Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting information for Solid-state electrochromic devices: relationship of contrast as a function of device preparation parameters

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Photopic contrast as a function of effective polymer layer thickness for PBPMOM-ProDOT using the *in situ* method:

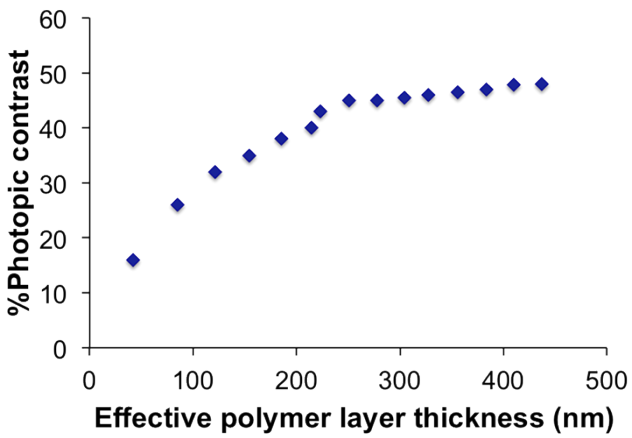
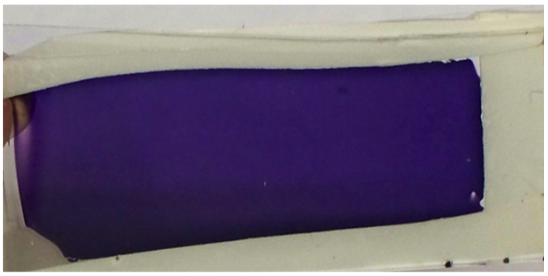
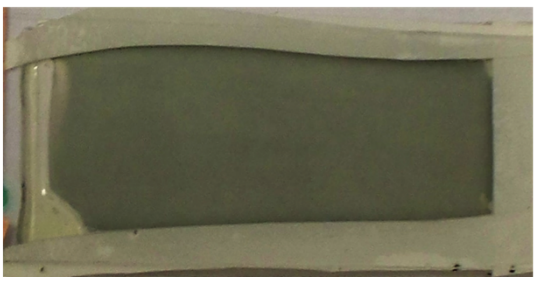


Fig. S1 Photopic contrast as a function of effective polymer layer thickness for 2.5 wt% BPMOM-ProDOT using the *in situ* method.

a)



b)



. **Fig. S2** a) Colored state and b) Bleached state for an electrochromic window with a 4cm^2 active area using the *in situ* procedure with 2.5 wt% ProDOT-Me_2 in the electrolyte gel.

Diffusion study: Diffusion coefficients of different concentrations of EDOT, ProDOT-Me_2, and BPMOM-ProDOT were performed following our previous work.[1]

Diffusion coefficient of different concentrations of ProDOT-Me_2 in solid gel electrolyte:

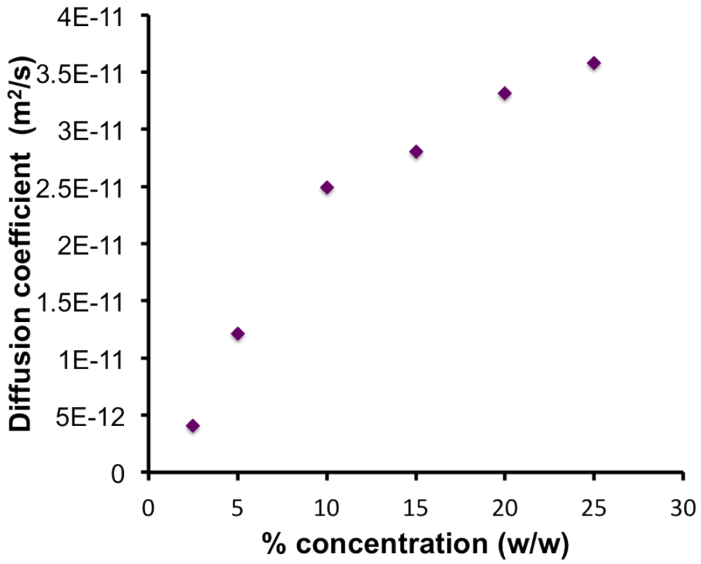


Fig. S3: Diffusion coefficient of ProDOT-Me_2 at different concentrations (w/w) inside the gel matrix.

Reference:

1. F. A. Alhashmi, M. T. Otley, Y. Ding, G. A. Sotzing, *Adv Mater*, 2013, **25**, 625