Supporting Information For

A novel Electrochemical method based on screen-printed electrode and magnetic beads for trinucleotide repeat sequence d(CAG)$_n$

Yalan Liu (b), Jiao Li (b), Gang Chang (c), Ruizhi Zhu (a) *, Hanping He (b)*, Xiuhua Zhang (b), Shengfu Wang (b)

a, Key Laboratory of Tobacco Chemistry of Yunnan Province, R&D Center of China Tobacco Yunnan Industrial Co., Ltd., China

b, Hubei Collaborative Innovation Center for Advanced Organic Chemical Materials; Ministry of Education Key Laboratory for the Synthesis and Application of Organic Functional Molecules, Hubei University, Youyi Road 368, Wuchang, Wuhan, Hubei 430062, (PR China).

C, School of Materials Science and Engineering, Hubei University, Youyi Road 368, Wuchang, Wuhan, Hubei 430062, (PR China).

* Corresponding author, Tel: +86-15827220426; fax: +86-027-88663043.

E-mail addresses: hehanping@hubu.edu.cn., 190793945@qq.com

samples	Added $(CAG)_{15}$/nM	Founded $(CAG)_{15}$/nM	RSD%	Recovery%
1	1	1.11	6.4	111
2	10	9.79	5.8	97.9
3	100	82.05	2.9	82.1

Table.S1 Detection of different concentrations $(CAG)_{15}$ added in human serum (n = 3)

samples	Added $(CAG)_n$	Founded $(CAG)_n$	RSD%	Recovery%
1	15	15.98	6.4	107
2	25	23.13	7.2	92.5
3	35	36.31	4.6	104

Table.S2 Detection different repeat number of CAG trinucleotide repeats(10 nM) added in human serum (n = 3)

Name	Sequences (5'-3')
NH_2-DNA	NH_2-$(CH_2)_6$-TTTTTTTTTTAGCGATAGCGTGTG
Fc-DNA	CTGCTGCTGCTGCTGTTTTTT-ferrocene
T-DNA	$(CAGCAGCAGCAGCAG)_3$GCTATCGCT
$(CAG)_{10}$	$(CAGCAGCAGCAGCAG)_2$GCTATCGCT
$(CAG)_{20}$	$(CAGCAGCAGCAGCAG)_4$GCTATCGCT
$(CAG)_{25}$	$(CAGCAGCAGCAGCAG)_5$GCTATCGCT
$(CAG)_{30}$	$(CAGCAGCAGCAGCAG)_6$GCTATCGCT
$(CAG)_{35}$	$(CAGCAGCAGCAGCAG)_7$GCTATCGCT
$(CCG)_{15}$	$(CCGCCGCCGCCGCCG)_3$GCTATCGCT
$(CTG)_{15}$	$(CTGCTGCTGCTGCTG)_3$GCTATCGCT
$(ATT)_{15}$:	$(ATTATTATTATTATT)_3$GCTATCGCT
$(TGG)_{15}$	$(TGGTGGTGGTGGTGG)_3$GCTATCGCT
$(GAA)_{15}$	$(GAAGAAGAAGAAGAA)_3$GCTATCGCT
$(CGG)_{15}$	$(CGGCGGCGGCGGCGG)_3$GCTATCGCT

Table.S3 The DNA sequences in the experiment.

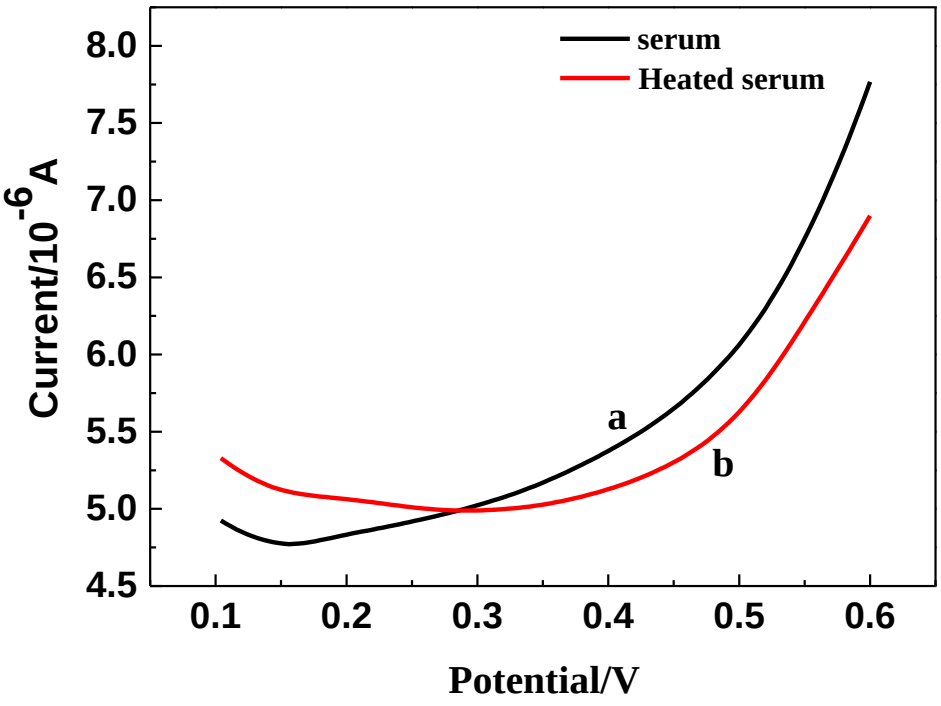

Figure.S1 (a) SWV curve of the electrode 100-fold-diluted serum; (b) SWV curve of the electrode 100-fold-diluted serum was heated at 90 ºC for 5 min