

Supplementary Information

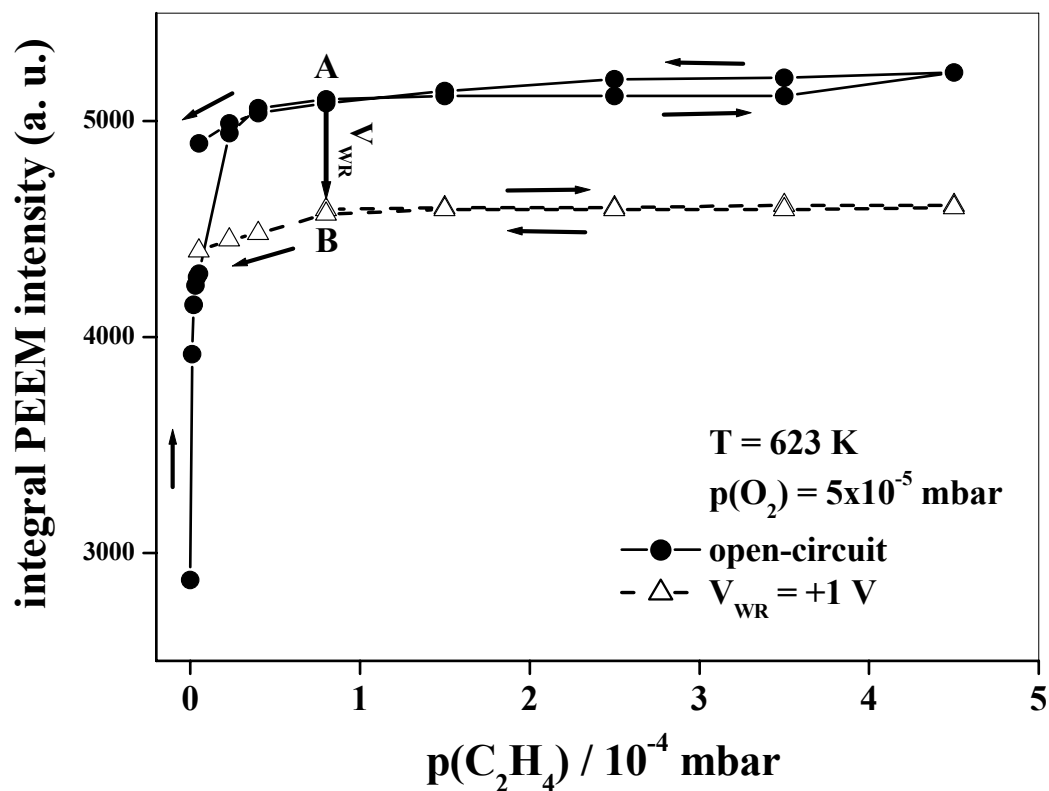


Figure S1 Variation of the integral PEEM intensity corresponding to the rate curves shown in Fig. 2a. The digitized PEEM intensity was integrated over the whole PEEM image. Full lines represent open-circuit conditions, the dashed lines the PEEM intensity during application of $V_{\text{WR}} = 1 \text{ V}$. The PEEM data demonstrate that the magnitude of the shift during application of a positive potential remains nearly constant over the whole range over which $p(\text{C}_2\text{H}_4)$ is varied. Reaction conditions: $T = 623 \text{ K}$, $p(\text{O}_2) = 5 \times 10^{-5} \text{ mbar}$, waiting period for each data point: 2 min. Thickness of Pt layer = 600 nm.