

Low Voltage, Printed Transistors on Plastic Employing High Capacitance, Nanostructured Gate Dielectrics

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DESCRIPTION OF WORK

- ◆ Investigating electrical properties of an ion gel (a soft solid consisting of ionic liquid and block copolymer) as a gate dielectric in order to improve transistor's working frequency.



Publications

- ◆ Lee, K. H.; Zhang, S.; Lodge, T. P.; Frisbie, C. D. *J. Phys. Chem. B*. Accepted.

MAJOR OBSERVATIONS

- ◆ The resistance depends linearly on the thickness of the ion gel film and is inversely proportional to the area of the film.
- ◆ The specific capacitance and the conductivity are independent of the film geometry.
- ◆ RC time constant of 2 μm thin ion gels reaches few μsec.

