

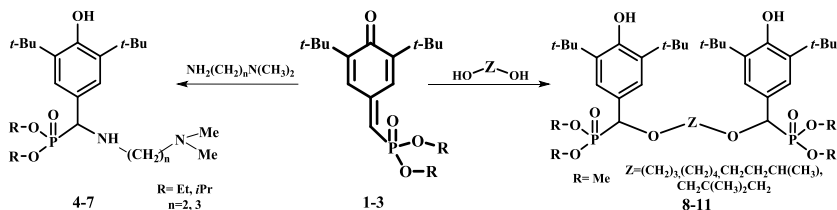
NEW ANTIOXIDANTS BASED ON PHOSPHORUS-CONTAINING HINDERED PHENOLS

Azmukhanova R.R., Gibadullina E.M., Burilov A.R., Budnikova Y.G.

A.E. Arbusov Institute of Organic and Physical Chemistry, Kazan Scientific Center, Russian Academy of Sciences, Kazan, Russian Federation

Sterically hindered phenols are the most interesting among the known antioxidants through the variety of chemical properties and biological activity. The presence in the molecule of several reaction centers provides inhibition of oxidative processes by different mechanisms: hindered phenolic moiety is realize antiradical defense, the phosphoryl moiety is responsible for the ability to inhibit the reactions of hydroperoxides nonradical destruction.

The interaction of methylenequinones **1-3** with propane-1,3-diol, 2,2-dimethylpropane-1,3-diol, butane-1,3-diol, butane-1,4-diol, N¹, N¹-dimetiletane-1,3-diamine, N¹, N¹-dimethylpropane-1,3-diamine results in new antioxidants **4-11**, containing phosphoryl and sterically hindered phenol structural fragments.



The structure of synthesized compounds was proved by NMR ¹H, ³¹P, ¹³C, IR spectroscopy, mass spectroscopy (MALDI) and element analysis.

Acknowledgement:

This work was supported by the Russian Science Foundation (grant no. 14-23-00016).