List of scientific or artistic achievements which present a major contribution to the development of a specific discipline

Information contained herein should clearly refer to two different periods, i.e. the period prior to the award of the PhD degree and the period between the conferment of the PhD degree and the award of the post-doctoral degree of doctor habilitated.

I. INFORMATION ON SCIENTIFIC OR ARTISTIC ACHIEVEMENTS SET OUT IN ART. 219 PARA 1. POINT 2 OF THE ACT

1. Scientific monograph, pursuant to art. 219 para 1. point 2a of the Act; or
2. Cycle of scientific articles related thematically, pursuant to art. 219 para 1. point 2b of the Act; or

Cycle of 8 scientific articles that are the basis for habilitation proceedings:

[H1] Pyta K.*, Blecha M., Janas A., Klich K., Pecyna P., Gajecka M., Przybylski P. „Synthesis, structure and antimicrobial evaluation of a new gossypol triazole conjugates functionalized with aliphatic chains and benzyloxy groups" *Bioorg. Med. Chem. Lett*, 26 (17), (**2016**), 4322-4326DOI: 10.1016/j.bmcl.2016.07.033, link

[**H2**] Przybylski P.*, **Pyta K.**, Klich K., Schilf W., Kamieński B. „^{13}C and ^{15}N CP/MAS, ^{1}H-^{15}N SCT CP/MAS and FTIR spectroscopy as tools for ualitative detection of the presence of zwitterionic and nonionic forms of ansa-macrolide 3-formylrifamycin SV and its derivatives in solid state" *Magn. Reson. Chem*. 52 (1-2), (**2014**), 10-21
DOI: 10.1002/mrc.4028, link

[**H3**] Pyta **K.**, Klich K., Domagalska J., Przybylski, P.*, „Structure and evaluation of antibacterial and antitubercular properties of new basic and heterocyclic 3-formylrifamycin SV derivatives obtained via 'click chemistry' approach" *Eur. J. Med. Chem.* 84, (**2014**), 651-676
DOI: 10.1016/j.ejmech.2014.07.066, link

[**H4**] Czerwonka D., Domagalska J., **Pyta K.,** Kubicka M.M., Pecyna P., Gajecka M., Przybylski P.*, „Structure-activity relationship studies of new rifamycins containing l-amino acid esters as inhibitors of bacterial RNA polymerases" *Eur. J. Med. Chem.*, 116, (**2016**), 216-221
DOI: 10.1016/j.ejmech.2016.03.061, link

[**H5**] **Pyta K.**, Janas A., Szukowska M., Pecyna P., Jaworska M., Gajecka M., Bartl F., Przybylski P.*, „Synthesis, docking and antibacterial studies of more potent amine and hydrazone rifamycin congeners than rifampicin" *Eur. J. Med. Chem.*, 167, (**2019**), 96-104

DOI: 10.1016/j.ejmech.2019.02.009, link

[**H6**] **Pyta K.**, Przybylski P.*, Bartl, F., „Regioselective long-range proton transfer in new rifamycin antibiotics: A process in which crown ethers act as stronger brønsted bases than amines" *ChemPhysChem*, 16 (5), (**2015**), 938-942
DOI: 10.1002/cphc.201402892, link

[**H7**] Przybylski P.*, **Pyta K.**, Czerwonka D., Kubicka M.M., Gajecka, M., „The effect of complexation of 3-formylrifamycin SV macrocyclic ether derivatives with metal cations and small nitrogen-containing organic molecules on antibacterial activity against S. aureus and S. epidermidis" *Bioorg. Med. Chem. Lett.* 25 (18), (2015), 3903-3909
DOI: 10.1016/j.bmcl.2015.07.043, link

[**H8**] **Pyta K.**, Janas A., Skrzypczak N., Schilf W., Wicher B., Gdaniec M., Bartl F., Przybylski P.*, „Specific Interactions between Rifamycin Antibiotics and Water Influencing Ability To Overcome Natural Cell Barriers and the Range of Antibacterial Potency" *ACS Infectious Diseases Article* 5(10), (**2019**), 1754-1763
DOI: 10.1021/acsinfecdis.9b00176, link

3. List of completed original project, engineering and design, technological or artistic achievements, pursuant to art. 219 para 1. point 2c of the Act.

II. INFORMATION ON SCIENTIFIC OR ARTISTIC ACTIVITY

1. List of published scientific monographs (including the monographs not mentioned in section I.1).
2. List of published chapters in scientific monographs.
3. 3. Information about membership in editorial boards preparing scientific monographs for publication.
4. 4. List of articles published in scientific journals (including the articles not mentioned in section I.2).

before obtaining a doctoral degree (items not listed in point I.2 marked with a grey background)

1. Przybylski, P., **Pyta, K.**, Ratajczak-Sitarz, M., Katrusiak, A., Brzezinski, B., „X-ray, FT-IR, ESI MS and PM5 studies of Schiff base of gossypol with allylamine and its complexes with alkali metal cations and perchlorate anion" *Struct. Chem.* 19, (**2008**), 983-995
DOI: 10.1007/s11224-008-9385-9, link
2. Przybylski, P., **Pyta, K.**, Wicher, B., Gdaniec, M., Brzezinski, B., *„Structure of a new Schiff base of gossypol with 1-(3-aminopropyl)-2-pyrrolidinone studied by the X-ray, FT-IR, NMR, ESI-MS and PM5 methods" J. Mol. Struct.* 889, (**2008**), 332-343
DOI: 10.1016/j.molstruc.2008.02.028, link
3. Przybylski, P., Huczynski, A., **Pyta, K.**, Brzezinski, B., Bartl, F., „Biological properties of Schiff bases and azo derivatives of phenols" *Curr. Org. Chem.* 13, (**2009**), 124-148

