Polysiloxanes

Subjects: Polymer Science

Contributor: Jack Zhong

Polysiloxanes are polymers whose backbone alternates silicon and oxygen atoms, with organic groups attached to silicon, and the flexible siloxane linkage gives them wide service-temperature windows [1]. Cationic ultraviolet-curable polysiloxanes have been synthesised, and their cured films combined with epoxy resin have been characterised [1]. In energetic formulations the same backbone supplies thermal stability and processability, reviewed across the class [2]. Side-chain polyhedral oligomeric silsesquioxane groups raise the stiffness of the siloxane chain while keeping its flexibility [3]. Polysiloxanes carrying photoconductive and electro-optical units have been prepared for optoelectronic duty [4]. Multifunctional photo-refractive polysiloxanes show how structural characterisation ties the siloxane backbone to the optical response [5].

polysiloxane | siloxane backbone | silicone | curing | thermal stability | side chain

References

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