University of Plovdiv "Paisii Hilendarski"
Faculty of Chemistry

11-th Chemistry Conference (11CC)
11 – 13 October 2018, Plovdiv

Book of abstracts

Saturday 13 October 2018 — *Conference Hall Plovdiv*

SECTION 4 Physical chemistry

13:50 – 14:10	S4L2	**Study of the effect of structure on the kinetics and mechanism of Fe(III)/Fe(II) complexes** *R. Khattak, I. Naqvi* Shaheed Benazir Bhutto Women University, Peshawar, Pakistan
14:10 – 14:30	S4L3	**Catalytic performance of $LnFeO_3$ complex oxides for dry reforming of methane to synthesis gas** *V. Kost, A. Sizykh, T. Kryuchkova, V. Zimina, T. Sheshko, A. Cherednichenko, V. Kurilkin, M. Safronenko* Peoples' Friendship University of Russia (RUDN University)
14:30 – 14:50	S4L4	**Polyelectrolyte-modified kaolinite nanocontainers for entrapment of corrosion inhibitor benzotriazole** *K. Kamburova, Ts. Radeva* BAS, Institute of Physical Chemistry, Bulgaria

Saturday 13 October 2018 — *Conference Hall Dioulpa*

SECTION 5 Food chemistry

Chairman
M. Zlatanov

LECTURES

13:30 – 13:50	S5L1	**A comparative study on chemical and lipid composition of amaranth seeds (Amaranthus caudatus L.) with different origin.** *Zh. Petkova, G. Antova, M. Angelova-Romova, I. Vaseva* University of Plovdiv "Paisii Hilendarski", Bulgaria
13:50 – 14:10	S5L2	**Morphological and biochemical diversity of common bean landraces** *T. Stoilova, G. Antova, P. Chavdarov, N. Velcheva* Institute of Plant genetic Resources, Sadovo, Bulgaria
14:10 – 14:30	S5L3	**Utilization of essential oil industry Chamomile wastes as source of polyphenols** *N. Yantcheva, I. Vasileva, V. Shikov, P. Denev, H. Fidan, R. Denkova, A. Slavov* University of Food Technologies Plovdiv, Bulgaria
14:30 – 14:50	S5L4	**"Green" synthesis of gold nanoparticles with Rosa damascena waste and brewer's yeast** *A. Slavov, I. Vasileva, D. Karashanova, B. Georgieva, R. Dinkova, Y. Georgiev, V. Shikov* University of Food Technologies Plovdiv, Bulgaria

POSTER SESSIONS

Friday 12 October 2018 — *16:50 – 18:50*

POSTER SESSION 1 – *Food chemistry, New methods and materials, Analytical chemistry*

Code	Title	Authors
S1P1	**Phenol profile and antioxidant activity of wild growing Nectaroscordum siculum ssp. Bulgaricum (Janka) Stearn**	*R. Vrancheva, M. Stoyanova, D. Myhailova, I. Aneva, I. Deseva, N. Petkova, I. Ivanov, A. Pavlov*
S1P2	**Phytochemical analysis and *in vitro* antioxidant activity of grains**	*R. Vrancheva, L. Krystev, A. Popova, D. Mihaylova, A. Krastanov*
S1P3	**Phytochemical profile and antioxidant activity of water pepper (Polygonum hydropiper L.)**	*D. Mihaylova, R. Vrancheva, I. Ivanov, A. Popova*
S1P4	**Culinary herbs (Tarragon, Wild garlic and Samardala) – sources of antioxidants and prebiotics**	*N. Petkova, I. Ivanov, M. Topuzova, M. Todorova, P. Denev*
S1P5	**Lipid composition of watermelon (Citrullus lanatus) seed oil**	*M. Angelova – Romova, Zh. Simeonova, Zh. Petkova, G. Antova, O. Teneva*
S1P6	**Fatty acids composition of purslane (Portulaca oleracea L.) extracted by supercritical CO_2**	*S. Taneva, S. Momchilova, Y. Nikolova, A. Konakchiev, D. Antonova, V. Dimitrov*
S1P7	**Composition of residual lipids isolated from Salinomycin**	*B. Chuchkov, G. Antova*
S1P8	**Residual levels and tissue distribution of polychlorinated biphenyls (PCBs) in fish from the Danube River, Bulgaria**	*S. Georgieva, M. Stancheva, Z. Peteva*
S1P9	**Total phenolic content and antioxidant activity of R. Damascena dry extract**	*K. Gechovska, V. Deneva, D. Antonova, St. Bojanov and L. Antonov*
S1P10	**Fatty acid, phospholipids, health risk index and daily intake of metals in edible wild mushroom (Tricholoma equestre) from the Batak mountain, Bulgaria**	*L. Dospatliev, M. Ivanova, P. Papazov*
S1P11	**PCA analysis and health risk index of trace elements in nine species wild edible mushrooms from Batak mountain, Bulgaria**	*M. Ivanova, L. Dospatliev, D. Grigorova*

"GREEN" SYNTHESIS OF GOLD NANOPARTICLES WITH *ROSA DAMASCENA* WASTE AND BREWER'S YEAST

A. Slavov[1], I. Vasileva[1], D. Karashanova[2], B. Georgieva[2], R. Dinkova[3], P. Denev[4], Y. Georgiev[4], V. Shikov[3]

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S5L4

[2]*Institute of Optical Materials and Technologies, Bulgarian Academy of Sciences, 109 Academic Georgi Bonchev Str., Sofia 1113, Bulgaria;*

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In the last decades "green" (biogenic) synthesis of gold metal nanoparticles (AuNPs) became environmental-friendly alternative of the various existing chemical, physical or physicochemical methods for obtaining of AuNPs. The process is simple, cheap and is carried out in one stage. Various compounds and materials were utilized – pure reducing substances, plant extracts, different wastes, mushrooms, microorganisms, etc. An interesting and non-investigated option is synthesis of AuNPs with combinations of natural plant / waste extracts and microorganisms. Hence, the aim of the present study was to investigate the effect of extracts from *Rosa damascena* wastes and brewer's yeast. Pasteurized (spent) and fresh (non-pasteurized) brewer's yeast were used alone and in combination with extract from *Rosa damascena* waste for AuNPs synthesis. Although the analyses revealed that the brewer's yeasts were poor in phenolic compounds (8.40 μmolGAE/100 mL for the non-pasteurized and 1.53 μmolGAE/100 mL for the pasteurized brewer's yeasts) they were able to synthesize gold nanoparticles but the process was relatively slow, compared with extract of *Rosa damascena* waste. The process was followed by visual observations and UV-Vis studies. The transmission electron microscopy analyses confirmed the AuNPs synthesis and the histograms from the analysis revealed average particle size distribution in the 2 – 10 nm range. The results from the work suggested that the polyphenols are the major reducing agent in the metal nanoparticles synthesis but significant role also had polysaccharides and proteins.

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POSTERS

SESSION 1

Food chemistry
New methods, materials and technologies
Analytical chemistry