DOI:10.2174/138527209787193774, link

4. Przybylski, P., **Pyta, K.**, Remlein-Starosta, D., Schroeder, G., Brzezinski, B., Bartl, F., „Antifungal activity of alkyl and heterocyclic aza-derivatives of gossypol as well as their complexes with $NaClO_4$ against *Fusarium oxysporum* f. sp. lupini" *Bioorg. Med. Chem. Lett.* 19, (**2009**), 1996-2000 DOI:10.1016/j.bmcl.2009.02.051, link
5. Przybylski, P., **Pyta, K.**, Brzezinski, B., „Complexes of heterocyclic aza-derivatives of phytoalexin from cotton plant-gossypol with alkali metal cations and perchlorate anion studied by ESI mass spectrometric method in the positive and negative modes" *J. Mass. Spectrom.* 44, (**2009**), 838-846 DOI:10.1002/jms.1559, link
6. Przybylski, P., **Pyta, K.**, Ratajczak-Sitarz, M., Katrusiak, A., Brzezinski, B., „Structure of a New Schiff Base of Gossypol with Ethyl 4-Amino-1-piperidine Carboxylate in the Solid and in the Solution" *Polish J. Chem.* 83, (**2009**), 747-759
7. Przybylski, P., **Pyta, K.**, Brzezinski, B., „Fragmentation pathways of new aza derivatives of 16-membered macrolide antibiotic – analog of Josamycin investigated by ESI and FAB mass spectrometric methods" *J. Mass. Spectrom.* 44, (**2009**), 1395-1401 DOI:10.1002/jms.1612, link
8. Przybylski, P., **Pyta, K.**, Stefańska, J., Ratajczak-Sitarz, M., Katrusiak, A., Huczyński, A., Brzezinski, B., „Synthesis, crystal structures and antibacterial activity of Aza-derivatives of bissesquiterpene from cotton plants - gossypol" *Eur. J. Med. Chem.* 44, (**2009**), 4393-4403 DOI:10.1016/j.ejmech.2009.05.032, link
9. Przybylski, P., **Pyta, K.**, Brzezinski, B., „Unexpected α,β-unsaturated products of reductive amination of the macrolide antibiothic josamycin" *Tetrahedron Lett.* 50, (**2009**), 6203-6207 DOI:10.1016/j.tetlet.2009.08.118, link
10. **Pyta K.**, Przybylski P., Schilf W., Kołodziej B., Szady-Chełmieniecka A., Grech E., Brzezinski B., „Spectroscopic and theoretical studies of the protonation of N-(5-nitrosalicylidene)-ethylamine" *J Mol Struct*. 967, (**2010**), 140-146 DOI:10.1016/j.molstruc.2010.01.002, link
11. **Pyta K.**, Przybylski P., Huczyński A., Hoser A., Woźniak K., Schilf W., Kamieński B., Grech E., Brzezinski B. „X-ray, spectroscopic and computational studies of the tautomeric structure of a new hydrazone of 5-nitrosalicylaldehyde with indole-3-acetic hydrazide" *J Mol Struct*. 970, (**2010**), 147-154 DOI:10.1016/j.molstruc.2010.02.068, link
12. Przybylski, P., **Pyta, K.**, Stefańska, J., Brzezinskia, B., Bartl, F. „Structure elucidation, complete NMR assignment and PM5 theoretical studies of new hydroxy-aminoalkyl-α,β-unsaturated derivatives of the macrolide antibiotic josamycin" *Magn. Reson. Chem*. 48, (**2010**), 286-296 DOI:10.1002/mrc.2574, link
13. Przybylski P., Kwit M., **Pyta K.**, Pankiewicz R., Schroeder G., Gawroński J., Brzezinski B., „Structure and atropoisomerisation of diastereoisomeric gossypol Schiff base with (R)-(+)-2-Amino-3-benzyloxy-1-propanol" *Tetrahedron:Asymmetry* 21, (**2010**), 973-981 DOI:10.1016/j.tetasy.2010.05.034, link
14. Przybylski P., **Pyta K.**, Czupryniak J., Wichera B., Gdaniec M., Ossowski T., Brzezinski B., „The influence of protonation on molecular structure and physico-chemical properties of gossypol Schiff bases" *Org. Biomol. Chem.* 8 (24), (**2010**), 5511-5518 DOI:10.1039/c0ob00288g, link
15. **Pyta K.**, Przybylski P., „MALDI-TOF tandem mass spectrometric analysis of novel aza-analogues of semi-synthetic ansamycin antibiotic – rifampicin" *J. Mass. Spectrom.* 46, (**2011**), 751-756 DOI:10.1002/jms.1954, link
16. Przybylski P., **Pyta K.**, „Transformation of josamycin in alkaline solution - Intramolecular S_N2 substitution or E1cB elimination and intramolecular Michael addition?" *Tetrahedron Letters* 52 (47), (**2011**), 6275-6280 DOI:10.1016/j.tetlet.2011.09.086, link
17. **Pyta K.**, Przybylski P., Wicher B., Gdaniec M., Stefańska J., "Intramolecular proton transfer impact on antibacterial properties of ansamycin antibiotic rifampicin and its new amino analogues" *Org. Biomol. Chem.* 8, (**2012**), 2385-2388

DOI:10.1039/c2ob00008c, link

18. Wicher B., **Pyta K.**, Przybylsk, P., Tykarska E., Gdaniec M. „Redetermination of rifampicin penta-hydrate revealing a zwitterionic form of the anti-biotic" *Acta Crystallographica Section C: Crystal Structure Communications*, 68 (5), (**2012**), o209-o212.
DOI:10.1107/S0108270112015296, link

after obtaining a doctoral degree (items not listed in point I.2 marked with a grey background)

