Discussion

Seth Marder

Q: Can D-LC materials be connected to polymeric materials?
A: It is possible, but there is a challenge in how to orient the sub-parts of the polymer to result in the D-LC phase.

Hiroto Sato

Q: How efficient is the overall display (energy efficiency)?
A: Battery life has not been tested completely so that is still to be determined.

Q: There are already many reports on flexible displays that can be driven by Si-TFTs. Can you use their backplanes to operate your devices?
A: Our display goal is a highly flexible display, so it is preferable to use organic TFTs.

Makoto Takamiya

Q: If organic displays and scanners become common in the marketplace, what would be their cost and how different are they from current technology?
A: I do not have an estimate for the cost, but flexible displays use fewer materials and are more recyclable.

Q: Can one fabricate scanners and displays on one sheet (substrate)?
A: It is possible to have both on one substrate.

Q: Please explain the physics of the accelerator.
A: The expansion is due to protons moving upon application of voltage (repulsion).

Q: What is the dynamic range of the pressure sensing?
A: The maximum range in our experiment is 2 Newtons and the lowest pressure that can be sensed is not clear yet due to OTFT issues.

Q: What is the nature of degradation and can you correct it?
A: Chemical degradation is mainly due to oxygen and water, which affect pentacene OTFT. There are sealing materials that we are considering for our next experiments.

Q: Your work is based on pentacene. Are you using other organic materials?
A: By using pentacene, we can make p-type circuits. For COMOS, we require n-type and are working on such OTFTs.

Anil Duggal

Q: What about residual water in films?
A: One can laminate in inert environments.

Q: PECVD is not new to this technology, so, what is new here?
A: The key here is the graded structures that decouple defects.

Q: What is your perspective on using polymers with a side chain approach vs. conjugated ones?
A: It can be done, and we are considering that approach as well.