

## 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).

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

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| OCA1. Priezvisko hodnotenej osoby / Surname awarded to the assessed person <sup>2</sup>                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                    | Pisárčik                                                                                                                                                                                                  |
| OCA2. Meno hodnotenej osoby / Name awarded to the assessed person <sup>2</sup>                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                    | Martin                                                                                                                                                                                                    |
| OCA3. Tituly hodnotenej osoby / Degrees awarded to the assessed person <sup>2</sup>                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                    | doc. Ing. CSc.                                                                                                                                                                                            |
| OCA4. Hyperlink na záznam osoby v Registri zamestnancov vysokých škôl / Hyperlink to the entry of the person in the Register of university staff <sup>3</sup>                                                    |                                                                                                                                                                                                                                                                                                                                                    | <a href="https://www.portalvs.sk/regzam/detail/3764">https://www.portalvs.sk/regzam/detail/3764</a>                                                                                                       |
| OCA5. Oblasť posudzovania / Area of assessment <sup>4</sup>                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                    | Magisterský študijný program Manažment a zdravotnícke technológie / Master Degree Study Programme Management and Health Technology.                                                                       |
| OCA6. Kategória výstupu tvorivej činnosti / Category of the research/artistic/other output<br><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) <sup>5</sup>                          |                                                                                                                                                                                                                                                                                                                                                    | AKK-UKOAF-5214 A+                                                                                                                                                                                         |
| OCA9. Hyperlink na záznam v CREPČ alebo CREUČ / Hyperlink to the record in CRPA or CRAA <sup>6</sup>                                                                                                             |                                                                                                                                                                                                                                                                                                                                                    | <a href="https://app.crepc.sk/?fn=detailBiblioFormChildUFOMB&amp;">https://app.crepc.sk/?fn=detailBiblioFormChildUFOMB&amp;</a>                                                                           |
| 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 <sup>7</sup>                                                                                                                   |                                                                                                                                                                                                           |
|                                                                                                                                                                                                                  | 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 | N/A                                                                                                                                                                                                       |
|                                                                                                                                                                                                                  | 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)<br><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.)                                                                                                                                             | <a href="https://www.mdpi.com/1420-3049/24/8/1481">https://www.mdpi.com/1420-3049/24/8/1481</a>                                                                                                           |
|                                                                                                                                                                                                                  | OCA14. Charakteristika autorského vkladu / Characteristics of the author's contribution                                                                                                                                                                                                                                                            | Stanovenie hypotézy a cieľov, návrh metód výskumu, získanie výsledkov, príprava rukopisu / Determination of hypothesis and aims, design of research methods, obtaining results, preparation of manuscript |

