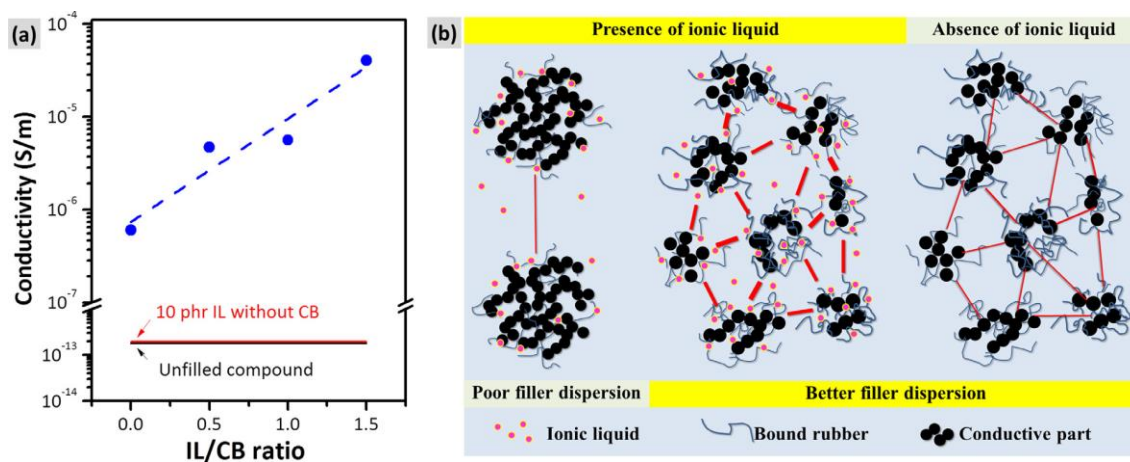


An Efficient Highly Flexible Strain Sensor with Enhanced Electrical Conductivity and Piezoresistivity

Conductive rubber composites (CRCs) based on electrically conductive fillers, such as carbon black and carbon nanotubes dispersed in an insulating rubber matrix, have found a wide range of applications. Strong strain-dependent conducting networks make the composite suitable for strain sensor applications. In order to develop a good strain sensor, a large change in resistance caused by a small strain change is required. In this study, flexible strain sensors based on conductive carbon black (CB) filled styrene-butadiene rubber are developed. The ionic liquid (IL) is used for improving the filler dispersion, rubber-filler interaction and flexibility of the sample. The CRC developed shows enhancement in piezoresistive performance and excellent sensibility.

This project was sponsored by the Thailand Research Fund (TRF) through the Research and Researchers for Industries (RRI) and Chareon Tut Co., Ltd. (Grant PHD58I0011). The research was conducted mainly at the Rubber Technology Research Centre, Faculty of Science, Mahidol University, and collaborated with Leibniz-Institut für Polymerforschung Dresden e.V., Hohe Straße 6, Dresden, Germany. Associated SDG goal is Industry, innovation and infrastructure (9).



Reference:

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