

Charakteristika predkladaného výstupu tvorivej činnosti / Characteristics of the submitted research/ artistic/other output

Tlačivo VTC slúži na predkladanie výstupov tvorivej činnosti podľa metodiky hodnotenia tvorivých činností (časť V. Metodiky na vyhodnocovanie štandardov) / The form is used to submit the research/artistic/other outputs according to the evaluation methodology of research/artistic/other activities (part V. The Methodology for Standards Evaluation).

ID konania/ID of the procedure: ¹	
Kód VTC/Code of the research/artistic/other output (RAOO): ¹	

OCA1. Priezvisko hodnotenej osoby / Surname awarded to the assessed person ²		Mikuš
OCA2. Meno hodnotenej osoby / Name awarded to the assessed person ²		Peter
OCA3. Tituly hodnotenej osoby / Degrees awarded to the assessed person ²		prof., RNDr., PhD.
OCA4. Hyperlink na záznam osoby v Registri zamestnancov vysokých škôl / Hyperlink to the entry of the person in the Register of university staff ³		Form-submit&name=Peter&surname=Miku%C5%A1&sort=s
OCA5. Oblasť posudzovania / Area of assessment ⁴		Doktorandský študijný program Farmaceutická chémia/PhD. Study Programme Pharmaceutical Chemistry
OCA6. Kategória výstupu tvorivej činnosti / Category of the research/artistic/other output <i>Výber zo 6 možností (pozri Vysvetlivky k položke OCA6) / Choice from 6 options (see Explanations for OCA6).</i>		vedecký výstup / scientific output
OCA7. Rok vydania výstupu tvorivej činnosti / Year of publication of the research/artistic/other output		2019
OCA8. ID záznamu v CREPČ alebo CREUČ (ak je) / ID of the record in the Central Registry of Publication Activity (CRPA) or the Central Registry of Artistic Activity (CRAA) ⁵		122148
OCA9. Hyperlink na záznam v CREPČ alebo CREUČ / Hyperlink to the record in CRPA or CRAA ⁶		https://app.crepce.sk/?m=detailbibliografickejrecepty&sid=72C84F3CCF0D479C098A6D4DA1&seo=CREP%C5%A1&st1=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st2=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st3=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st4=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st5=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st6=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st7=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st8=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st9=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st10=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st11=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st12=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st13=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st14=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st15=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st16=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st17=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st18=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st19=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st20=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st21=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st22=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st23=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st24=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st25=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st26=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st27=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st28=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st29=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st30=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st31=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st32=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st33=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st34=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st35=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st36=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st37=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st38=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st39=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st40=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st41=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st42=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st43=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st44=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st45=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st46=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st47=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st48=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st49=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st50=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st51=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st52=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st53=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st54=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st55=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st56=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st57=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st58=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st59=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st60=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st61=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st62=Novel+electrochemical+strategy+for+determination+of+6-mercapto-2-naphthol&st63=Nov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Ak výstup nie je registrovaný v CREPČ alebo CREUČ / Characteristics of the output that is not registered in CRPA or CRAA	OCA10. Hyperlink na záznam v inom verejne prístupnom registri, katalógu výstupov tvorivých činností / Hyperlink to the record in another publicly accessible register, catalogue of research/artistic/other outputs ⁷	https://www.sciencedirect.com/science/article/pii/S1572665719302280
	OCA11. Charakteristika výstupu vo formáte bibliografického záznamu CREPČ alebo CREUČ, ak výstup nie je vo verejne prístupnom registri alebo katalógu výstupov / Characteristics of the output in the format of the CRPA or the CRAA bibliographic record, if the output is not available in a publicly accessible register or catalogue of outputs	
	OCA12. Typ výstupu (ak nie je výstup registrovaný v CREPČ alebo CREUČ) / Type of the output (if the output is not registered in CRPA or CRAA) <i>Výber zo 67 možností (pozri Vysvetlivky k položke OCA12) / Choice from 67 options (see Explanations for OCA12).</i>	
	OCA13. Hyperlink na stránku, na ktorej je výstup sprístupnený (úplný text, iná dokumentácia a podobne) / Hyperlink to the webpage where the output is available (full text, other documentation, etc.)	https://www.sciencedirect.com/science/article/pii/S1572665719302280
	OCA14. Charakteristika autorského vkladu / Characteristics of the author's contribution	Stanovenie hypotézy a cieľov, konceptualizácia a garancia riešenia, návrh metód výskumu, získanie a interpretácia výsledkov, príprava rukopisu, finančné prostriedky / Determination of hypothesis and aims, conceptualization and financing of research, determination of methods, preparation of manuscript, financial resources