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| <p>Charakteristika výstupu, ktorý nie je registrovaný v CREPČ</p> | <p>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. <sup>8</sup></p> <p><i>Rozsah do 200 slov v slovenskom jazyku / Range up to 200 words in Slovak</i></p> <p><i>Rozsah do 200 slov v anglickom jazyku / Range up to 200 words in English</i></p> | <p>Hydrodynamický priemer a agregáčn   číslo micel   bisam  niiov  ch kati  nov  ch gemini povrchovo akt  vn  ch l  tok s variabiln  m polymetyl  nov  m spacerom a dvoma dodecylov  mi re  azcami boli   tudov  n   pomocou techn  k dynamick  ho rozptylu svetla a   asovo rozli  en  ch techn  k zh   ania fluorescencie. Pre micely gemini s most  kom z 4, 6, 8, 10 a 12 CH2 skup  n boli n  jden   priemery micel medzi 2 a 3,5 nm. Micely gemini surfaktantu s kr  tkym etyl  nov  m spacerom vykazovali n  rast veľkosti a   do 13 nm pri maxim  lnej sk  manej koncentr  cii. Zistilo sa,   e agreg   n  e    slo micel stanoven     asovo rozli  en  m zh   an  m fluorescencie je v rozsahu 14 – 25 pre d  ĺky most  ka od 6 do 12 skup  n CH2 s iba miernym n  rastom s koncentr  ciou povrchovo akt  vnej l  tky. Pre micely gemini surfaktantov s kr  tkym etyl  nov  m most  kom bolo pozorované zvy  enie agreg   n  e    sla a   na 50 pri maxim  lnej koncentr  cii,   o zodpoved   zisten  mu zvy  eniu veľkosti micel pri rovnakej koncentr  cii. Zistenia podporuj   predpoklad micel  rneho rastu gemini surfaktantu s kr  tkym etyl  nov  m most  kom. Zistila sa dobr   zhoda sk  man  ch veli  n s publikovan  mi   dajmi z experimentov rozptylu neutr  n  v.</p> |
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| <p>OCA16. Anotácia výstupu v anglickom jazyku / Annotation of the output in English <sup>9</sup></p> <p><i>Rozsah do 200 slov / Range up to 200 words</i></p>                                                                                                                                                                                                | <p>Self-assembling properties of cationic gemini surfactants with biodegradable amide or ester groups in the spacer were investigated utilising the time-resolved fluorescence quenching, dynamic light scattering and zeta potential measurements. A correlation between aggregation parameters such as micelle aggregation number, micelle size and zeta potential with the structure of gemini molecules was made. For the medium spacer lengths of gemini molecules, micelle aggregation number does not change much with the surfactant concentration. When the spacer is extended, a stronger aggregation tendency is observed for gemini surfactant molecules with two ester groups in the spacer and the aggregation number significantly increases. The assumption of stronger aggregation of ester-based gemini molecules at larger spacer number values is also documented by the measurements of the size and zeta potential of ester-based micelles. The explanation of the difference in aggregation ability of amide-based and ester-based gemini molecules is related to the structural features of gemini molecules, notably to the larger flexibility and denser arrangement of ester-based gemini molecules in a micelle. To support this assumption, optimised 3D models of the studied gemini molecules were constructed. Correspondingly, the calculations show smaller size and interfacial area for ester-based gemini conformers.</p> |
| <p>OCA17. Zoznam najviac 5 najvýznamnejších ohlasov na výstup / List of maximum 5 most significant citations corresponding to the output</p> <p><i>Rozsah do 200 slov / Range up to 200 words</i></p>                                                                                                                                                        | <p>Mir, A.W., Shaheen, A., Wani, M.R., Arif, R.<br/>Synthesis, micellization and cytotoxic studies of ester-functionalized imidazolium gemini surfactants<br/>(2022) Journal of Surfactants and Detergents, 25 (3), pp. 321-329. Cited 2 times.</p> <p>Qin, Z., Zhang, J., Zhou, Y., Yang, X.<br/>Study on the properties of sodium lauroyl lactate anionic surfactant and cationic surfactant in a mixed system<br/>(2022) Journal of Molecular Liquids, 352, art. no. 118544, . Cited 9 times.</p> <p>Guerrero-Hernández, L., Meléndez-Ortiz, H.I., Cortez-Mazatan, G.Y., Vaillant-Sánchez, S., Peralta-Rodríguez, R.D.<br/>Gemini and Bicephalous Surfactants: A Review on Their Synthesis, Micelle Formation, and Uses<br/>(2022) International Journal of Molecular Sciences, 23 (3), art. no. 1798, . Cited 9 times.</p> <p>Ba-Salem, A.O., Duhamel, J.<br/>Synthesis and Characterization of a Pyrene-Labeled Gemini Surfactant Sensitive to the Polarity of Its Environment<br/>(2021) Langmuir, 37 (47), pp. 13824-13837. Cited 1 time.</p> <p>Gaynanova, G., Vasileva, L., Kashapov, R., Kuznetsova, D., Kushnazarova, R., Tyrshkina, A., Vasilieva, E., Petrov, K., Zakharova, L., Sinyashin, O.<br/>Self-assembling drug formulations with tunable permeability and biodegradability<br/>(2021) Molecules, 26 (22), art. no. 6786, . Cited 19 times.</p>                                                                                           |
| <p>OCA18. Charakteristika dopadu výstupu na spoločensko-hospodársku prax / Characteristics of the output's impact on socio-economic practice</p> <p><i>Rozsah do 200 slov v slovenskom jazyku / Range up to 200 words in Slovak</i><br/><i>Rozsah do 200 slov v anglickom jazyku / Range up to 200 words in English</i></p>                                  | <p>Publikácia prináša agregované vlastnosti kationových gemini povrchovo aktívnych látok s biodegradovateľnými amidovými alebo esterovými skupinami v mostíku s využitím časovo rozlíšeného zhášania fluorescence, dynamického rozptylu svetla a meraní zeta potenciálu. / The publication provides self-assembling properties of cationic gemini surfactants with biodegradable amide or ester groups in the spacer utilising the time-resolved fluorescence quenching, dynamic light scattering and zeta potential measurements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>OCA19. Charakteristika dopadu výstupu a súvisiacich aktivít na vzdelávací proces / Characteristics of the output and related activities' impact on the educational process</p> <p><i>Rozsah do 200 slov v slovenskom jazyku / Range up to 200 words in Slovak</i><br/><i>Rozsah do 200 slov v anglickom jazyku / Range up to 200 words in English</i></p> | <p>Zistené výsledky môžu byť prezentované v rámci prednášok z farmaceutickej chémie v rámci predstavenia postupov výskumu a vývoja liečiv. / The results can be presented in pharmaceutical chemistry lectures as a part of the presentation of drug research and development procedures.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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