

VISCOELASTIC AND THERMOMECHANICAL PROPERTIES OF CARBOSILANE DENDRIMERS WITH DIFFERENT TERMINAL GROUPS

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Dendrimers became a subject of fixed interest of scientists in the last years. Meanwhile the dominating part of investigation was devoted to the chemistry of these substances, while the rheology of dendrimers was out of attention of researchers. However the peculiarities of flow and viscoelastic properties of these materials can be interesting not only by themselves but also for the better understanding of molecular structure of these products.

The goal of the present study was to investigate viscoelastic and thermomechanical properties of carbosilane dendrimers with different type of terminal groups. It was shown that all carbosilane dendrimers of high generations exhibit non-Newtonian flow. The relationship between dendrimers rheological behavior and the chemistry of their terminal groups has been analyzed. It was supposed that a physical network appears in high generation dendrimers. The differences in length and mobility of terminal groups result in different values of the dendrimer viscosity and shift of the high-temperature transition.