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Magnetic Ferrite Encapsulated Nanoparticles for Targeted Drug Delivery ED ALVARADO, KAREN MARTIROSYAN, University of Texas at Brownsville — Magnetic encapsulated nanoparticles have been in the interest of many researchers due to their impressive applications. One of the major applications of these nanoparticles is their biomedical relevancy. Nanoparticles have been in the center of 21st century Physics research and since then there have been major improvements that have made particles with more efficient designs and synthesis techniques in order to ensure the drug-delivering component of the Magnetic nanoparticles. The essential component of the nanoparticles is their ability to preform targeted drug delivery and targeted drug therapy that is able to transport the drug directly to the center of the diseased cells and therefore treat it deliberately without causing any repercussions to the healthy cells in the body. The nanoparticles themselves are designed with a polymeric shell loaded that is injected with an anti-cancer drug called quercetin that targets lung cancer cells. Their structure is composed of mixed oxide particles such as magnetite Fe3O4 and ferrites CoFe2O4 and NiFe2O4.

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