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# Thymoquinone loaded functionalized polymeric nanoparticle for liver targeting

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Thymoquinone (TQ) is the major active principle of Nigella sativa (N. sativa) and constitutes about 30% of its volatile oil or ether extract and has been widely used as heaptoprotective agent these days. But at higher dose TQ itself become hepatotoxic and its poor water solubility further limits its use as a therapeutic agent. Nanotherapeutics are rapidly progressing and are being implemented to solve several limitations of conventional drug delivery systems such as nonspecific biodistribution and targeting, lack of water solubility, poor oral bioavailability, and low therapeutic indices. The present work is confined to the synthesis of PAG (P-aminophenyl-1-thio-β-D-galactopryranoside) coated NIPAAM nanoparticles followed by the encapsulation of TQ in its hydrophobic core for treating $CCl_4$ mediated hepatotoxicity. The particle so formed was having a size of around 100 nm, and it was given to the rats Intraparietonealy with a very low dose level of drug (in mgs) for treatment of liver disease. But it was found that even a 100 times low dosage of nanoTQ was proved to be hepatotoxic in comparison to the naked TQ. This concludes that the nanocarrier was good enough to carry TQ to liver in higher amount even at such a low dose, which makes the nanoTQ hepatotoxic inspite of hepatoprotectant.

## Biography

Shashi Kant Verma have completed my Graduation from Kurukshetra University,as a Biotechnologist in 2008 and Post-Graduation from Jamia Hamdard University, New Delhi as an Industrial Chemist in 2010 (GOLD-MEDALIST). At present I am pursuing my PhD in Jamia Hamdard University, as a Nanotechnologist, working on synthesis and targeting of nanoparticle on brain and liver in order to treat cerebral ischemia and liver cirrhosis by loading the desired drug in their core. I am also awarded with a five year scholarship for my PhD by DST under Inspire Program. I am also a lifetime member of Asian Polymer association.

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