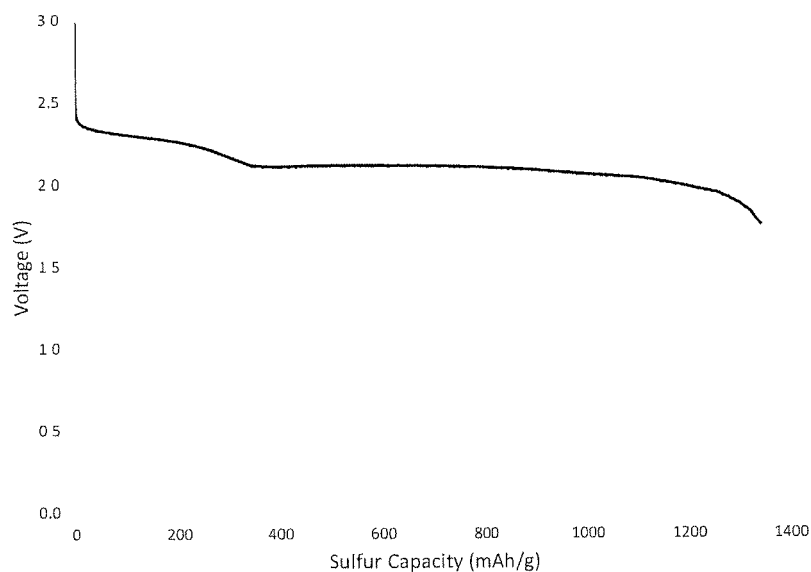
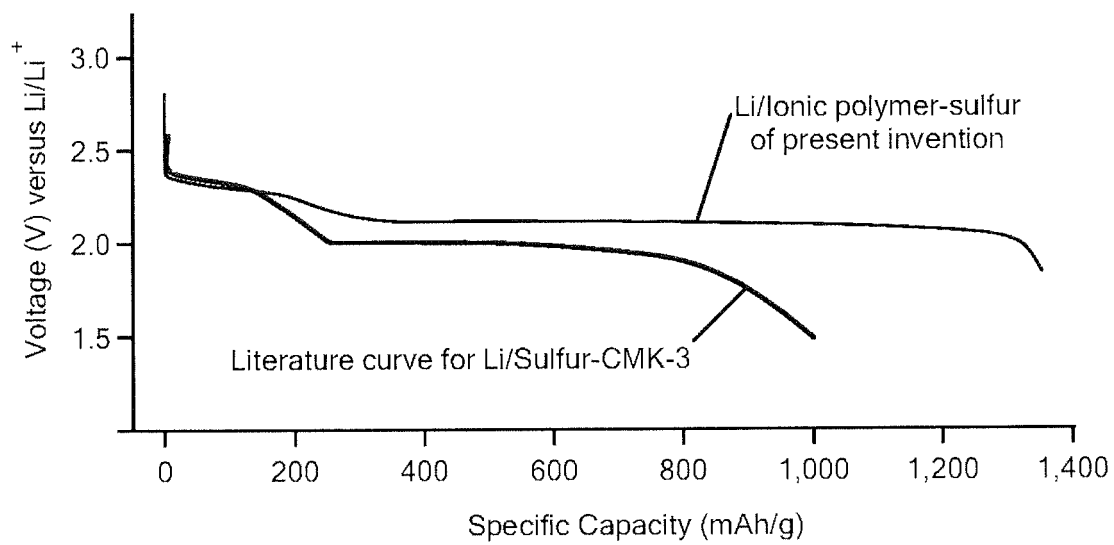
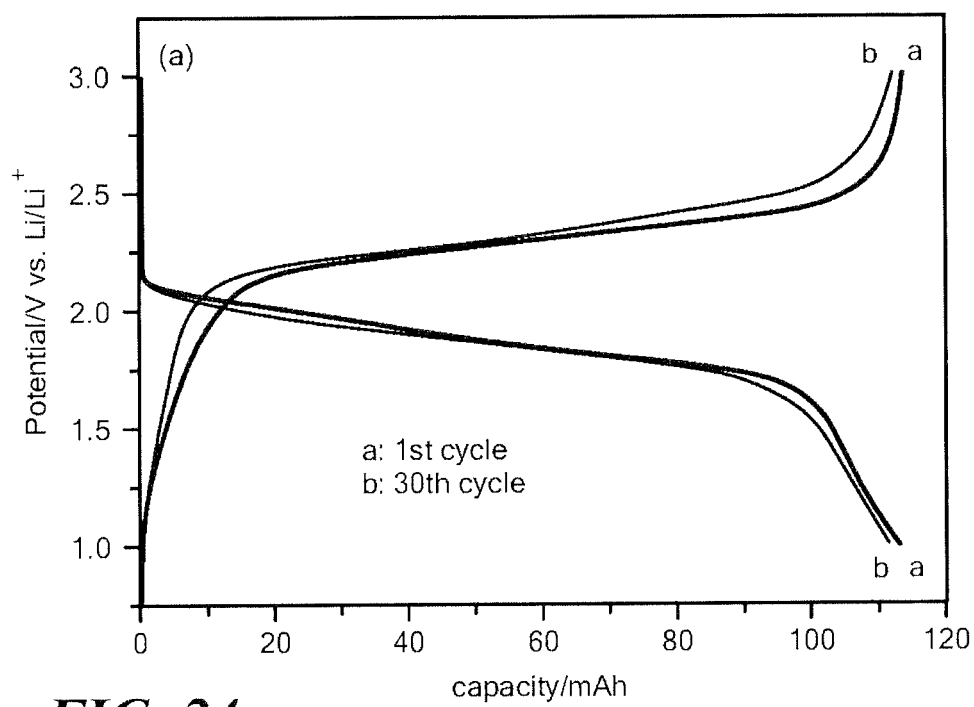


