
Achievements

Publications

Cahlíková, L., Kawano, I., Řezáčová, M., Blunden G, Hulcová D, Havelek R: The Amaryllidaceae alkaloid shaemanthamine, haemanthidine and their semisynthetic derivatives as potential drugs. *Phytochem Rev.* 2021; 20: 303–323. <https://doi.org/10.1007/s11101-020-09675-8> IF 7,7

Koutová D, Maafi N, Muthna D, Kralovec K, Kroustková J, Pidany F, Timbilla AA, Cermakova E, Cahlíkova L, Rezacova M, Havelek R. Antiproliferative activity and apoptosis-inducing mechanism of Amaryllidaceae alkaloid montanine on A549 and MOLT-4 human cancer cells. *Biomed Pharmacother.* 2023;166:115295. doi: 10.1016/j.biopha.2023.115295. IF 7,5

Gorecki L, Muthna D, Merdita S, Andrs M, Kucera T, Havelek R, Muckova L, Kobrlova T, Soukup J, Krupa P, Prchal L, Soukup O, Roh J, Rezacova M, Korabecny J: 7-Azaindole, 2,7-diazaindole, and 1H-pyrazole as core structures for novel anticancer agents with potential chemosensitizing properties. *Eur J Med Chem.* 2022;240:114580. doi: 10.1016/j.ejmech.2022.114580 IF 6,7

An alternative approach to validation of liquid chromatography-mass spectrometry methods for the quantification of endogenous compounds. Uher M., Mičuda S., Kacerovský M., Hroch M. *J. Chromatogr. A*, 2023, 30:1705:464173. IF = 4.6

Mrkvicová A, Peterová E, Nemec I, Křikavová R, Muthná D, Havelek R, Kazimírová P, Řezáčová M, Štarha P: Rh(III) and Ru(II) complexes with phosphanyl-alkylamines: inhibition of DNA synthesis induced by anticancer Rh complex. *Future Med Chem.* 2023. doi: 10.4155/fmc-2023-0170 IF 4,2

Masaryk L, Muthná D, Halaš P, Zoufalý P, Peterová E, Havelek R, Drahoš B, Milde D, Mrkvicová A, Štarha P.: Stability of a half-sandwich Os(II) complex with indomethacin-functionalized ligand in the presence of carboxypeptidase A. *Dalton Trans.* 2022;51(24):9213-9217. doi: 10.1039/d2dt01085b IF 4,0

High-throughput salting-out assisted liquid-liquid extraction using a 3D printed device and its application in the quantification of fibrinogen and its metabolite PCI-45227 in human serum. ěcsiová D, Šimkovič M, Uher M, Hroch M. *J Pharm Biomed Anal.* 2022; 219:114923. IF = 3.6

Patents

Anticancer compounds based on nitrogen heterocycles, their use as drugs and pharmaceutical preparations containing them. Czech patent deed (patent file), patent number 309579. Issued on 15.3.2023.

1-aryloxy-3-(4-(2-hydroxyethyl)piperazin-1-yl)propan-2-ols, method of their preparation and their use. Czech patent deed (patent file), patent number 309081. Issued on 14.1.2022.

Others

DSP Medical Chemistry and Biochemistry student Mgr. Darja Koutová, Ph.D. (supervisor doc. Havelek) won the Mayor of Hradec Králové Award for student creative work in 2020.

DSP Medical Chemistry and Biochemistry student Mgr. Darja Koutová, Ph.D. (supervisor doc. Havelek) also won the 1st prize at the DSP LF UK HK student conference in 2021.