

## OLIGO- AND POLYDIMETHYLSILOXANE DERIVATIVES BASED ON RENEWABLE NATURAL RESOURCES

Drozdov F.V.,<sup>1</sup> Milenin S.A.,<sup>1</sup> Ardabevskaia S.N.,<sup>1</sup> Demchenko N.V.,<sup>1</sup> Buzin M.I.,<sup>2</sup> Muzafarov A.M.<sup>1,2</sup>

<sup>1</sup> Institute of Synthetic Polymeric Materials, a foundation of the Russian Academy of Sciences (ISPM RAS), Profsoyuznaya str. 70, 117393 Moscow, Russia

<sup>2</sup> Institute of Organoelement Compounds of Russian Academy of Sciences (INEOS RAS), 119991, Moscow, Russia, Vavilova str., 28  
e-mail: drozdov@ispm.ru

Nowaday, a large number of polymers derived from various natural compounds have been synthesized and investigated [1]. In this work, the commercially available natural terpene — limonene — was chosen as the starting material [2]. The combination of hydrosilylation and hydrothiolation reactions allow us to obtain a series of the copolymers with different alternation of siloxane and methylene units containing thiol and amide fragments in the polymer chain. To compare their physical properties, analogs that do not contain limonene fragment were obtained (Figure. 1).

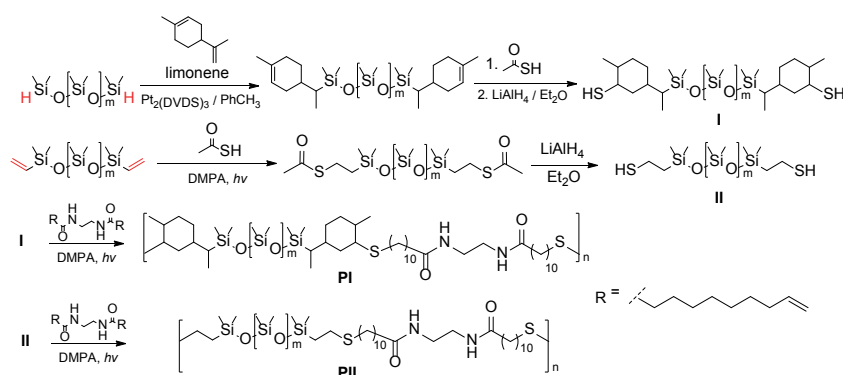


Figure 1. Synthesis of the copolymers, containing limonene fragments in their main chain, and analogues without limonene fragments

Obtained copolymers were characterized by NMR, IR spectroscopy, GPC. Their thermal characteristics were measured by TGA and DSC methods.

### References

- [1] Kristufek S.L., Wacker K.T., Tsao Y.-Y.T., Su L., Wooley K.L. Nat. Prod. Rep. 2017. 34. 433
- [2] Drozdov F.V., Cherkaev G.V., Muzafarov A.M. J. Organomet. Chem. 2019. 880. 293