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(54) Title: POLYMER COMPOSITES, METHODS OF FABRICATION AND USES THEREOF

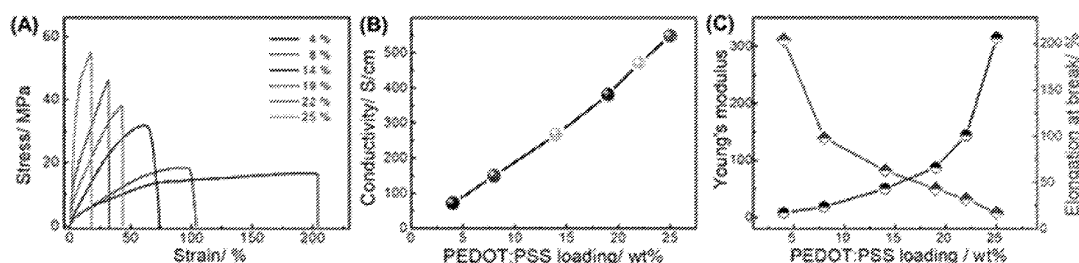


Figure 1

(57) Abstract: The invention relates to a polymeric composite comprising poly(ethylenedioxythiophene):poly(styrenesulfonate) (PEDOT:PSS), waterborne polyurethane (WPU) and a sugar alcohol, wherein the sugar alcohol is selected from the group consisting of glycerol, erythritol, threitol, arabitol, xylitol, ribitol, mannitol, sorbitol, galactitol, fucitol, iditol, inositol, volemitol, isomalt, maltitol, lactitol, maltotriitol, maltotetraitol, polyglycol, or a combination thereof, and wherein the sugar alcohol is 20 wt% to 50 wt% of the polymer composite; an electrical device comprising such composite. The present invention also relates to methods of fabricating and its uses thereof. In particular, the present invention relates to intrinsically conductive polymer composites suitable for use in efficient dry/wet epidermal biopotential monitoring. The polymer composites are advantageously self-adhesive and stretchable, and can be used as dry electrodes.

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