19. **Pyta K.**, Przybylski P., Klich K., Stefańska J., „A new model of binding of rifampicin and its amino analogues as zwitterions to bacterial RNA polymerase" *Org. Biomol. Chem.* 10, (**2012**), 8283-8297
DOI:10.1039/c2ob26317c, link

20. Przybylski P., **Pyta K.**, Klich K., Schilf W., Kamieński B., „^{13}C and ^{15}N CP/MAS, ^{1}H-^{15}N SCT CP/MAS and FTIR spectroscopy as tools for qualitative detection of the presence of zwitterionic and nonionic forms of ansa-macrolide 3-formylrifamycin SV and its derivatives in solid state" *Magn. Reson. Chem*. 52 (1-2), (**2014**), 10-21, [**H2**]
DOI:10.1002/mrc.4028, link

21. **Pyta K.**, Przybylski P., Klich K., Schilf W., Kamieński B., Grech E., Kołodziej B., Szady-Chełmieniecka A., Brzezinski B., „Impact of metal cation complexation and protonation on tautomeric and resonance forms of the oxaalkyl Schiff bases derived from 5-substituted salicylaldehyde and 2-hydroxy-1-naphthlaldehyde" *Struct. Chem.* 25 (6), (**2014**), 1733-1746
DOI:10.1007/s11224-014-0447-x, link

22. **Pyta K.**, Klich K., Domagalska J., Przybylski P., „Structure and evaluation of antibacterial and antitubercular properties of new basic and heterocyclic 3-formylrifamycin SV derivatives obtained via 'click chemistry' approach" *Eur. J. Med. Chem.* 84, (**2014**), 651-676, [**H3**]
DOI:10.1016/j.ejmech.2014.07.066, link

23. **Pyta K.**, Przybylski P., Bartl F., „Regioselective long-range proton transfer in new rifamycin antibiotics: A process in which crown ethers act as stronger brønsted bases than amines" *ChemPhysChem*, 16 (5), (**2015**), 938-942, [**H6**]
DOI:10.1002/cphc.201402892, link

24. Przybylski P., **Pyta K.**, Czerwonka D., Kubicka M.M., Gajecka M., „The effect of complexation of 3-formylrifamycin SV macrocyclic ether derivatives with metal cations and small nitrogen-containing organic molecules on antibacterial activity against *S. aureus* and *S. epidermidis*" *Bioorg. Med. Chem. Lett.* 25 (18), (**2015**), 3903-3909, [**H7**]
DOI:10.1016/j.bmcl.2015.07.043, link

25. Klich K., **Pyta K.**, Przybylski P., „Regio- and Stereoselective Functionalization of 16-Membered Lactone Aglycone of Spiramycin via Cascade Strategy" *J. Org. Chem.* 80 (14), (**2015**), 7040-7049
DOI:10.1021/acs.joc.5b00847, link

26. Domagalska J., **Pyta K.**, Przybylski P., „Conversion of leucomycin-A3 antibiotic into novel triazole analogues via regio- and diastereoselective SN1′ substitution with allylic rearrangement and 1,3-dipolar cycloaddition of CuAAC type" *Tetrahedron Lett.* 57 (15), (**2016**), 1661-1666
DOI:10.1016/j.tetlet.2016.02.113, link

27. Czerwonka D., Domagalska J., **Pyta K.**, Kubicka M.M., Pecyna P., Gajecka M., Przybylski P., „Structure-activity relationship studies of new rifamycins containing l-amino acid esters as inhibitors of bacterial RNA polymerases" *Eur. J. Med. Chem.*, 116, (**2016**), 216-22, [**H4**]
DOI:10.1016/j.ejmech.2016.03.061, link

28. Klich K., **Pyta K.**, Kubicka M.M., Ruszkowski P. Celewicz L. Gajecka M. Przybylski P., „Synthesis, Antibacterial, and Anticancer Evaluation of Novel Spiramycin-Like Conjugates Containing C(5) Triazole Arm" *J. Med. Chem.*, 59 (17), (**2016**), 7963-7973
DOI:10.1021/acs.jmedchem.6b00764, link

29. Domagalska J., Janas A., **Pyta K.**, Pecyna P., Ruszkowski P., Celewicz L., Gajecka M., Bartl F., Przybylski P. „16-Membered Macrolide Lactone Derivatives Bearing a Triazole-Functionalized Arm at the Aglycone C13 Position as Antibacterial and Anticancer Agents" *ChemMedChem*, (**2016**), 1886-1891
DOI:10.1002/cmdc.201600250, link

