

## Supporting Information

### Label-free Electrochemiluminescence Detection of Specific-Sequence DNA Based on DNA probes Capped ion Nanochannels

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Tab. S1 DNA probe and target DNA sequence

Name	sequence
P	5'- GTTCATGCCGCCCAT -3'
T1	5'-ATGGGCGGCATGAAC-3'
T2	5'-ATG□GCGGCATGAAC-3'
T3	5'-CCCATTGCAGATCCG-3'□

Tab. S2 Selection of chitosan volume

chitosan volume (μL, wt: 0.5%)	0	50	100	300	500	1000
ECL signal to noise rate	1.2	1.4	1.7	2.0	1.2	1.1

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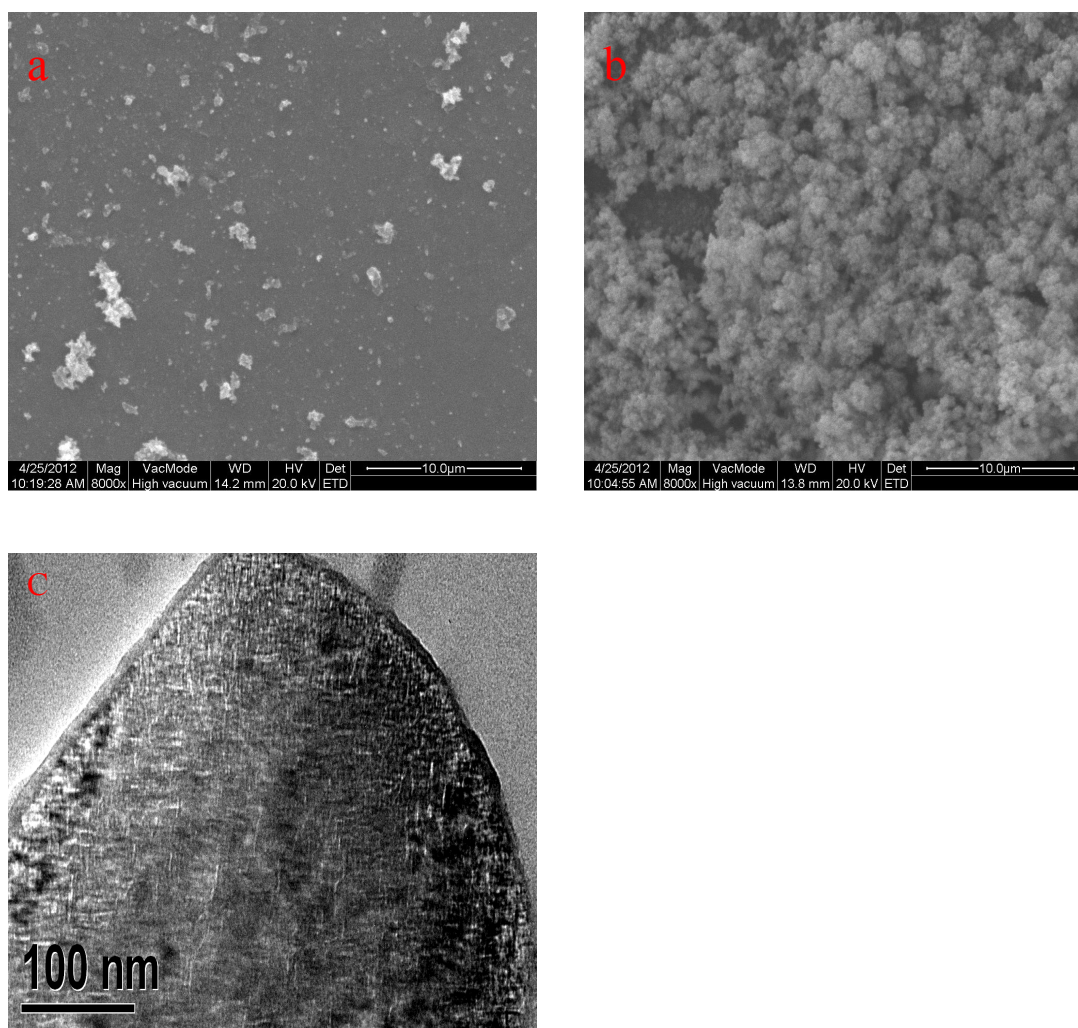


Fig.S1 SEM and TEM of Silica-  $\text{Ru}(\text{bpy})_3^{2+}$  film Electrodeposited on a Graphite electrode  
(a. SEM in the absence of Chitosan; b. SEM in the presence of Chitosan;  
c. TEM in the presence of Chitosan;)

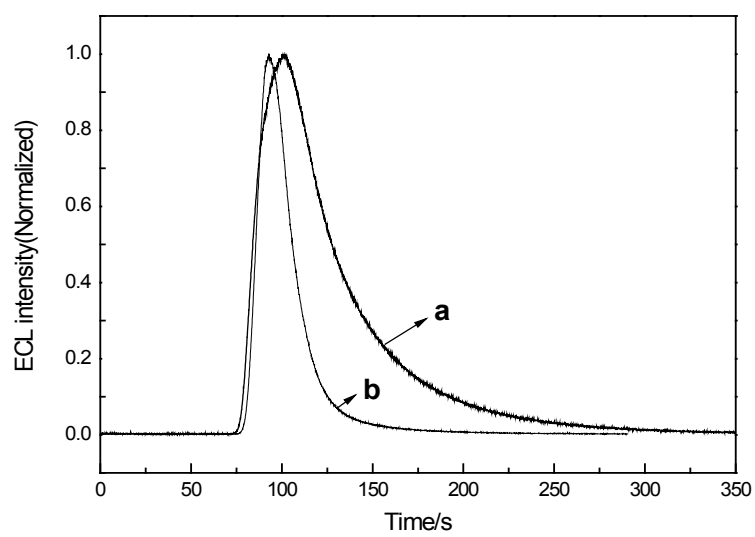


Fig. S2 ECL kinetic process of two different electrodes (a. not composited Chitosan;  
b. composited Chitosan) in  $1.0 \times 10^{-6} \text{ mol} \cdot \text{L}^{-1}$  oxalate solution