

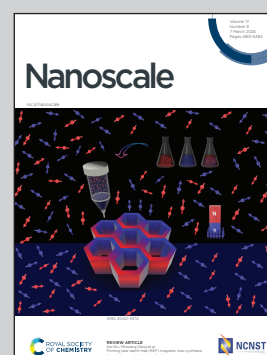
Showcasing research from Prof. Sri Sivakumar's laboratory at the Department of Chemical Engineering at IIT Kanpur, India.

Active tumor targeting by core-shell PDMS-HA nanoparticles with sequential delivery of doxorubicin and quercetin to overcome P-glycoprotein efflux pump

A core-shell PDMS-HA polymeric nanoparticle system has been developed for targeted and sequential delivery of quercetin and doxorubicin to tumor microenvironment. This combination enhances anticancer therapy by synergistically promoting apoptosis in cancer cells while overcoming multidrug resistance. Consequently, the approach improves therapeutic effectiveness, reduces the required doxorubicin dosage, while quercetin helps mitigate chemotherapy-related systemic toxicity.

Image created in BioRender. Verma, M. (2025) <https://BioRender.com/r93l334>.

As featured in:



See Debjani Dutta, Surabhi Chaudhuri, Sri Sivakumar *et al.*, *Nanoscale*, 2025, 17, 5033.