30. **Pyta K.**, Blecha M., Janas A., Klich K., Pecyna P., Gajecka M., Przybylski P., „Synthesis, structure and antimicrobial evaluation of a new gossypol triazole conjugates functionalized with aliphatic chains and benzyloxy groups" *Bioorg. Med. Chem. Lett*, 26 (17), (**2016**), 4322-4326, [**H1**]
DOI:10.1016/j.bmcl.2016.07.033, link
31. Rogalski S., Zak P., Tadeuszyk N., **Pyta K.**, Przybylski P., Pietraszuk C., „The mechanism of activation of amidobenzylidene ruthenium chelates-latent catalysts of olefin metathesis" *Dalton Transactions*, 46 (4), (**2017**), 1277-1282
DOI:10.1039/c6dt04290b, link
32. Wicher B., **Pyta K.**, Przybylski P., Gdaniec M., „Solvates of zwitterionic rifampicin: recurring packing motifs via nonspecific interactions" *Cryst. Growth Des.*, 18 (2), (**2018**), 742–754
DOI:10.1021/acs.cgd.7b01121, link
33. Przybylski P., Pyta-Klich K., **Pyta K.**, Janas A., „Cascade reactions as efficient and universal tools for construction and modification of 6-, 5-, 4- and 3-membered sulfur heterocycles of biological relevance" *Tetrahedron*, 74(44), (**2018**), 6335-6365
DOI:10.1016/j.tet.2018.09.022, link
34. **Pyta K.**, Janas A., Szukowska M., Pecyn P., Jaworska M., Gajecka M., Bartl F., Przybylski P., „Synthesis, docking and antibacterial studies of more potent amine and hydrazone rifamycin congeners than rifampicin" *Eur. J. Med. Chem.*, 167, (**2019**), 96-104, [**H5**]
DOI:10.1016/j.ejmech.2019.02.009, link
35. **Pyta K.**, Janas A., Skrzypczak N., Schilf W., Wicher B., Gdaniec M., Bartl F., Przybylski P., „Specific Interactions between Rifamycin Antibiotics and Water Influencing Ability To Overcome Natural Cell Barriers and the Range of Antibacterial Potency" *ACS Infectious Diseases Article* 5(10), (**2019**), 1754-1763, [**H8**]
DOI:10.1021/acsinfecdis.9b00176, link
36. Skrzypczak N., **Pyta K.**, Ruszkowski P., Gdaniec M., Bartl F., Przybylski P., „Synthesis, structure and anticancer activity of new geldanamycin amine analogs containing C(17)- or C(20)- flexible and rigid arms as well as closed or open *ansa*-bridges" *Eur. J. Med. Chem.*, 202, (**2020**), Article 112624
DOI:10.1016/j.ejmech.2020.112624, link
37. Skrzypczak N., **Pyta K.**, Ruszkowski P., Mikołajczak P., Kucińska M., Murias M., Gdaniec M., Bartl F., Przybylski P., „ Anticancer activity and toxicity of new quaternary ammonium geldanamycin derivative salts and their mixtures with potentiators" *J. Enz. Inhibit. Med. Chem.*, 36, (**2021**), 1898-1904
DOI:10.1080/14756366.2021.1960829, link
38. Janas A., **Pyta K.**, Gdaniec M., Przybylski P., „ An Approach to Modify 14-Membered Lactone Macrolide Antibiotic Scaffolds" *J. Org. Chem.*, 87, (**2022**), 3758-3761
DOI:10.1021/acs.joc.1c02799, link
39. **Pyta K.**, Skrzypczak N., Ruszkowski P., Bartl F., Przybylski P., „Regioselective approach to colchiceine tropolone ring functionalization at C(9) and C(10) yielding new anticancer hybrid derivatives containing heterocyclic structural motifs" *J. Enz. Inhibit. Med. Chem.*, 37, (**2022**), 597-605
DOI:10.1080/14756366.2022.2028782, link
40. Skrzypczak N., **Pyta K.**, Bohusza W, Leśniewska A., Gdaniec M., Ruszkowski P., Schilf W., Bartl F., Przybylski P., „Cascade transformation of the ansamycin benzoquinone core into benzoxazole influencing anticancer activity and selectivity" *J. Org. Chem.*, 87, (**2023**), DOI: 10.1021/acs.joc.3c00493
DOI:10.1021/acs.joc.3c00493, link

5. List of project, engineering and design as well as technological achievements (including the achievements not mentioned in section I.3).

6. List of public realizations of works of art (including the works not mentioned in section I.3).

7. Information on presentations given at national or international scientific or arts conferences, including a list of lectures delivered upon invitation and plenary lectures.

before obtaining a doctoral degree

1. *Central European School on Physical Organic Chemistry*, 08-12 czerwiec **2008**, Karpacz, P. Przybylski, J. Kira, K. Pyta, A. Huczyński, G. Schroeder, B. Brzezinski, P. Barczyński *„Complexation properties of aza-derivatives of gossypol toward silver (I) cations investigated by potentiometric, ESI MS, spectroscopic and semiempirical methods"*, POSTER

2. Konwersatorium krystalograficzne **czerwiec 2008 Wrocław**, B. Wicher, K. Pyta, M. Gdaniec, P. Przybylski, *„Solwaty rifampicyny"*, POSTER

3. *Central European School on Physical Organic Chemistry*, 02-06 czerwiec **2009**, Przesieka. K. Pyta, P. Przybylski, D. Remlein-Starosta, G. Schroeder, B. Brzezinski, *„Antifungal activity of alkyl and heterocyclic aza-derivatives of gossypol as well as their complexes with $NaClO_4$"*, POSTER

4. 42nd IUPAC CONGRESS Chemistry Solutions; 2-7 Augest 2009; SECC, Glasgow, Scotland, UK, P. Przybylski, K. Pyta, B. Brzezinski, *„Synthesis, spectroscopic, mass spektrometry and semi-empirocal studies of new type aminoalkyl-2,3-unsaturated derivatives of 16-membered natural macrolide antibiotic – Josamycin"*, POSTER

5. Central European School on Physical Organic Chemistry, 08-12 czerwiec **2010**, Przesieka. K. Pyta, P. Przybylski, J. Czupryniak, B. Wicher, M. Gdaniec, T. Ossowski, W. Schilf, E. Grech, B. Kołodziej, A. Szady-Chełmieniecka, B. Brzezinski, *„Spectroscopic and physico-chemical properties of aza-derivaties present in different tautomeric forms"*, POSTER

6. 18th International Conference on Organic Synthesis, Section: Natural Product Chemistry, 1-6 August, **2010**, Bergen, Norway, P. Przybylski, K. Pyta, B. Brzezinski, *„Synthesis and structural investigations of new aza-derivatives of 16-membered macrolide antibiotic – josamycin"*, POSTER

7. *Central European School on Physical Organic Chemistry*, 08-12 czerwiec **2011**, Przesieka.

