

SUPPLEMENTARY MATERIALS

Pronina, V.V., Agafonova, L.E., Masamrek, R.A., Kuzikov, A.V., Shumyantseva, V.V. (2022) Interaction of the anticancer drug abiraterone with dsDNA, *Biomedical Chemistry: Research and Methods*, 5(2), e00174. DOI: 10.18097/BMCRM00174

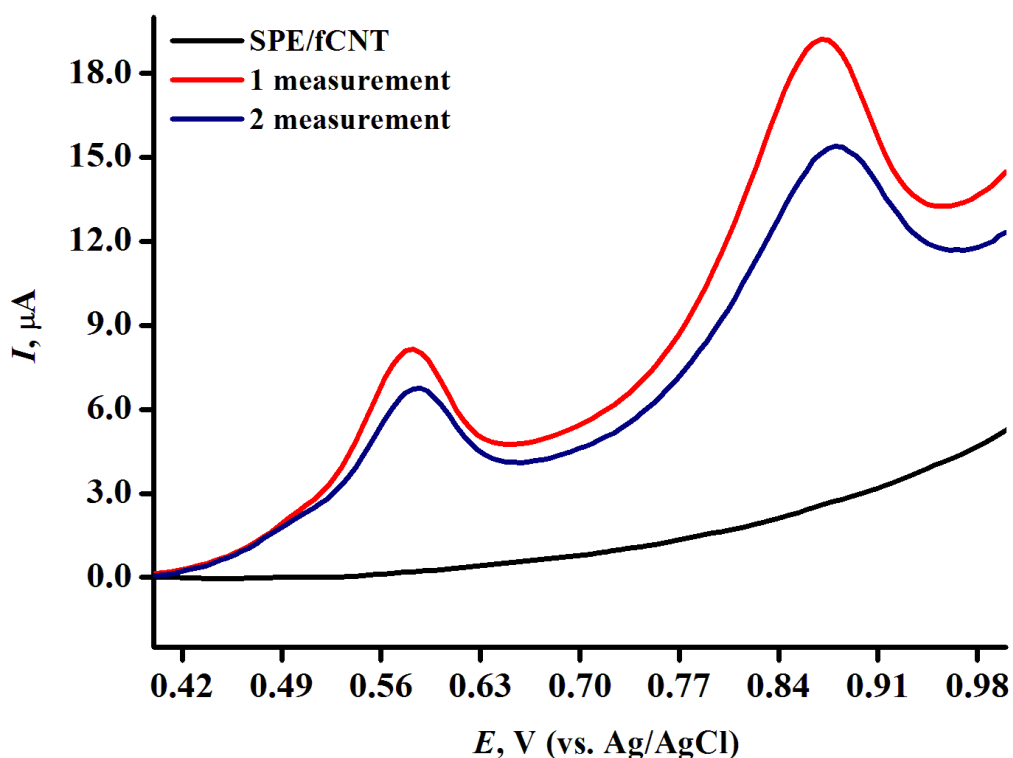


Figure S1. DVPs SPE/fCNT. 60 μ l of the 1 mg/ml dsDNA solution was applied to the surface of the working electrode: (-) 1 measurement, (-) 2 measurement, (-) SPE/fCNT. Accumulation potential of +0.4 V, time accumulation of 15 min, pulse amplitude of 0.025 V, step capacity of 0.005 V, interval time of 50 ms, modulation amplitude of 0.05 V. All potentials were referred to the Ag/AgCl reference electrode.



Figure S2. Agarose 1% gel with analyte after electrophoresis to detect the presence of dsDNA fragmentation after interaction with abiraterone:

- 1 - dsDNA*Abiraterone acetate complex, c abiraterone acetate 0 μ M, c dsDNA 1 mg/ml;
- 2 - dsDNA*Abiraterone acetate complex, c abiraterone acetate 5 μ M, c dsDNA 1 mg/ml;
- 3 - dsDNA*Abiraterone acetate complex, c abiraterone acetate 50 μ M, c dsDNA 1 mg/ml;
- 4 - plasmid pBR322*Abiraterone acetate complex, c abiraterone acetate 50 μ M;
- 5 – plasmid pBR322;
- 6 – set of proteins with a specific molecular weight 1;
- 7 - set of proteins with a specific molecular weight 2.

Table S1. The comparison of analytical characteristics of modified electrodes for quantitative analysis of dsDNA.

Modified electrodes	Electrochemical method	Concentration range, μ M	LOD, μ M	Links
SPE/ polyionic liquid / MWCNT	DVP, CV	25÷2500 (G) 2.5 ÷ 250 (A)	25 (G) 2.5 (A)	[1]
SPE /PnBMA ₄₀ -b-PDMAEMA ₁₂₀ / MWCNT	DVP	25÷7500 (G) 5÷1000 (A)	25 (G) 5 (A)	[2]
SPE / ethanol/fCNT	DVP	10÷15000 (G) 25 ÷ 15000 (A)	2.85 (G) 8.5 (A)	This article
Glassy carbon electrode / MWCNT-COO/poly(3-(3-pyridyl)acrylic acid) / Ag nanoparticles	DVP	9÷9000	3.2	[3]
Glassy carbon electrode / MWCNT /Au nanoparticles	DVP	90÷4800	42	[4]

REFERENCES

1. Sigolaeva, L.V., Bulko, T.V., Kozin, M.S., Zhang, W., Köhler, M., Romanenko, I., Yuan, J., Schacher F.H., Pergushov D.V., Shumyantseva V.V. (2019) Long-term stable poly(ionic liquid)/MWCNTs inks enable enhanced surface modification for electrooxidative detection and quantification of dsDNA. *Polymer*, **168**, 95–103 DOI: 10.1016/j.polymer.2019.02.005
2. Sigolaeva, L.V., Bulko, T.V., Konyakhina, A. Yu., Kuzikov, A.V., Masamrekh, R.A., Max, J.B., Köhler, M., Schacher, F.H., Pergushov, D.V., Shumyantseva, V.V. (2020) Rational Design of Amphiphilic Diblock Copolymer/MWCNT Surface Modifiers and Their Application for Direct Electrochemical Sensing of DNA. *Polymers*, **12**, 1514 DOI: 10.3390/polym12071514
3. Zhang, Y.Z., Zhang, K.Y., Ma, H.Y. (2009) Electrochemical DNA biosensor based on silver nanoparticles. and poly(3-(3-pyridyl) acrylic acid)/carbon nanotubes modified electrode. *Anal. Biochem.*, **387**, 13–19 DOI: 10.1016/j.ab.2008.10.043
4. He, P.G., Dai, L.M. (2004) Aligned carbon nanotube-DNA electrochemical Sensors. *Chem. Commun.*, **3**, 348–349 DOI: 10.5772/20594