

## Polyviologen synthesis by self-assembly assisted grafting

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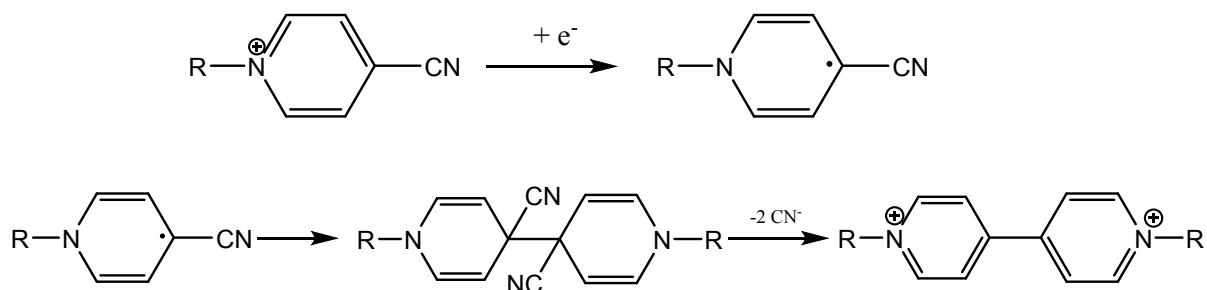
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Scheme S1. Electrochemical synthesis of viologen unit by coupling two cyanopyridine rings.

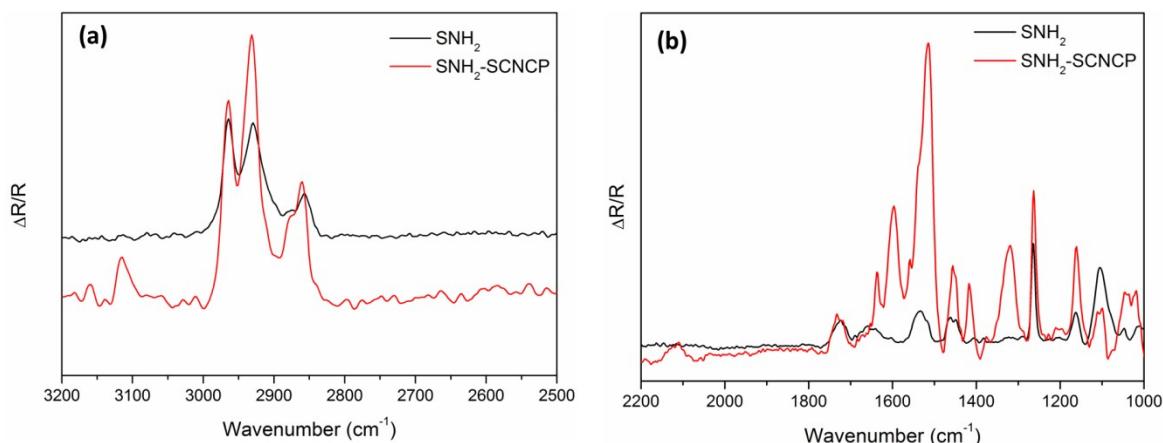


Figure S1. PM-IRRAS spectra of SAMs of  $SNH_2$  and  $SNH_2$ -SCNCP on gold in wavenumber regions (a) 3200 to 2500 cm<sup>-1</sup> and (b) 2200 to 1000 cm<sup>-1</sup>.

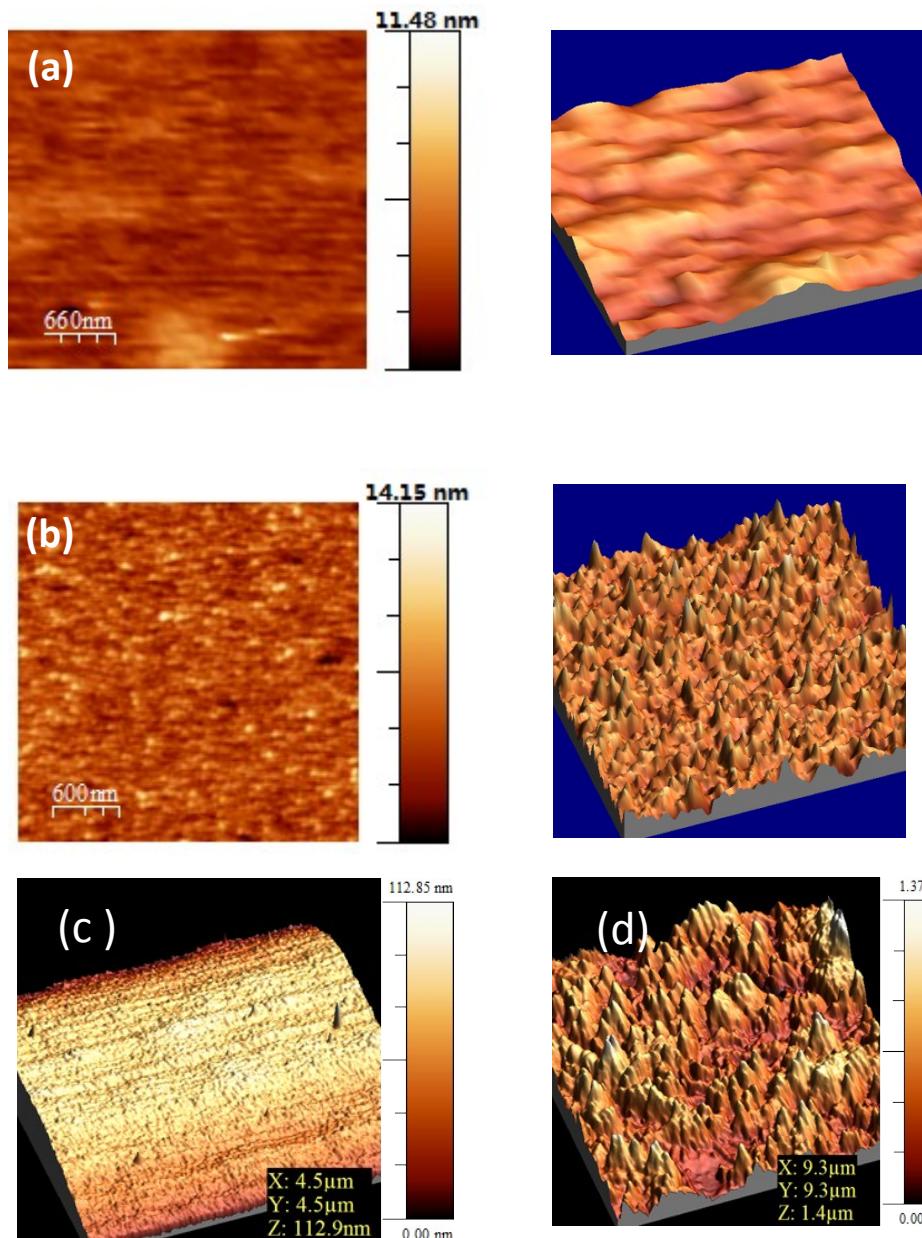


Figure S2. AFM images from (a) plasma cleaned gold covered silicon plate and (b) gold covered silicon plate immersed into 10 mM aqueous cysteamine solution for 24 h. (c) Au-SCNCP (d) Au-SCNCP –polyLCP.