



Department of Chemistry
Central University of Tamil Nadu
Thiruvavur



Chemistry Colloquium Lecture Series (CCLS) 2017-18

Targeting Cancer Cells: A Quest

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Venue: Conference Hall, Department of Chemistry, CUTN

Abstract

Cancer disease is one of the major causes of death in the world. Though surgery and radiotherapy are being used to treat cancer, chemotherapy (chemo) is also receiving much attention in the treatment of cancer. Surgery and radiation therapy eliminates cancer cells in a specific area, whereas chemo can work throughout the whole body. However, chemotherapy often involves severe adverse side effects. In a venture to address these issues, designing of a drug, which specifically targets the cancer cells, while leaving the healthy cells unaffected is a highly challenging task for the scientific community. In the last few decades, many target-specific metallo and non-metallo anticancer agents have been reported in the literature but none of them are emerging as a robust promising anticancer drug.

Thus, engineering target specific, less toxic and low cost anticancer agents are need of the hour. In our research group, we are interested in designing metal-based or non-metal based small molecules for targeting cancer cells. Recently, we have developed a thiazole organe (TO) based G-quadruplex, i-motif binding agents and porphyrin-based photosensitizer for targeting the cancer cells. Also, we developed a copper(II) complex encapsulated mesoporous nanocarriers for delivering the loaded cytotoxic copper(II) compound at the cancer site. In this presentation, I will discuss mainly the research work which was recently carried out towards the development of target-specific anticancer agents.



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