Charakteristika výstupu, kto	OCA15. Anotácia výstupu s kontextovými informáciami týkajúcimi sa opisu tvorivého procesu a obsahu tvorivej činnosti a pod. / Annotation of the output with contextual information concerning the description of creative process and the content of the research/artistic/other activity, etc. ⁸ <i>Rozsah do 200 slov v slovenskom jazyku / Range up to 200 words in Slovak</i> <i>Rozsah do 200 slov v anglickom jazyku / Range up to 200 words in English</i>	
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OCA16. Anotácia výstupu v anglickom jazyku / Annotation of the output in English⁹ <i>Rozsah do 200 slov / Range up to 200 words</i>	A novel electrochemical approach for 6-mercaptopurine (6-MP) determination employing an anodically pretreated boron-doped diamond electrode (AP-BDDE) is presented herein. The electrode reaction of 6-MP on AP-BDDE was represented by three well distinguished oxidation peaks at +0.25V, +1.19V and +1.63V (P1-P3) and one reduction peak at +0.11V (vs. Ag/AgCl/3M KCl). Detailed study revealed a mixed adsorption and diffusion-controlled reaction mechanism of the analyte. A possibility to analyze three baseline separated peaks provided valuable selectivity enhancement of the method. The overall best analytical performance was achieved via differential pulse voltammetry (DPV) for the third oxidation peak (P3), which offered the highest sensitivity (30.4nA/uM) and the widest linear concentration range (1-450uM, R2=0.997). Submicromolar detection limit (0.51uM) and intra-day and inter-day repeatability (RSD=0.38 and 1.91%, respectively) underlined favorable performance of the developed method. The applicability of the proposed method was illustrated by the analysis of pharmaceutical dosages containing 6-MP and spiked human urine, with an excellent average recovery of 101.8% and 95.9%, respectively. Clearly, the combination of an innovative electrode material (BDD) and sensitive voltammetric technique (DPV) established a simple and highly reliable alternative to chemically modified electrodes that might be advantageous in routine pharmaceutical and clinical analysis.
OCA17. Zoznam najviac 5 najvýznamnejších ohlasov na výstup / List of maximum 5 most significant citations corresponding to the output <i>Rozsah do 200 slov / Range up to 200 words</i>	[o1] Selcuk, Ozge; Demir, Yeliz; Erkmen, Cem; Yildirim, Sercan; Uslu, Bengi: Analytical Methods for Determination of Antiviral Drugs in Different Matrices: Recent Advances and Trends, CRITICAL REVIEWS IN ANALYTICAL CHEMISTRY, 2021, DOI 10.1080/10408347.2021.1908111; [o1] Stankovic, Dalibor M.; Milanovic, Zorana; Svorc, Lubomir; Stankovic, Vesna; Jankovic, Drina; Mirkovic, Marija; Duric, Sanja Vranjes: Screen printed diamond electrode as efficient "point-of-care" platform for submicromolar determination of cytostatic drug in biological fluids and pharmaceutical product, DIAMOND AND RELATED MATERIALS, Volume 113, Article Number 108277, DOI 10.1016/j.diamond.2021.108277; [o1] Yence, Merve; Cetinkaya, Ahmet; Ozelikay, Goksu; Kaya, S. Irem; Ozkan, Sibel A.: Boron-Doped Diamond Electrodes: Recent Developments and Advances in View of Electrochemical Drug Sensors, CRITICAL REVIEWS IN ANALYTICAL CHEMISTRY, 2020, DOI 10.1080/10408347.2020.1863769; [o1] Pinar, Pinar Talay; Senturk, Zuhre: Electrochemical and analytical performance of cathodically pretreated boron-doped diamond electrode for the determination of oxazolidinone antibiotic linezolid in cationic surfactant media, JOURNAL OF ELECTROANALYTICAL CHEMISTRY, Volume 878, Article Number 114681, 2020, DOI 10.1016/j.jelechem.2020.114681; [o1] Pinar, Pinar Talay; Allahverdiyeva, Shabnam; Yardim, Yavuz; Senturk, Zuhre: Voltammetric sensing of dinitrophenolic herbicide dinoterb on cathodically pretreated boron-doped diamond electrode in the presence of cationic surfactant, MICROCHEMICAL JOURNAL, Volume 155, Article Number 104772, 2020, DOI 10.1016/j.microc.2020.104772
OCA18. Charakteristika dopadu výstupu na spoločensko-hospodársku prax / Characteristics of the output's impact on socio-economic practice <i>Rozsah do 200 slov v slovenskom jazyku / Range up to 200 words in Slovak</i> <i>Rozsah do 200 slov v anglickom jazyku / Range up to 200 words in English</i>	Pokročilý elektrochemický prístup so senzorom na báze bórom dopovaného diamantu pre jednoduchú, rýchlu, citlivú a ekonomicky výhodnú analýzu imunosupresív na báze tiopurínov. Demonstrujeme možnosti nového spôsobu analýzy stopových množstiev tiopurínových liečiv v liekových formách aj biologickom materiáli pre účely klinického výskumu a praxe, s využitím špecifického elektrochemického profilu na zvýšenie selektivity stanovenia. / Advanced electrochemical approach with boron-doped diamond sensor for simple, fast, sensitive, and economically favorable analysis of thiopurine-based immunosuppressants. We demonstrate the possibilities of a new method of analysis of trace amounts of thiopurine drugs in dosage forms and biological material for the purposes of clinical research and practice, using a specific electrochemical profile to increase the selectivity of the assay.
OCA19. Charakteristika dopadu výstupu a súvisiacich aktivít na vzdelávací proces / Characteristics of the output and related activities' impact on the educational process <i>Rozsah do 200 slov v slovenskom jazyku / Range up to 200 words in Slovak</i> <i>Rozsah do 200 slov v anglickom jazyku / Range up to 200 words in English</i>	Teoretické aj experimentálne aspekty navrhnutého analytického prístupu spolu so získanými dátami/výsledkami sú prezentované v rámci prednášok z predmetov analytická chémia, nové smery v analytickej chémii, analýza látok v biologických systémoch a budú zaradené tiež do pripravovaného modulu monitorovanie hladín liečiv vo farmaceutickej praxi. Tieto výstupy dopĺňajú edukačnú bázu o nové poznatky v oblasti analytickej metodológie ale aj farmaceutickej chémie. /