Publications 2021

1.	Andreja Dobaj Štiglic, Rupert Kargl, Marco Beaumont, Christine Strauss, Damjan Makuc, Dominik Egger, Janez Plavec, Orlando J. Rojas, Karin Stana Kleinschek and Tamilselvan Mohan. Influence of charge and heat on the mechanical properties of scaffolds from ionic complexation of chitosan and carboxymethyl cellulose. *ACS Biomaterials Science & Engineering* 2021, 7 (8), 3618-3632.
2.	Fazilet Gürer, Rupert Kargl, Matej Bračič, Damjan Makuc, Martin Thonhofer, Janez Plavec, Tamilselvan Mohan and Karin Stana Kleinschek. Water-based carbodiimide mediated synthesis of polysaccharide-amino acid conjugates: deprotection, charge and structural analysis. *Carbohydrate Polymers* 2021, 267, article no.: 118226.
3.	Ondřej Dlouhý, Uroš Javornik, Ottó Zsiros, Primož Šket, Václav Karlický, Vladimír Špunda, Janez Plavec and Győző Garab. Lipid polymorphism of the subchloroplast-granum and stroma thylakoid membrane-particles. I. 31P−NMR spectroscopy. *Cells* 2021, 10 (9), article no.: 2354.
4.	Doroteja Novak, Tihomir Tomašič, Marko Krošelj, Uroš Javornik, Janez Plavec, Marko Anderluh and Petra Kolenc Peitl. Radiolabelled CCK2R antagonists containing PEG linkers: design, synthesis and evaluation. *ChemMedChem* 2021, 16 (1), 155-163.
5.	Daniele Ubbiali, Marco Orlando, Matic Kovačič, Claudio Iacobucci, Marta S. Semrau, Gregor Bajc, Sara Fortuna, Gregor Ilc, Barbara Medagli, Sandra Oloketuyi, Paola Storici, Andrea Sinz, Rita Grandori and Ario de Marco. An anti-HER2 nanobody binds to its antigen HER2 via two independent paratopes. *International Journal of Biological Macromolecules* 2021, 182, 502-511.
6.	Urška Jug, Irena Vovk, Vesna Glavnik, Damjan Makuc and Katerina Naumoska. Off-line multidimensional high performance thin-layer chromatography for fractionation of Japanese knotweed rhizome bark extract and isolation of flavan-3-ols, proanthocyanidins and anthraquinones.

	Journal of Chromatography A 2021, 1637, 461802-1-461802-16.
7.	Nataša Hojnik, Martina Modic, James L. Walsh, Dušan Žigon, Uroš Javornik, Janez Plavec, Bojana Žegura, Metka Filipič and Uroš Cvelbar. Unravelling the pathways of air plasma induced aflatoxin B1 degradation and detoxification. *Journal of Hazardous Materials* 2021, 403, 1-29.
8.	Samo Guzelj, Sanja Nabergoj, Martina Gobec, Stane Pajk, Veronika Klančič, Bram Slütter, Ruža Frkanec, Adela Štimac, Primož Šket, Janez Plavec, Irena Mlinarič-Raščan and Žiga Jakopin. Structural fine-tuning of desmuramylpeptide NOD2 agonists defines their in vivo adjuvant activity. *Journal of Medicinal Chemistry* 2021, 64 (11), 7809-7838.
9.	Evangelos Balanikas, Lara Martinez-Fernandez, Roberto Improta, Peter Podbevšek, Gérard Baldacchino and Dimitra Markovitsi. The structural duality of nucleobases in guanine quadruplexes controls their low-energy photoionization. *The Journal of Physical Chemistry Letters* 2021, 12 (34), 8309-8313.
10.	Shuntaro Takahashi, Anita Kotar, Hisae Tateishi-Karimata, Sudipta Bhowmik, Zi-Fu Wang, Ta-Chau Chang, Shinobu Sato, Shigeori Takenaka, Janez Plavec and Naoki Sugimoto. Chemical modulation of DNA replication along G-quadruplex based on topology-dependent ligand binding. Journal of the American Chemical Society 2021, 143 (40), 16458-16469. *Journal of the American Chemical Society 2021, 143 (40), 16458-16469.*
11.	Leon Deutsch, Damjan Osredkar, Janez Plavec and Blaž Stres. Spinal muscular atrophy after nusinersen therapy: improved physiology in pediatric patients with no significant change in urine, serum, and liquor 1H-NMR metabolomes in comparison to an age-matched, healthy cohort. *Metabolites* 2021, 11 (4), 1-15.
12.	Sara Lago, Matteo Nadai, Emanuela Ruggiero, Martina Tassinari, Maja Marušič, Beatrice Tosoni, Ilaria Frasson, Filippo M. Cernilogar, Valentina Pirota, Filippo Doria, Janez Plavec, Gunnar Schotta and Sara N. Richter. The MDM2 inducible promoter folds into four-tetrad antiparallel G-quadruplexes

