

Electrochromic Smart Windows

About the Capability

Development of a new material, an organic electrochromic (EC) polymer, that is durable and can be processed at a lower cost than non-polymer EC materials.

Key Features

- Tunable transparency/ opacity and colours
- Energy-saving: able to block transmission of sunlight
- Durable: up to 10,000 cycles of 'on-off' switching
- Potentially lower processing cost compared with existing inorganic-based EC materials

Potential Applications

- Smart windows
- Privacy windows
- Display windows

Collaboration Opportunities

Work with industry, e.g. glass manufacturers to:

- scale up
- embark on large area material development and large-scale prototyping

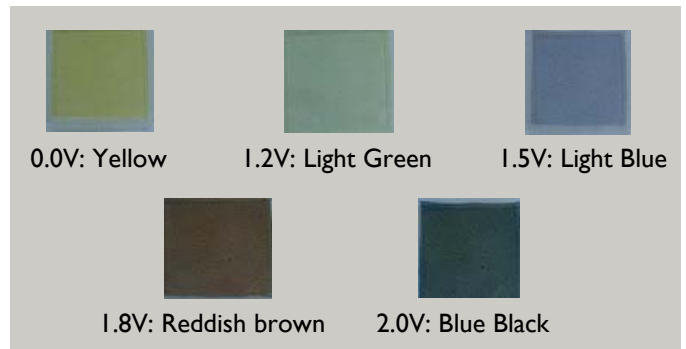
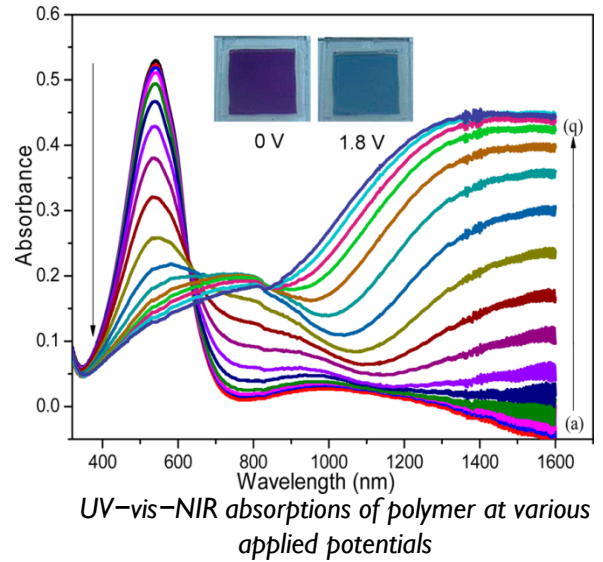
References:

- Neo WT. et al. *J. Mater. Chem. C*, **2015**,3, 5589-5597.
- Ye Q. et al. *Org. Lett.* **2014**, 16, 6386-6389.

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Technical Data



Colours of the EC polymer samples change when varying potentials are applied.

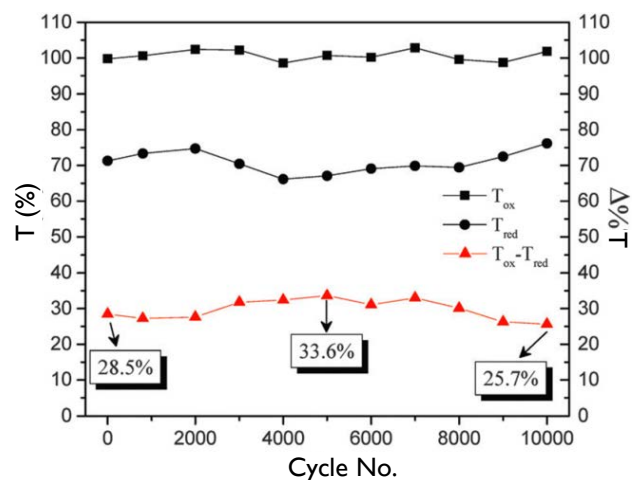


Illustration shows the long-term ambient stability testing of EC-polymer device.