

# **The concept of polymeric nanoheteromorphous glass structure**

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According to the polymeric polymorphous-crystalloid concept of individual vitreous chemical substance structure (Minaev V.S. Proc. ICG Ann. Meeting, 2000, Amsterdam) glass is a co-polymer of structural fragments (crystalloids) which are bearers of short-range and intermediate-range orders (SROs and IROs) that are characteristic features of crystal polymorphous modifications (PM) taking part in glass formation and having no the long-range order.

Based on the analysis of glass-forming systems  $\text{GeSe}_2\text{-Se}$ ,  $\text{S-Se}$ ,  $\text{SiO}_2\text{-GeO}_2$  and others, the conclusion has been made that glass consists of co-polymerized structural fragments of initial crystal substances which can be characterized by SROs and IROs of crystal PMs and/or fragments without these orders.

This generalized glass structure has been revealed and called nanoheteromorphous one. Nanoheteromorphism and nanoheteromorphous co-polymerization are necessary and sufficient conditions for glass formation of mono- and poly-component glasses.