New Synthetic Routes towards Sulfur Containing Functional Polymers

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Functional polymers are based on certain chemical functional groups. As such, the inspiration from organic chemistry has always been fruitful to the development of new synthetic routes to functional polymers. In this regard, sulfur and particular its functional groups have been major players in this area of exciting research, and further have been utilized for the design and preparation of polymeric materials that lead to a plethora of applications.[1] Herein, we present our recent developments on the synthesis of polymers that derive their functionality from sulfur in the form of oligosulfides, thioacetals[2] or thiosulfonates.[3]

Respectively, to realize this aim, we have developed new and efficient synthetic protocols that allow the preparation of polymers utilizing new synthetic routes towards thioacetals and thiosulfonates. Synthetic advantages as well as limitations will be discussed. Last but not least, the grand aim to underpin the importance of sulfur in modern polymer chemistry and materials science will be presented by selected first investigations towards applications.

REFERENCES

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