FIG. 22 First discharge voltage curve for Li/ polymer-sulfur cell with a slurry-cast cathode of the present invention assembled into a pouch battery.

**FIG. 23****FIG. 24**

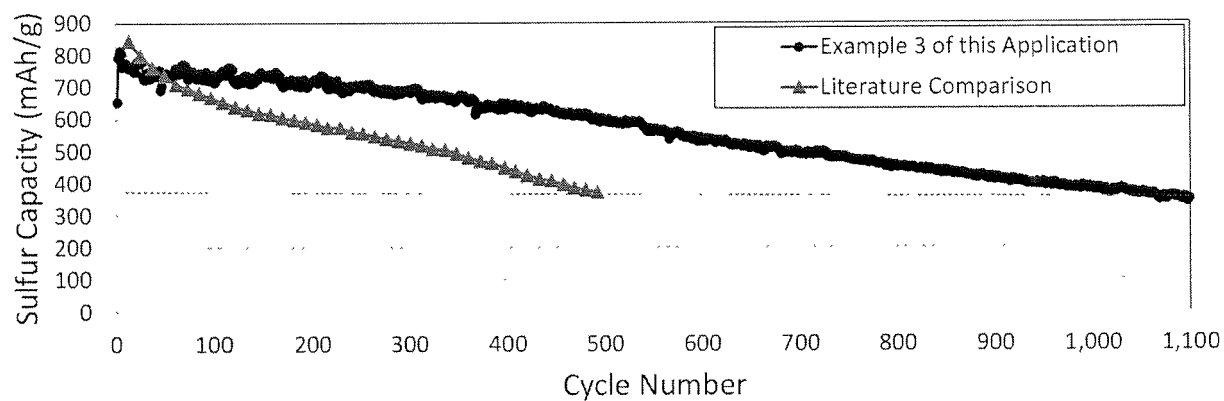


FIG. 25 Comparison of cycle life curves for literature example Li/Sulfur (Red) with Li/solid ionically conductive polymer-sulfur of present invention (Black).