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BOOK OF ABSTRACTS



Contents

Sponsors.....	8
Plenary Speakers.....	21
1 section	
Advanced nanochemistry and nanomaterials.....	33
2 section	
Polymer science the next generation.....	156
3 section	
New synthetic methodologies in organic and biomedical chemistry.....	214
4 section	
Computer modeling and cheminformatics.....	381
5 section	
Cost-effective analytical methods.....	444

ANTIOXIDANT ACTIVITY STUDY OF THE 2,6-DI-*TERT*-BUTYLPHENOLS WITH PYRIDINE MOIETIES USING CYCLIC VOLTAMMETRY

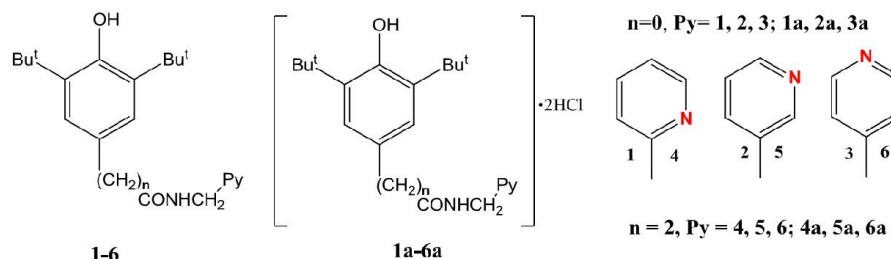
Kazak A., Tyurin V., Nikitin E., Shpakovsky D., Milaeva E.

Moscow State University, Moscow, Russia

Student

khgbr@yandex.ru

The search for novel antioxidant express assays as well as for polyfunctional antioxidants is still of great interest [1]. Novel ligands **1-6** and their hydrochlorides **1a-6a** containing N-donor pyridine rings and 2,6-di-*tert*-butylphenols fragments were synthesized and the electrochemical properties of these compounds were studied by cyclic voltammetry (CV) method. The feasible schemes of redox-transformations were proposed.



Antioxidant activity of **1-6** and **1a-6a** was measured using electrochemical method [2] based on the reaction with stable radical 2,2-diphenyl-1-picrylhydrazyl (DPPH) rate measuring. It was shown that the redox behavior of phenols as well as antioxidant activity strongly depends on the structure of pendant in *para*-position and the length of hydrocarbonyl linker. The compounds **4-6** and hydrochlorides **1a-6a** demonstrated high activity. The correlation of redox-properties and antioxidant properties was demonstrated. The data of electrochemical study are in accordance with the results obtained spectrophotometrically in CUPRAC test thus proving the efficiency and reliability of approach proposed.

References

- [1] Milaeva E., Tyurin V. // Pure Appl. Chem. 2017. V. 89. P. 1065.
- [2] Tyurin V., Moiseeva A., Shpakovsky D., Milaeva E. // J. Electroanal. Chem. 2015. V. 756. P. 212.

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