K. Pyta, P. Przybylski, *„Spectroscopic and physico-chemical properties of aza-derivaties present in different tautomeric forms"*, POSTER

8. Polish School of Crystallography Chemical Crystallography of the XXI-st Centary, 5-11 September **2011**, Gierłoż, B. Wicher, K. Pyta, P. Przybylski, M. Gdaniec, *„Tautomeric forms and conformers of rifampicin in the solid state"*, POSTER

9. Central European School om Physical Organic Chemistry, 07-11.05.**2012**, Przesieka, K. Klich, K. Pyta, A. Olsztyńska, P. Przybylski, J. Stefańska, *„Synthesis and structure of new rifampicin analogues – spectroscopic evidence of the presence of zwitterionic forms"*, POSTER

10. Central European School om Physical Organic Chemistry, 07-11.05.**2012**, Przesieka, A. Olsztyńska, K. Pyta, K. Klich, P. Przybylski, *„Synthesis and structure of new Rifampicin analogues – spectroscopic evidence of the presence of zwitterionic forms"*, Anna Olsztyńska, Krystian Pyta, Katarzyna Klich, Piotr Przybylski, POSTER

after obtaining a doctoral degree

11. Central European School on Physical Organic Chemistry, 27-31.05.**2013**, Przesieka, K. Klich, K. Pyta, P. Przybylski, *„The E1cB elimination as an efficient method leading to obtain of novel derivatives of leucomycin A3"*, POSTER

12. BIT's 4th Annual International Congress of Medichem-2013, Chiny, Haikou, 13-16.11.**2013**, K. Pyta, P. Przybylski, K. Klich, J. Domagalska, *„From the Proton Transfer within Structure of Rifamycin Antibiotics to Mechanism of Inhibition of Bacterial RNA Polymerase Dependent on DNA"*, POSTER

13. BIT's 4th Annual International Congress of Medichem-2013, Chiny, Haikou, 13-16.11.**2013**, K. Pyta, P. Przybylski, K. Klich, J. Domagalska, W. Schilf, B. Kamieński, *„Investigation of proton transfer process in rifampicin in the solid state"*, POSTER

14. Chiralność: od cząsteczki elementarnej do uniwersum, Polska, Poznań, Wydział Chemii UAM, 7.06.**2013**, P. Przybylski, K. Pyta, K. Klich, *„Transformation of josamycin in solution – Michael addition or SN2 substitiution"*, POSTER

15. Chiralność: od cząteczki elementarnej do uniwersum, Polska, Poznań, Wydział Chemii UAM, 7.06.**2013**, P.Przybylski, K. Pyta, J. Domagalska, K. Klich, *„Regioselective proton transfer within 3-formylrifamicin SV derivatives"*, POSTER

16. VIIIth SYMPOSIUM: Nuclear magnetic resonance in chemistry, physics and biological sciences, Warszawa, 24 – 26 .09.**2014**, K. Klich, K. Pyta, P. Przybylski, *„Aplication of 1D and 2D NMR spectroscopy to determination of novel spiramycin derivatives structures"*, POSTER

17. VIIIth SYMPOSIUM: Nuclear magnetic resonance in chemistry, physics and biological sciences, Warszawa, 24 – 26 .09.**2014**, J. Domagalska, K. Pyta, P. Przybylski, *„Applictaion of 1D and 2D NMR spectroscopy to determination of novel josamycin derivatives structures"*, POSTER

18. TETRAHEDRON SYMPOSIUM, 16-19.06.**2015**, Berlin, Niemcy, K. Pyta, M. Blecha, P. Przybylski, *„New Gossypol Schiff bases containing 1,2,3-triazole rings"*, POSTER

19. TETRAHEDRON SYMPOSIUM, 16-19.06.**2015**, Berlin, Niemcy, J. Domagalska, K. Pyta, P. Przybylski, *„Diastereo- and regioselective functionalisation of josamycin aglycone using untypical reaction in dienol sysytem"*, POSTER

20. TETRAHEDRON SYMPOSIUM, 16-19.06.**2015**, Berlin, Niemcy, K. Klich, K. Pyta, P. Przybylski, *„Regio- and Stereospecific functionalization of 16-membered Lactone Aglycone of*

Macrolide type Antibiotics via Intramolecular cascade reactions", POSTER

21. Frontiers in Medicinal Chemistry 2015**,** 14-16.09.**2015**, Antwerpia, Belgia, K. Pyta, M. Blecha P. Przybylski, *„New Gossypol Schiff bases containing 1,2,3-triazole rings"*, POSTER

22. Frontiers in Medicinal Chemistry 2015**,** 14-16.09.**2015**, Antwerpia, Belgia, P. Przybylski, K. Klich, J. Domagalska, K. Pyta, *„Stereo- and Regioselective modification of spiramycin and josamycin lactone aglycones as a source of novel type inhibitors of 50S ribosomal subunit"*, POSTER

23. TRAMECHVIII 2015**,** 11-15.11.**2015**, Antalya, Turcja, K. Pyta, J. Domagalska, P. Przybylski, *„Synthesis of new heterocyclic derivatives of josamycin via S_N2` and dipolar cycloaddition of CUAAC type"*, POSTER

24. TRAMECHVIII 2015**,** 11-15.11.2015, Antalya, Turcja, K. Klich, K. Pyta, P. Przybylski, *„Regio- and stereospecific functionalization of 16-membered lactone aglycone of macrolide type antibiotics via intramolecular cascade reactions"*, POSTER