	targetable to fight malignant liposarcoma. *Nucleic Acids Research* 2021, 49 (2), 847-863.
13.	Martina Lenarčič Živković, Martin Gajarský, Kateřina Beková, Petr Stadlbauer, Lukáš Vicherek, Magdalena Petrová, Radovan Fiala, Ivan Rosenberg, Jiří Šponer, Janez Plavec and Lukáš Trantírek. Insight into formation propensity of pseudocircular DNA G-hairpins. *Nucleic Acids Research* 2021, 49 (4), 2317-2332.
14.	Stasė Bielskutė, Janez Plavec and Peter Podbevšek. Oxidative lesions modulate G-quadruplex stability and structure in the human BCL2 promoter. *Nucleic Acids Research* 2021, 49 (4), 2346-2356.
15.	Sagar Satpathi, Tamaki Endoh, Peter Podbevšek, Janez Plavec and Naoki Sugimoto. Transcriptome screening followed by integrated physicochemical and structural analyses for investigating RNA-mediated berberine activity. *Nucleic Acids Research* 2021, 49 (15), 8449-8461.
16.	Kateřina Peterková, Ivo Durník, Radek Marek, Janez Plavec and Peter Podbevšek. c-kit2 G-quadruplex stabilized via a covalent probe: exploring G-quartet asymmetry. *Nucleic Acids Research* 2021, 49 (15), 8947-8960.
17.	Hartmut Jahns, Rohan Degaonkar, Peter Podbevsek, Janez Plavec, Swati Gupta, Anna Bisbe, Krishna Aluri, John Szeto, et al. Small circular interfering RNAs (sciRNAs) as a potent therapeutic platform for gene-silencing. *Nucleic Acids Research* 2021, 49 (18), 10250-10264.
18.	Aleš Novotný, Jan Novotný, Iva Kejnovská, Michaela Vorlíčková, Radovan Fiala and Radek Marek. Revealing structural peculiarities of homopurine GA repetition stuck by i-motif clip. *Nucleic Acids Research* 2021, 49 (20), 11425-11437.
19.	Katja Pirc, Vesna Hodnik, Tina Snoj, Tea Lenarčič, Simon Caserman, Marjetka Podobnik, Hannah Böhm, Isabell Albert, Anita Kotar, Janez Plavec, Jure Borišek, Martina Damuzzo, Alessandra Magistrato, Boris Brus, Izidor Sosič, Stanislav

	Gobec, Thorsten Nürnberger and Gregor Anderluh. Nep1-like proteins as a target for plant pathogen control. *PLOS Pathogens* 2021, 17 (4), 1-20.
20.	Lucija Jurko, Matej Bračič, Silvo Hribernik, Damjan Makuc, Janez Plavec, Filip Jerenec, Sonja Žabkar, Nenad Gubeljak, Alja Štern and Rupert Kargl. Succinylation of polyallylamine: influence on biological efficacy and the formation of electrospun fibers. *Polymers* 2021, 13 (17), 1-13.
21.	Thomas Sepperer, Primož Šket, Alexander Petutschnigg and Nicola Hüsing. Tannin-furanic foams formed by mechanical agitation: influence of surfactant and ingredient ratios. *Polymers* 2021, 13 (18), 1-12.
22.	Emanuele Cesprini, Primož Šket, Valerio Causin, Michela Zanetti and Gianluca Tondi. Development of Quebracho (Schinopsis balansae) tannin-based thermoset resins. *Polymers* 2021, 13 (24), 1-11.
23.	Marko Trajkovski, Fengmin Guo, Qiang Li, Janez Plavec, Zhen Xi and Chuanzheng Zhou. Synthesis and structure of 4′−CF3−uridine modified oligoribonucleotides. *Chinese Journal of Organic Chemistry* 2021, 41 (10), 4059-4065.
24.	Tomislav Stolar, Anže Prašnikar, Valentina Martinez, Bahar Karadeniz, Ana Bjelić, Gregor Mali, Tomislav Friščić, Blaž Likozar and Krunoslav Užarević. Scalable mechanochemical amorphization of bimetallic Cu-Zn MOF-74 catalyst for selective CO2 reduction reaction to methanol. *ACS Applied Materials & Interfaces* 2021, 13 (2), 3070-3077.
25.	Olga Larina, Karina Valihura, Pavlo Kyriienko, Nina Vlasenko, Dmitro Balakin, Ivan Khalakhan, Tomaž Čendak, Andraž Krajnc, Gregor Mali, Sergiy Soloviev and Svitlana Orlyk. Successive vapor-phase Guerbet condensation of ethanol and 1-butanol to 2-ethyl-1-hexanol over hydroxyapatite catalysts in a flow reactor.

