

Greyscale and Paper Electrochromic Polymer Displays by UV Patterning

Robert Brooke^{1,2}, Jesper Edberg^{1,2}, Xavier Crispin¹, Magnus Berggren¹, Isak Engquist¹, Magnus P. Jonsson^{1*}

¹ Linköping University, Department of Science and Technology, Laboratory of Organic Electronics, SE-601 74 Norrköping, Sweden

² RISE Acreo, ICT Department, Printed Electronics, Research Institutes of Sweden, Acreo, 601 17, Norrköping Sweden

* Correspondence: magnus.jonsson@liu.se

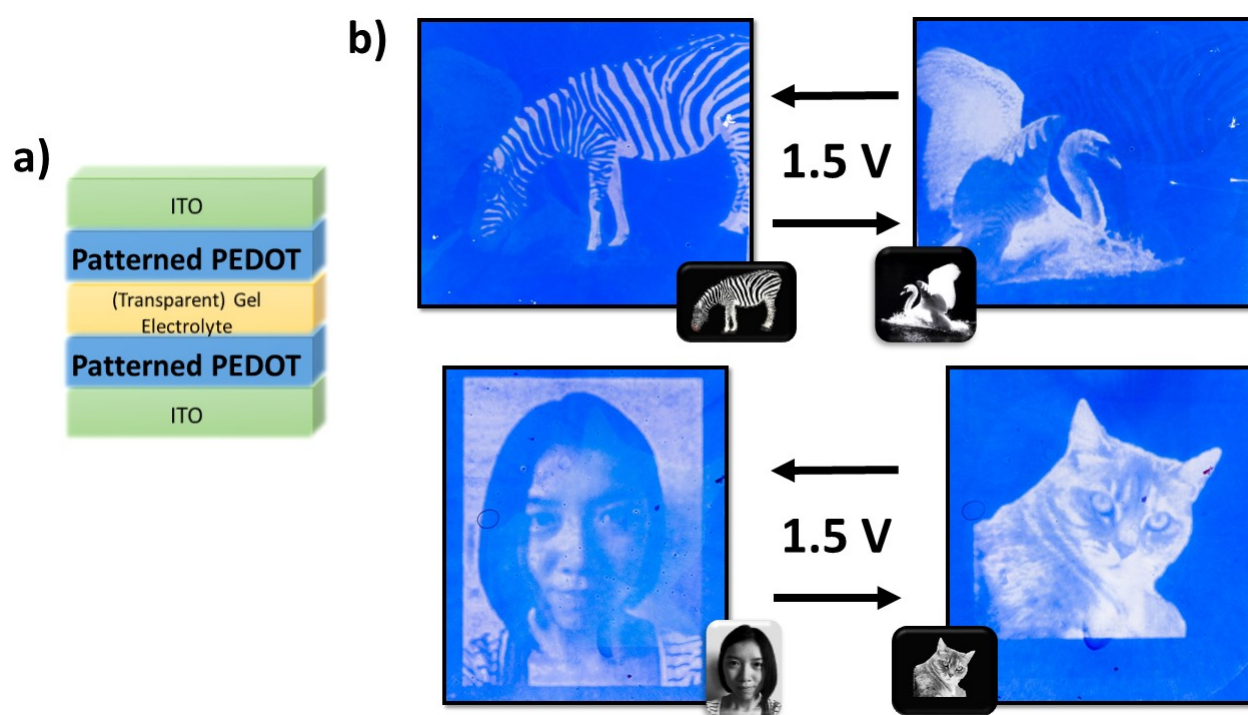


Figure S1. Electrochromic device architecture and further examples of complex patterns within electrochromic devices.

Table SII. Complete L*a*b* color space values of the as prepared, oxidized and reduced pristine PEDOT and UV-light treated PEDOT with the oxidant concentration varied.

| Sample | Redox state | L* | a* | b* |
|-------------------------------|-------------|-------|-------|---------|
| Pristine PEDOT | | | | |
| 6 wt% | As prepared | 71.15 | -3.72 | -11.62 |
| 6 wt% | Oxidized | 71.86 | -3.94 | -9.34 |
| 6 wt% | Reduced | 59.94 | 0.46 | -14.91 |
| 12 wt% | As prepared | 49.41 | -6.07 | -28.09 |
| 12 wt% | Oxidized | 52.9 | -4.94 | -27.24 |
| 12 wt% | Reduced | 28.9 | 16.68 | -53.53 |
| 21 wt% | As prepared | 23.7 | -4.97 | -36.72 |
| 21 wt% | Oxidized | 27.0 | -1.69 | -38.02 |
| 21 wt% | Reduced | 3.09 | 31.12 | -38.02 |
| UV-light treated PEDOT | | | | |
| 6 wt% | As prepared | 68.72 | -0.04 | -0.86 |
| 6 wt% | Oxidized | 68.49 | 0.26 | 0.09 |
| 6 wt% | Reduced | 68.45 | 0.38 | -0.63 |
| 12 wt% | As prepared | 44.16 | -1.43 | -6.32 |
| 12 wt% | Oxidized | 46.93 | -3.22 | -2.17 |
| 12 wt% | Reduced | 35.52 | 4.49 | -8.25 |
| 21 wt% | As prepared | 15.29 | -4.06 | -12a.74 |
| 21 wt% | Oxidized | 10.3 | 5.32 | -5.77 |
| 21 wt% | Reduced | 8.45 | 7.15 | -7.66 |