25. TRAMECHVIII 2015**,** 11-15.11.**2015**, Antalya, Turcja, P. Przybylski, K. Klich, J. Domagalska, K. Pyta, *„Regio- and steroselective "cascade" and "click" modifications of macrolide antibiotics as a source of new heterocyclic antibacterial agents"*, PREZENTACJA USTNA

26. XIII Seminarium Doktorantów „Na pograniczu chemii i biologii", 31.05–3.06.**2015** Karpacz, Poland, K. Klich, K. Pyta, P. Przybylski, *„Funkcjonalizacja aglikonu Spiramycyny przez zastosowanie regio- i stereoselektywnych reakcji kaskadowych"*, PREZENTACJA USTNA

27. XIII Ogólnopolskie Seminarium Doktorantów, *„Na pograniczu Chemii i Biologii"*, 31.05-01.06.**2015** Karpacz, POLAND, J. Domagalska, K. Pyta, P. Przybylski, , PREZENTACJA USTNA *„Modyfikacja aglikonu Josamycyny z wykorzystaniem regioselektywnej substytucji nukleofilowej typu SN1' i dipolarnej cykloaddycji Huisgena"*, PREZENTACJA USTNA

27. XIII Ogólnopolskie Seminarium Doktorantów, „Na pograniczu Chemii i Biologii", 31.05-01.06.**2015** Karpacz, POLAND, D. Czerwonka, P. Przybylski, K. Pyta, M. Kubicka, M. Gajęcka, F. Bartl, *„Makrolidy - struktura i właściwości koordynacyjne a aktywność biologiczna"*, PREZENTACJA USTNA

28. 58 Zjazd naukowy PTChem, 21-25 wrzesień 2015 Gdańsk, POLAND, D. Czerwonka, J. Domagalska, M. Kubicka, M. Gajęcka, K. Pyta, P. Przybylski, *„Structure and antimicrobial activity of new derivatives of 3-formylryfamycin SV containing crown-ethers and L-amino acids"*, POSTER

29. European Congress on Magnetic Resonance, 5-10.07.**2015**, Praga, Republika Czeska, J. Domagalska, K. Pyta, P. Przybylski, *„Modyfication of the aglycone Josamycin using the regioselective nucleophilic substitution SN1` type and dipolar Huisgen cycloaddition"*, POSTER

30. 59 Zjazd naukowy PTChem i SITPChem, 19-23 wrzesień 2016, Poznań, POLAND, P. Przybylski, K. Pyta, K. Klich, J. Domagalska, A. Janas, M. Gajecka, P. Pecyna, L. Celewicz, P. Ruszkowski, „*Regio- and stereoselective „Cascade" and „Click" modifications of macrolide lactone antibiotics*", S01W09 (wykład sekcyjny)

31. 59 Zjazd naukowy PTChem i SITPChem, 19-23 wrzesień 2016, Poznań, POLAND, " J. Domagalska, A. Janas, K. Pyta, P. Pecyna, P. Ruszkowski, L. Celewicz, M. Gajecka, F. Bartl P. Przybylski, „*Synteza i struktura nowych eterowych C(13)-podstawionych pochodnych leukomycyn"*, POSTER

32. 59 Zjazd naukowy PTChem i SITPChem, 19-23 wrzesień 2016, Poznań, POLAND, D. Czerwonka, K. Pyta, M.M. Kubicka, M. Gajecka, P. Pecyna, P. Przybylski, J. Domagalska, „*Structure and antibacterial activity of new amino derivatives of 3-formylrifamycin SV containing crow ethers and L-aminoacids*", POSTER

33. 60 Zjazd Naukowego Polskiego Towarzystwa Chemicznego, 17-21 IX 2017, Wrocław; A. Janas, K. Pyta, P.Przybylski*, „Modyfikacje aglikonu erytromycyny poprzez reakcje dipolarnej cykloaddycji Huisgena"*, POSTER

34. 6th IAPC Meeting, Sixth World Conference on Physico-Chemical Methods in Drug Discovery & Third World Conference on ADMET and DMPK, 4-7 IX 2017, Zagrzeb, A.Janas, K.Pyta, K. Pyta-Klich, J. Domagalska P.Przybylski, „*Synthesis, structure, antibacterial and anticancer activity of new macrolide antibiotics analogs"*;; POSTER

35. 2nd International Conference on Pharmaceutical Chemistry, 2-4 X 2017, Barcelona, K. Pyta, K.Pyta-Klich, A. Janas, J. Domagalska, P. Przybylski, „*Cascade approach to modification of lactone macrolide antibiotics*", POSTER

36. 2nd International Conference on Pharmaceutical Chemistry, 2-4 X 2017, Barcelona; P. Przybylski, A. Janas, K.Pyta-Klich, J. Domagalska, K. Pyta, Franz Bartl, „*Synthesis, antibacterial and anticancer potency of new lactone and lactam macrolide derivatives*", PREZENTACJA USTNA

37. 10th World Congress on Medicinal Chemistry and Drug, 14-15 VI 2018, Barcelona, A. Janas, K. Pyta, P. Przybylski, *„Synthesis and structure-activity relationship of a new derivatives of 14- and 15-membered macrolide antibiotics containing rebuilt saccharide arms"*, PREZENTACJA USTNA

38. Chemistry Beyond Nature, 21-22 VI 2018, Poznań, M. Szukowska, K. Pyta, A. Janas, P. Pecyna, M. Jaworska, M. Gajęcka, F. Bartl, P. Przybylski, *„Ansa-bridge movement implicated by the presence of different substituents at quinone ring of geldanamycins"*, POSTER

39. 24th Conference on Isoprenoids, 9-12 IX 2018, Białystok, A. Janas, K. Pyta, P. Przybylski, *„Synthesis and structure-activity relationship of a new derivatives of 14-,15- and 16-membered macrolide antibiotics containing rebuilt saccharide arms*", POSTER