	ACS Sustainable Chemistry & Engineering 2021, 9 (51), 17289-17300.
26.	Alberto Viani, Dita Machová, Petra Mácová, Gregor Mali and Petr Velemínský. Bone diagenesis in the medieval cemetery of Vratislavs' Palace in Prague. *Archaeological and Anthropological Sciences* 2021, 13 (3), 39-1-39-15.
27.	Sanja Burazer, Koen Robeyns, Laure Guénée, Gregor Mali, Fabrice Morelle, Voraksmy Ban, Teodoro Klaser, Yaroslav Filinchuk, Radovan Černý and Jasminka Popović. Quenchable porous high-temperature polymorph of sodium imidazolate, NaIm. *Crystal Growth & Design* 2021, 21 (2), 770-778.
28.	Alberto Viani, Petra Mácová, Dita Machová and Gregor Mali. Technical note: post-burial alteration of bones: quantitative characterization with solid-state quantitative characterization with solid-state 1H1H MAS NMR1H MAS NMR. *Forensic Science International* 2021, 323, 110783-1-110783-26.
29.	Gregor Mali and Matjaž Mazaj. Hyperfine coupling constants in Cu-based crystalline compounds: solid-state NMR spectroscopy and first-principles calculations with isolated-cluster and extended periodic-lattice models. *The Journal of Physical Chemistry C. Nanomaterials and Interfaces* 2021, 125 (8), 4655-4664.
30.	Stanislav Kurajica, Gregor Mali, Vilko Mandić, Ivan Simčić, Gordana Matijašić and Katarina Mužina. Tailoring microstructural, textural and thermal properties of γ−aluminaγ−alumina by modifying aluminum sec-butoxide with ethyl acetoacetate within a sol-gel synthesis. *The Journal of Physics and Chemistry of Solids* 2021, 148, article no.: 109783.
31.	Grigorios Raptopoulos, Maria Papastergiou, Despoina Chriti, Eleni Effraimopoulou, Tomaž Čendak, Nikolaos Samartzis, Gregor Mali, Theophilos Ioannides, Pavel Gurikov, Irina Smirnova and Patrina Paraskevopoulou. Metal-doped carbons from polyurea-crosslinked alginate aerogel beads. *Materials Advances* 2021, 2 (8), 2684-2699.

32.	Jingwei Hou, Peng Chen, Atul Shukla, Andraž Krajnc, Tiesheng Wang, Xuemei Li, Rana Doasa, et al. Liquid-phase sintering of lead halide perovskites and metal-organic framework glasses. *Science* 2021, 374 (6567), 621-625.
33.	Alojz Anžlovar, Iztok Švab, Andraž Krajnc and Ema Žagar. Composites of polystyrene and surface modified cellulose nanocrystals prepared by melt processing. *Cellulose* 2021, 28 (12), 7813-7827.
34.	Jan Bitenc, Urban Košir, Alen Vizintin, Niklas Lindahl, Andraž Krajnc, Klemen Pirnat, Ivan Jerman and Robert Dominko. Electrochemical mechanism of Al metal-organic battery based on phenanthrenequinone. *Energy Material Advances* 2021, article no.: 9793209.
35.	Adél Len, Giuseppe Paladini, Loránd Románszki, Ana-Maria Putz, László Almásy, Krisztina László, Szabolcs Bálint, Andraž Krajnc, Manfred Kriechbaum, Andrei Kuncser, József Kalmár and Zoltán Dudás. Physicochemical characterization and drug release properties of methyl-substituted silica xerogels made using sol-gel process. *International Journal of Molecular Sciences* 2021, 22 (17), 1-22.
36.	Tadej Žumbar, Alenka Ristić, Hristina Lazarova, Janez Volavšek and Albin Pintar. Influence of alumina precursor properties on Cu-Fe alumina supported catalysts for total toluene oxidation as a model volatile organic air pollutant. *Catalysts* 2021, 11 (2), 252-1-252-7.
37.	Francesca Paoletti, Franci Merzel, Alberto Cassetta, Iza Ogris, Sonia Covaceuszach, Jože Grdadolnik, Doriano Lamba and Simona Golič Grdadolnik. Endogenous modulators of neurotrophin signaling: landscape of the transient ATP-NGF interactions. *Computational and Structural Biotechnology Journal* 2021, 19, 2938-2949.
38.	Matej Janežič, Katja Valjavec, Kaja Bergant Loboda, Barbara Herlah, Iza Ogris, Mirijam Kozorog, Marjetka Podobnik, Simona Golič Grdadolnik, Gerhard Wolber

	and Andrej Perdih. Dynophore-based approach in virtual screening: a case of human DNA topoisomerase IIαIIα. *International Journal of Molecular Sciences* 2021, 22 (24), 1-24.
39.	Iza Ogris, Urška Zelenko, Izidor Sosič, Martina Gobec, Cene Skubic, Marija Ivanov, Marina Soković, Darko Kocjan, Damjana Rozman and Simona Golič Grdadolnik. Pyridylethanol(phenylethyl)amines are non-azole, highly selective Candida albicans Sterol 14alphaalpha -demethylase inhibitors. *Bioorganic Chemistry* 2021, 106, 1-15.
40.	László Petri, Péter Ábrányi-Balogh, Imre Tímea, Gyula Pálfy, András Perczel, Damijan Knez, Martina Hrast, Simona Golič Grdadolnik, Stanislav Gobec, Iza Ogris, et al. Assessment of tractable cysteines by covalent fragments screenings. *ChemBioChem* 2021, 22 (4), 743-753.