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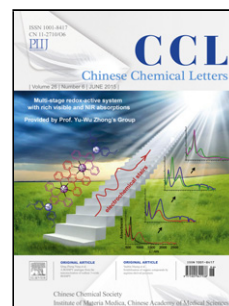
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Review

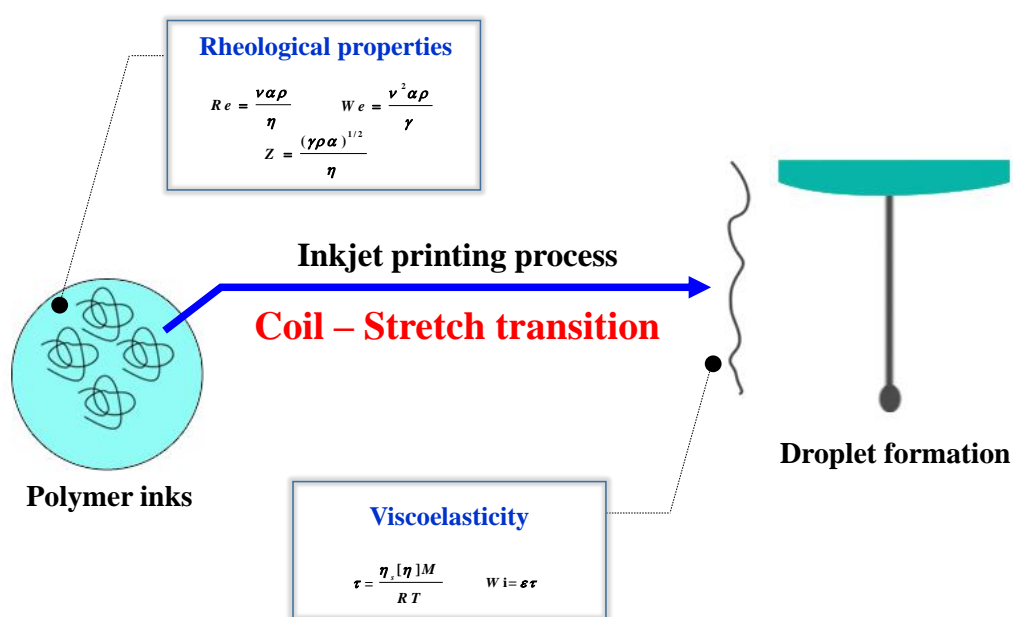
Inkjet printing of viscoelastic polymer inks

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Graphical abstract



The droplet formation, the rheological properties of jettable ink and polymer inks in inkjet printing are summarized.

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ABSTRACT

Inkjet printing is a new fabricating method that can realize the precise film deposition. For polymer inks, the coil-stretch transition of polymer chains always impacts the ink droplet formation and a beads-on-a string structure filament is formed, thus generating unwanted satellite droplets. This review provides a short introduction of the dynamic process of the droplet formation. Then fluid rheological requirements for a printable polymer ink are summarized. Finally the strain hardening phenomenon of polymer chains in the filament formation and its impact on polymer ink-jetting are discussed. The research of viscoelastic polymer inks shows that rheological parameters and viscoelasticity are two key factors that determine the printability of polymer inks.

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