40. 24th Conference on Isoprenoids, 9-12 IX 2018, Białystok, K. Pyta, M. Szukowska, N. Skrzypczak, A. Janas, M. Gdaniec, P. Przybylski, *„ Influence of C-17 substituents at quinone ring on conformational flexibility of geldanamycins"*, POSTER

41. 24th Conference on Isoprenoids, 9-12 IX 2018, Białystok, P. Przybylski, N. Skrzypczak, M. Szukowska, K. Pyta, A. Janas, B. Wicher, M.Gdaniec, P. Pecyna, M. Gajęcka, „*Basket-like lactam macrolides – modifications and structure – activity relationship studies",* PREZENTACJA USTNA

42. 61 Zjazd Naukowego Polskiego Towarzystwa Chemicznego, 17-21 IX 2018, Kraków, N. Skrzypczak, M. Szukowska, K. Pyta, A. Janas, M. Gdaniec, P. Przybylski, *„New quinone-functionalized derivatives of geldanamycin- structure and biological implications”*, POSTER

43. X Poznańska Konferencja Naukowa „Chemia i przemysł”, 30 XI 2018, Poznań, N. Skrzypczak, M. Szukowska, K. Pyta, M. Gdaniec, A. Janas, P. Przybylski, *„Blokowanie funkcji białek chaperonowych (Hsp) przez pochodne geldanamycyny jako efektywna droga do uzyskania środków przeciwnowotworowych”*, POSTER

44. X Poznańska Konferencja Naukowa „Chemia i przemysł”, 30 XI 2018, Poznań, M. Szukowska, N. Skrzypczak, K. Pyta, A. Janas, M. Gdaniec, P. Przybylski, *„Nowe ryfamycynowe inhibitory bakteryjnych polimeraz RNA - synteza i właściowości, aktywność przeciwbakteryjna i molekularny mechanizm działania”*, POSTER

45. IV Ogólnopolskie Sympozjum Chemii Bioorganicznej, Organicznej i Biomateriałów „BioOrg 2022”, 3.12.2022, Poznań, E. Smolarz, A. Smoczyńska, K. Pyta, P. Przybylski, *„Synteza nowych-pirolidynowych pochodnych spiramycyny zawierających sfunkcjonalizowane ugrupowanie heterocykliczne wykorzystane w reakcji sprzęgania Hecka”,* POSTER

46. IV Ogólnopolskie Sympozjum Chemii Bioorganicznej, Organicznej i Biomateriałów „BioOrg 2022”, 3.12.2022, Poznań, A. Smoczyńska, E. Smolarz, K. Pyta, P. Przybylski, *„Synteza nowych bicyklicznych-pirolidynowych pochodnych spiramycyny zawierających sfunkcjonalizowane ugrupowanie heterocykliczne wykorzystywane do reakcji cykloaddycji Huisgena”*, POSTER

8. Information on participation in organizational and scientific committees at national or international conferences, including the applicant’s function.

9. Information on participation in the works of research teams realizing projects financed through national and international competitions, including the projects which have been completed and projects in progress, and information on the function performed in the team.

after obtaining a doctoral degree

1. „IUVENTUS PLUS” financed by the Ministry of Science and Higher Education, grant number: 0366/IP3/2013/72, grant title: "Design and synthesis of a new class of triazole derivatives of gossypol as effective fungicides, using click chemistry", implementation period: 2013-2015 , funding amount: PLN 227.650, **MANAGER OF THE PROJECT**.
2. „Miniatura” financed by the National Science Center, grant number: Nr DEC-2023/07/X/ST5/00689, grant title: "Study of the reactivity of the modified aglycone of 14-membered lactone macrolides", implementation period from October 5 2023, subsidy amount: PLN 49,991, **MANAGER OF THE PROJECT**.
3. „SONATA BIS 1” financed by the National Science Center, grant number: 2012/05/E/ST5/03792, grant title: "Modifications of leukomycin aglycone by

Michael addition and dipolar Huisgen cycloaddition as new ways to obtain inhibitors of the 50S ribosomal subunit", implementation period: in 2013-2016, funding amount: PLN 986,800, **CONTRACTOR**.

4. „OPUS 3" financed by the National Science Center, grant number: 2011/03/B/ST5/01014, grant title: "Design and synthesis of new rifampicin analogues as a source of effective inhibitors of bacterial RNA polymerase", implementation period: in 2012-2015, funding amount: 615 000 PLN, **MAIN CONTRACTOR**.
5. „OPUS 10" financed by the National Science Center, grant number: UMO-2015/19/B/ST5/00231, grant title: "Functionalization of the 14-membered lactone ring of Erythromycins as a new source of semi-synthetic macrolide antibiotics", implementation period: in 2016-2020, funding amount: 745 500 PLN, **CONTRACTOR**.
6. OPUS 13 financed by the National Science Center, grant number: UMO-2017/25/B/ST5/00291 grant title: "Chemical modifications of the macrocyclic polyketide -geldanamycin opening access to new alternative anticancer agents blocking the activity of Hsp90 chaperone proteins", implementation period: in 2018-2021, funding amount: 1 175 000 PLN, **CONTRACTOR**.

10. Membership in international or national organizations and scientific societies, including the functions performed by the applicant.

11. Information on internships completed in scientific or artistic institutions, also abroad, including the place, time and duration of the internship and its character.

Between July and December 2022, I worked as a visiting scientist at the Department of Biophysical Chemistry at Humbolt University's Institute of Biology in Berlin. This collaboration resulted in the publication of "Cascade transformation of the ansamycin benzoquinone core into benzoxazole influencing anticancer activity and selectivity" in The Journal of Organic Chemistry in 2023. I have a dual affiliation with the Faculty of Chemistry at Adam Mickiewicz University and the Institut für Biologie, Biophysikalische Chemie Humboldt-Universität zu Berlin.

During my post-doctoral period, I participated in several short-term training courses in the use of differential infrared spectroscopy to study retinal photoreceptors. These courses were organized by Prof. Dr. Franz Bartel at the Institut für Medizinische Physik und Biophysik,

Charité – Universitätsmedizin Berlin, and took place on November 15-20, 2015, February 11-18, 2017, October 4-8, 2017, and February 16-24, 2018.

12. Membership in editorial committees and scientific boards of journals, including the functions performed by the applicant (e.g. editor-in-chief, chairman of scientific board etc.).

13. Information on scientific or artistic works reviewed, in particular those published in international journals.

after obtaining a doctoral degree

reviews of scientific articles

name of the journal	$IF_{5\text{-years}}$	number of reviews
Bioorganic & Medicinal Chemistry Letters	2.6	3
Journal of Spectroscopy	2.4	3
Molecules	4.9	2
Pharmaceuticals	4.9	1
Current Organic Synthesis	2.0	1
Future Medicinal Chemistry	4.2	1
Journal of Molecular Structure	3.2	1
Letters in Organic Chemistry	0.7	1
	in total	**13**

Reviews of bachelor's theses

I. lic. Ewelina Nowak, 2021, title of thesis: *"Modification at the C-17 position of geldanamycin in the design of new anticancer agents"*
II. license Patryk Kalinowski, 2019, title of thesis: *"Resistance of various strains of bacteria to lactone macrolide antibiotics"*
III. lic. Daniel Walczak, 2018, title of thesis: *"Ansamycin antibiotics and leukomycins - structure and mechanisms of action"*
IV. Lic. Monika Szukowska, 2018, title of thesis: *"Mechanisms of bacterial resistance to used antibiotics from the macrolide group"*
V. lic. Maria Szyszka, 2017, title of thesis: *"Macrolides of natural origin - structure and biological properties"*
VI. Lic. Oskar Kubiczek, 2016, title of thesis: *"Intra- and intermolecular processes of proton transfer"*
VII. license Marta Biernaczyk, 2016, title of thesis*: "The use of 1 and 2D NMR spectroscopy on selected natural compounds"*
VIII. lic. Barbara Stańska, 2015, title of thesis: *"The use of macrolides in antibacterial therapy - selected examples"*
IX. lic. Paulina Roesler, 2015, title of thesis: *"Flavonoids - structure and biological properties"*

X. Lic. Dominika Czerwonka, 2015, title of thesis: *"Ansamacrolides - structure and biological activity"*

XI. 14. Information on participation in European or other international programmes.

15. Information on participation in research teams realizing projects other than those defined in section II.9.

16. Information on membership in the teams assessing applications for financing of research projects, applications for scientific awards, applications in other competitions of scientific or didactic character.

III. INFORMATION ON COOPERATION WITH SOCIAL AND ECONOMIC ENVIRONMENT

1. List of technological works.

2. Information on cooperation with economic sector.

3. Obtaining the right of industrial property, including the national or international patents granted.

4. Information on implemented technologies.

5. Information on performed expert analyses or other studies prepared on request of public institutions or entrepreneurs.

6. Information on participation in expert and competition teams.

7. Information on artistic projects realized in non-artistic environment.

IV. SCIENTOMETRIC INFORMATION

1. Information on the Impact Factor (in the fields and disciplines in which this parameter is commonly used as a scientometric index).

Publication	**Impact Factor according to the JCR database**	
	Total, in the year of publication / average per publication	5 years from 2022 / average for publication
publications **H1-H8**	**27.41 / 3.426**	**34.6 / 4.325**
befor obtaining a doctoral degree	**42.221 / 2.346**	**42.738 / 2.374**
after obtaining a doctoral degree	**84.308 / 3.803**	**87.7 / 3.955**
In total	**126.529 / 3.163**	**130.438 / 3.261**

2. Information on the number of citations of the applicant's publications, including a separate list of self-citations.

The total number of scientific papers in which I am a co-author from the JCR list	**40**
Total number of citations according to the Web of Science Database	**758**
Number of citations without self-citations according to the Web of Science Database	**673**

3. Information on h-index held.

h-Index Hirsha according to the Web of Science Database	**13**

4. Information on the number of the points awarded by the Ministry of Science and Higher Education.

Publications	**Point award in 2022**
	In total / / average for publication
prace **H1-H8**	**980 / 122.5**
przed uzyskaniem stopnia doktora	**1 390 / 81.76***
po uzyskaniu stopnia doktora	**2 730 / 124.01**
Sumarycznie	**4 120 / 105.64***

*- dla czasopisma *Polish Journal of Chemistry* brak danych

Information included in section IV should also indicate the database, which was the source of information. When selecting this database specific character of the scientific field and discipline in which the candidate applies for the conferment of the post-doctoral degree of doctor habilitated should be considered as an important factor.

The Council of Scientific Excellence informs that in its opinion it is recommended to provide the scientometric data; it is also a widespread practice applied by the applicants seeking academic promotion. It should be stressed, however, that scientometric data included in the applications for the commencement of promotion procedures cannot serve as a criterion for evaluation of the Candidate's scientific work for the entities awarding the PhD and post-doctoral degrees and for the Council of Scientific Excellence itself, or for the bodies running procedures for the award of a degree or title. The primary goal of these entities is expert

evaluation of the scientific work of the Candidate seeking academic promotion. The decision on the conferment of the degree or title should not depend on the fact that such data is included.

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(Applicant's signature)